

CURRICULUM VITAE

Dr. A.R. Shakoori

*Tamgha-i-Imtiaz, Aizaz-i-Kamal, ECO Laureate
Fellow, The World Academy of Sciences (TWAS)
Fellow, Pakistan Academy of Sciences*

*Academician, Shandong Academy of Agricultural Sciences, Jinan, Shandong, China
Meritorious Professor*

*Former Professor, U Mass Medical School, Worcester, MA, USA
President, Zoological Society of Pakistan*

**Professor Emeritus
Distinguished National Professor
School of Biological Sciences
University of the Punjab
Lahore**

CONTENTS	Page
1-9. General Information	1
10. Academic Qualifications	1
11. Honours Awarded	2
12. Research Experience	3
A-B) Sponsored Research Projects	3
C) Ph.D. Research Projects	6
13. Employment Record	8
14. Post-Doctoral Fellowship	9
15. Countries Visited	9
16. Language Proficiency	10
17. Membership of Research Societies and other activities in and outside the country	
A) Membership of Societies	10
B) Member, Editorial Committees	11
C) Member, Administrative and Examining bodies	11
D) Administrative Experience	12
E) Invited Lectures	12
F) Television/Radio Programmes	13
G) Congress/Conference attended/organized	14
H) Contributions towards curriculum development	16
I) Compilation of books	17
18. Referees	18
19. List of Publications	
A) Research papers (621).....	20
B) Technical Reports (22)	45
C) Theses written by me (2)	46
D) Theses written under my supervision (253)	46
E) List of Abstracts (576)	57
F) Popular articles (10)	87
G) Books (23)	88
20. Referee/Reviewer of International Journals.....	90
21. Patents.....	91

BIO - DATA

Dr. Abdul Rauf Shakoori

Tamgha-i-Imtiaz, Aizaz-i-Kamal, ECO Laureate
[\(http://www.pu.edu.pk/arshakoori/\)](http://www.pu.edu.pk/arshakoori/)
[\(http://www.umassmed.edu/cellbio/faculty/\)](http://www.umassmed.edu/cellbio/faculty/)



1. NAME DR. ABDUL RAUF SHAKOORI
2. PLACE AND DATE OF BIRTH SIALKOT (PAKISTAN); OCTOBER 1, 1942.
3. NATIONALITY NATIONAL ID CARD NO PAKISTANI; 35202-2387973-7
4. MARITAL STATUS MARRIED, 5 CHILDREN.
5. PRESENT POSITION **Professor Emeritus, Distinguished National Professor, School of Biological Sciences, University of the Punjab**
Ex-Professor of Cell Biology, University of Massachusetts Medical School, Worcester, MA, USA.
Ex-Visiting Professor, Lahore University of Management Sciences
6. QUALIFICATIONS M.Sc. (Punjab), D.Sc. (Stuttgart)
7. FIELD OF SPECIALIZATION Cell Biology/Molecular Biology/Toxicology.
Environmental Biotechnology
8. FIELD OF RESEARCH ACTIVITIES Molecular Biology/Cell Biology (Gene Expression),
Biochemical Toxicology (Pesticide Biochemistry & Physiology), Aquatic Toxicology, Environmental Biotechnology.
9. ADDRESS FOR COMMUNICATION School of Biological Sciences, University of the Punjab,
New Campus, Lahore 54590, Pakistan.
10. ACADEMIC QUALIFICATIONS

Sr. No.	Institutions attended (with dates)	Degrees obtained in	Division	Subjects Studied
1.	Dennys High School, Rawalpindi, Pakistan (1950-1956)	Matriculation (1956)	First	Mathematics, Chemistry, Physics,
2.	Dyal Singh College, Lahore, Pakistan (1956-1958)	Intermediate (Science) Examination (1958)	Second	Biology, Chemistry, Physics.
3.	University of the Punjab, Lahore. (Government College, Lahore) (1958-1960)	Bachelor of Science (1960)	Second	Zoology, Chemistry.
4.	University of the Punjab, Lahore (Govt. College, Lahore) (1960-62)	Master of Science (1962)	First	Zoology
5.	Goethe Institute, Lahore, Pakistan (1967-1968)	Diploma in German Language (1968)	Second	German
6.	University of Hohenheim, Institut fur Biologische Chemie und Ernährungswissenschaft, Stuttgart, West Germany (1969-1972)	D.Sc. (Dr. rer. nat.) (1972)	First	Cell Biology, Biochemistry Animal Physiology

11. HONOURS AWARDED

- 1) Awarded **ROLL OF HONOUR**, Government College, Lahore for obtaining first class (M.Sc.) in **1962**.
- 2) I was awarded a **CASH PRIZE of Rs. 5,000/-** for doing research work of exceptional merit in **1979**, by the University of the Punjab.
- 3) I was awarded another **CASH PRIZE of Rs. 7,000/-** for doing research work of exceptional merit in **1983** by the University of the Punjab. The research work that I submitted for this award was done in Pakistan and was recommended for award by British and American Referees.
- 4) **COMMENDATION CERTIFICATE and CASH PRIZE of Rs. 15,000/-** was awarded by National Book Foundation of Pakistan of Ministry of Education, Govt. of Pakistan in July, **1988** on the basis of research publications of 1986.
- 5) **SENIOR FULBRIGHT FELLOWSHIP 1992, 1993.**
- 6) **FELLOW, PAKISTAN ACADEMY OF SCIENCES (1991-Continuing).**
- 7) **ACTIVE MEMBER, THE NEW YORK ACADEMY OF SCIENCES (1993, 1994).**
- 8) **SENIOR FELLOWSHIP OF Deutsche Akademischer Austausch Dienst, 1996.**
- 9) Awarded a **COMMENDATION CERTIFICATE and 1st Prize** (cash prize of Rs. 25,000) by National Book Foundation of Pakistan, **Ministry of Education** in **1997** for publishing research papers in Foreign Journals of repute.
- 10) **AWARD OF HONOUR** in recognition of Outstanding Services for the promotion of Zoological Sciences by the Zoological Society of Pakistan and Pakistan Agricultural Research Council in **1995**.
- 11) **ZOOLOGIST OF THE YEAR AWARD**, given by Zoological Society of Pakistan, **1996**.
- 12) **PRESIDENT OF PAKISTAN'S HIGHEST ACADEMIC AWARD AIZAZ-I-KAMAL, 1996.**
- 13) **OUTSTANDING ZOOLOGIST AWARD OF HONOUR** in recognition of Outstanding Contributions in Zoological Sciences by the Zoological Society of Pakistan in **1997**.
- 14) **ROYAL SOCIETY OF UNITED KINGDOM FELLOWSHIP, 1998.**
- 15) **TAMGHA-I-IMTIAZ**, Civil Award of **Government of Pakistan** announced on August 14, 1999 and conferred on **March 23, 2000**.
- 16) **RESEARCH PRODUCTIVITY ALLOWANCE** of Ministry of Science & Technology **2002, 2003, 2004, 2005, 2006, 2007, 2008, 2010, 2012, 2013**
- 17) Rated **SEVENTH amongst Biologists of Pakistan** with cumulative **Impact Factor 36.821** during **1999**. (Reference: *Leading Scientists of Pakistan*, Published by the Pakistan Council of Science and Technology, Islamabad, 1999).
- 18) Placed at **POSITION 15** with a total of **44 citations and Cumulative Impact Factor of 72.549** during 2000. (Reference: *Scientific Research in Pakistan*, Published by the Pakistan Council of Science and Technology, Islamabad, 2000).
- 19) Placed at **SECOND POSITION amongst the TOP TEN BIOLOGISTS in the country (Total Points: 1226)**. Also **HEADED** the list of **TOP TEN ZOOLOGISTS IN THE COUNTRY**. (Reference: *Productive Scientists of Pakistan*, Published by the Pakistan Council of Science and Technology, Islamabad, 2004).
- 20) Placed at **FOURTH POSITION amongst the TOP TEN BIOLOGISTS in the country (Total Points: 1306)**. Also **HEADED** the list of **TOP TEN ZOOLOGISTS IN THE COUNTRY**. (Reference: *Productive Scientists of Pakistan*, Published by the Pakistan Council of Science and Technology, Islamabad, 2005)
- 21) **Fellow, Academy of Sciences for the Developing World (Third World Academy of Sciences) (2004-ongoing)**
- 22) **Distinguished National Professor, Higher Education Commission (2005-ongoing)**
- 23) **Professor Emeritus, University of the Punjab, Lahore (2010- continuing)**
- 24) **Distinguished Scientist of the Year 2011, awarded by Pakistan Academy of Sciences.**
- 25) **Rated at position # 1 amongst Zoologists of the Country in 2011. Also rated among the top Five Biologists of the Country by PCST in 2011.** (Reference: *Productive Scientists of Pakistan*, Published by the Pakistan Council of Science and Technology, Islamabad, 2011).
- 26) **Awarded ECO Award 2012 in the field of Science and Technology by Economic Cooperation Organization during Summit Meeting in Baku, Azerbaijan on October 16, 2012.**
- 27) **Rated the Top Most Productive Scientist in Biological Sciences 2013 by PCST. Also rated at number three among the ten top most productive scientists of Pakistan 2013.**

28) Best Performance Award 2018 given by S/C Education & Industry Academic Linkages & S/C Biotechnology & Genetic Engineering of the Lahore Chamber of Commerce and Industry on July 28, 2018.

29) Academician, Shandong Academy of Agricultural Sciences, Conferred in November, 2019 In Jinan, Shandong, China.

12. RESEARCH EXPERIENCE:

A) RESEARCH PROJECTS SPONSORED BY GOVERNMENT OF PAKISTAN/DEUTSCHE FORSCHUNGSGEMEINSCHAFT, USAID, FULBRIGHT FOUNDATION AND UNIVERSITY OF THE PUNJAB.

No.	Research Projects	Institution	Duration
1.	Development of isolation techniques for nuclei and nucleoli. Studies on the ultrastructure, nucleic acids, protein, glycolytic enzymes, inorganic ions etc of nuclei and nucleoli isolated in non-aqueous media.	Institute for Biological Chemistry & Nutrition, University of Hohenheim, Stuttgart, West Germany.	1969-1972
2.	Non-aqueous isolation of nucleoli with zonal rotors. (under supervision of Prof. Dr. Gunther Siebert)	Same as above	June, 1972 Dec., 1972
3.	Several projects relating to the effects of carcinogens (thioacetamide), insecticides (OP & OC) and narcotics on the histological and biochemical components of various tissues of different vertebrates are in progress.	Department of Zoology, University of the Punjab, Lahore and NIAB, Faisalabad.	1973-2000
4.	Extrahepatic biliary cirrhosis - histological studies.	Department of Zoology, Univ. Punjab, & PGMI, Lahore.	1975-1977
5.	Electron microscopical studies on thyrotrophs after chemical thyroidectomy in rats.	Same as above	1975-1977
6.	Effect of thioacetamide on the development of housefly and other drosophilid flies: morphological and biochemical studies.	Department of Zoology, University of the Punjab, Lahore.	1977-1980
7.	Biochemical, haematological and histological effects of starvation and refeeding on the liver and blood of rabbits.	Same as above	1980-1986
8.	Heterotopic transplantation of entire muscles in mammals (in collaboration with Dr. S.A. Mufti, College of Osteopathic Medicine, Ohio University, Athens, Ohio, USA).	Same as above	1977-1985
9.	Effect of OC, OP and synthetic pyrethroids on the liver function tests of different mammals.	Same as above	1980-continuing
10.	Effect of partial hepatectomy on seral and liver chemistry; Regeneration of liver under the influence of hepatotoxins, hepatocarcinogens, anabolic steroids and heavy metals.	Same as above	1980-1987
11.	Biochemical and histological effects of chlorinated insecticides on rats-long term feeding experiments.	Same as above	1980-1990
12.	Biochemical toxicology of synthetic pyrethroids in Pakistan.	Same as above	1982-Cont.
13.	Screening of local bacterial flora and isolation of plasmid DNA 1983-1985 in collaboration with Dr. A.R. Bhatti, Aerobiology Division, National Research Council, Canada .	Centre for Advanced Molecular Biology, University of the Punjab	
14.	Mechanism of DNA repair after chemically induced damage to DNA in <i>Micrococcus luteus</i> and <i>E. coli</i> (in collaboration with Dr. S. Riazuddin, of CAMB, Lahore).	Same as above	1983-1986
15.	Isolation and characterization of strains of <i>M. luteus</i> 1983-1985 resistant and sensitive to various alkylating agents (in collaboration with Dr. S. Riazuddin, NIAB, Faisalabad).	Centre for Advanced Molecular Biology, University of the Punjab, Lahore.	
16.	Mechanism of action of thioacetamide, hepatocarcinogen. Binding with various nucleosides: spectrophotometric and electrophoretic studies (in collaboration with Dr. M. Salih Ahmad, NIAB, Faisalabad, Pakistan).	Same as above	1983-1988
17.	Enzymatic changes in the liver of developing chicks after treatment with synthetic pyrethroids (in collaboration with Dr. Shamshad H. Gilani, New Jersey University of Medicine	Department of Zoology, University of the Punjab	1984-1996

18.	and Dentistry, New Ark, New Jersey, USA). Screening of local bacterial flora for search for new restriction- endonucleases (in collaboration with Dr. S. Riazuddin, CAMB, University of the Punjab).	Same as above	1984-1988
19.	Effect of heavy metals on the induction of drug metabolizing enzyme in mammals (in collaboration with Prof. Dr. W. Gorrod, Department of Pharmacy, King's College, London).	Department of Zoology, University of the Punjab and Department Of Pharmacy, King's College, London .	1985-1991
20.	Effect of aflatoxin on the poultry production (Biochemical toxicology)	Veterinary College, Lahore and University of the Punjab, Lahore	1985- 1990
21.	Kinetics of Inhibition of acetylcholinesterase by organo- phosphate insecticides (In collaboration with Dr. F.H. Shah)	PCSIR Laboratories, Lahore and University of the Punjab	1984-1988
22.	Role of heat shock proteins in differentiation of HL60 Cells and osteoblasts (In collaboration with Drs. G. Stein and J. Stein, U Mass Medical Centre, Worcester, USA).	U Mass Medical Centre, Worcester, Massachusetts, USA .	1989-1990
23.	Role of osteocalcin gene expression in differentiation of rat osteoblasts (In collaboration with Drs. G. Stein and J. Stein).	Same as above	1989- Continuing
24.	Etiology of hydropericardium syndrome in poultry	Department of Zoology, University of the Punjab.	1989-1990
25.	Metabolism of synthetic pyrethroids: Role of esterases	Same as above	1990-Cont.
26.	Effect of pesticides on growth of <i>Bacillus thuringiensis</i> and its toxicity in insects.	Same as above	1990-2000
27.	Analysis and characterization of heat shock proteins in <i>Bacillus thuringiensis</i> .	Same as above	1990-1995
28.	Specificity of <i>Bacillus thuringiensis</i> toxicity to insects other than Coleoptera and Lepidoptera	Same as above	1990-1995
29.	Biochemical toxicity of pesticides and heavy metals to fresh water fish.	Same as above	1991- Continuing
30.	Mechanism of plasmid mediated antibiotic resistance in gram negative bacteria.	Same as above	1991- 1995
31.	Tissue specific regulatory elements in promoter of osteocalcin gene (In collaboration with Drs. G. Stein, J. Stein and J. Lian of U Mass Medical Centre, Worcester, MA, USA)	U Mass Medical Centre, Worcester MA, USA & Department of Zoology, University of the Punjab.	1991- 1997
32.	Vitamin D and Glucocorticoid regulated expression of Osteo- calcin gene (In collaboration with Drs. G. Stein, J. Stein and J. Lian of U Mass Medical Centre, Worcester, MA, USA)	Same as above	1992- 1997
33.	Mutational analysis of cell cycle regulating H4 histone gene (In collaboration with Drs. G. Stein, J. Stein and J. Lian of U Mass Medical Centre, Worcester, MA, USA).	Same as above	1992- 1997
34.	Isolation and characterization of bacteria from different polluted areas of Pakistan with an object to search for microorganisms which could detoxicate various pollutants (in collaboration with National Agricultural Research Centre, Islamabad).	Department of Zoology University of the Punjab Lahore.	1994- 2002
35.	Cell cycle regulated expression of histone gene H4 through site II of Promoter in FDCP1 haematopoietic stem cell line. (in collaboration with Drs. G. Stein, J. Stein and J. Lian)	Department of Cell Biology, U Mass Medical Centre, Worcester, MA, USA .	July 1994- 1999
36.	Regulation of cyclin D1 promoter in human culture mammary gland cells (in collaboration with Drs. M. Beato and M. Truss)	Institute fur Molekularbiologie und Tumorforschung, Universitat Marburg, Germany .	June 1996- 2000
37.	AML as transcriptional regulator and osteoblast differentiation mediator (In collaboration with Drs. G. Stein, J. Stein and J. Lian of U Mass Medical Centre, Worcester, MA, USA).	Department of Zoology University of the Punjab, Lahore & U Mass Medical Centre, Worcester, MA, USA .	1996- 2002
38.	Molecular analysis of cbfa1 promoter (In collaboration with Drs. G. Stein, J. Stein and J. Lian of U Mass Medical Centre, Worcester, MA, USA).	Same as above	1998- 2001
39.	Metabolism of nicotine in liver, kidney and brain (in collaboration with Dr. J.W. Gorrod , Department of Biological Sciences, University	Toxicology Unit, Department of 1999- Biological Sciences, University of 2001	

	of Essex, Colchester, UK).	Essex, Colchester, U.K.	
40.	Incidence of Breast Cancer in Pakistani Female Population (in collaboration with Dr. Faisal Sultan, Medical Director)	Shaukat Khanum Memorial Cancer Hospital & Research Centre	2002-2007
41.	Search and molecular characterization of new biopesticides, (in collaboration with Prof. M. Akhtar)	School of Biological Sciences, University of the Punjab, Lahore	2003-2007
42.	Molecular mechanism of remediation of toxicant from the environment (in collaboration with Prof. M. Akhtar)	School of Biological Sciences, University of the Punjab, Lahore	2003-2007
43.	Cloning of hepatitis B virus pre S region and its expression in <i>E. coli</i> . (in collaboration with Prof. M. Akhtar)	School of Biological Sciences, University of the Punjab, Lahore	2003-2007
44.	Microbial degradation of pesticides	School of Biological Sciences, University of the Punjab, Lahore	2003-2008
45.	Frequency of p53, K-RAS mutations and microsatellite instability in uterine endometrial carcinoma in Pakistani women	School of Biological Sciences, University of the Punjab, Lahore	2004-2012
46.	Incidence of cervical carcinoma and loss of heterogeneity on chromosome 17 in Pakistani women	School of Biological Sciences, University of the Punjab, Lahore	2004-2013
47.	Role of CBFA1 in mediating osteoblast growth and differentiation (in collaboration with Prof. G. Stein of U Mass Medical Centre, Worcester, MA, USA)	School of Biological Sciences, University of the Punjab and U Mass Medical Center, Worcester, MA, USA (under Pak-US Co-operation in Science & Technology)	2005-2007

B) RESEARCH PROJECTS SPONSORED BY PAKISTAN SCIENCE FOUNDATION, UNIVERSITY GRANTS COMMISSION OF PAKISTAN, PAKISTAN ATOMIC ENERGY COMMISSION AND PAKISTAN AGRICULTURAL RESEARCH COUNCIL.

No.	Name of the Project	Sponsored	My Association as
48.	Heterotopic transplantation of entire muscles in mammals.	Pakistan Science Foundation Rs.300,000/- (1977-1979)	Co-Principal Investigator
49.	Morphological and metabolic hazards of chlorinated insecticides on small mammals in Pakistan.	Pakistan Science Foundation. Rs. 231,518/- (1980-1983)	Principal Investigator
50.	Toxicology of cadmium and lead in common edible fish of Pakistan, <i>Cirrhina mrigala</i>	Pakistan Science Foundation. Rs. 450,000/- (1985-1988)	Principal Investigator
51.	Purification of enzymes required in research in Genetic Engineering and Recombinant DNA Technology (in collaboration with Dr. S. Riazuddin, NIAB, Faisalabad).	Pakistan Atomic Energy Commission Rs. 660,000/- (1983-1986)	Co- Principal Investigator
52.	Biochemical effects of synthetic pyrethroids against <i>Tribolium castaneum</i>	University Grants Commission of Pakistan, Rs. 99,700/- (1986).	Principal Investigator
53.	Pyrethroid induced macromolecular abnormalities and their effects on growth in Chicks	NSRDB-UGC (Rs. 453,500/-) (1990-1993)	Principal Investigator
54.	Electrophoretic studies on esterases of <i>Tribolium castaneum</i> : a correlation with insecticide resistance	University Grants Commission of (Rs. 68,000) (1991).	Principal Investigator
55.	Survey of insecticide degrading bacteria from soil samples	Pakistan Agricultural Research Council (Rs. 40,000) (1995)	Principal Investigator
56.	Survey of microbial fauna of sodic-saline soil/water of Punjab and its evaluation for treatment of soil/water.	Pakistan Agricultural Research Council (Rs. 65,000) (1995)	Principal Investigator
57.	Studies on recycling and detoxification of rural and urban domestic wastes in Punjab	Pakistan Agricultural Research Council (Rs. 45,000) (1995)	Principal Investigator
58.	Studies on microbial fauna of industrial wastes with an object to assess their ability to detoxify heavy metals (lead, cadmium)	Pakistan Agricultural Research Council (Rs. 35,000) (1995)	Principal Investigator
59.	Survey of hydrocarbon degrading bacteria with an object to propose solution to marine pollution due to oil over spills and cleanup of sewage sludge.	Pakistan Agricultural Research Council (Rs. 40,000) (1995)	Principal Investigator
60.	Assessment of physiological and genetic defects in human population exposed to industrial effluents in the industrial area of District Kasur, Punjab, Pakistan.	Pakistan Science Foundation (Rs. 237,232) (1996-1998)	Principal Investigator
61.	Bioremediation of industrial waste	University of the Punjab (Rs. 200,000)	Principle Investigator
62.	Amino acid producing bacteria.	Pakistan Atomic Energy Commission (Rs. 100,000/-) (1998-1999)	Principal Investigator
63.	Role of CBFA1 in mediating osteoblast growth and differentiation	US\$120,000 provided by HEC	Principal

	(in collaboration with Prof. G. Stein of U Mass Medical School, Worcester, MA, USA	under USA (under Pak-US Co- operation in Science & Technology)(2005-2006)	Investigator
64.	Structural and mechanistic studies of merozoite surface protein (MSP-1) for preparation of recombinant MSP-1 malaria Vaccine - Experimental Studies	US \$ 10,000 provided by WHO-EMRO ISESCO program for collaborative research with Prof. Nasir ud Din (Lahore) and Dr. Zahra Zamani of Pasteur Institute of Iran, Tehran. (2006-2007)	Co-Principal Investigator
65.	Role of pest's cellulases in crop destruction.	Rs. 1.624 million provided by HEC, Islamabad for 3 years (2006-2009) in Collaboration with Dr. Amtul Jamil Sami, IBB, PU, Lahore (2006-2009)	Co-Principal Investigator
66.	Collaborative project on genetic variants of different stage specific antigen proteins can provide diverse glycosylation substrates acting as antigenicity determinant for vaccine against malaria – Cloning Studies	US \$ 15,000 provided by WHO-EMRO ISESCO program for collaborative research with Prof. Nasir ud Din (Lahore) and Dr. Zahra Zamani of Pasteur Institute of Iran, Tehran. (2007-2009)	Co-Principal Investigator
67.	Expression and characterization of metallothionein protein: multifunctionality of proteins and post translational modification of carboxyl group in proteins.	Rs. 2,994,000 were provided by HEC-PAS for collaborative research with Prof. Nasir ud Din (Lahore) (2008-2009)	Principal Investigator
68.	Osteogenic potential of a local herb <i>Cissus quadrangularis</i> : Development of potential Drug for Osteoporosis	Rs. 2.499 million provided by Pakistan Academy of Sciences- Higher Education Commission (2016-2019)	Principal Investigator

C) Ph.D. RESEARCH PROJECTS

No.	Title of Ph.D. Thesis	Degree Awarded on
i)	ALREADY COMPLETED	
1.	Akbar Ali Cheema: Studies on inhibition of acetylcholinesterases of vertebrates by organo phosphorous insecticides.	1988
2.	Najamunnisa: Studies on autotransplantation of entire muscles in mammals.	1990
3.	Syed Shahid Ali: Morphological and biochemical hazards caused by some organochlorinated insecticides on blood and liver of rat.	1990
4.	Syed Ata ur Rehman Rizvi: Effects of aflatoxin in poultry.	1990
5.	Mushtaq A. Saleem: Toxicological studies on synthetic pyrethroids against red flour beetle, <i>Tribolium castaneum</i> (Herbst.) (Coleoptera: Tenebrionidae).	1990
6.	Farah Anjum: Effects of heavy metals on drug metabolizing enzymes in rabbits.	1992
7.	Naveeda Tufail: Toxicological effects of synthetic pyrethroids on red flour beetle, <i>Tribolium castaneum</i> (Herbst.)	1993
8.	Riazul Haq: Studies on the growth and genome organization of <i>Thiobacillus ferrooxidans</i> .	1996
9.	M. Amin Shaikh: Epidemiology of haemorrhagic septicaemia in Buffaloes.	1996
10.	Neelum Moizuddin: Solar induced skin damage and protective effect of anti-oxidants in hairless mice and human volunteers	1997
11.	Sajida Rehman: Studies on the regulation of tissue specific expression of osteocalcin gene in cultured bone cells.	1997
12.	Farah Aziz: Mutational analysis of the cell cycle element regulating histone H4 transcription <i>in vivo</i> .	1997
13.	Fauzia Aslam: Structural and functional analysis of glucocorticoid responsive elements in osteocalcin gene promoter.	1997
14.	Firdous Kazmi: Biochemical and toxicological effects of organophosphates insecticides in rat	1997
15.	M. Hamid Rashid: Purification and characterization of native proteolytically nicked and chemically modified beta glucosidase from <i>Aspergillus niger</i>	1998
16.	M. Zafar Iqbal: Effect of aflatoxicosis on muscle, fat, bone growth and its possible reversal by nandrolone decanoate.	1998
17.	M. Ashraf Mirza: Immune responses against bacterial invasion in <i>Labeo rohita</i> (Hamilton).	2002
18.	Khawaja Abdul Mujeeb: Studies on insecticide resistance in <i>Tribolium castaneum</i> (Herbst.)	2002
19.	Amjad Javed: AML as transcriptional regulator and osteoblast differentiation mediator	2002
20.	Shahid Nadeem: Bacterial isolates and their improvement for better amino acid fermentation for glutamine and lysine	2002
21.	Nazia Khurshid: Studies on the locally isolated strains of <i>Bacillus</i> for their possible use as bioinsecticides	2003
22.	Syed Kaleem Zaidi: Role of interacting proteins in CBF α /AML/PEPB2 α mediated gene regulation	2003
23.	Khalil Ahmad: Study on the common bacterial etiologic agents of diarrhoea and dysentery in the Northern area of Pakistan and their sensitivity pattern.	2004
24.	Ali Mohammad: Toxicological effects of industrial effluents dumped in river Kabul on Mahaseer <i>Tor puitora</i> at Aman Gar Industrial area Nowshehra, Peshawar, Pakistan	2004
25.	Muhammad Mashhood Ahsan: Biochemical and hematological abnormalities in human population	

- exposed to hexavalent chromium in effluents of tanneries in industrial area of district Kasur. 2004
26. **Nadia Dar:** Studies on yeast strains isolated from industrial areas of Pakistan for detoxication of heavy metals 2004
27. **Samina Qamer:** Biochemical analysis of honey with particular reference to the variety of free amino acids from *Zizyphus jujuba* 2004
28. **Zulfiqar Ali Saqib:** Isolation and characterization of insecticide degrading bacteria 2005
29. **Bushra Muneer:** Role of microorganisms in remediation of heavy metals in industrial wastes. 2005
30. **Muhammad Usman Rashid:** Hereditary breast and/or ovarian cancer in Pakistan: Contribution of *BRCA1* and *BRCA2* genes. 2006
31. **Abdul Rehman:** Survey of Protozoan fauna surviving in stress conditions in industrial wastes and their role in bioremediation . 2006
32. **Muhammad Yunus Rana :** Pathogenesis of Salmonellosis with respect to carrier status in poultry and its public health impact. 2006
33. **Aneela Zamir Durrani :** Epidemiology, serodiagnosis and chemoprophylaxis of theliriosis in bovines. 2006
34. **Faiza Saleem.:** Cloning, characterization and expression of Cry II gene of locally isolated strains of *Bacillus thuringiensis* 2007
35. **Dil Ara Abbas Bukhari:** Cloning, characterization and expression of Cry IV gene of locally isolated strains of *Bacillus thuringiensis* 2007
36. **Deeba Noreen Baig:** Cloning, characterization and expression of Cry IAc gene of locally isolated strains of *Bacillus thuringiensis* 2007
37. **Nighat Shahid Ali:** Toxicity of organophosphorous and synthetic pyrethroid insecticide mixtures on the biochemical components of stored grain pest, *Rhyzopertha dominica* 2010
38. **Rahila Chaudhary:** Molecular identification of metal resistant ciliates and molecular characterization of copper metallothionein gene of *Tetrahymena* 2010
39. **Basharat Ahmad:** Mechanism of plasmid mediated antibiotics resistance in Gram negative bacteria 2010
40. **Rukhsana Nighat Shuja:** Isolation and characterization of cadmium metallothionein gene from local ciliates 2010
41. **Ishrat Aziz:** Spectrum of p53 tumor suppressor gene mutations in Pakistani female breast cancer patients 2011
42. **Akbar Ali:** Spectrum of *FLT3* and *NPM1* mutations in acute myeloid leukemia in Pakistani population 2011
43. **Abdul Rauf:** Molecular Characterization, Expression and Purification of Hepatitis B Virus Core Antigen from Pakistani Population 2011
44. **Tania Rauf Shakoori :** Genetic polymorphism of surfactant protein D in chronic obstructive pulmonary disease 2011
45. **Saadat Ali:** α -1-antitrypsin polymorphisms in the potential disease group and healthy control population of Punjab 2011
46. **Soumble Zulfiqar:** Molecular analysis of gene(s) responsible for copper resistance in bacteria isolated from industrial effluents 2011
47. **Bibi Nazia Murtaza:** Molecular analysis and detection of specific mutations in K-Ras (Kirstein Ras viral oncogene homologue) in Pakistani colorectal cancer patients. 2011
48. **Munawar Saleem Ahmad:** Cloning and molecular characterization of Cry1C gene from local isolates of *Bacillus thuringiensis* having dual toxicity against lepidopteran and dipteran insects. 2011
49. **Asia Bibi:** Studies on the pattern of genetic alterations in TP53 tumor suppressor gene among Pakistani colorectal cancer patients. 2011
50. **Syed Akhter Ali:** Role of Transcription Factors and Co-repressor Proteins in Epigenetic Regulation of Cell Fate Determination 2011
51. **Basharat Ali:** Epidemiology and molecular characterization of bovine and human tuberculosis in human rural population of Punjab, Pakistan. 2012
52. **Qurat-ul-Ain:** Evidence of distinct molecular pathways and ultrastructural changes in endometrioid and serous carcinoma of uterus in Pakistani population 2013
53. **Aliya Zahid:** Genetic Analysis of Cervical Cancer in Pakistani Women. 2013
54. **Aftab Ahmad Chattha:** Effect of heavy metals (Lead and Arsenic) on differentiation of mammalian mesenchymal stem cells into osteoblasts 2014
55. **Raazia Tasadduq:** Osteogenic potential of herb, *Cissus quadrangularis*: Effect of ethanolic extract on differentiation of rat mesenchymal stem cells 2013
56. **Adnan Farooq:** Comparative study of human growth hormone variants. 2013
57. **Asraf Hussain Hashmi:** Molecular characterization of viral and host genetic factors in hepatitis C virus infection 2013
58. **Aisha Khalid:** Molecular characterization of thermostable cellulase from *Thermotoga naphthophila* 2013
59. **Rubina Mushtaq:** Production of *Bacillus thuringiensis* recombinant cry proteins and analysis of mode of action of Their toxicity 2011
60. **Fareeda Tasneem :** Paramecium diversity and Phylogeny: Three loci molecular characterization 2012
61. **Gul Afshan :** Investigation on the development of Antibodies against Hepatitis C Virus (HCV) envelope glycoprotein 2012
62. **Ambreena Hafiz:** Mechanistic Analysis of insecticide resistance in stored grain pest, *Trogoderma granarium* (Everts) 2011
63. **Tariq Zahid:**
64. **Rabail Hassan Toor:** Osteogenic and anti-obesity potential of *Cissus quadrangularis*: Elucidation of differentiation Process in mouse preosteoblast and pre-adipocyte cell lines. 2012

65.	Saira Aftab:	2011
66.	Ayesha Zafar:	2014

ii) **IN PROGRESS**

1.	Hafsa	2013
2.	Qurrat ul Ain Amjad:	2018
3.	Abeedatullah	2019
4.	Asmara Imtiaz	2019
5.	Ayesha Liaqat: Molecular Characterization of copper resistant genes of <i>Paramecium</i> sp isolated from industrial Wastewater.	2019
6.	Roohi Ijaz: <i>Trogoderma granarium</i> : High throughput sequencing of phosphine susceptible and resistant species and phylogenetic studies based on cytochrome oxidase 1 gene.	2019
7.	Itrat Zahra: Characterization of cadmium resistant ciliates and understanding the molecular mechanism involved in its efflux.	2019

13. EMPLOYMENT RECORD:

No.	Name and nature of job	Duration
1.	Visiting Professor, King Saud University, Kingdom of Saudi Arabia	Jan 2014-2016
2.	Professor Emeritus, University of the Punjab	March 1, 2010 onwards
3.	Distinguished National Professor, Higher Education Commission	April 2005-continuing
4.	Meritorious Professor & Director, School of Biological Sciences, University of the Punjab	July 2002-Continuing
5.	Meritorious Professor & Chairman, Department of Zoology, University of the Punjab	April-September, 2002
6.	Chairman, Department of Microbiology & Molecular Genetics, University of the Punjab	February-September, 2002
7.	Director, B.Sc. Hons and Afternoon/Evening Programme, University of the Punjab	July 2001-September 2002
8.	Professor and Chairman, Department of Zoology, University of the Punjab, Lahore	April 1995-June 1998
9.	Professor of Zoology, University of the Punjab, Lahore (Teaching Courses on Cell Biology, Molecular Biology, and Biochemistry to M.Sc. and M.Phil. classes. Supervising research of M.Sc., M.Phil. and Ph.D. students. Organizing and supervising sponsored research projects. Participation in Departmental and University administration).	October 21, 1987 September 2002
10.	Visiting Professor of Cell Biology, University of Massachusetts Medical Centre, Worcester, USA. (Collaborated in Research programme on gene expression during osteoblast differentiation in rat).	January, 1989- June 2012
11.	Co-Director, Centre for Advanced Molecular Biology, University of the Punjab, Lahore.	November,
1984-	(To establish the research laboratories in the Centre for research in the field of Molecular Biology. The main objective is to train the manpower in the field of Genetic Engineering and initiate research projects aiming at solving problems of national and global importance).	August, 1991
12.	Consultant, Midwest Universities Consortium for International Activities (MUCIA) Inc. Pakistan Institutional Excellence Project (IEP), Islamabad.	1991
13.	Associate Professor of Zoology, Department of Zoology, University of the Punjab. (Teaching various courses on Cell Biology, Molecular Biology, Biochemistry, Toxicology etc to various post-graduate classes. To conduct and supervise research of M.Sc., M.Phil. and Ph.D. students. To look after the affairs of Library of the Department. To act Chairman in the absence of Chairman.	July 12, 1979- October 20, 1987
14.	Assistant Professor of Zoology, Department of Zoology, University of the Punjab, Lahore.	February 16,
1973-	(Conducting various courses on Cell Biology, and Biochemistry including those of Cell Physiology, Molecular Biology, Biology of Cancer Cell for different graduate and post-graduate classes. Also conducted a course on Cell Biology and Microanatomy in the Post-Graduate Medical Institute Lahore, for medical graduates enrolled for M.Phil degrees. Conducting and supervising research in the field of Cell Biology/Cytology/Pathology/Environmental Pollution/Zoology).	July 11, 1979
15.	Lecturer in Zoology, University of the Punjab. (Taught courses on Cytology, Physiology, Embryology, Anatomy of Chordates, Invertebrata and Microtechnique to the graduate and post-graduate classes. Also introduced a course on Cell Biology for the first time in the Department of Zoology, University of the Punjab).	November 18, 1963- February 15, 1973
16.	Lecturer in Zoology, Government Degree College, Jhelum, Pakistan.	Dec. 1962-Nov.1963
17.	Part-time Demonstrator in Zoology, University of the Punjab, Lahore, Pakistan.	September, 1962-

- (Conducted and supervised practicals in M.Sc.Zoology Classes).
 18. **Student Demonstrator in Zoology**, Govt. College, Lahore, Pakistan. December, 1962
 Sessions 1960-1962.

14. POST DOCTORAL FELLOWSHIPS

No	Institution	Duration
1	.Institut fur Biologische Chemie und Ernährungswissenschaft, Universitat Hohenheim, Stuttgart, Federal Republic of Germany.	June, 1972 - December, 1972
2.	Department of Cell Biology, University of Massachusetts, Medical Centre, Worcester, Massachusetts, USA under USAID program.	Jan. 1989 - January, 1990
3.	Department of Cell Biology, University of Massachusetts, Medical Centre, Worcester, Massachusetts, USA under Senior Fulbright Fellowship .	June, 1992 - October, 1992 April, 1993 - August, 1993 July, 1994 - October, 1994 July, 1995 - October, 1995 Sept. 1998 - December, 1998
4.	Department of Cell Biology, University of Massachusetts, Medical Centre, Worcester, Massachusetts, USA.	June, 1996 - October, 1996
5.	Institut fur Molekularbiologie und Tumorforschung, Universitat Marburg, Germany under DAAD's programmes for short term visit (Senior fellowship)	June, 1996 - October, 1996
6.	Toxicology Unit, Department of Biological Sciences, University of Essex, Colchester, U.K. under The Royal Society of United Kingdom Fellowship .	July, 1999 - September, 1999

15. COUNTRIES VISITED

	Name of Country	Period	Purpose
1.	West Germany, East Germany, Austria, Hungary, Holland, Belgium, Great Britain,	During 1969-1972	Attended Scientific Conferences. Visited Biology and Biochemistry Laboratories of Universities of Heidelberg, Switzerland, Czechoslovakia and France. Frankfurt, Stuttgart, Munich. Tübingen. Berlin, Vienna, Budapest, Zurich, Prague, Paris, Brussels, Amsterdam, London, Oxford
2.	Edinburgh (U.K)	March 18- April 10, 1984	To attend a course on Advances in Biotechnology: Science and Applications, and to visit various
3.	Wurzburg (West Germany).	April 11-28, 1984.	Institutes in U.K. (Edinburg, Glasgow, Hantsfield, Swindon) and Germany.
4.	USA (Boston, Worcester, New York, Houston etc).	January 1989- January 1990	Attended Gordon Research Conference in New Hampshire, USA and Cell Biology meeting in Houston, U Mass Medical Centre, Worcester, MA, USA.
5.	Canada (Montreal)	October 1989	To attend Bone Research meeting in Montreal.
6.	Scotland (Edinburgh, Stirling)	September 1989	To attend ODA meeting and to negotiate a linkage programme with University of Stirling on the development of fisheries and aquaculture in Pakistan.
7.	Indonesia (Jakarta, Serpong) Thailand (Bangkok)	November- December, 1990	To attend a workshop on Recent Advances in Biotechnology
8.	Bangladesh (Dhaka)	January 1993	To attend National Zoology Conference of Zoological Society of Bangladesh.
9.	USA (Massachusetts)	1992, 1993, 1994 1995, 1998	To do collaborative research at University of Massachusetts., USA
10.	Germany (Marburg)	1996	To do collaborative research at the University of Marburg under DAAD programme.
11.	UK (Colchester, Essex)	1999	To do collaborative research at University of Essex, UK
12.	UK (London)	1997, 2006	, 2007 Visited Department of Pharmacy, Kings College London, Chelsea Campus, London and held discussion.
13.	USA (Worcester, MA)	2005, 2006 2008, 2009	, 2007 To do collaborative research at U Mass under PAK-USA collaborative Project
14.	Egypt, Dubai meeting in Cairo.	2005, 2007	To attend TWAS meeting in Alexandria and UNESCO
15.	India	2006	Visited Research Institutes at Hyderabad, Delhi and Agra. Attended 93 rd All India Science Congress at Hyderabad

16.	Brazil	2006	To attend TWAS meeting in Angra Dos Reis, Rio De Janeiro
17.	Italy	2007	To attend TWAS meeting in Trieste. Visited Venice and Milan
18.	Mexico City, Mexico	2008	To attend TWAS meeting in Mexico City.
19.	Saudi Arabia (Mecca, Madina)	2009	To perform Hajj
20.	China (Tianjin)	2012	To attend TWAS meeting in Tianjin City.
21.	Argentina (Buenos Aires)	2013	To attend TWAS meeting in Buenos Aire
22.	Oman (Muscat)	2014	To attend TWAS meeting in Muscat
23.	UK	2016	Liverpool (UK)
	USA	2016	Visited labs in U Massachusetts Medical School, Worcester, MA and University of Vermont Medical School, Burlington, Vermont.
24.	Istanbul, Turkey	2018	
25.	USA	2019	Washington DC

16. LANGUAGE PROFICIENCY

Language	Read	Write	Speak
English	Excellent	Excellent	Excellent
German	Excellent	Excellent	Excellent
Arabic	Good	Fair	Poor
French	Excellent	Good	Poor

17. MEMBERSHIP OF LEARNED SOCIETIES AND OTHER ACTIVITIES IN AND OUTSIDE THE UNIVERSITY.

A) MEMBERSHIPS/FELLOWSHIPS OF LEARNED SOCIETIES:

1) President **Zoological Society of Pakistan** (2002-2008, 2013-2016, 2017-2020)
Bioinformatics Society of Pakistan (2008-2010)

2) Fellow

- **The World Academy of Sciences (TWAS) (2004- continuing)**
- **Pakistan Academy of Sciences (1991-to-date).**
- Zoological Society of Pakistan (1968-to-date).
- Biological Society of Pakistan (1973-1989).
- Pakistan Association for the Advancement of Science (1974-1978, 1980-1986).
- Scientific Society of Pakistan (1978-1986).
- Pakistan Biological Sciences Society (1990-1992).
- Pakistan Genetical Society (1996-2000).

3) Member

- **New York Academy of Sciences** (1993, 1994).
- **American Institute of Biology** (1993, 1994).
- German Association of Biological Chemistry (1968-1972).
- American Society of Cell Biology (1989-1990).
- American Association for the Advancement of Science (1989-90, 1992-1997)
- World Wild Life Fund, Lahore (1990-1993).
- Punjab University Senate (1987-2002).
- Executive Member, Urdu Science Board (1997-2018).

4) Secretary

- **Pakistan Academy of Sciences (Lahore Chapter) (2002-2004)**
- Zoological Society of Pakistan (1991-1995, 1999-2002, 2009-2012).
- Punjab University Zoologists Association (1975-76).
- Pakistan Association for Experimental Biologists (1979-80).

5) Associate Secretary General

Pakistan Academy of Sciences (2019-continuing)

5) Treasurer

- Zoological Society of Pakistan (1995-1997)

6) Chief Patron

- Zoologists Association of Pakistan (1987-1990).
- Biofound (1995-1999)

B) MEMBER, EDITORIAL COMMITTEE/EDITORSHIP**1) Member, Editorial Committee**

- **BULLETIN OF THE DEPARTMENT OF ZOOLOGY**, University of the Punjab (New Series) (1976-1980).
- **PUNJAB UNIVERSITY JOURNAL OF ZOOLOGY** published by Department of Zoology, Punjab Univeristy (1986-to-date),
- **PAKISTAN JOURNAL OF ZOOLOGY**, published by Zoological Society of Pakistan (1973-1980).
- **PROCEEDINGS OF THE PAKISTAN CONGRESS OF ZOOLOGY** published by the Zoological Society of Pakistan (1980-Continuing).
- **PAKISTAN JOURNAL OF ENTOMOLOGY**, published by the Entomological Society of Pakistan, Karachi

2) Associate Editor

- **PAKISTAN JOURNAL OF ZOOLOGY**, the Zoological Society of Pakistan (1981-1992).

3) Editor

- **PAKISTAN JOURNAL OF ZOOLOGY**, published by the Zoological Society of Pakistan (1993-2016).
- **ANNOTATED TEXTBOOK OF BIOLOGY** for SECONDARY and HIGHER SECONDARY SCHOOLS, prepared under the sponsorship of Islamic Educational, Scientific and Cultural Organization, Rabat, Morocco.
- **TEXTBOOK OF BIOLOGY FOR CLASS XI and XII**, published by Punjab Textbook Board, Lahore (2002-03).

4) Chief Editor

- **PAKISTAN JOURNAL OF ZOOLOGY**, published by the Zoological Society of Pakistan (2016-continuing).

C) MEMBER OF ADMINISTRATIVE AND EXAMENING BODIES

- 1) **Member, Board of Studies in Zoology:** University of the Punjab, (1973-1977; 1979-2002); University of AJK, Muzafferabad (1980-1992); Allama Iqbal Open University, Islamabad (1986-1988, 1991-1993); Molecular Biology, University of the Punjab (1983-1989); Islamia University, Bahawalpur (1997-2002).
- 2) **Member, Selection Committee/Board: Punjab Public Service Commission**, for selection of College Teachers (1979-80, 1982-1987, 1990-continuing), of research workers and administrator in Wildlife Dept., Fisheries Department and Health Department (1982-to- date), Centre for Advanced Molecular Biology, University of the Punjab (1981-1989), Bahauddin Zakria University, Multan (1987-1988, 2000) ; University of Agriculture, Faisalabad (1986, 1988, 1990), University of Peshawar (1993), University of Sindh, Jamshoro (1998,1999,2000, 2006, 2007), Sindh Agriculture University, Tandojam (1999, 2000), Institute of Education & research, University of the Punjab (2000-2001).for selection of lectures, Associate Professor and Professors.
- 3) **Examiner in Thesis (based on research work) for the award of M.Sc., M.Phil and Ph.D. Degrees** at the University of Punjab, Lahore, University of Agriculture, Faisalabad and Quaid-e-Azam University, Islamabad (1976-to-date) and University of Karachi. On the panel of Examiners for the award of B.Sc. and M.sc. Degrees in Zoology by the University of the Punjab, Lahore (1962-to-date), University of Agriculture, Faisalabad (1973-1985), Universtiy of Baluchistan, Quetta (1979), University of Peshawar (1976, 1979, 1981, 1983, 1985), Baha-ud-din Zakaria University, Multan (1988, 1990, 1991, 1993), and Azad Jammu Kashmir University (1990, 1993).
- 4) **Head Examiner of Zoology (and Biology)** of Board of Intermediate and Secondary Education, Lahore (1979-1982). Federal Public Service Commission, for selection of civil service officers (1979, 1981, 1982).
- 5) Official **research guide and Member of Board of Examiners for the award of M. Phil Degrees** to Medical graduates enrolled in the Post-graduate Medical Institute, Lahore (1972-1979, 1990, 1991-2016) and Federal Post- graduate Medical Institute, Lahore (1993-2016)
- 6) **Member of Board of Governors** Centre for Advanced Molecular Biology, University of the Punjab, Lahore,(1981-86) , University of Central Punjab, Lahore (2008), Shaikh Zayed Islamic Centre, University of the Punjab (2008), Centre for Water Research, UET, Lahore (2008).
- 7) **Member, Technical Committees of NSRDB** (1990-1992), PSF (1996-2002), PARC (1994-2002)
- 8) **Expert, National Review Committee** for Biology Books of Punjab Text Book Board and Sindh Text Book Board (1990, 1991).
- 9) **Member, Board of Intermediate and Secondary Education**, Faisalabad (1994-1998).

- 10) **Member, Board of Faculty of Engineering and Technology**, University of the Punjab, Lahore (1995-1997).
- 11) **Member, Research Committee**, University of the Punjab (1996-1999)
- 12) **Member, Punjab University Academic and Co-curricular Activities Committee** (1999-2002)
- 13) **In charge, Punjab University Seminars and Symposia Committee** (1999-2002).
- 14) **Punjab University Annual Report Committee: Member (1996-1999), and Chairman** (1999-2002).
- 15) **Member, Peer Review Committee for evaluation of performance of Institutions (Pakistan Council of Science & Technology Committee** (2000-2001).
- 16) **Chairman, Commercial Projects, University of the Punjab (Fisheries, Honeybee & Nursery)**, (2000- 2002).
- 17) **Chairman, Hospital Committee, University of the Punjab** (2001-2002).
- 18) **Member, Medical Committee, University of the Punjab** (1998- 2001).
- 19) **Chairman, Water Quality Evaluation Committee, University of the Punjab** (1999-2002).
- 20) **Chairman, Sports Complex Committee, University of the Punjab**, (1999- 2002)
- 21) **Member, Academic Committee, School of Biological Sciences, University of the Punjab** (2004-2020).
- 22) **Expert, Academic Council, Forman Christian College (a chartered University), Lahore** (2005-2007), **Academic Council, Bahauddin Zakariya University, Multan** (2007-2009), **University of Central Punjab, Lahore** (2008), **Minhaj University, Lahore** (2008), **UMT, Lahore** (2006-20012), **UVAS, Lahore** (2008-2011), **University of Lahore** (2010-2015).
- 23) **Expert, Board of Studies in Zoology, GC University, Faisalabad** (2007- 2011)
- 24) **Member Syndicate UVAS, Lahore** (2007-2013) , **UMT, Lahore** (2007-2009), **LCWU** (2008-2010).
- 25) **Member, Institutional Review Board, Shaikh Zayed Medical Complex, Lahore** (2002-2014)
- 26) **Member, Board of Governors, Punjab Curriculum and Textbook Board** (2015-2018)
- 27) **Chairman, Advisory Board, Urdu Science Board, Lahore** (2015-2018)
- 28) **Chairman, Apex Academic Committee, PCTB, Lahore** (2015-2018)
- 29) **Director, Board of Directors, Punjab Education Foundation, Lahore** (2016-2020)
- 30) **Member, Executive Council, Punjab Education Foundation, Lahore** (2016-2020)
- 31) **Member, Board of Advanced Studies & Research, University of Central Punjab** (2016-2019)
- 32) **Member, Expert Committee, Punjab AIDS Control Programme** (2016-2019)
- 33) **Chairman, Appellate Committee, Punjab Education Foundation, Lahore** (2016-2020)
- 34)

D) ADMINISTRATIVE EXPERIENCE

- 1) **Director, School of Biological Studies**, University of the Punjab, Lahore (2002-2017)
- 2) **Chairman, Department of Microbiology & Molecular Genetics**, University of the Punjab (February-October 2002)
- 3) **Director, B.A./B.Sc. Hons. and Afternoon/Evening Programmes**, University of the Punjab (2000- 2002).
- 4) **Chairman, Department of Zoology**, University of the Punjab, Lahore (1995-1998, April-September 2002).
- 5) **Co-Director, Center for Advanced Molecular Biology**, University of the Punjab (1984-1991).
- 6) **Co-ordinators, CENTRE FOR ADVANCED STUDIES IN MOLECULAR BIOLOGY**, in UNIVERSITY OF THE PUNJAB, Lahore (1981-84).
- 7) Conducted nine research projects as **Principal Investigator** financed by Pakistan Science Foundation, and University Grants Commission, Pakistan Atomic Energy Commission and NSRDB of UGC.
- 8) **Incharge Library**, Department of Zoology, University of the Punjab (1963-1969; 1972-85).
- 9) **Incharge of Pathology Laboratory** of Riaz Ali Shah Medical Centre, Gulberg, Lahore, on part-time basis (1981- 1989).
- 10) **Director, M.Phil. Sandwich Programme in Zoology** of University Grants Commission (1985-88).

E) VISITING PROFESSORSHIP/INVITED LECTURES IN CONFERENCES AND REFRESHER COURSES

- 1) Conducted courses on CELL BIOLOGY and MICROANATOMY for **M.Phil** students in Post-graduate Medical Institute, Lahore and Sheikh Zaid Postgraduate Medical Institute (during 1974-1979, 1991-Continuing) in Anatomy Department, Physiology Department (4 lectures in 1987), course for M. Phil (Anatomy, Physiology, Biochemistry), FCPSP (1990, 1997-continuing).
- 2) Delivered a series of lectures (20) on BIOCHEMISTRY/ MOLECULAR BIOLOGY as a visiting Professor in the Department of Zoology, University of Baluchistan, Quetta during November-December,1980. This visit was sponsored by UGC.
- 3) Invited to deliver a lecture on STRUCTURE AND FUNCTION OF NUCLEOLUS-A PERSPECTIVE during a fortnightly seminar on ADVANCES IN ZOOLOGY held in the Department of Zoology, University of Sind, Jamshoro during June-July 1977. This seminar was sponsored by University Grants Commission of Pakistan.
- 4) Delivered a lecture on invitation on PRESENT STATUS OF BIOCHEMICAL RESEARCH IN PAKISTAN at FIRST CONGRESS OF ZOOLOGY, held at Quaid-e-Azam University, Islamabad during May, 1980; and another extension lecture on BIOCHEMICAL RESEARCH IN PAKISTAN at second Pakistan Congress of Zoology, held at Sind Agriculture University, Tandojam during December, 1981.
- 5) Lectures on invitation were also delivered in Islamia College, Civil lines, Lahore (Cell fractionation, 1974), Islamia College for Women, Cooper Road, Lahore (Protein synthesis, 1975, 1996, Genetic Engineering 1986), Forman Christian College, Lahore (Recent trends in Cancer Research, 1981; Genetic Engineering, 1982, 1991, 1996,2004), Queen Mary College, Lahore (Genetic Engineering, 1984), Government Superior Science College, Wahdat Road, Lahore (Genetic Engineering, 1985; Chemical basis of

- Heredity, 1985, Animal Cloning, 1997, 2000, 2001, Gene Expression, 2010), College of Home Economics (Uses of Bacteria, 1985, Wonder Science of Inheritance, 1986, Animal Cloning, 1998), Dyal Singh College (Genetic Engineering, 1986; Molecular basis of Metabolic disorder, 1990), Government College, Lahore (Genetic Engineering, 1986, 1988, 1991), Postgraduate Medical Institute, Lahore (Nucleic acids, four lectures, 1987, 20 lectures on Cell Biology and Nucleic acids, 1990; 12 lectures on Cell Biology and Genetic Engineering, 1991-continuing), Academic Staff Association, Punjab University (Recombinant DNA Technology, February 1994), Government College for Women, Gulberg (How genetic characters are transmitted, May 1995), Department of Physics, University of the Punjab (Genetic Engineering, May 1995), Institute of Education and Research, University of the Punjab (Genetic Engineering, 3 lectures, 1995, 1996), Lahore University of Management Sciences (Role of genetic engineering in economic development of Pakistan, May 1995, March 1996-2003), Lahore College for Women (March 1996, 2000), Government College for Women, Ravi Road (Environmental pollution, 1997), Government College of Education for Science, Township, Lahore (Genetic Engineering and Animal Cloning, 2000), Government Fatima Jinnah College, Chuna Mandi, Lahore (Animal Cloning, March 2006), University of Lahore (Realm of Cell, February, 2012)
- 6) Delivered series of lectures on Cell Biology, Biochemistry and Biochemical Genetics to teachers of intermediate and B.Sc. classes and a series of lectures on Genetic Engineering and Gene-Cloning to teachers of various Colleges during a refresher course organized by University Grants Commission of Pakistan (1974, 1979-1985, 1995).
 - 7) Delivered a series of lectures on GENETIC ENGINEERING, PROTEIN SYNTHESIS, Biochemical Genetics to talented students of Intermediate classes during a workshop organized by Board of Intermediate and Secondary Education and University Grants Commission of Pakistan in August of every year from 1981-1986, 1990, 1991, 1997, 1998 at Khanspur Campus of University of the Punjab.
 - 8) Delivered a series of lectures on CELL STRUCTURE, CELL DIVISION CELL FUNCTION INCLUDING PROTEIN SYNTHESIS to SCIENCE EACHERS TRAINING during August, 1983. This was sponsored by Ministry of Education and The British Council at Federal Government College of Education for Women, Islamabad.
 - 9) Extension lectures on Genetic Engineering and regulation of metabolism for B.Sc. and F.Sc. Zoology teachers during Refresher course organized at Education Extension Centre, Lahore in August, 1987, and July, of every year 1988, 1990- 1992, 1995-1998.
 - 10) Delivered lecture on Toxicology of Pesticides in Environmental Protection Agency of Govt. of Punjab in 1988.
 - 11) Delivered a series of 12 lectures on Genetic Basis of Heredity for M.Sc. classes in Dept. of Applied Psychology of University of the Punjab during November-December, 1988 and in March-April, 1990-1992.
 - 12) Conducted courses on biology for In Service Agriculture Graduates from Balochistan, Northern areas and Azad Kashmir in 1988, 1990, 1991.
 - 13) Delivered a seminar on Expression of Osteocalcin gene in Centre for Advanced Molecular Biology in October 1991.
 - 14) Delivered lectures on Status of Recombinant Technology Research in Pakistan (December 1990) and Molecular Basis of Carcinogenesis (January 1991) in Azad Jammu and Kashmir University, Muzaffarabad.
 - 15) Delivered a talk on Expression on Osteocalcin Gene in Cultured Rat Osteoblasts in Pakistan Academy of Sciences during December 1992.
 - 16) Delivered a lecture on the Role Recombinant DNA Technology in Economic Development of a Country in the Department of Zoology, University of Dhaka, Bangladesh on January 16, 1993.
 - 17) Delivered a lecture on Experiences in USA in the Fulbright Alumni Association, Lahore, in USIS, January 30, 1994.
 - 18) Delivered a lecture on Role of Genetic Engineering on the Economic Development of Pakistan in June 1994, organized by Academic Staff Association of University of the Punjab.
 - 19) Delivered series of lecture on molecular biology to in-service college teachers in a program organized by UGC, on December 16-24, 1995.
 - 20) Delivered a lecture on "Glucocorticoid control of osteocalcin gene transcription" on 1 August 1996 in Phillipps-Universitat Marburg, Germany.
 - 21) Delivered a lecture on Industrial pollution in Government College for Women, Timber Market, Ravi Road, Lahore in July 1997.
 - 22) Delivered a lecture on "Genetic Engineering and Animal Cloning" in Government College of Education for Science on March 6, 2000.
 - 23) Delivered lectures on "Regulation of Gene Expression", "Genetic Manipulations and their role in Developments in Medicine, Agriculture and Industry", and "Gene Therapy" to Ph.D. students in The Aga Khan University, Karachi during March 2000, in Lahore University of Management Sciences, Lahore (since 1996) and College of Physicians and Surgeons, Lahore (since 1997).
 - 24) Delivered lecturers on Molecular Biology and Genetics to FCPS Class in College of Physicians and Surgeons, Pakistan, Lahore in 1996- 2004.
 - 25) Delivered lecturers on Molecular Biology, and Biochemistry to M.Phil/Ph.D. class in the Department of Physiology of University of Health Sciences in 2005.
 - 26) Taught courses on Biochemistry, Cell Biology, Molecular Biology, Gene Expression, Gene therapy in Department of Microbiology & Molecular Genetics, and Department of Botany, University of the Punjab, during 2002- 2006.
 - 27) Taught Cell Biology Courses in Institute of Biochemistry & Biotechnology, University of the Punjab during 2004-2005.
 - 28) Taught Bio 101 (Biological Principles) course and a part of Bioinformatics Course in Summer , 2006 and Winter 2007 At Lahore University of Management Sciences in 2005- 2007
 - 29) Taught course on Molecular Genetics to Ph.D. Students in University of Central Punjab (2015-2016)
 - 30) Delivered Plenary Lecture on "Recombinant DNA Technology" in University of Central Punjab on December 2, 2016.
 - 31) Taught course on Advanced Biotechnology to M.Phil students in UCP in 2018-19.

- 32) Delivered a Plenary Lecture entitled "Role of Adhesion Proteins in Metastasis" in the 38th Pakistan Congress of Zoology at University of the Punjab on February 27-March 1, 2018.
- 33) Delivered a Plenary Lecture entitled "Osteogenic potential of herb, *Cissus quadrangularis*: Effect of Organic solvent extracts on differentiation of mouse preosteoblast cell line MC3T3-E1 in a conference on Microbiology & Molecular Genetics organized by the Department of Microbiology & Molecular Genetics, University of the Punjab on February 7-9, 2018.
- 34) Delivered Plenary Lecture on Metastasis in Kinnaird College for Women in 2019.
- 35) Delivered Plenary Lecture on Metastasis in University of Peshawar in March 2019.
- 36)

F) TELEVISION/RADIO PROGRAMMES

- 1) Participated and delivered an illustrated lecture on INSTINCTIVE AND LEARNED BEHAVIOUR in SCIENCE MAGAZINE PROGRAMME of PAKISTAN TELEVISION 1974.
- 2) Delivered lecture on NOBEL PRIZE WINNERS in SCIENCE MAGAZINE PROGRAMME of PAKISTAN TELEVISION in 1974.
- 3) Delivered a series of lecture on CANCER in SCIENCE FORUM (UNIVERSITY PROGRAMME) of CHANNEL 2 of LAHORE RADIO STATION in 1975.
- 4) Participated in a discussion on CANCER in RADIO PROGRAMME in 1986.
- 5) Discussion on the "ROLE OF YOUTH in the DEVELOPMENT OF SCIENCE in PAKISTAN"-a RADIO TALK on March 27, 1986.
- 6) Television Programme on the "HAZARDS OF PESTICIDES" on 15.5.1986.
- 7) Radio Programme on "CAREFUL USE OF POISON" on 30th May, 1986, 1988, 1990.
- 8) Participated in PTV's talk show PRIDE SHOW on Dr. Anwar Nasim during February 2000.
- 9) A series of 10 programmes based on research activity of my laboratory were held in PTV World under the auspices of **Kissan Time** during July-September 2002, and June 2003. These programmes were on **Bioinsecticides, Fish Production, Honey Production, Osteocalcin Gene Expression, Industrial Waste Water Treatment Insecticide Resistance, Health Hazards due to Insecticidal Spray. Also participated in a Panel Discussion** in Kissan Times on Environmental Pollution.
- 10) Appeared in PTV NEWS programme AWARD YAFTA on February 27, 2011.
- 11) Appeared in PTV NEWS programme KASB-e-KAMAL on September 30, 2016.
- 12) Appeared in PTV NEWS MORNING SHOW by Juggan on November 10, 2016 on the occasion of World Science Day 2016.

G) ORGANIZATION OF CONGRESSES/SEMINARS; AND PARTICIPATION IN CONFERENCES/PRESIDED/PRESENTED PAPERS

- 1) **Presented paper** in Second meeting of **European Nucleolar Workshop of the European Cell Biology Organization** held at Lake Balaton (**Hungary**) from September 27, 1971 to October 01, 1971.
- 2) Second **international symposium on Zonal Centrifugation** held in Guildford, **Surrey (U.K.)** in December, 1971.
- 3) **Presented paper** in **Summer meeting of Association of Biological Chemistry** held in Bochum (**West Germany**) from May 23 to May 25, 1972.
- 4) **Presented paper** in Eighth meeting of Federation of **European Biochemical Society** held in **Amsterdam** in August, 1972.
- 5) **Presented paper** in 24th All at the University of Islamabad, Pakistan in June, 1973.
- 6) Seminar on **Advances in Zoology** held at the Department of Zoology, University of Sind for a fortnight in June-July, 1977 sponsored by the University Grants Commission of Pakistan. Presented a review article on **Nucleolus Biochemistry**.
- 7) Eighteenth Annual Science Conference of the **Scientific Society of Pakistan** held at the University of Multan, from 30 December, 1977-3 January, 1978.
- 8) **Member, Organizing Committees. Also participated and presented research papers. First Congress** of Zoology held at Quaid-e-Azam University, Islamabad, in May, 1980; **Second Congress** of Zoology, held at University of Agriculture, Tandojam, in December, 1984; **Third Pakistan Congress** of Zoology, held at University of Agriculture, Faisalabad on 27-29 December, 1982. **Fourth Pakistan Congress** of Zoology, held at University of Peshawar in 22-24 December, 1983; **Fifth Pakistan Congress** of Zoology, held at University of Karachi, Karachi on 8-10 January, 1986; **Sixth Pakistan Congress** of Zoology, University of the Punjab, December, 22-24, 1986; **Seventh Pakistan Congress** of Zoology, University of Baluchistan, Quetta, April 25-27, 1987; **Eighth Pakistan Congress** of Zoology, University of Peshawar, April, 1988. **Tenth Pakistan Congress** of Zoology, Khanaspur Campus, May 26-27, 1990. **Eleventh Pakistan Congress** of Zoology, May 25-26, 1991. **Twelfth Pakistan Congress** of Zoology, held at Government College Lahore on April 11-12, 1992. Thirteenth Pakistan Congress of Zoology held at UGC, Islamabad on March 31-April 1, 1993, **Fourteenth Pakistan Congress** of Zoology held at University of Karachi on April 1-3 1994. **Fifteenth Pakistan Congress** of Zoology, held at NARC, Islamabad on April 15-17, 1995, **Sixteenth Pakistan Congress** of Zoology held at Quaid-i-Azam University, Islamabad, 1996, **Seventeenth Pakistan Congress** of Zoology held at University of Karachi in April 1997. **Eighteenth Pakistan Congress** of Zoology held at the University of the Punjab in April 1998. **Nineteenth Pakistan Congress** of Zoology held at NARC, Islamabad, in April 1999, **wentieth Pakistan Congress** of Zoology held at University of Sindh, Jamshoro on March 28-30, 2000, **Twenty First Pakistan Congress of Zoology**, held at University of Agriculture, Faisalabad on April 15-17, 2001, **Twenty Second Pakistan Congress of Zoology**, held in University of Azad Jammu & Kashmir, Muzaffarabad, Azad Kashmir on April 16-18, 2002. **Twenty Third Pakistan Congress of Zoology**, held in University of Arid

- Agriculture, Rawalpindi on March 3-5, 2003, **Twenty fourth Pakistan Congress of Zoology** held in AIOU, Islamabad on March 30-April 1, 2004, **Twenty Fifth Pakistan Congress of Zoology**, held in Sindh Agriculture University, Tandojam on March 1-3, 2005, **26th Pakistan Congress of Zoology**, University of the Punjab, Lahore April 4-6, 2006. **27th Pakistan Congress of Zoology** Bahauddin Zakariya University, Multan February 27-March 1, 2007, **28th Pakistan Congress of Zoology**, GC University, Faisalabad, March 18-20, 2008, **29th Congress of Zoology**, University of Sindh, Jamshoro., February 24-26, 2009; **30th Pakistan Congress of Zoology**, University of Agriculture, Faisalabad, March 2-4, 2010., **31st Pakistan Congress of Zoology**, held in University of Azad Jammu & Kashmir, Muzaffarabad on March 1-3, 2011. **32nd Pakistan Congress of Zoology** held at Government College University, Lahore on March 6-8, 2012. 33rd **Pakistan Congress of Zoology** held at Jinnah Convention Centre, organized by Zoological Society of Pakistan and Pakistan Museum of Natural History, Islamabad on April 2-4, 2013, **34th Pakistan Congress of Zoology** held at Bahauddin Zakariya University, Multan, organized by Zoological Society of Pakistan and Bahauddin Zakariya University, Multan, on February 25-27, 2014, 2014. **35th Pakistan Congress of Zoology** held at CEMB, University of Karachi, on March 1-4, 2015., **36th Pakistan Congress of Zoology held at University of Sind, Jamshoro** February 16-18, 2016; **37th Pakistan Congress of Zoology held at Government College University, Faisalabad** on February 28-March 2, 2017; **38th Pakistan Congress of Zoology**, held at University of the Punjab on February 27-March 1, 2018. **39th Pakistan Congress of Zoology**, held at University of Peshawar on March 4-6, 2019.
- 9) **26th-27th All Pakistan Science Conference**, held at University of Engineering and Technology on 29th December-2 January, 1980, and **28th All Pakistan Science Conference** held at University of Multan, Multan in March, 1982.
 - 10) Symposium on **Agricultural Genotoxicity in Developing Countries** held on November 1-5, 1982 in Islamabad, sponsored by Pakistan Agricultural Research Council and U.S. National Science Foundation.
 - 11) **Organizer** of 3 day international Seminar on **RECENT TRENDS IN MOLECULAR BIOLOGY**, held in the University of the Punjab on January 11-13, 1982. Also **presented a paper**.
 - 12) **Member, Organizing Committee**, Fourth International Bacteriophage Mu Workshop, held at the Centre for Advanced Molecular Biology during December 3-10, 1983.
 - 13) **Participated** in National Workshop on Biology Education sponsored by UNESCO, Ministry of Education and Department of Biological Sciences, Quaid-e-Azam University, Islamabad, 16-24 February, 1983.
 - 14) Seminar on Science and Technology sponsored by Ministry of Science and Technology and Pakistan Science Foundation and Association of Pakistani Physicians of North America held in Islamabad during 26-30 December, 1983.
 - 15) **Advances in Biotechnology: Science and Applications**, Sponsored by the British Council held at **University of Edinburgh** on March 18-30, 1984. Presented a paper.
 - 16) **Organizer** of International Training Course on Gene Cloning in Bacteria held at Centre for Advanced Molecular Biology,
 - 17) **Member Local Organizing Committee** of International Symposium-Workshop on Application of Genetic Engineering to Basic Biology and Agriculture, held at CEMB, University of the Punjab, from November 21-28, 1984. This symposium was attended by two Nobel Laureates Prof. Dr. J.D. Watson and Prof. Dr. Hamilton O. Smith, in addition to member of other prominent scientists from USA, Canada, U.K., Korea, China and Germany.
 - 18) **Member, Local Organizing Committee** First National Training Course on Modern Methods of Gene Conservation held in Centre for Advanced Molecular Biology from Feb 9-19, 1985.
 - 19) **Course Director**, Sandwich M.Phil. Programme in Zoology 1985-89, University of the Punjab, Sponsored by UGC.
 - 20) International Symposium on Biologically Active Macromolecules held at the University of Baluchistan, Quetta from March 30-April 4, 1985. **Presented a paper**.
 - 21) International minisymposium on New Frontiers in Biological Research held at CEMB on October 21, 1986. **Presented a paper**.
 - 22) **Member, Local Organizing Committee**, National Training Course on Basic Molecular Genetics and Recombinant DNA Techniques held in CEMB from Feb. 10-March 03, 1986.
 - 23) **Member, Organizing Committee**, Second International Symposium-Workshop on the Application of Genetic Engineering, held at Centre for Advance Molecular Biology, University of the Punjab, Lahore, Pakistan on October 18-22, 1987.
 - 24) Physiology Symposium held at post-graduate Medical Institute, Lahore held on 3rd-5th October, 1987.
 - 25) First Medical Biochemistry Symposium held at Post-graduate Medical Institute, Mayo Hospital Lahore, on October 29-30 1988.
 - 26) **Gordon Research Conference held at Portsmouth, New Hampshire, USA** in July, 1989.
 - 27) Meeting of **Bone Research group held at Montreal, Canada** on September, 1989.
 - 28) Annual meeting of **American Society of Cell Biology held at Houston, USA** in November, 1989
 - 29) Workshop-Symposium on **Recent Advances in Biotechnology Organized by COMSTTECH at Jakarta, Indonesia** in November 26-29, 1990. **Presented a paper** on Status of Biotechnology Research in Pakistan.
 - 30) **Presided over a scientific session** of 3rd International, Congress of Asian Homoeopathic Medical League held in Avari, Lahore on 23-26 November, 1990.
 - 31) **Presided over and presented a research paper** in First Symposium on Fish and Fisheries of Pakistan held at Govt. College, Lahore on October 19, 1991.
 - 32) **Presided over and presented a research paper** in Symposium on Contemporary Biology organized by Pakistan Biological Sciences Society, Islamabad on November 7-10, 1991.
 - 33) **Presided over and presented a paper** in National Zoology Conference Of Zoological Society Of Bangladesh on January 14 1993, in Institute of Food and Radiation Biology in Savar, Dhaka, Bangladesh.
 - 34) **Presented a paper** in International Symposium on Biotechnology for Sustainable Development held in NIBGE, Faisalabad, on

- December 15-20, 1993.
- 35) **Presided over and presented a paper** on Effect of Insecticides on Fish in a symposium Aquaculture and Fisheries Development in Pakistan, organized by Punjab Fisheries Department, Lahore in March 1994.
 - 36) **Presided over and presented a paper** on Cell cycle regulated expression of cytokines and transcription factors in FDCP-1 cells in a meeting of Pakistan Association of Biochemists held on April 2-5, 1995 in Avari, Lahore.
 - 37) **Presided over and presented a paper** on Gene expression in FDCP-I cells in an International Symposium - Workshop, Applications of molecular biological Researches in Agriculture, Health and Environment held on April 8-11, 1995 at CAMB, **University of the Punjab, Lahore.**
 - 38) **Presided over and delivered plenary lecture** on Vitamin D - mediated osteocalcin gene expression at the 5th Biennial PMRC Congress, held at Aga Khan University on April 19-20, 1995.
 - 39) **Presided over and delivered a popular awareness lecture** on Gene Therapy - Science of 21st Century in November 26-28, 1996 in Islamabad at the time of 1st Inaugural International Conference of Genetics held at NARC, Islamabad.
 - 40) **Presented paper in 1st National Symposium on Biotechnology** for Sustainable Development in Government College, Lahore, November 24, 1997.
 - 41) **Participated in Symposium on Biotechnology**, Organized by Council of Science and Technology, Islamabad in November 1997.
 - 42) International Symposium on Science and Technology for National Development, Organized by COMSTECH in Islamabad on December 13-14, 1997.
 - 43) **Attended THIRD ANNUAL RESEARCH RETREAT** of University of Massachusetts Medical Centre held at Marine Biological Laboratories, Woods Hole, Massachusetts, USA on November 8-10, 1998.
 - 44) Attended a seminar on **Emerging Environmental Issues in Pakistan** organized by Pakistan Academy of Sciences and Energy & Environment Society of Pakistan on December 5-7, 1998, and **presented a paper** on Bioremediation of Industrial waste water.
 - 45) Attended 7th International **conference on Biochemistry and Molecular Biology** held at Institute of Biochemistry and Biotechnology, University of the Punjab, Lahore in June 2003 and presented a research paper.
 - 46) Attended and presented a research paper in 16th Meeting of **Medical Research Society of Pakistan** held at Shaukat Khanum Memorial Cancer Hospital & Research Centre, Lahore on December 20, 2003.
 - 47) Attended and presented a paper in two day seminar on **Bioinformatics, Information Technology and Biostatistics** held in National College of Business Administration & Economics, Lahore on December 27-28, 2003.
 - 48) Organized and also delivered a Plenary lecture in an **International Symposium on Nanochemistry: Chemistry, Biochemistry, Molecular Biology & Bioinformatics of Enzymes** in School of Biological Sciences, University of the Punjab on September 20-21, 2006.
 - 49) Organized an International Symposium on **Glycoproteins in Health and Diseases** in School of Biological Sciences, University of the Punjab on May 27-29, 2009. Also delivered a Plenary lecture.
 - 50) Participated and made presentation as an invited lecture in the **3rd International Symposium-cum-Training Course on Molecular Medicine and Drug Research** held at International Center for Chemical and Biological Sciences, University of Karachi on January 30-February 6, 2011.
 - 51) Delivered a lecture on "Heavy Metal Efflux: A Mechanism of Metal Detoxification in Prokaryotes" on June 28, 2012 at Pak-Chins Joint Symposium on "Applications of Biotechnology in Plant and Animal Sciences" held at Sindh Agricultural University, Tandojam.
 - 52) Participated and made presentation as an invited lecture in the **4th International Symposium-cum-Training Course on Molecular Medicine and Drug Research** held at International Center for Chemical and Biological Sciences, University of Karachi on January 7-February 10, 2013
 - 53) Participated and made presentation as an invited lecture in the **International Conference on Biotechnology: Prospects & Challenges in Agriculture, Industry, Health and Environment** held at National Institute of Biotechnology and Genetic Engineering, Faisalabad, April 22-26, 2013.
 - 54) Participated and made presentation as an invited Resource Person in the **International Biosafety and Risk Management Workshop I** held at Karakoram International University, Gilgit, Pakistan, June 11-16, 2013. Jointly organized by KIU, Gilgit, Fogarty International, NIH, Bethesda, USA and Pakistan Biosafety Association.
 - 55) Delivered an invited talk on "What are genes? How do they Work?" in University of Sargodha on December 18, 2014 in Department of Biological Sciences.
 - 56) Delivered an invited talk on "Prospects of a local herb, *Cissus quadrangularis* on osteogenic differentiation of mammalian cell lines" in a Seminar Series- Biomedical Materials Thematic Area – Pak-China Business Forum 2015 on 29th March 2015 organized by COMSATS, Islamabad.
 - 57) Delivered a plenary lecture "Molecular Biology Research Techniques in Current Scenario" in a National Conference on Cutting-Edge Techniques in Molecular Research organized by IBB, University of Veterinary and Animal Sciences, Lahore on 12th March 2015.
 - 58) Chaired Inaugural lecture by Prof. Dr. Simon Silver, UI, USA on March 25, 2015 at the 10th Biennial International Conference of Pakistan Society for Microbiology held on March 25-28, 2015 at MMG, University of the Punjab, Lahore
 - 59) Delivered an invited lecture "What are genes? How do they work?" in University of Sargodha on March 19, 2015.
 - 60) Attended 6th International Fisheries Symposium & Expo-2017 on "Innovative and Sustainable Aquaculture for Blue Revolution" and chaired Plenary Session on February 8, 2017 in Faletti's Hotel, Lahore.

H) CONTRIBUTIONS TOWARDS CURRICULUM DEVELOPMENT IN BIOLOGY AND ZOOLOGY

Being member of Boards of Studies in Zoology and Molecular Biology, I have contributed tremendously towards modernization and frequent revision of curricula and syllabi at school, college and University level. Besides that I have been member of the following committee, which suggested drastic changes in various curricula and syllabi. Most of these suggestions were later adopted and implemented all over the country.

1. National Workshop on Biology Education, sponsored by UNESCO, 1983.
2. Committee of Ministry of Education for revision of Syllabi from class 6 to 16, 1985.
3. Member of the Committee of UGC and Government of Pakistan, which presented a model Biology Syllabi (Secondary and High Secondary level) for all the Ummah countries to Islamic Educational, Scientific and Cultural Organization in Rabat.
4. National Committee of UGC to frame courses for B.Sc. and M.Sc. classes for uniform adoption throughout in Pakistan.
5. Member of the Committee of UGC and Government of Pakistan, which prepared Model Curriculum for undergraduate (B.Sc. and licence) courses in Biology for all the Ummah Countries and presented to ISESCO, Rabat.
6. Member and Expert, National Review Committees for Biology Books of Class XI and XII prepared by The Punjab and Sind Textbook Boards, sponsored by Ministry of Education, Government of Pakistan.
7. Member of UGC Core Committee for Modernizing Syllabi of Zoology for B.Sc. and M.Sc. Classes (1992- 2002)
8. Member, Governing Body, Punjab Curriculum and Textbook Board, Gulberg, Lahore (February 2015- continuing).

I) COMPILATION/AUTHORSHIP OF BOOKS

- 1) **A QUESTION BANK IN ZOOLOGY (TEST ITEM POOL ZOOLOGY)** published by the UGC , 1985. This book comprises of about 6,000 questions, covering various branches of Zoology. The compilation of questions for this book was sponsored by the University Grants Commission. It will be used as a standard of teaching of Zoology in all the Universities and Colleges of Pakistan.
- 2) **SEVENTY FIVE YEARS OF POSTGRADUATE TEACHING AND RESEARCH IN ZOOLOGY IN UNIVERSITY OF THE PUNJAB.** This book was compiled as part of Centenary Celebrations of University of the Punjab. This has now been published as a supplement of BIOLOGIA, a scientific Journal published by the Biological Society of Lahore, Pakistan.
- 3) **SOUVENIR 1985,** Published at the occasion of Sixth Pakistan Congress of Zoology held in University of the Punjab, 1985. Sponsored by the Zoological Society of Pakistan.
- 4) **ANNOTATED TEXT BOOK OF BIOLOGY FOR SECONDARY SCHOOL.** Published by ISESCO, Rabat, Morocco. I am the Editor of the book and have also **written a chapter on Cell Biology and Genetics.**
- 5) **ANNOTATED TEXTBOOK OF BIOLOGY FOR HIGHER SECONDARY SCHOOL,** published by ISESCO, Rabat, Morocco. I am the Editor of the book and have also **written nine chapters on Cell Biology, Molecular Biology, Genetics and Evolution.**
- 6) **SOUVENIR 1998.** Published at the occasion of Eighteenth Pakistan Congress of Zoology held at the University of the Punjab in April 1998.
- 7) **CLONING- AN INTRODUCTION** a book written in 1999 under a special request by Urdu Science Board, Pakistan.
- 8) **FROM GENETIC ENGINEERING TO ANIMAL CLONING,** 2000.
- 9) **NOBEL PRIZE WINNING DISCOVERIES,** published by Urdu Science Board, Lahore, 2002
- 10) **TEXTBOOK OF BIOLOGY FOR CLASS XI AND XII** published by Punjab Textbook Board, Lahore, 2002, 2003.
- 11) **CLONING- AN INTRODUCTION** (an extensively revised version) updated with figures in four colours in 2006 published by Urdu Science Board, Upper Mall, Lahore, Pakistan.
- 12) **QAMER, S. and SHAKOORI, A.R. : COMPOSITION OF HONEY PRODUCED BY ASIAN AND EXOTIC HONEYBEES.-Composition of Honey Produced by the Asian and Exotic Honeybees** Paperback -09-2010, VDM Verlag, Dr. Muller Aktiengesellschaft &CO KG. ISBN 9783639008289. Pp. 236.
- 13) **YOUSAFZAI, A.M. AND SHAKOORI, A.R., 2011. Pollution of Large Sub-Tropical Rivers- River Kabul, Pakistan.** VDM Verlag, Dr. Muller Aktiengesellschaft &CO KG. ISBN 978-3-639-33934-5.
- 14) **KHAN, M.J., KANWAL, M. AND SHAKOORI, A. R., 2011. Interferon Beta 1 Gene and Human Cancer.** VDM Verlag, Dr. Muller Aktiengesellschaft &CO KG., Germany. ISBN 978-3-639-35935-0
- 15) **SHAKOORI, A.R. AND REHMAN, A., 2011. Protozoan Fauna of Industrial Wastes and their Role in Bioremediation ,** VDM Verlag, Dr. Muller Aktiengesellschaft & CO KG. Germany. ISBN 978-3-639-36906-9.

- 16) SHAKOORI, A.R. AND BUKHARI, D.A., 2011. **Molecular Characterization of Cry4 Gene from *Bacillus thuringiensis***. VDM Verlag, Dr. Muller Aktiengesellschaft & CO KG, Germany. ISBN 978-3-639-37596-1. Pp. 345
- 17) SHAKOORI, A.R. AND AHMED, B., 2011. **Plasmid Mediated Antibiotic Resistance in Gram-Negative Bacteria**. VDM erlag, Dr. Muller Aktiengesellschaft & CO KG, Germany ISBN 978-3-639-37920-4
- 18) DAR, S. AND SHAKOORI, A.R., 2011. **Cadmium Metallothionein Gene of *Paramecium*. Cloning and Expression of a Synthetic Gene of *Paramecium* species**. LAP Lambert Academic Publishing GmbH & Co.KG, Germany. ISBN 978-3-8454-77140-2
- 19) SULEMAN, A. AND SHAKOORI, A.R., 2011. **Physiological Importance of Cadmium Metallothionein Protein- Cloning, Expression Purification and Physiological Importance of *MutTMCd1* Gene.** LAP Lambert Academic Publishing GmbH & Co. KG, Germany. ISBN 978-3-8454-7719-0.
- 20) ZAHID, N. AND SHAKOORI, A.R., 2011. **Functional Analysis of Promoter4 of *cus* Operon - Activity of Copper-mediated Induction of *cus* Operon Promoter in *E. coli***. LAP Lambert Academic Publishing GmbH & Co. KG, Germany. ISBN 978-3-8465-0511-3
- 21) SHUJA, R.N. AND SHAKOORI, A.R., 2011. **Cadmium metallothionein genes of ciliates: Isolation and characterization of cadmium metallothionein genes**. LAP Lambert Academic Publishing GmbH & Co. KG, Germany. ISBN-13 978-3-8465-3139-6. pp.160.
- 22) CHAUDHARY, R. AND SHAKOORI, A.R., 2011. **Copper metallothionein Gene of *Tetrahymena*. – Copper Metallothionein Gene Isoforms**. LAP Lambert Academic Publishing GmbH & Co. KG, Germany. ISBN 978-3-8465-1669-0.
- 23) SALIHA, Z., SATTAR, A., FARID, A. AND SHAKOORI, A.R., 2012. **Termites of Pakistan & their Control**. Zoological Society of Pakistan, pp. 102. ISBN 9078-969-9715-00-6
- 24) KANWAL, M., KHAN, M.J. AND SHAKOORI, A.R., 2012. **Acute lymphoblastic leukemias (ALL) and interferon beta-1 genes: Mutational analysis of interferon beta 1 (IFN1)**. LAP Lambert Academic Publishing GmbH & Co. KG, Germany. ISBN-13: 978-3-6592-3041-7. pp.172
- 25) SALEEM, F. AND SHAKOORI, A.R., 2012. **Development of Bioinsecticides: Molecular characterization of *cry2* gene from Pakistani isolates of *Bacillus thuringiensis***. LAP Lambert Academic Publishing GmbH & Co. KG, Germany. ISBN-13: 978-3-8484-4231-7 pp.168.
- 26) SHAKOORI, T.A. AND SHAKOORI, A.R., 2013. . **Role of surfactant protein D in chronic Obstructive Pulmonary Disease**. LAP Lambert Academic Publishing GmbH & Co. KG, Germany. ISBN-13: 978-3-659-34158-8. pp.168.
- 27) **Chapter 1: Introduction to Chromosomes by A. R. Shakoori**
Chapter 3: Organization of Genetic Material into chromosomes by A. R. Shakoori
Chapter 12: Structural Changes in chromosomes by A.R. Shakoori, Saira Aftab and Khalid Al-Ghanim
Chapter 13: Numerical changes in chromosomes by A. R. Shakoori, Saira Aftab and Farah Rauf Shakoori
Chapter 16: Fluorescent in situ Hybridization (FISH) and its Applications by A. R. Shakoori
In : Chromosome Structure and Aberrations Edited by Tariq Ahmad Bhat and Aijaz Ahmad Wani
Published by Springer Verlag, February 2017, pp. 367. ISBN: 978-81-322-3671-9

18. REFEREES

1. **Prof. Dr. G Stein**, Co-Director, Vermont Cancer Center, Chairperson, Department of Biochemistry
149 Beaumont Ave. HSRF 326 ,Burlington, VT 05405, USA
2. **Prof. Dr. Janet Stein** , Department of Biochemistry, University of Vermont College of Medicine, 210E Given, 89 Beaumont Ave,
Burlington, VT 05405, USA.
3. **Prof. Dr. Qasim Jan**, President, Pakistan Academy of Sciences, 3-Constitution Avenue, G-5/2, Islamabad.
4. **Lt. Gen. (Rtd) Muhammad Safdar**, Ex-Governor of the Punjab, Askari Villas, Rawalpindi Cantt.
5. **Prof. Dr. Khalid Mahmood Khan**, Professor Emeritus, University of Agriculture, Faisalabad.
6. **Prof. M. Akhtar FRS**, Ex Director General, School of Biological Sciences, University of the Punjab, New Campus, Lahore 54590

7. **Prof. Dr. M. D. Shami**, Pakistan Academy of Sciences, Constitution Avenue, Islamabad, Pakistan
8. **Prof. Dr. Peter C. Wynn**, McCaughey-CSU Professor of Animal Production, School of Animal and Veterinary Sciences, Charles Sturt University, Locked Bag 588, Wagga Wagga NSW 2678, Boorooma Street' North Wagga NSW, Australia
9. **Prof. Dr. Daniel C. Hoessli**, Department of Pathology & Immunology, Centre Medical Universitaire, Geneva, Switzerland.
10. **Prof. Dr. Andre J. van Wijnen**, Department of Orthopedic Surgery & Biochemistry and Molecular Biology Mayo Clinic 200 First Street SW, Medical Sciences Building,3-69, Rochester, MN 55905, USA
11. **Prof. Dr. Atta ur Rahman**, Chairman, Prime Minister's Task Force on Science & Technology, HEJ Institute of Chemistry, University of Karachi, Karachi.
12. **Prof. Dr. Tallat Naseer Pasha**, Vice chancellor, University of Education, Lahore.
13. **Prof. Dr. Amjad Javed**, Institute of Oral Health Research, School of Dentistry, University of Alabama at Birmingham, 714 School of Dentistry Building, 1530 3rd avenue S, Birmingham AL 35294-0007, USA
14. **Prof. Dr. Niaz Ahmad Akhtar**, Vice Chancellor, University of the Punjab, Lahore

19. LIST OF PUBLICATIONS:**Impact Factor****A) RESEARCH PAPERS ALREADY PUBLISHED**

1. **SHAKOORI, A.R.**, 1968. Anatomy and skeletomusculature of *Caenestheria propinqua* (Sars) (Conchostraca, Branchiopoda, Crustacea). *Bull. Dept. Zool. Univ. Punjab (N.S)*, **2**: 1-48.
2. **SHAKOORI, A.R.**, SCHLATTERER, B. AND SIEBERT, G., 1972. Non-aqueous isolation of nucleoli from rat liver. *Hoppe-Seyler's Z. Physiol. Chem.*, **353**: 758.
3. **SHAKOORI, A.R.**, ROMEN, W., OELSCHLAGER, W., SCHLATTERER, B. AND SIEBERT, G., 1972. A new technique for the isolation of nucleoli from animal cells. *Hoppe-Seyler's Z. Physiol. Chem.*, **353**: 1735-1748.
4. **SHAKOORI, A. R.**, 1973. Isolation of nucleoli and chromatin from bovine seminal vesicle and rat liver in organic solvents by sonication. *Pakistan J. Zool.*, **5**: 1-23. **0.105**
5. **SHAKOORI, A. R.** AND AHMAD, M.S., 1973. Studies on the liver of chicken, *Gallus domesticus* I. Liver growth and nucleic acids content. *Pakistan J. Zool.*, **5**: 111-117. **0.105**
6. SIEBERT, G., SCHLATTERER, B. AND **SHAKOORI, A. R.**, 1973. Organic solvent mixture as zonal centrifugation media: separation of nuclei and of nucleoli. In: *Methodological developments in biochemistry* (Ed. E. Reid), vol. 3: *Advances with zonal rotors*, pp. 157-158, Longman, London.
7. **SHAKOORI, A.R.**, MIAN, N.J. AND AHMAD, M.S., 1974. Effect of thioacetamide on the nucleic acids content of kidney of rabbit. *Biologia Pakistan*, **20**: 163-169.
8. **SHAKOORI, A.R.**, WAHEED, A. AND AHMAD, M .S., 1974. Studies on the liver of chicken, *Gallus domesticus* II. Effect of total body gamma irradiation on the liver growth and nucleic acids content. *Pakistan J. Zool.*, **6**: 73-84. **0.105**
9. **SHAKOORI, A.R.**, 1974. A preliminary report on the effect of thioacetamide on nucleic acids content and lactate dehydrogenase activity of various fractions of rat liver. *Pakistan J. Zool.*, **6**: 189-191. **0.105**
10. **SHAKOORI, A.R.**, SHAH, W.A. AND AKHTAR, S., 1975. Studies on the liver of chicken, *Gallus domesticus* III. Effect of additive doses of thioacetamide on the free amino acids pool and soluble protein contents of liver and blood serum. *Pakistan J. Zool.*, **7**: 7-14. **0.105**
11. **SHAKOORI, A.R.** AND KHAN, S.A., 1975. Thioacetamide-induced changes in the histological structure of rabbit kidney. *Biologia Pakistan*, **21**: 75-85.
12. **SHAKOORI, A.R.** AND KHAN, S.A., 1975. Cytological changes in rabbit liver induced by thioacetamide. *Biologia Pakistan*, **21**: 111-117.
13. **SHAKOORI, A.R.** AND DRAKSHAN, M., 1975. Effect of thioacetamide on the body weight, liver weight, histological structure and the total nucleic acids content of mouse liver. *Pakistan J. Zool.*, **7**: 117-133. **0.105**
14. **SHAKOORI, A.R.** AND ZHAEEER, S.A., 1975. Effect of thioacetamide on the electrophoretic pattern of blood serum proteins of rabbit. *Pakistan J. Zool.*, **7**: 207-208. **0.105**
15. **SHAKOORI, A.R.**, ZAHEER, S.A. AND AHMAD, M.S., 1976. Electrophoretic pattern of blood serum proteins of some of the vertebrates of Pakistan. *Nucleus*, **13**: 31-39.
16. **SHAKOORI, A.R.**, AND ASHRAF, F., 1976. Thioacetamide-induced changes in the body weight, kidney weight and the total nucleic acids content of kidney of mouse. *Nucleus*, **13**: 41-47.
17. **SHAKOORI, A.R.**, ZAHEER, S.A. AND AHMAD, M.S., 1976. Response of blood serum proteins and free amino acids to starvation in freshwater teleost, *Channa punctatus* (Bloch.). *Pakistan J. Zool.*, **8**: 25-34. **0.105**
18. **SHAKOORI, A.R.** AND SHAH, W.A., 1976. Studies on the liver of chicken, *Gallus domesticus* IV. Effect of starvation on the soluble proteins content and free amino acids pool. *Biologia Pakistan*, **22**: 193-199.
19. **SHAKOORI, A.R.**, ZAHEER, S.A. AND AHMAD, M.S., 1976. Effect of malathion, dieldrin and endrin on blood serum proteins and free amino acids pool of *Channa punctatus*. *Pakistan J. Zool.*, **8**: 125-134. **0.105**
20. **SHAKOORI, A.R.** AND LONE, K.P., 1977. Effect of thioacetamide on the nucleic acids, protein and free amino acids content of liver and kidney of spiny-tailed lizard, *Uromastix hardwickii*. *Biologia Pakistan*, **23**: 65-75.
21. ASHRAF, F., **SHAKOORI, A.R.** AND ASLAM KHAN, M., 1977. Nucleic acids content of *Anopheles stephensi* collected from different localities of Iran and Pakistan. *Pakistan J. Zool.*, **9**: 99-105. **0.105**
22. **SHAKOORI, A.R.** AND KHAN, M.A., 1977. Structural changes induced by total extrahepatic biliary obstruction in rat liver. *Pakistan J. Zool.*, **9**: 209-243. **0.105**
23. **SHAKOORI, A.R.** AND LONE, K.P., 1977. Effect of stronger doses of thioacetamide on the liver and kidney of *Uromastix hardwickii*. *Nucleus*, **14**: 27-34.
24. RAZA, T.A. AND **SHAKOORI, A.R.**, 1979. Cytologic alterations in adenohypophysis of rat after chemical thyroidectomy: an electron microscopic study of thyrotrophs. *Pakistan J. Zool.*, **10**: 139-162. **0.105**
25. **SHAKOORI, A.R.** AND MALIK, F., 1979. Effect of aqueous opium extract on the body growth rate of mouse. *Pakistan J. Zool.*, **11**: 181-184. **0.105**
26. **SHAKOORI, A.R.** AND BUTT, U., 1979. Effect of thioacetamide on the development of a drosophilid fly. I. Morphological studies. *Pakistan J. Zool.*, **11**: 315-328. **0.105**
27. **SHAKOORI, A.R.** AND BAKHTIAR, A., 1979. Effect of thioacetamide on the development of a drosophilid fly II. Biochemical studies. *Bull. Dept. Zool. Univ. Punjab (N.S.)*, Article **11**, pp. 85.

28. **SHAKOORI, A.R.** AND ALI, S.S., 1980. Some observations on the effect of stronger doses of thioacetamide on the development of *Zaprionus indianus*. *Pakistan J. Zool.*, **12**: 274-276. **0.105**
29. **SHAKOORI, A.R.** AND BUTT, M.Z., 1980. Thioacetamide-induced inhibition of development in house fly. *Pakistan J. Zool.*, **12**: 247-276. **0.105**
- Total IF for 1972-80** **1.68**
30. GILL, N., MUFTI, S.A., AND **SHAKOORI, A.R.**, 1981. Effect of denervation on the extensor digitorum longus muscle in rats. *Pakistan J. Zool.*, **13**: 85-92. **0.105**
31. GILL, N., **SHAKOORI, A.R.** AND MUFTI, S.A., 1981. Studies on the effect of mechanical injury on normal extensor digitorum longus muscle in rats. *Pakistan J. Zool.*, **13**: 51-62. **0.105**
32. ALI, S.S. AND **SHAKOORI, A.R.**, 1981. Resistance to malathion toxicity in rabbits - as revealed by studies on blood and liver. *Pakistan J. Zool.*, **13**: 269-281. **0.105**
33. **SHAKOORI, A.R.**, RASUL, Y.G. AND ALI, S.S., 1982. Effect of dieldrin feeding for six months on albino rats-biochemical and histological changes in liver. *Pakistan J. Zool.*, **14**: 191-204. **0.105**
34. **SHAKOORI, A.R.** AND HAQ, R., 1982. Effect of starvation and refeeding on the blood and liver of domesticated rabbits. *Acta Physiol. latinoam.*, **32**: 131-145. **0.105**
35. GILL, N., **SHAKOORI, A.R.** AND MUFTI, S.A., 1983. Morphometric studies on the effect of xylocaine on the normal and transplanted extensor digitorum longus muscles on rat. *Pakistan J. Zool.*, **15**: 57-73. **0.105**
36. **SHAKOORI, A.R.**, IQBAL, M.Z. AND ALI, S.S., 1983. Hepatic dysfunction following continuous long term feeding of saccharin in albino mice. *Pakistan J. Zool.*, **15**: 157-162. **0.105**
37. **SHAKOORI, A.R.** AND MIRZA, M.R., 1983. Seventy five years of postgraduate teaching and research in Zoology in University of the Punjab. *Biologia (Pakistan) Suppl.*, pp. 1-55. **0.105**
38. **SHAKOORI, A.R.** AND PARVEEN, A., 1983. Changes induced by thioacetamide in the macromolecular contents of house fly, *Musca domestica* L. during development. *Bangladesh J. Zool.*, **11**: 53-74. **0.105**
39. **SHAKOORI, A.R.**, RASUL, Y.G. AND ALI, S.S., 1984. The effect of long term administration of dieldrin on biochemical changes in blood serum of albino rats. *Folia biol. (Krakow)*, **32**: 213-222. **0.547**
40. **SHAKOORI, A.R.**, CHEEMA, A.I.A., RANI, A., AND ALI, S.S., 1984. Evaluation of liver function after thioacetamide treatment of partially hepatectomized rabbits. *Acta physiol. Pharmacol. latinoam.*, **34**: 304-312. **0.105**
41. SALEEM, M.A. AND **SHAKOORI, A.R.**, 1984. Survival and body weight loss of starved larvae of *Tribolium castaneum* (Herbst) (Coleoptera: Tenebrionidae) at different relative humidities. *Pakistan J. Zool.*, **16**: 129-134. **0.105**
42. AHMAD, M.S., ALI, F.A., AND **SHAKOORI, A.R.**, 1985. Effect of dieldrin on the whole body protein content of *Periplaneta americana*. *Pakistan J. Zool.*, **17**: 105-109. **0.105**
43. CHEEMA, A.A., **SHAKOORI, A.R.** AND SHAH, F.H., 1985. Kinetic studies on acetylcholinesterase in brain of a goat. *Pakistan J. Zool.*, **17**: 127-131. **0.105**
44. **SHAKOORI, A.R.**, RIZVI, N. AND AHMAD, M.S., 1985. Possible interaction of nucleosides with thioacetamide. *Pakistan J. Zool.*, **17**: 179-191. **0.105**
45. AHMAD, M. AND **SHAKOORI, A.R.**, 1985. *Test item pool Zoology*, pp. 835; published by University Grants Commission, Islamabad. **0.105**
46. **SHAKOORI, A.R.**, RANI, A., CHEEMA, A.I.A., AND ALI, S.S., 1985. Some biochemical and histological changes in regenerating liver after thioacetamide treatment of partially hepatectomized rabbits. *Pakistan J. Zool.*, **17**: 271-288. **0.105**
47. HAQ, R., AND **SHAKOORI, A.R.**, 1985. Sensitivity of yeast *Schizosaccharomyces pombe* to N-methyl-N-nitro-N-nitrosoguanidine (MNNG). *Pakistan J. Zool.*, **17**: 313-316. **0.105**
48. SALEEM, M.A. AND **SHAKOORI, A.R.**, 1985. Effect of permethrin and deltamethrin on some biochemical components of *Tribolium castaneum* larvae. *Pakistan J. Zool.*, **17**: 321-328. **0.105**
49. **SHAKOORI, A.R.**, AND MIRZA, M.R. (Eds.), 1985. *Souvenir*. Released at the occasion of Sixth Pakistan Congress of Zoology, pp. 94, published by Zoological Society of Pakistan, Lahore. **0.105**
50. CHEEMA, A.A., SHAH, F.H. AND **SHAKOORI, A.R.**, 1985. Kinetics of inhibition of acetylcholinesterase of goat brain homogenate by malaaxon. *Pakistan J. Zool.*, **17**: 373-379. **0.105**
51. MIRZA, M.R. AND **SHAKOORI, A.R.**, 1985. History of teaching and research in Zoology in the Punjab. In *Souvenir* (Eds. Shakoori, A.R. and Mirza, M.R.), pp. 9-75, Zoological Society of Pakistan, Lahore. **0.105**
52. SALEEM, M.A. AND **SHAKOORI, A.R.**, 1985. Comparative effects of permethrin and malathion on DNA, RNA and total protein contents in *Tribolium castaneum* larvae. *Proc. Pakistan Congr. Zool.*, **5**: 59-67. **0.105**
53. ARSHAD, M., ALI, F.A. AND **SHAKOORI, A.R.**, 1985. The effect of injury on the haemolymph proteins of *Dysdercus cingulatus* (Pyrrhocoridae: Hemiptera). *Pakistan J. Zool.*, **17**: 369-372. **0.105**
- Total IF for 1981-85** **2.122**
54. SALEEM, M.A. AND **SHAKOORI, A.R.**, 1986. Starvation and refeeding in *Tribolium castaneum* (Herbst). I. Effect on some biochemical components of sixth instar larvae. *Canadian J. Zool.*, **64**: 1628-1632. **1.254**
55. SALEEM, M.A. AND **SHAKOORI, A.R.**, 1986. Biochemical effects of sublethal doses of cypermethrin on sixth instar larvae of *Tribolium castaneum* (Herbst). *Arch. Insect Biochem. Physiol.*, **3**: 447-455. **1.381**
56. RIAZUDDIN, S. AND **SHAKOORI, A.R.**, 1986. Building biotechnology capability in Pakistan. *Proc. Int. Symp. Sci. Tech. Pakistan*, sponsored by North American Physicians Association and Pakistan Science Foundation, Islamabad. **0.105**

57. RIAZUDDIN, S., **SHAKOORI, A.R.** AND NAWAZ, Z., 1986. Mutagenicity testing of children's consumables. *Pakistan J. Zool.*, **18**: 317-326. **0.105**
58. MALIK, M.Z., SALEEM, M.A., FAYYAZ, M. AND **SHAKOORI, A.R.**, 1986. The toxicity of four new synthetic pyrethroids on the sixth instar larvae of a stored grain pest, *Tribolium castaneum* (Herbst). *Pakistan J. Zool.*, **18**: 417-431. **0.105**
59. SALEEM, M.A. AND **SHAKOORI, A.R.**, 1986. The effect of seven different relative humidities on survival and body weight loss of starved *Tribolium castaneum* adults. *Pakistan J. Zool.*, **18**: 395-402. **0.105**
60. **SHAKOORI, A.R.**, RAANA, T., NAZ, F. AND ALI, S.S., 1986. Chemical interaction of thioacetamide with rat liver and bacterial DNA *in vitro* as revealed by agarose gel electrophoresis. *Proc. Pakistan Congr. Zool.*, **6**: 39-49.
61. **SHAKOORI, A.R.**, CHAUDHRY, B., MIRZA, N.A. AND RIAZUDDIN, S., 1986. Preliminary studies on the repair of O₂ MeT and O₄ MeT lesions in DNA of *Micrococcus luteus* adapted to N-methyl-n-nitro-n-nitrosoguanidine (MNNG). *Proc. Pakistan Congr. Zool.*, **6**: 221-238.
62. SALEEM, M.A. AND **SHAKOORI, A.R.**, 1987. Permethrin and malathion induced macromolecular abnormalities in adults of *Tribolium castaneum*. *Arch. Insect Biochem. Physiol.*, **5**: 45-55. **1.381**
63. **SHAKOORI, A.R.** AND HAQ, R., 1987. Effect of starvation on the heptachlor toxicity in rabbits-biochemical changes in blood. *Folia biol. (Krakow)*, **35**: 33-42. **0.547**
64. **SHAKOORI, A.R.** AND HAQ, R., 1987. Effect of heptachlor on the liver of starved rabbits. *Folia biol. (Krakow)*, **35**: 23-32. **0.547**
65. **SHAKOORI, A.R.**, AKHTAR, R., NAWAZ, Z. AND RIAZUDDIN, S., 1987. Isolation, biochemical characterization and genetic studies of *Rhizobium* species collected from Lahore. *Pakistan J. Zool.*, **19**: 185-191. **0.105**
66. NEELUM, M., NAWAZ, Z., **SHAKOORI, A.R.** AND RIAZUDDIN, S., 1987. Isolation and characterization of R-plasmid from antibiotic resistant bacterial strains collected from a local hospital. *Pakistan J. Zool.*, **19**: 17-26. **0.105**
67. RIAZUDDIN, S., ATHAR, S. AND **SHAKOORI, A.R.**, 1987. A non-pyrimidine dimer UV damage specific endonuclease II. Mechanism of action. *Pakistan J. Zool.*, **19**: 217-230. **0.105**
68. RIAZUDDIN, S., **SHAKOORI, A.R.**, AND ATHAR, A., 1987. Macromolecular and genetic basis of repair of DNA in *Micrococcus luteus* damaged by alkylating agents. *Proc. Int. Symp. Biol. Active Macromol.*, University of Baluchistan, Quetta.
69. SALEEM, M.A. AND **SHAKOORI, A.R.**, 1987. Joint effects of diflubenzuron and permethrin on some enzyme activities of *Tribolium castaneum* larvae. *Pesticide Biochem. Physiol.*, **29**: 127-137. **1.719**
70. **SHAKOORI, A.R.**, KHAN, M.T.J., HAQ, R. AND ALI, S.S., 1987. Haematological and biochemical changes induced in rabbit blood by chronic doses of thioacetamide. *Pakistan J. Zool.*, **19**: 273-282. **0.105**
71. KHAN, M.T.J., ALI, S.S. AND **SHAKOORI, A.R.**, 1987. Histological and nucleic acids content changes in rabbit liver after continuous administration of thioacetamide for seven weeks. *Pakistan J. Zool.*, **19**: 439-441. **0.105**
72. SOHAIL, A., AMJAD, M., **SHAKOORI, A.R.** AND RIAZUDDIN, S., 1987. An improved method for isolation of covalently closed circular DNA from m X 174 am3 phage. *Pakistan J. Zool.*, **19**: 407-412. **0.105**
73. RIAZUDDIN, S., SOHAIL, A., NAWAZ, Z., MUSHTAQ, R. AND **SHAKOORI, A.R.**, 1987. Isolation of a temperate bacteriophage m R7 specific for *Pseudomonas aeruginosa*. *Pakistan J. Zool.*, **19**: 425-435. **0.105**
74. **SHAKOORI, A.R.**, SALEEM, M.A., AND TUFAIL, N., 1988. Evaluation of loss of total body weight and mortality of *Tribolium castaneum* after starvation. *Pakistan J. Zool.*, **20**: 1-11. **0.105**
75. **SHAKOORI, A.R.**, ALI, S.S. AND SALEEM, M.A., 1988. Effects of six months feeding of Cypermethrin on the blood and liver of albino rats. *J. biochem. Toxicol. (USA)*, **3**: 59-71. **1.957**
76. **SHAKOORI, A.R.**, FAYYAZ, M. AND SALEEM, M.A., 1988. Biochemical changes induced by Fenprothrin in the sixth instar larvae of *Tribolium castaneum* (Herbst) (Coleoptera: Tenebrionidae). *J. Stored Prod. Res.*, **24**: 215-220. **1.248**
77. KHAN, M.T.J., ALI, S.S. AND **SHAKOORI, A.R.**, 1988. Histopathological and Nucleic Acids changes in mouse liver following 6 weeks thioacetamide treatment. *Pakistan J. Zool.*, **20**: 191-199. **0.105**
78. HAQ, R., KHAN, M.I., **SHAKOORI, A.R.**, ROBIN, S.P., 1988. Growth of *Thiobacillus ferrooxidans* on organically supplemented media. *Pakistan J. Zool.*, **20**: 247-252. **0.105**
79. ATHAR, A., **SHAKOORI, A.R.** AND RIAZUDDIN, S., 1988. Partial purification of O₂ MeT glycosylase enzyme induced during chemical adaption of *M. luteus*. *Pakistan J. Zool.*, **20**: 159-172. **0.105**
80. CHEEMA, A.A., SHAH, F.H. AND **SHAKOORI, A.R.**, 1988. Inhibition of goat brain acetylcholinesterase by physostigmine (eserine). *Pakistan J. Zool.*, **20**: 373-381. **0.105**
81. ALI, S.S. AND **SHAKOORI, A.R.**, 1988. Gamma BHC induced haematological and biochemical alterations in blood of albino rat (*Rattus norvegicus*). *Proc. Pakistan Congr. Zool.*, **8**: 61-76.
82. ALI, S.S., ALI, N.S. AND **SHAKOORI, A.R.**, 1988. Biochemical alterations induced by short term feeding of endrin on blood of albino rats. *Proc. Pakistan Congr. Zool.*, **8**: 101-112.
83. KHAN, M.I., YASMIN, R., FAHMY, A.M., HAQ, R.U., REHMAN, Z.U. AND **SHAKOORI, A.R.**, 1988. Studies on cell survival and induction of metallothionein in yeast. *Pakistan J. Zool.*, **20**: 275-282. **0.105**
84. BUTT, I.A., RIAZUDDIN, S., **SHAKOORI, A.R.** AND JABEEN, F., 1988. Isolation and identification of petroleum hydrocarbon degrading bacteria from the local environments. *Pakistan J. Zool.*, **20**: 391-399. **0.105**
85. ALI, S.S., QURESHI, M.A., IQBAL, M.J. AND **SHAKOORI, A.R.**, 1988. Biochemical effects of zinc on the muscle of common carp, *Cyprinus carpio*. *Punjab Univ. J. Zool.*, **3**: 71-78.

86. CHEEMA, A.A., **SHAKOORI, A.R.** AND SHAH, F.H., 1989. Inhibition of acetylcholinesterase of goat brain by pyridine -2-aldoxime methiodide (PAM-2). *Pakistan J. Zool.*, **21**: 17-23. **0.105**
87. CHEEMA, A.A., **SHAKOORI, A.R.**, AND SHAH, F.H., 1989. Studies on the reactivation of malaoxon-inhibited acetylcholinesterase of goat brain by pyridine-2-aldoxime methiodide (PAM-2). *Pakistan J. Zool.*, **21**: 247-254. **0.105**
88. **SHAKOORI, A.R.** AND SALEEM, M.A., 1989. Some macromolecular abnormalities developed by the interaction of malathion and permethrin and subsequent refeeding in *Tribolium castaneum* larvae. *Arch. Insect Biochem. Physiol.*, **11**: 203-215. **1.381**
89. SALEEM, M.A. AND **SHAKOORI, A.R.**, 1989. Toxicity of malathion, permethrin and cypermethrin against resistant and susceptible strains of *Tribolium castaneum* (Herbst). *Pakistan J. Zool.*, **21**: 347-360. **0.105**
90. SALEEM, M.A. AND **SHAKOORI, A.R.**, 1990. The toxicity of eight insecticides to sixth instar larvae and adult beetle of *Tribolium castaneum* (Herbst.). *Pakistan J. Zool.*, **22**: 207-216. **0.105**
91. **SHAKOORI, A.R.**, AZIZ, F., ALAM, J. AND ALI, S.S., 1990. Toxic effects of Talstar a new synthetic pyrethroid, on blood and liver of rabbit. *Pakistan J. Zool.*, **22**: 289-300. **0.105**
92. RIZVI, A.R., **SHAKOORI, A.R.** AND RIZVI, S.M., 1990. Aflatoxin contamination of commercial poultry feeds in Punjab, Pakistan. *Pakistan J. Zool.*, **22**: 387-398. **0.105**
93. **SHAKOORI, A.R.**, ALAM, J., AZIZ, F. AND ALI, S.S., 1990. Biochemical effects of bifenthrin (Talstar) administered orally for one month on the blood and liver of rabbit. *Proc. Pakistan Congr. Zool.*, **10**: 61-81. **0.105**
94. **SHAKOORI, A.R.**, SABIR, M., ASLAM, F. AND ALI, S.S., 1990. Toxic effects induced in blood and liver of rabbit after short duration exposure to synthetic pyrethroid, Karate (Cyhalothrin). *Proc. Pakistan Congr. Zool.*, **10**: 83-99. **0.105**
95. **SHAKOORI, A.R.**, ALI, T., IQBAL, M.J. AND ALI, S.S. 1990. Cadmium-induced biochemical changes in liver and muscle of a freshwater fish, *Cirrhina mrigala*. *Proc. Pakistan Congr. Zool.*, **10**: 307-321. **0.105**
96. ALI, S.S. AND **SHAKOORI, A.R.**, 1990. Toxicology of aldrin in rats. *Punjab Univ. J. Zool.*, **5**: 1-50 **13.725**
97. **SHAKOORI, A.R.**, 1991. Status of Biotechnology Research in Pakistan. In *Proceedings of the workshop on Recent Advances in Biotechnology*, pp 50-55. Government of the republic of Indonesia and Standing Committee on Scientific and Technological Cooperation (COMSTECH) of the OIC, Jakarta, November 26-28, 1990. **0.105**
98. **SHAKOORI, A.R.**, AND SALEEM, M.A., 1991. Comparative biochemical composition of a susceptible (FSSII) and two malathion resistant (CTC 12 and Pakistani) strains of *Tribolium castaneum* (Herbst) (Coleoptera: Tenebrionidae). *Pakistan J. Zool.*, **23**(1): 1-10. **0.105**
99. **SHAKOORI, A.R.**, MAJEED, S.B., AND IFTIKHAR, A., 1991. Effect of synthetic pyrethroid on the growth of *Bacillus thuringiensis* var *Kurstaki* (HDI strain) and toxicity to dipterous fly, *Zaprionis indiana*. *Pakistan J. Zool.*, **23**: 239-249. **0.105**
100. **SHAKOORI, A.R.** AND JAFFRI, S.S.R., 1991. Toxic effect of bifenthrin on blood serum proteins of freshwater fish, *Tilapia mossambica*. *Pakistan J. Zool.*, **23**: 372-374. **0.105**
101. **SHAKOORI, A.R.** AND MANSHA, M., 1991. Analysis and characterization of heat shock proteins of *Bacillus thuringiensis* Kurstaki HD1. *Pakistan J. Zool.*, **23**: 229-237. **0.105**
102. **SHAKOORI, A.R.** AND JAVED, A., 1991. Isolation and characterization of plasmid DNA and genomic size of *Bacillus thuringiensis* Kurstaki HD1. *Proc. Pakistan Congr. Zool.*, **11**: 75-88. **0.105**
103. **SHAKOORI, A.R.**, IFTIKHAR, A. AND MAJEED, S., 1991. Effect of heptachlor, MNNG and thioacetamide on the growth of *Bacillus thuringiensis* Berliner strain HD1 (Kurstaki) and its toxicity to dipterous fly, *Zaprionis indiana*. *Proc. Pakistan Congr. Zool.*, **11**: 57-73. **0.105**
104. **SHAKOORI, A.R.** AND AZIZ, F., 1991. Effect of freezing (-30°C) on the electrophoretic pattern and estimation of blood serum proteins of freshwater fish, *Labeo rohita*. *Pakistan J. Zool.*, **23**: 369-372. **0.105**
105. **SHAKOORI, A.R.**, AZIZ, F., SABIR, M., ASLAM, F. AND ALAM, J., 1991. Retarded growth and macromolecular abnormalities in chick blood following oral administration of a synthetic pyrethroid, bifenthrin to *Gallus domesticus*. *Proc. Pakistan Congr. Zool.*, **11**: 41-55. **0.105**
106. KHAN, M.I., REHMAN, S., FAHMY, M.A. AND **SHAKOORI, A.R.**, 1991. Identification, characterization and metal tolerance of a laboratory contaminant pink-pigmented yeast. *Pakistan J. Zool.*, **23**: 175-182. **0.105**
107. RIZVI, S.A.R., **SHAKOORI, A.R.** AND RIZVI, S.M., 1991. Immunomodulatory effects of aflatoxin in chicken. *Pakistan J. Livestock Res.*, **1**: 7-18. **0.105**
108. ALI, S.S., QURESHI, M.A., IQBAL, M.J. AND **SHAKOORI, A.R.**, 1992. Zinc-induced biochemical alteration in the liver of common carp, *Cyprinus carpio*. *Punjab Univ. J. Zool.* **7**: 1-11. **0.105**
109. **SHAKOORI, A.R.**, ALAM, J., AZIZ, F., ASLAM, F., AND SABIR, M., 1992. Toxic effects of bifenthrin (Talstar) on the liver of *Gallus domesticus*. *J. Ecotoxicol. Environ. Monit.* **2**: 1-11. **0.547**
110. **SHAKOORI, A.R.**, ASLAM, F., SABIR, M. AND ALI, S.S., 1992. Effect of prolonged administration of insecticide (Karate / Cyhalothrin) on blood and liver of rabbits. *Folia biol. (Krakow)*, **40**: 91-99. **0.105**
111. RIZVI, S.A.R. AND **SHAKOORI, A.R.**, 1992. Immunomodulatory effects of aflatoxin B1 against Newcastle disease virus vaccine in poultry. *Pakistan J. Zool.*, **24**: 53-58. **0.105**
112. **SHAKOORI, A.R.** AND TARIQ, S., 1992. Effect of hyperthermia on induction of heat shock protein in *Bacillus thuringiensis*. *Pakistan J. Zool.*, **24**: 293-299. **0.105**

113. **SHAKOORI, A.R.**, ILYAS, M. AND AZIZ, F., 1992. Toxicity of sublethal doses of Trebon (Ethofenprox) on total blood serum proteins, acetylcholinesterase activity and SDS-PAGE pattern of blood serum proteins of *Cirrhina mrigala*. *Pakistan J. Zool.*, **24**: 235-241. **0.105**
114. RIZVI, S.A.R. AND **SHAKOORI, A.R.**, 1992. Effect of aflatoxin on the body growth rate and growth of various organs of poultry. *Pakistan J. Zool.*, **24**: 301-307. **0.105**
115. AZIZ, F. AND **SHAKOORI, A.R.**, 1992. Toxic effects of mercuric chloride on the blood serum proteins and free amino acids of freshwater fish, *Labeo rohita*. *Pakistan J. Zool.*, **24**: 362-364. **0.105**
116. TUFAIL, N., SALEEM, M.A. AND **SHAKOORI, A.R.**, 1992. Effectiveness of synthetic pyrethroids against susceptible and resistant strains of *Tribolium castaneum*. *Pakistan J. Zool.*, **24**: 199-209. **0.105**
117. ANJUM, F., RAMAN, A., **SHAKOORI, A.R.** AND GORROD, J.W., 1992. An assessment of cadmium toxicity on cytochrome P450 and flavin monooxygenase-mediated metabolic pathways of dimethylaniline in male rabbits. *J. Environ. Path. Toxicol. Oncol.*, **11**: 191-195. **1.066**
118. **SHAKOORI, A.R.**, 1992. Chemistry of cell. In *Textbook of Biology for Class XI*. Punjab Textbook Board, Lahore.
119. TUFAIL, N., AND **SHAKOORI, A.R.**, 1992. Alphamethrin toxicity in *Tribolium castaneum* larvae. *Pakistan J. Zool.*, **24**: 59-70. **0.105**
120. **SHAKOORI, A.R.**, OBERDORF, A.M., OWEN, T.A., WEBER, L.A., HICKEY, E., STEIN, J.L., LIAN, J.B. AND STEIN, G.S. 1992. Expression of heat shock genes during differentiation of mammalian osteoblasts and promyelocytic leukemia cells. *J. Cell. Biochem.*, **48**: 277-287. **3.381**
121. **SHAKOORI, A.R.**, AND IFTIKHAR, A., 1992. Characterization and amplification of plasmid DNA of *Bacillus thuringiensis*. *Proc. Pakistan Congr. Zool.*, **12**: 59-72.
122. **SHAKOORI, A.R.** AND YASMIN, G., 1992. Effect of Sumicidin Super on the blood serum proteins and acetylcholinesterase activity of broiler chicks of *Gallus domesticus*. *Proc. Pakistan Congr. Zool.*, **12**: 73-80.
123. **SHAKOORI, A.R.** AND RASHEED, S., 1992. Characterizations of plasmids from clinically important bacterial isolates from local hospitals. *Proc. Pakistan Congr. Zool.*, **12**: 81-92.
124. **SHAKOORI, A.R.**, MUJEEB, K.A., IQBAL, M.J. AND ALI, S.S., 1992. Biochemical changes following lead exposure in the liver and muscle of a freshwater fish, *Cirrhina mrigala*. *Proc. Pakistan Congr. Zool.*, **12**: 435-444.
125. **SHAKOORI, A.R.**, BUTT, U., RIFFAT, R. AND AZIZ, F., 1992. Toxic effects of short term oral administration of danitol on the blood and liver of rabbits. *Punjab Univ. J. Zool.*, **7**: 13-26.
126. **SHAKOORI, A.R.**, OWEN, T.A., SHALHOUB, V., STEIN, J.L., BUSTIN, M., STEIN, G.S. AND LIAN, J.B., 1993. Differential expression of the chromosomal high mobility group proteins 14 and 17 during the onset of differentiation in mammalian osteoblasts and promyelocytic leukemia cells. *J. Cell. Biochem.*, **51**: 479-487. **3.381**
127. ANJUM, F. AND **SHAKOORI, A.R.**, 1993. Effect of cadmium on the survival, total body weight, relative liver weight and the liver function enzymes of promethazine- pretreated and phenobarbitone pretreated rabbits. *Pakistan J. Zool.*, **25**: 177-185. **0.105**
128. SALEEM, M.A. AND **SHAKOORI, A.R.**, 1993. Starvation and refeeding in *Tribolium castaneum* (Herbst.) II. Effect on some biochemical components of adult beetles. *Pakistan J. Zool.*, **25**: 169-175. **0.105**
129. **SHAKOORI, A.R.**, MALIK, M.Z. AND SALEEM, M.A., 1993. Toxicity of Karate to malathion resistant Pakistan strain of red flour beetle (*Tribolium castaneum*) adults. *Pakistan J. Zool.*, **25**: 261-271. **0.105**
130. SALEEM, M.A. AND **SHAKOORI, A.R.** 1993. Effect of cypermethrin on the free amino acids pool in an organophosphorus insecticide resistant and a susceptible strain of *Tribolium castaneum*. *Comp. Biochem. Physiol.*, **105C**: 549-553. **2.58**
131. **SHAKOORI, A.R.**, ASLAM, F., AZIZ, F. SABIR, M., AND ALAM, J., 1993. Toxicological effects of orally administered synthetic pyrethroid Talstar (= bifenthrin) on the gastrocnemius muscles of *Gallus domesticus*. *Bangladesh J. Zool.*, **21**: 23-33.
132. ALI, S.S., KHAGGAH, F., ANJUM, F. AND **SHAKOORI, A.R.**, 1993. Cadmium toxicity in the growing chicks of *Gallus domesticus*. *Pakistan J. Zool.*, **25**: 90-92. **0.105**
133. ANJUM, F. AND **SHAKOORI, A.R.**, 1993. Effect of cadmium intoxication on drug metabolizing enzymes of promethazine-pretreated and phenobarbitone pretreated male rabbit. *Pakistan J. Zool.*, **25**: 337-346. **0.105**
134. ANJUM, F., RAMAN, A., **SHAKOORI, A.R.** AND GORROD, J.W., 1993. Effects of sublethal doses of cadmium chloride on native and phenobarbitone-induced drug metabolizing enzymes in male rabbits. *Pharmaceut. Sci. Commun.*, **4**: 45-49.
135. YOUNAS, M., AZIZ, F., SHAFIQUE, M. AND **SHAKOORI, A.R.**, 1993. Biochemical analysis of pericardial fluid in chicks of *Gallus domesticus* suffering from hydropericardium syndrome. *Proc. Pakistan Congr. Zool.*, **13**: 325-340. **0.105**
136. AZIZ, F., AMIN, M. AND **SHAKOORI, A.R.** 1993. Toxic effects of cadmium chloride on the haematology of fish, *Tilapia mossambica*. *Proc. Pakistan Congr. Zool.*, **13**: 141-154.
137. J ALI, S.S. AND **SHAKOORI, A.R.**, 1993. Short term toxicity of endrin on Sprague Dawley rats: Biochemical and histological changes in liver. *Punjab Univ. J. Zool.*, **8**: 1-13.
138. **SHAKOORI, A.R.**, BUTT, U., RIFFAT, R. AND AZIZ, F., 1994. Haematological and biochemical effects of Danitol administered for two months on the blood and liver of rabbits. *Z. Angew. Zool.* (Germany), **80** (2): 165-180.
139. **SHAKOORI, A.R.**, MALIK, M.Z. AND SALEEM, M.A., 1994. Toxicity of cyhalothrin (Karate) to sixth instar larvae of Pakistan strain of *Tribolium castaneum* (Herbst) (Coleoptera: Tenebrionidae). *Pakistan. Zool.* **26**: 57-64. **0.105**

140. **SHAKOORI, A.R.**, IQBAL, M.J. AND ALI, S.S., 1994. Drastic biochemical changes following 48 hours of exposure of chinese grass carp, *Ctenopharyngodon idella* to sublethal doses of mercuric chloride. *Proc. 1st Symp. Fish and Fisheries*, Pakistan, 1991, pp. 81-98.
141. SHAFIQUE, M. AND **SHAKOORI, A.R.**, 1994. Transmission of hydropericardium syndrome in poultry. *Pakistan J. Zool.* **26**: 145-148. **0.105**
142. **SHAKOORI, A.R.**, TUFAIL, N. AND SALEEM, M.A., 1994. Response of malathion resistant and susceptible strains of (Herbst) to of bifenthrin toxicity. *Pakistan J. Zool.*, **26**: 169-178. **0.105**
143. **SHAKOORI, A.R.**, VanWIJNEN, A.L., BORTELL, R., OWEN, T.A., STEIN, J.L., LIAN, J.B. AND STEIN, G.S., 1994. Variations in vitamin D receptor transcription factor complexes associated with the osteocalcin gene vitamin D responsive element in osteoblasts and osteosarcoma cells. *J. Cell. Biochem. (USA)*, **55**: 218-229. **3.381**
144. TUFAIL, N., SALEEM, M.A. AND **SHAKOORI, A.R.**, 1994. Biochemical changes in sixth instar larvae of PAK and FSS-II strains of red flour beetle, *Tribolium castaneum* (Herbst.) (Coleoptera: Tenebrionidae) following administration of sublethal doses of synthetic pyrethroid, bifenthrin. *Pakistan J. Zool.*, **26**: 197-206. **0.105**
145. **SHAKOORI, A.R.** AND BHATTI, N.G., 1994. Effect of Trebon (Ethofenprox) on the carbohydrate utilization by adult beetles of an organophosphorous insecticide susceptible (FSS-II) and malathion resistant (PAK) strains of *Tribolium castaneum*. *Bangladesh J. Zool.*, **22**: 33-41.
146. **SHAKOORI, A.R.**, IQBAL, M.J., MUGHAL, A.L. AND ALI, S.S., 1994. Biochemical changes induced by inorganic mercury on the blood, liver and muscles of freshwater chinese grass carp, *Ctenopharyngodon idella*. *J. Ecotoxic. Environm. Monitor. (India)*, **4**: 81-92.
147. SALEEM, M.A., **SHAKOORI, A.R.**, WILKINS, R.M. AND MANTLE, D., 1994. In vivo effect of lambda-Cyhalothrin and malathion on the proteolytic enzymes of malathion resistant and susceptible strains of *Musca domestica*. *Pakistan J. Zool.* **26**: 327-334. **0.105**
148. **SHAKOORI, A.R.**, AGHA, S., SALEEM, M.A. AND ALI, S.S., 1994. Biochemical abnormalities produced by sublethal doses of synthetic pyrethroid, Sumicidim Super, on the sixth instar larvae of red flour beetle, *Tribolium castaneum*. *Pakistan J. Ent. Karachi.*, **9**: 5-20.
149. SHEIKH, M.A., YAQOOB, T., BAIG, M.S., MAHMOOD, F., AFZAL, M. AND **SHAKOORI, A.R.**, 1994. The epidemiology of haemorrhagic septicaemia in the buffaloes of Pakistan. *The Buffalo J. (Bangkok)*, **10**: 229-236.
150. MALIK, K. AND **SHAKOORI, A.R.**, 1994. The growth of *Bacillus thuringiensis* and induction of proteins in the presence of cadmium chloride. *Proc. Pakistan Congr. Zool.*, **14**: 307-316.
151. LIAN, J.B., STEIN, G.S., STEIN, J.L., WIJNEN, A.V., MONTECINO, M., DESAI, R., **SHAKOORI, A.R.**, BREEN, E., HOFFMAN, H. AND POCKWINSE, S.M., 1994. Vitamin D regulation of osteocalcin gene transcription: A model for defining molecular mechanisms of 1,25 (OH)2D3 control of osteoblast growth and differentiation. In: *Vit. D: a pluripotent steroid hormone: structural studies, molecular endocrinology, and clinical applications*. Proceedings of the Ninth Workshop on Vitamin D, Orlando, Florida (Edited by A.W. Norman, R. Bouillon, and M. Thomasset). Walter de Gruyter, Berlin New York, pp. 264-272.
152. CHUGHTAI, W.T. AND **SHAKOORI, A.R.**, 1994. Antibiotic sensitivity of *Bacillus thuringiensis* HD-1 *Kurstaki*. *Proc. Pakistan Congr. Zool.* **14**: 209-219.
153. **SHAKOORI, A.R.**, DURRANI, S. AND SALEEM, M.A., 1994. Sublethal effects of a synthetic pyrethroid, Ripcord 10EC on *Tribolium castaneum*. *Proc. Pakistan Congr. Zool.*, **14**: 351-360.
154. ANJUM, F. AND **SHAKOORI, A.R.**, 1994. Sublethal effects of inorganic mercury on the body growth rate and liver function enzymes of promethazine pretreated and phenobarbitone pretreated rabbit. *J. Environm. Pathol. Toxicol. Oncol. (USA)*, **13**: 125-132. **1.066**
155. **SHAKOORI, A.R.** AND KAUKAB, M., 1994. Electrophoretic pattern of total proteins of sporulating and non-sporulating *Bacillus thuringiensis*. *Proc. Pakistan Congr. Zool.*, **14**: 375-382.
156. **SHAKOORI, A.R.**, NAHEED, N. AND HUSSAIN, S., 1994. Effect of seasonal variations on protein pattern of freshwater fish, *Cirrhina mrigala*. *Proc. Pakistan Congr. Zool.*, **14**: 387-397.
157. SALEEM, M.A., **SHAKOORI, A.R.**, FALKOUS, G., WILKINS, R.M. AND MANTLE, D., 1994. *In vitro* effect of insecticides on proteolytic enzyme activities in insecticides resistant and susceptible strains of *Musca domestica*. *Proc. Pakistan Congr. Zool.*, **14**: 341-350.
158. SALEEM, M.A. AND **SHAKOORI, A.R.**, 1994. Effect of starvation on mortality and total body weight of larvae and adults of *Tribolium castaneum*. *Punjab Univ. J. Zool.*, **9**: 27-34.
159. ALI, S.S., AND **SHAKOORI, A.R.**, 1994. DDT-induced hematotoxicity in Sprague Dawley rats. *Punjab Univ. J. Zool.*, **9**: 79-87.
160. MAHMOOD, A., RIAZUL HAQ, AND **SHAKOORI A.R.**, 1994. Isolation of bacteria of *Pseudomonas* and *Enterobacter* spp. from soil and study of their ability and degrade organic pollutants. *Punjab Univ. J. Zool.*, **9**: 89-92.
161. RIZVI, S.A.R. AND **SHAKOORI, A.R.**, 1994. Effect of aflatoxin in poultry: 8-Aflatoxin residues in poultry tissues and eggs. *Pakistan J. Livestock Res.*, **4**: 11-13.
162. MUGHAL, A.L., IQBAL, M.J. AND **SHAKOORI, A.R.**, 1995. Toxicity of short term exposure of sublethal doses of a pyrethroid Fenvalerate, on the chinese grass carp, *Ctenopharyngodon idella*. In *Proceedings of Seminar on Aquaculture and Fisheries Development in Pakistan*, 1993, pp. 49-74, organized by Punjab Fisheries Department, Lahore.

163. SALEEM, M.A., **SHAKOORI, A.R.** AND FALKOUS, G., WILKINS, Q.M. AND MANTLE, D., 1995. In vitro inhibition of proteolytic enzymes of human liver, kidney, brain and muscle tissue due to insecticides. *Pakistan J. Zool.*, **27**: 95-103. **0.105**
164. **SHAKOORI, A.R.**, IQBAL, M.Z. AND ALI, S.S., 1995. Biochemical and histopathological effects of saccharine on mouse liver. *Pakistan J. Zool.*, **27**: 1-13. **0.105**
165. SHEIKH, M.A., TASNEEM, K, ZAFAR, M.S., BUTT, I.A. AND **SHAKOORI, A.R.**, 1995. Effect of storage on the prevalent alum precipitated haemorrhagic septicemia vaccine in Pakistan and preparation of a more efficient oil adjuvent vaccine using dense culture of Pasteurella mullocida Roberts Type I on an improved culture medium. *J. Vet. Med. (Germany)*, **B42**: 28-34. **0.931**
166. **SHAKOORI, A.R.**, KHALIQUE, F. AND SALEEM, M.A., 1995. Effects of a synthetic pyrethroids, Ripcord 10EC on the esterases of *Tribolium castaneum* (Herbst.) *Pakistan J Zool.*, **27**: 165-174. **0.105**
167. ASLAM, F., SHALHOUB, V., VAN WIJNEN, A.J., BANERJEE, C., BORTELL, R., **SHAKOORI, A.R.**, LITWICK, G., STEIN, J.L., STEIN, G.S., AND LIAN, J.B. 1995. Contributions of distal and proximal promoter elements to glucocortoid regulation of osteocalcin gene transcription. *Mol. Endocrinol. (USA)*, **9**: 679-690. **5.257**
168. **SHAKOORI, A.R.**, VAN WIJNEN, A.J., COOPER, C., AZIZ, F., BIRNBAUM, M., REDDY, G.P.V., DE LUCA, A., GRANA, X., GIORDANO, A., LIAN, J.B., STEIN, J.L., QUESENBERRY, P. AND STEIN, G.S. 1995. Cytokine induction of proliferation and expression of CDC 2 and cyclin A in FDCP-1 myeloid haematopoietic progenitor cells: regulation of ubiquitous and cell cycle dependent histone gene transcription factors. *J. Cell. Biochem. (USA)*, **58**: 291-302. **3.381**
169. SALEEM, M.A., **SHAKOORI, A.R.**, WILKINS, R.M. AND MANTLE, D., 1995. Protease activities in insect pests: baseline data for inhibitors based control strategies. *Pakistan J. Zool.*, **27**: 255-259. **0.105**
170. **SHAKOORI, A.R.**, KOKAB, R., MAHJABEEN, G., ANJUM, F. AND ALI, S.S., 1995. Effect of mercuric chloride on the activities on some hepatic enzymes of regenerating rabbit liver following partial hepatectomy. *Acta Physiol. Pharmacol. Therap. Latinoam.* **45**: 177-184.
171. SHEIKH, M.A., ANJUM, M., MAJEED, U. AND **SHAKOORI, A.R.**, 1995. Characterization of Pasteurella multocida isolates from healthy carrier and infected sheep, goats and cattle. *Internat. J. Anim. Sci. (India)*, **10**: 21-25.
172. SALEEM, M.A., TUFAIL, N. AND **SHAKOORI, A.R.**, 1995. Synergistic effect of synthetic pyrethroids on the toxicity of *Bacillus thuringiensis* as shown by the biochemical changes in the sixth instar larvae of *Tribolium castaneum*. *Pakistan J. Zool.*, **27**: 317-323. **0.105**
173. GILL, N. AND **SHAKOORI, A.R.**, 1995. Regeneration of autografted extensor digitorum longus muscle in Sprague Dawley rats. *Pakistan J. Zool.*, **27**: 363-371. **0.105**
174. AHMAD, F., ALI, S.S. AND **SHAKOORI, A.R.**, 1995. Sublethal effects of Danitol (Fenprothrin), a synthetic pyrethroid, on Chinese Grass Carp, *Ctenopharyngodon idella*. *Folia Biol. (Poland)*, **43**: 151-159. **0.547**
175. SALEEM, M.A. AND **SHAKOORI, A.R.** 1995. Effect of starvation on the free amino acids pool in an organophosphorus insecticide resistant and a susceptible strain of *Tribolium castaneum*. *Folia Biol. (Poland)*, **43**: 131-135. **0.547**
176. ALI, N., HAQ, R. AND **SHAKOORI, A.R.**, 1995. Effect of lead on growth of *Bacillus thuringiensis*. *Proc. Pakistan Congr. Zool.*, **15**: 201-210.
177. RIAZ, N., HAQ, R. AND **SHAKOORI, A.R.**, 1995. Effect of sumicidin super, a synthetic pyrethroid on the growth of *Bacillus thuringiensis*. *Proc. Pakistan Congr. Zool.*, **15**: 227-240.
178. GILL, N. AND **SHAKOORI, A.R.**, 1995. The free grafting of entire gastrocnemius muscle in Sprague Dawley rats. *Proc. Pakistan Congr. Zool.*, **15**: 267-282.
179. TUFAIL, N., SALEEM, M.A. AND **SHAKOORI, A.R.**, 1995. Toxicity of fluvalinate (Mavrik 2EC) in adult beetles of a malathion resistant and a susceptible strain of *Tribolium castaneum*. *Proc. Pakistan Congr. Zool.*, **15**: 289-312.
180. KHAN, B., YONUS, S., MUJEEB, K.A., SALEEM, M.A. AND **SHAKOORI, A.R.**, 1995. Level of estrases in the various developmental stages of *Tribolium castaneum*. *Proc. Pakistan Congr. Zool.*, **15**: 319-324.
181. ALI, S.S. AND ARSHAD, M. ALI, T. AND **SHAKOORI, A.R.**, 1995. Some metabolic alterations induced by an organophosphate insecticide, malathion on chick muscle. *Punjab Univ. J. Zool.*, **10**: 63-77.
182. GILL, N. AND **SHAKOORI, A.R.**, 1995. Biochemical changes during regeneration of transplanted extensor digitorum longus muscle in Sprague Dawley rats. *Punjab Univ. J. Zool.*, **10**: 11-19.
- Total IF for 1991-95** **29.11**
183. SHAIKH, M.A., ANZAM, M. AND **SHAKOORI, A.R.**, 1996. Observations on haemorrhagic septicaemia in Pakistan livestock. *J. Vet. Med. B. (Germany)*, **43**: 293-304. **0.931**
184. **SHAKOORI, A.R.**, MUGHAL, A.L. AND IQBAL, M.J., 1996. The effects of sublethal doses of fenvalerate (A synthetic pyrethroid) administered continuously for four weeks on the blood, liver and muscle of a freshwater fish, *Ctenopharyngodon idella*. *Bull. Environ. Contam. Toxicol. (USA)*, **57**: 487-494. **0.609**
185. SALEEM, M.A. AND **SHAKOORI, A.R.**, 1996. Biochemical studies in Talcord 10EC. 1. Effect on some enzyme activities and macromolecules of 6th instar larvae of *Tribolium castaneum*. *Pakistan J. Zool.*, **28**: 75-83. **0.105**
186. HAQ, R., MAHMOOD, A. AND **SHAKOORI, A.R.**, 1996. Isolation and characterization of plasmids from hydrocarbon degrading bacteria of soil samples. *Pakistan J. Zool.*, **28**: 63-68. **0.105**
187. SALEEM, M.A. AND **SHAKOORI, A.R.**, 1996. Biochemical studies on Talcord 10EC. II. Effect on some enzyme activities and macromolecules of adult beetles of *Tribolium castaneum*. *Pakistan J. Zool.*, **28**: 151-162. **0.105**

188. SALEEM, M.A. AND **SHAKOORI, A.R.**, 1996. Synergistic effects of permethrin and cypermethrin on the toxicity of *Bacillus thuringiensis* in the adult beetles of *Tribolium castaneum*. *Pakistan J. Zool.*, **28**: 191-198. **0.105**
189. GILL, N. AND **SHAKOORI, A.R.**, 1996. Histological and biochemical changes during regeneration of transplanted anterior tibialis muscle in Sprague Dawley rats. *Pakistan J. Zool.*, **28**: 257-265. **0.105**
190. NADEEM, S., YAQOUB, N., AHMAD, M.S., AND **SHAKOORI, A.R.**, 1996. Isolation of amino acid fermenting bacteria from water of irrigation channel and soil of irrigated cotton field. *Pakistan J. Zool.*, **28**: 339-343. **0.105**
191. ANJUM, F., **SHAKOORI, A.R.** AND GORROD, J.W., 1996. Effect of hexavalent chromium on drug metabolizing enzymes in male domesticated rabbits. *J. Environ. Path. Toxicol. (U.S.A.)*, **15**: 41-50. **1.066**
192. ALI, S.S. AND **SHAKOORI, A.R.**, 1996. Short and long term toxicity of DDT in Albino rats: Biochemical effects in liver. *Punjab Univ. J. Zool.*, **11**: 7-24.
193. ALI, S.S., HUSSAIN, A. AND **SHAKOORI, A.R.**, 1996. Effects of hexavalent chromium on the liver biochemistry of fish, *Oreochromis mossambicus*. *Biologia (Pakistan). Fish number.*, **42**: 101-112.
194. HAQ, R., SAEED, K. H., ALI, S.S. AND **SHAKOORI, A.R.**, 1996. Isolation of aromatic hydrocarbon degrading yeast from sewage wastes and assessment of their use in environmental decontamination. *Punjab Univ. J. Zool.*, **11**: 59-65.
195. GILL, N. AND **SHAKOORI, A.R.**, 1996 Histological and biochemical changes in the transplanted extensor digitorum longus muscle of *Oryctolagus cuniculus*. *Proc. Pakistan Acad. Sci.*, **33**: 133-145.
196. **SHAKOORI A.R.**, BAJWA, N., MUJEEB, H. AND MUJEEB, K.A. 1996. Effect of deltapos on the esterases of red flour beetle, *Tribolium castaneum*. *Proc. Pakistan Congr. Zool.*, **16**: 111-126.
197. **SHAKOORI, A.R.**, MUJEEB, K.A., NADEEM K. AND LATIF, H. 1996. Effect of Decis-D on the esterases of red flour beetle, *Tribolium castaneum*. *Proc. Pakistan Congr. Zool.*, **16**: 311-324.
198. ALI, S.S. AND **SHAKOORI, A.R.**, 1996. Histopathological changes induced by an organochlorine insecticide, DDT on the liver of albino rat. *Punjab Univ. J. Zool.*, **11**: 67-81.
199. AHMED, B. AND **SHAKOORI, A.R.**, 1996. Multiple antibiotic resistance among *Shigella* species isolated from patients of Shigellosis in Pakistan. *Punjab Univ. J. Zool.*, **11**: 83-88.
200. ANJUM, F. AND **SHAKOORI, A.R.**, 1997. Sublethal effects of hexavalent chromium on the body growth rate and liver function enzymes of phenobarbitone-pretreated and promethazine-pretreated rabbits. *J. Environ. Pathol. Toxicol. Oncol. (USA)* **16**: 51-59. **1.066**
201. HAQ, R. AND **SHAKOORI, A.R.** 1997. Identification and characterization of plasmid borne genes of *Thiobacillus ferrooxidans* and their implication in improvement of metal recovery operation. *Pakistan J. Zool.*, **29**: 1-6. **0.105**
202. HAQ, R. AND **SHAKOORI, A.R.**, 1997. Use of DNA probes for determination of homologies in genomes of different strains isolated from various localities of the world and their relationship with adaptation and evolution of the strains. *Pakistan J. Zool.*, **29**: 193-198. **0.105**
203. IQBAL, M.J., ALI, S.S. AND **SHAKOORI, A.R.**, 1997. Toxicity of lead in fresh water fish, *Cirrhina mrigala*: Haematological changes. *J. Ecotoxicol. Environ. Monit. (India)*, **7**: 139-143.
204. MANTLE, D., SALEEM, M.A., WILLIAMS, F.M., WILKINS, R.M., AND **SHAKOORI, A.R.**, 1997. Effect of pirimiphos methyl on proteolytic enzyme activities of heart, kidney, brain and liver of male wistar rat. *Clin. Chim. Acta (U.K.)*, **262**: 89-97. **2.535**
205. NADEEM, S., YAQOUB, N., AHMAD, M.S., AND **SHAKOORI, A.R.**, 1997. Amino acid fermenting bacterial isolates from animal faeces and excreta. *Pakistan J. Zool.*, **29**: 241-244. **0.105**
206. RASHID, M.H., RAJOKA, M.I., SIDDIQUI, K.S. AND **SHAKOORI, A.R.**, 1997. Effect of different substrates on the simultaneous production of beta-glucosidase and polysaccharides by *Aspergillus niger* NIAB 280. *Pakistan J. Zool.*, **29**: 175-179. **0.105**
207. **SHAKOORI, A.R.**, 1997. Zoological Science in 21st Century. In: *Silver Jubilee Souvenir 1997* (ed. M. Ahmad and A.R. , Zoological Society of Pakistan at the time of 17th Pakistan Congress of Zoology in University of Karachi, April 5-7, 1997.
208. VAN WIJNEN, A.J., COOPER, C., ODGREN, P., AZIZ, F., DELUCA, A., **SHAKOORI, A.R.**, GIORDANO, A., QUESENBERRY, P.J., LIAN, J.B., STEIN, G.S. AND STEIN, J.L., 1997. Cell cycle dependent modification in activities of pRb-related tumor suppressors and proliferation-specific CDP/cut homeodomain factors in murine hematopoietic progenitor cells. *J. Cell. Biochem. (U.S.A.)*, **66**: 512-523. **3.381**
209. AHMAD, B. AND **SHAKOORI, A.R.**, 1997. Determination of susceptibility of pathogenic strains against antibacterial agents of patients with acute diarrhoea. *Pakistan J. Zool.*, **29**: 185-187. **0.105**
210. GILL, N. AND **SHAKOORI, A.R.**, 1997. Regeneration of transplanted extensor digitorum longus muscle in guinea pigs. *Pakistan J. Zool.*, **29**: 377-384. **0.105**
211. QAZI, J.I., SHEIKH, S.I., HAQ, R. AND **SHAKOORI, A.R.**, 1997. Cultivation of Chromium-tolerant ciliate protozoans from the industrial effluents of tanneries. *Pakistan J. Zool.*, **29**: 405-409. **0.105**
212. GILL, N. AND **SHAKOORI, A.R.**, 1997. Effect of transplantation on entire anterior tibialis muscle in *Oryctolagus cuniculus*. *Punjab Univ. J. Zool.*, **12**: 15-21.
213. ALI, S.S., HUQ, R., KHALIQ, M. AND **SHAKOORI, A.R.**, 1997. Use of ultraviolet spectrophotometry for determination of insecticides and aromatic hydrocarbon pollutants. *Punjab Univ. J. Zool.*, **12**: 31-34.
214. AHMAD, B. AND **SHAKOORI, A.R.**, 1997. Plasmid mediated antibiotic resistance in clinical isolates of *Pseudomonas aeruginosa*. *Punjab Univ. J. Zool.*, **12**: 43-48.

215. HAQ, R., MAHMOOD, A., REHMAN, R., ALI, S.S. AND **SHAKOORI, A.R.**, 1997. Predominance of lead resistance and lead processing bacteria in industrial and sewage waste. *Punjab Univ. J. Zool.*, **12**: 107-114.
216. HAQ, R., SAEED, K.I., ALI, S.S. AND **SHAKOORI, A.R.**, 1997. Aromatic hydrocarbone degrading yeast strains from sewage wastes and assessment of their use in environmental decontamination. *Proc. Pakistan Congr. Zool.*, **17**: 53-62.
217. HAQ, R., REHMAN, A. AND **SHAKOORI, A.R.**, 1997. A lead resistant bacteria from industrial effluents and feasibility of its exploitation for detoxification of lead in the environment. *Proc. Pakistan Congr. Zool.*, **17**: 89-98.
218. ALI, S.S. AND **SHAKOORI, A.R.** 1997. Effect of short and long term feeding of gamma HCH in Sprague Dawley rats. Hamatological studies. *Biologia*, **43**: 135-145.
219. GILL, N. AND **SHAKOORI, A.R.** 1997. Regeneration following transplantation of anterior tibialis muscle in guinea pigs. *Biologia (Lahore)*. **43**: 125-134.
220. GILL, N., AND **SHAKOORI, A.R.**, 1997. Effect of transplantation of entire anterior tibialis muscle of *Oryctolagus cuniculus*. *Punjab Univ. J. Zool.*, **12**: 15-23.
221. SALEEM, M.A. WILLIAMS, F.M., WILKINS, R.M., **SHAKOORI, A.R.** AND MANTLE, D., 1998. Effect of Tri-O-Cresyl phosphate (TOCP) on proteolytic enzyme activities in mouse liver in vivo. *J. Environ. Pathol. Toxicol. Oncol.*, (USA). **17**: 69-73. **1.066**
222. HAQ, R.U., QAZI, J.I. AND **SHAKOORI, A.R.**, 1998. Growth and survival of Protozoa isolated from a Tannery effluent. *Folia Microbiol. (Prague)*, **43(1)**: 109-112. **0.978**
223. HAQ, R.U. AND **SHAKOORI, A.R.**, 1998. Microbiological treatment of industrial wastes containing toxic chromium involving successive use of bacteria, yeast and algae. *World J. Microbiol. Biotechnol. (UK)*, **14**: 583-585. **0.945**
224. ASMATULLAH, QURESHI S.N. AND **SHAKOORI, A.R.**, 1998. Hexavalent chromium induced congenital abnormalities in chick embryos. *J. Appl. Toxicol. (USA)*, **18**: 167-171. **2.073**
225. RASHID, M.H., SIDDIQUI, K.S., **SHAKOORI, A.R.**, RAJOKA, M.I. AND MALIK, K.A., 1998. Purification and characterization of chemically modified beta-glucosidases from *Aspergillus niger* NIAB-280. *Pakistan J. Zool.*, **30**: 23-30. **0.105**
226. RASHID, M.H., **SHAKOORI, A.R.**, RAJOKA, M.I. AND SIDDIQUI, K.S. 1998. Monitoring of carbozyl group modification of beta-glucosidases from *Aspergillus niger* NIAB-280 by native enzyme mobility shift assay (NEMSA). *Pakistan J. Zool.*, **30**: 99-104. **0.105**
227. GILL, N. AND **SHAKOORI, A.R.**, 1998. Regeneration of transplanted gastrocnemius muscle in guinea pigs. *Pakistan J. Zool.*, **30**: 111-116. **0.105**
228. AZIZ, F., van WIJNEN, A.J., VAUGHAN, P.S., Wu, S., **SHAKOORI, A.R.**, LIAN, J.B., SOPRANO, K.J., STEIN, J.L. AND STEIN, G.S. 1998. The integrated activities of IRF-2 (HiNF-M), CDP/Cut (HiNF-D) and H4TF-2 (HiNF-P) regulate transcription of a cell cycle controlled human histone H4 gene: mechanistic differences between distinct H4 genes. *Molecular Biology Reports, (Holland)*. **25**: 1-12. **0.829**
229. **SHAKOORI, A.R.**, SALEEM, M.A. AND MANTLE, D., 1998. Some macromolecular abnormalities induced by a sublethal dose of cymbush 10EC in adult beetles of *Tribolium castaneum*. *Pakistan J. Zool.*, **30**: 83-90. **0.105**
230. GILL, N., AND **SHAKOORI, A.R.**, 1998. Regeneration of transplanted extensor digitorum longus muscle following femurectomy in Sprague Dawley rats. *Pakistan J. Zool.*, **30**: 55-61. **0.105**
231. ASMATULLAH, QURESHI, S.N. AND **SHAKOORI, A.R.**, 1998. Embryotoxic and teratogenic effects of hexavalent chromium in developing chicks of *Gallus domesticus*. *Bull. Environ. Contam. Toxicol. (USA)*, **61**: 281-288. **0.609**
232. GILL, N. AND **SHAKOORI, A.R.**, 1998. Effect of exercise on transplanted extensor digitorum longus muscle in Sprague Dawley rats. *Indian J. Exptl. Biol.*, **36**: 1221-1226. **0.550**
233. HAQ, R., ZAIDI, S.K. AND **SHAKOORI, A.R.**, 1998. Presence of repetitive and homologous DNA sequences among the genomes of three Gram negative, metal resistant bacteria: a possible mechanism of adaptation. *Pakistan J. Zool.*, **30**: 315-318. **0.105**
234. SALEEM, M.A., **SHAKOORI, A.R.** AND MANTLE, D., 1998. In vivo Ripcord induced macromolecular abnormalities in *Tribolium castaneum* larvae. *Pakistan J. Zool.*, **30**: 233-244. **0.105**
235. SALEEM, M.A., **SHAKOORI, A.R.** AND MANTLE, D., 1998. Macromolecular and enzymatic abnormalities induced by a synthetic pyrethroid, Ripcord (Cypermethrin) in adult beetles of a stored grain pest, *Tribolium castaneum* (Herbst) (Coleoptera: Tenebrionidae). *Arch. Insect Biochem. Physiol. (USA)*, **39**: 144-154. **1.381**
236. GILL, N., AND **SHAKOORI, A.R.**, 1998. Effect of tenotomy on extensor digitorum longus muscle in Sprague Dawley rats. *Folia Biol. (Krakow)*, **46**: 109-118. **0.547**
237. GILL, N. AND **SHAKOORI, A.R.**, 1998. Regeneration following orthotopic transplantation of entire plantaris muscle in Sprague Dawley rats. *Indian J. Exptl. Biol.*, **36**: 1227-1232. **0.550**
238. GILL, N., AND **SHAKOORI, A.R.**, 1998. Regeneration following transplantation of entire plantaris muscle in Guinea pigs. *Proc. Pakistan Acad. Sci.* **35**: 7-13. **2.415**
239. KHAN, A.A., MUNIR, S. AND **SHAKOORI, A.R.**, 1998. Development of underground baiting technique for control of rats in rice fields in Pakistan. *Internat. Biodeterior. Biodegrad.*, (USA). **42**: 129-134. **2.415**
240. GILL, N. AND **SHAKOORI, A.R.**, 1998. Transplantation of gastrocnemius muscle in *Oryctolagus cuniculus*. *Bangladesh J. Zool.*, **26**: 57-65. **0.854**
241. MUJEEB, K.A., RABB, S. AND **SHAKOORI, A.R.** 1998. Biochemical analysis of pericardial fluid in chicks of *Gallus domesticus* suffering from hydropericardium syndrome. *Asian Australasian J. Anim. Sci. (Korea)*, **11**: 323-328. **0.854**

242. ANWAR, K.K., MINHAS, R.A., MUNIS, F., HUSSAIN, S. AND **SHAKOORI, A.R.**, 1998. Comparative analysis of biochemical components of liver and muscle of a fish, *Schizothorax plagiostomus* Haeckel, from warm and cold water rivers near Muzaffarabad, Azad Kashmir, Pakistan. *Proc. Pakistan Congr. Zool.*, **18**: 217-224.
243. **SHAKOORI, A.R.**, SAQIB, Z.A., SALEEM, M.A. AND MUJEEB, K.A., 1998. Effect of Polytrin-C (A mixture of synthetic pyrethroid, chypermethrin and an organophosphate, profenofos) on adult beetles of insecticide resistant (PAK) and organophosphorous susceptible strains (FSS-II) of stroed grain pest, red flour beetle *Tribolium castaneum* (Herbst.) (Coleoptera: Tenebrionidae). *Proc. Pakistan Congr. Zool.*, **18**: 239-353.
244. MUIZZUDDIN, N., **SHAKOORI, A.R.** AND MARENUS, K.D. 1998. Effect of topical application of antioxidants and free radical scavengers on protection of hairless mouse skin exposed to chronic doses of ultraviolet B. *Skin Res. Technol. (USA)*, **4**: 200-204. **1.639**
245. HAQ, R.U., NOOR, H., AND **SHAKOORI, A.R.**, 1998. A study on metal resistance and lead detoxication efficiency of a gram positive bacterium isolated from effluents of tanning industry. *Punjab Univ. J. Zool.*, **13**:33-40.
246. ALI, S.S. AND **SHAKOORI, A.R.**, 1998. Studies on the toxicity of lindane in albino rat: Histopathological effects in liver. *Punjab Univ. J. Zool.*, **13**: 149-166.
247. **SHAKOORI, A.R.**, TAHSEEN, S. AND HAQ, R.U. 1999. Chromium tolerant bacteria isolated from industrial effluents and their use in detoxification of hexavalent chromium. *Folia Microbiol. (Praha)*, **44**: 50-54. **0.978**
248. HAQ, R.U., ZAIDI, S.K. AND **SHAKOORI, A.R.**, 1999. Cadmium resistant *Enterobacter cloacae* and *Klebsiella sp.* isolated from industrial effluents and their possible role in cadmium detoxificaion. *World J. Microbiol. Biotechnol. (U.K)*, **15**: 249-254. **0.945**
249. ASMATULLAH, LATIF, A.A. AND **SHAKOORI, A.R.**, 1999. Effect of hexavalent chromium of egg laying capacity, hatchability of eggs, thickness of egg shall and post hatching development of *Gallus domesticus*. *Asian Australasian J. Anim. Sci. (Korea)*, **12**: 944-950. **0.854**
250. **SHAKOORI, A.R.**, NAWAZ, M., ALI, S.S. AND HAQ, R.U. 1999. A pesticide degrading bacterium isolated from soil samples and its possible use in environmental decontamination. *Proc. Pakistan Acad. Sci.*, **36**: 5-10.
251. ALI, S.S. AND **SHAKOORI, A.R.** 1999. Hepatotoxicity of lindane (Gamma HCH) in albino rats: Short and long term studies. *Pakistan J. Zool.*, **31**: 175-185. **0.105**
252. ALI, S.S. AND **SHAKOORI, A.R.**, 1999. Effects of oral administration of DDT on the blood of albino rats. *Pakistan J. Zool.*, **31**: 1-9. **0.105**
253. DAR, N. AND **SHAKOORI, A.R.**, 1999. Chromium tolerant yeast strains isolated from industrial effluents and their possible use in environmental clean-up. *Bull. Environm. Contam. Toxicol. (USA)*, **63**:744-750. **0.609**
254. MUIZZUDDIN, N., **SHAKOORI, A.R.** AND MARENUS, K.D. 1999. Effect of antioxidants and free scavengers on protection of human skin against UV-B, UV-A and IR irradiations. *Skin Res. Technol. (USA)*, **5**: 260-265. **1.639**
255. **SHAKOORI, A.R.**, AFROZ, S., AND KHURSHED, N., 1999. Isolation and characterization of *Bacillus* spp. from soil samples and their evaluation as bioinsecticides against the house fly, *Musca domestica*. *Insect Sci. Its Applicat. (Kenya)*, **18**:301-306. **1.069**
256. **SHAKOORI, A.R.**, ANWAR, S., KHURSHED, N. AND HAQ, R.U. 1999. Biocidal activity of *Bacillus* species isolated from soil for *Anopheles* larvae. *Folia biologica. (Praha)*, **47**:143-148. **0.547**
257. **SHAKOORI, A.R.**, IFTIKHAR, N. AND KHURSHED, N., 1999. Evaluation of different species of *Bacillus* isolated from soil samples as bioinsecticides against housefly, *Musca domestica*. *Pakistan J. Zool.*, **31**: 379-383. **0.105**
258. SHAKOORI, F.R., RAFIQUE, H., QURESHI, F., ALI, S.S. AND **SHAKOORI, A.R.**, 1999. Degradation of organochlorine insecticide, Endosulfan, in polluted soil through bacteria. *Proc. Pakistan Congr. Zool.*, **19**: 283-298.
259. **SHAKOORI, A.R.** AND ZAHRA, B., 1999. Hydrocarbon degrading bacteria isolated from soil samples and industrial effluents and their potential use in environmental clean up. *Proc. Pakistan Congr. Zool.*, **19**: 309-338.
260. ALI, S.S., SAMAD, Z. AND **SHAKOORI, A.R.**, 1999. Isolation and characterization of pentachlorophenol degrading bacteria from industrial wastes. *Punjab Univ. J. Zool.*, **14**: 127-139.
261. DRISSI, H., LUC, Q., **SHAKOORI, A.R.**, LOPES, S.C.D.S., CHOI, J.Y., TERRY, A., HU, M., JONES, S., NEIL, J.C., LIAN, J.B., STEIN, J.L., VAN WIJNEN, A. J., AND STEIN, G.S., 2000. Transcriptional autoregulation of the bone related CBFA1/RUNX2 gene. *J. Cell. Physiol. (USA)*, **184**:341-350. **4.165**
262. **SHAKOORI, A.R.**, JAMIL, R. AND NASIM, A., 2000. Insecticide degrading yeast strains isolated from industrial effluents. *Pakistan J. Zool.*, **32**: 1-10. **0.105**
263. SALEEM, M.A., **SHAKOORI, A.R.**, WILKINS, R.M. AND MANTLE, D., 2000. *In vitro* effects of deltamethrin, pirimiphos-methyl and gamma-HCH on proteases in insecticides resistant and susceptible strains of *Tribolium castaneum*. *Pakistan J. Zool.*, **32**: 53-60. **0.105**
264. **SHAKOORI, A.R.**, JABEEN, S., SHAKOORI, F. R., DAR, N., HAQ, R.U. AND NASIM, A., 2000. Cadmium resistant yeast from industrial effluents: Role in environmental clean up. *Proc. Pakistan Acad. Sci.*, **37**: 151-163.
265. **SHAKOORI, A.R.** MAKHDOOM, M. AND HAQ, R.U. 2000. Hexavalent chromium reduction by a dichromate resistant Gram positive bacterium isolated from effluents of tanneries. *Appl. Microbiol. Biotech. (Germany)*, **53**:348-351. **3.264**
266. SALEEM, M.A., **SHAKOORI, A.R.**, WILKINS, R.M., AND MANTLE, D., 2000. *In vivo* effects of deltamethrin, pirimiphos methyl and gamma HCH on proteases in insecticide-resistant and susceptible strains of *Tribolium castaneum*. *Pakistan J. Zool.*, **32**: 53-59. **0.105**

267. SALEEM, M.A. AND **SHAKOORI, A.R.**, 2000. Synerfistic effects of diflubenzuron and permethrin on some macromolecules of *Tribolium castaneum* larvae. *Pakistan J. Zool.*, **32**:165-178. **0.105**
268. **SHAKOORI, A.R.** AND QURESHI, F., 2000. Cadmium resistant bacteria from industrial effluents and their role in environmental cleanup. *Pakistan J. Zool.*, **32**: 165-178. **0.105**
269. MUJEEB, K.A. AND **SHAKOORI, A.R.**, 2000. Toxicity of an organophosphate Actellic 50EC (Pirimiphos Methyl) against different developmental stages of three strains of *Tribolium castaneum*. *Pakistan J. Zool.*, **32**: 263-266. **0.105**
270. RIZVI, A.R. AND **SHAKOORI, A.R.**, 2000. Effect of aflatoxin B1 feeding on liver function in broiler chicken. *Pakistan J. Agric. Res.*, **16**: 72-75.
271. HAQ, R. AND **SHAKOORI, A.R.**, 2000. Microorganisms resistant to heavy metals and toxic chemicals as indicators of environmental pollution and their use in bioremediation. *Folia biol. (Krakow)*, **48**: 143-147.. **0.547**
272. SALEEM, M.A. AND **SHAKOORI, A.R.**, 2000. Effects of mixture of diflubenzuron and cypermethrin on *Tribolium castaneum* larvae. *Pakistan J. Zool.*, **32**:289-299. **0.105**
273. MUJEEB, K.A., RAHI, M.S. AND **SHAKOORI, A.R.**, 2000. Toxicity of synthetic pyrethroids, Talstar 10EC and K-Othrine 25WP, and mixture of an organophosphorus and synthetic pyrethroid, Pro-Store 420EC to adult beetles of Pakistan strain of *Tribolium castaneum* (Herbst). *Pakistan J. Zool.*, **32**: 285-288. **0.105**
274. HAQ, R.U., REHMAN, A. AND **SHAKOORI, A.R.**, 2000. Effect of dichromate on population and growth of various protozoans isolated from industrial effluents. *Folia Microbiol. (Praha)*, **45(3)**: 275-278. **0.547**
275. ALI, S.S., HUSSAIN, A. AND **SHAKOORI, A.R.**, 2000. Haematological effects of hexavalent chromium on freshwater teleost, *Oreochromis mossambicus*. *J. Ecotoxicol. Environ. Monit.*, **10**: 3-10.
276. ALI, S.S., ALI, N. S., RASHID, S. AND **SHAKOORI, A.R.**, 2000. Toxicity of Baythroid TM: Haematological effects in growing chicks of *Gallus domesticus*. *Punjab. Univ. J. Zool.*, **15**: 151-160.
277. **SHAKOORI, A.R.**, MUJEEB, K.A., MAQBOOL, S. AND ALI, S.S., 2000. Studies on esterases of adult beetles of lesser grain borer, *Rhyzopertha dominica*, collected from different godowns in Punjab and Karachi, Pakistan. *Insect Sci Its Appl. (Kenya)*, **20**: 207-213. **1.069**
278. BASHIR, S., MAHBBOB, S., IKRAM, A., NADEEM, S. AND **SHAKOORI, A.R.**, 2000. Studies on the optimization of fermentation conditions for better amino acid production. *Proc. Pakistan Congr. Zool.*, **20**: 1-16.
279. **SHAKOORI, A.R.**, CHOUDHARY, A., AND ALI, S.S., 2000. Carbonsulfan (a carbanmate) and quinalphose (an organophosphate) degrading bacteria isolated from insecticide contaminated soil and industrial effluents have potential to clean up the environment. *Proc. Pakistan Congr. Zool.*, **20**: 199-222.
280. **SHAKOORI, A.R.** AND FAROOQ, H., 2000. Mercury resistant yeast and its possible use in bioremediation of industrial waste water. *Proc. Pakistan Congr. Zool.*, **20**: 243-260.
281. **SHAKOORI, A.R.**, JABEEN, N., MUJEEB, K A., SHAKOORI, F.A. AND ALI, S.S., 2000. Lead resistant yeast strains isolated from industrial effluents of tanneries and their utilization in waste water treatment. *Proc. Pakistan Congr. Zool.*, **20**: 285-303.
282. NAHEED, M., SHAMIM ,M., RAZA, T.A., TAYYAB, M., MUGHAL, M.I., HUSSAIN, T. AND **SHAKOORI, A.R.**, 2000. AgNORs staining in normal albino rat testes. *Medical Forum Monthly*, **11**: 1-4.
283. NAHEED, M., SHAMIM ,M., RAZA, T.A., TAYYAB, M., MUGHAL, M.I., HUSSAIN, T. AND **SHAKOORI, A.R.**, 2000. Nucleolar Organizing Regions (NORs) in spermatogenic cycle of normal human testes. *Medical Forum Monthly*, **11**: 11-13.
284. SALEEM, M.A., AND **SHAKOORI, A.R.**, 2000. Synergistic effects of permethrin and cypermethrin on the toxicity of gamma HCH I. Studies on some..... *Pakistan Entmol.*,
285. SALEEM, M.A., AND **SHAKOORI, A.R.**, 2000. Synergistic effects of permethrin and cypermethrin on the toxicity of gamma HCH II. Studies on some..... *Pakistan Entmol*
- Total IF for 1996-2000** **43.512**
286. MUNEER, B., LATIF, Q., AHMAD, K., ALI, S.S. AND **SHAKOORI, A.R.**, 2001. Microbiological assessment of drinking water supply in University of the Punjab. *Pakistan J. Zool.*, **33**: 61-68. **0.105**
287. IKRAM, A., NADEEM, S., BASHIR, S., MAHBBOB, S. AND **SHAKOORI, A.R.**, 2001. Improvement of *Escherichia coli* isolate for better l-lysine production through MNNG treatment. *Pakistan J. Zool.*, **33**: 82-85. **0.105**
288. REHMAN, A. AND **SHAKOORI, A.R.**, 2001. Heavy metal resistant *Chlorella* spp., isolated from tannery effluents, their role in remediation of hexavalent chromium in industrial waste water. *Bull. Environ. Contam. Toxicol. (USA)*, **66** (4) 542-547. **0.609**
289. HAQ, R.U., REHMAN, A. AND **SHAKOORI A.R.**, 2001. Survival, culturing adaptation and metal resistance of various rotifers and a gastrotrich (minor phyla) isolated from heavily polluted industrial effluent. *Pakistan J. Zool.*, **33**: 247-253. **0.105**
290. **SHAKOORI, A.R.**, MUNIR, S., MUJEEB, K.A. AND SHAKOORI, F.R., 2001. Hydrocarbon degrading bacteria isolated from industrial effluents, as potential bioremediator of industrial wastewater. *Proc. Pakistan Acad. Sci.*, **38**:97-110.
291. MAHBBOB, S., SHERI, A.N., **SHAKOORI, A.R.**, RAZA, S.H. AND ANDLEEB, S., 2001. Effect of nitrate and nitrite pollution on some haematological parameters of rabbits. *Pakistan J. Agric. Sci.*, **38**: 44-46.
292. AHMAD, B. AND **SHAKOORI, A.R.**, 2001. Isolation and characterization of R-plasmid from antibiotic resistant clinical isolates of *Shigella* species. *Pakistan J. Zool.*, **33**: 99-104. **0.105**

293. KAZMI, F., HAFEEZ, M.A. AND **SHAKOORI, A.R.**, 2001. Toxicity of a sublethal dose of the organophosphate, chlorpyrifos, in Sprague-Dawley rats; Biochemical and morpho-histopathological effects on liver following short term exposure. *Proc. Pakistan Acad. Sci.* **38**: 31-40.
294. SHAKOORI, F.R. AND **SHAKOORI A.R.**, 2001. Danitol induced retarded body growth and haematological and biochemical abnormalities in the Chicks of *Gallus domesticus*. *Pakistan J. Zool.*, **33**: 323-332. **0.105**
295. SALEEM, M.A., ASHFAQ, M., ALI S.S., HUSSAIN, R. AND **SHAKOORI, A.R.**, 2001. Effect of permethrin and cypermethrin on the toxicity of Gamma-HCH II. Studies on some biochemical components of adult beetles of *T. castaneum*. *Pakistan J. Zool.*, **33**: 333-340. **0.105**
296. REHMAN, A. AND **SHAKOORI, A.R.**, 2001. Accumulation and reduction of hexavalent chromium by *Suaeda fruticosa* and *Trianthema mongyna*. *Pakistan J. Zool.*, **33**: 341-342. **0.105**
297. ALI, S.S., MUJEEB, K A., SALEEM, M. A., RASHID, S. AND **SHAKOORI, A.R.**, 2001. Toxicity of Baythroid on various biochemical components of blood in growing chicks of *Gallus domesticus*. *Punjab Univ. J. Zool.*, **16**: 115-125.
298. MAHBOOB, S., REHMAN, K.U. AND **SHAKOORI, A.R.**, 2001. Some pathological changes in rabbits associated with nitrate and nitrite pollution. *Punjab Univ. J. Zool.*, **16**: 23-26.
299. SALEEM, M.A., ALI, S.S., ASHFAQ, M., HUSSAIN, R. AND **SHAKOORI A.R.**, 2001. Synergistic effects of permethrin and cypermethrin on the toxicity of gamma HCH: I. Studies on some enzymes of adult *Tribolium castaneum* (Herbst.). *Punjab Univ. J. Zool.*, **16**: 9-22.
300. NADEEM, S., IKRAM, A., RANA, S.M., YAQOUB, N., QURESHI, M.J. AND **SHAKOORI, A.R.**, 2001. Enhanced l-lysine production by an *Escherichia coli* mutant WARN 30522 after MNNG treatment. *Int. J. Agric. Biol.*, **3**: 448-450. **0.94**
301. SALEEM, M.A., ALI, S.S., ASHFAQ, M., HUSSAIN, R. AND **SHAKOORI, A.R.**, 2001. Synergistic effects of permethrin and cypermethrin on the toxicity of gamma HCH. I. Studies on some enzymes of adult *Tribolium castaneum*. *Punjab Univ. J. Zool.*, **16**: 9-22.
302. MAHBOOB, S., REHMAN, K.U. AND **SHAKOORI, A.R.**, 2001. Some pathological changes in rabbits associated with nitrate and nitrite pollution. *Punjab Univ. J. Zool.*, **16**: 23-26.
303. ALI, S.S., MUJEEB, K.A., SALEEM, M. A., RASHID, S. AND **SHAKOORI, A.R.**, 2001. Toxicity of Baythroid on various biochemical components of blood in growing chicks of *Gallus domesticus*. *Punjab Univ. J. Zool.*, **16**: 115-126.
304. **SHAKOORI, A.R.**, JAVED, S., KHURSHID, N. AND REHMAN, A., 2001. Seasonal variation in chromium-resistant bacterial population in industrial effluents. *Proc. Pakistan Congr. Zool.*, **21**: 23-52.
305. **SHAKOORI, A.R.**, QURESHI, A.T. AND SAQIB, Z.A., 2001. Endosulfan degrading yeast from food industry effluents and their role in environmental clean up. *Proc. Pakistan Congr. Zool.*, **21**: 69-94.
306. HAQ, R.U., AFSHAN, A., SHAKOORI, F. AND **SHAKOORI, A.R.**, 2001. Dichromate resistant yeasts isolated from industrial waste water and their role in bioremediation of heavy metals. *Proc. Pakistan Congr. Zool.*, **21**:181-226.
307. SHAKOORI, F.R., RAFIQ, A., KHAWAJA, K. AND **SHAKOORI, A.R.**, 2001. Zinc resistant bacteria from industrial effluents and their role in environmental clean up. *Proc. Pakistan Congr. Zool.*, **21**:101-122.
308. HAQ, R., AFSHAN, A., SHAKOORI, F.R. AND **SHAKOORI, A.R.**, 2001. Dichromate resistant yeasts isolated from industrial waste water and their role in bioremediation of heavy metals. *Proc. Pakistan Congr. Zool.*, **21**:181-226. **2.284**
309. **SHAKOORI, A.R.** AND MUNEER, B., 2002. Copper resistant bacteria from industrial effluents and their role in remediation of heavy metals in waste water. *Folia Microbiologica*, **47**: 43-50. **0.978**
310. AHMED, K. AND **SHAKOORI, A.R.**, 2002. *Vibrio cholerae* AI Tor, Ogawa 01 as the main etiological agent of the two major outbreaks of gastroenteritis in the northern areas of Pakistan. *Pakistan J. Zool.*, **34**: 73-79. **0.105**
311. AHMED, K. AND **SHAKOORI, A.R.**, 2002. *Vibrio cholerae* AI Tor, Ogawa 01 as the main etiological agent of the two major outbreaks of gastroenteritis in the northern areas of Pakistan. *J. Hlth. Popul. Nutr.*, **20**: 96-97. **1.297**
312. AHMAD, I., HOESSLI, D.C., CHOUDHARY, M.I., HUSSAIN, S.A., IKRAM, M.A., WALKER-NASIR, E., KHURSHID, A., SALEEM, M.A., **SHAKOORI, A.R.** AND NASIR-UD-DIN, 2002. Mammalian lectins – A review. *Pakistan J. Zool.*, **34**: 81-100. **0.105**
313. NADEEM, S.A., MAHBOOB, R.S. AND **SHAKOORI, A.R.**, 2002. Characterization and media optimization for improved l-lysine production by a mutant, WARN 30522. *Pakistan J. Zool.*, **34**: 113-118. **0.105**
314. AHMAD, I., HOESSLI, D.C., CHOUDHARY, M.I., KHURSHID, A., SALEEM, M., HUSSAIN, S.A., **SHAKOORI, A.R.** AND NASIR-UD-DIN, 2002. Selectins: Cell-Cell adhesion molecules (A-review). *Proc. Pakistan Acad. Sci.*, **39**: 97-114.
315. **SHAKOORI, A.R.**, SARWAR, S. AND DAR, N., 2002. Cadmium resistant yeast strains isolated from industrial waste water and their possible role in bioremediation. *Pakistan J. Zool.*, **34**: 247-256. **0.105**
316. KAZMI, F., HAFEEZ, M.A. AND **SHAKOORI, A.R.**, 2002. The organophosphate, chlorpyrifos, long term toxic effects on the biochemistry and morphology of liver in Sprague-Dawley rat. *Proc. Pakistan Acad. Sci.*, **39**: 241-250.
317. RIAZ, S. AND **SHAKOORI, A.R.**, 2002. Effect of media composition on the production of amino acids through microbial fermentation by utilizing agricultural wastes. *Pakistan J. Zool.*, **34**: 325-330. **0.105**
318. **SHAKOORI, A.R.**, KHALID, N. AND SATTAR, S., 2002. Cadmium resistant bacteria from industrial wastewater and their use as bioremediator. *Pakistan J. Zool.*, **34**: 265-278. **0.105**
319. AHMAD, I., HOESSLI, D.C., SALEEM, M., SAEED, Z., **SHAKOORI, A.R.** AND NASIR-UD-DIN, 2002. Integrins: Cell-cell and cell-matrix adhesion molecules – A review. *Pakistan J. Zool.*, **34**: 339-358. **0.105**

320. **SHAKOORI, A.R.**, MAHJABEEN, G., RAHILA, K., ANJUM, F. AND ALI, S.S., 2002. Effect of mercuric chloride on liver function tests during regeneration following partial hepatectomy in rabbits. *Proc. Pakistan Congr. Zool.*, **22**: 145-156.
321. Gill, N. AND **SHAKOORI, A.R.**, 2002. Effect of thyroxine (T4) on extensor digitorum longus muscle in Sprague Dawley rats. *Proc. Pakistan Congr. Zool.*, **22**:157-174.
322. GILL, N. AND **SHAKOORI, A.R.**, 2002. Regeneration following transplantation of free plantaris muscle in rabbits, *Oryctolagus cuniculus*. *Proc. Pakistan Congr. Zool.*, **22**:193-203.
323. SHAFIQUE, M. AND **SHAKOORI, A.R.**, 2002. Prevalence of hydropericardium syndrome in poultry in Punjab, Pakistan. *Proc. Pakistan Congr. Zool.*, **22**:183-192.
324. FAROOQ, H. AND **SHAKOORI, A.R.**, 2002. Evidences for evolution of man independent of other primates: Basis for a new classification. *Proc. Pakistan Congr. Zool.*, **22**: 1-20.
325. SHAKOORI, F.R., CHODARY, F.S. AND **SHAKOORI, A.R.**, 2002. Effect of pH on growth and precipitation of lead-resistant bacteria – a strategy for removal of bacteria from the wastewater after heavy metal uptake. *Proc. Pakistan Congr. Zool.*, **22**: 205-221.
326. SALEEM, M.A., ASHFAQ, M., HUSSAIN, R. AND **SHAKOORI, A.R.**, 2002. Some macromolecular abnormalities developed by interaction of malathion+cypermethrin in *Truibloim castaneum* (Herbst) larvae. *Univ. J. Zool. Rajshahi Univ.*, **21**:9-11.
- Total IF for 2002** **3.01**
327. AHMED, K., SHAKOORI, F.R. AND **SHAKOORI, A.R.**, 2003. Incidence of gastroenteritis infections in children of under 5 year of age in Northern Areas, Pakistan. *Pakistan J. Zool.*, **35**(1): 1-8. **0.105**
328. WALKER-NASIR, E., AHMED, I., HOESSLI, D. C., SAEED, Z., **SHAKOORI, A.R.** AND NASIR-UD-DIN, 2003. Sialic acid in health and diseases. *Pakistan J. Zool.*, **35**(1): 51-67.. **0.105**
329. AHMED, K., SHAKOORI, F.R. AND **SHAKOORI, A.R.**, 2003. Aetiology oif shigellosis in northern Pakistan. *J. Hlth. Popul. Nutr.*, **21**(1):32-39. **1.297**
330. AHMAD, I., KHURSHID, A., WALKER-NASIR, E., HOESSLI, D.C., OIVAS, M., SALEEM, M., **SHAKOORI, A.R.**, AND NASIR UD DIN, 2003.Artificial neural networks and proteoin modification predictions: glycosylation in mammalian proteins. *Pakistan J. Zool.*, **35**: 139-149. **0.105**
331. ALI, S.N., MUNIR, M., ALI,S.S. AND **SHAKOORI, A.R.**, 2003. Efficacy of mixtures of an organophosphate malathion and a synthetic pyrethroid, talstar against lesser grain borer, *Rhyzopertha dominica*. *Pakistan J. Zool.*, **35**: 163-167.. **0.105**
332. KAZMI, F., **SHAKOORI, A. R.**, HAFEEZ, M.A., AND ALI, S.S., 2003. Long term effects of chlorpyriphos on haematology and blood biochemistry of the Sprague Dawley rat. *Proc. Pakistan Acad. Sci.*, **40**: 53-60.
333. SALEEM, M.A., WILKINS, R.M., MANTLE, D. AND **SHAKOORI, A.R.**, 2003. Effect of starvation on proteases in insecticide-resistant and susceptible straqins of *Troboium castaneum*. *Pakistan J. Zool.*, **35**: 197-204. **0.105**
334. AHMAD, I., KHURSHID, A., WALKER-NASIR, E., HOESSLI, D.C., KHAN, A.B., HUSSAIN, S.A., OVAIS, M., **SHAKOORI, A.R.** AND NASIR UD DIN, 2003. Protein modification predictions: interplay between phosphorylation and glycosylation in mammalian proteins. *Pakistan J. Zool.*, **35**: 221-230. **0.105**
335. KAZMI, F., **SHAKOORI, A.R.**, HAFEEZ, M.A. AND ALI, S.S., 2003. Short term effects of chlorpyrifos on hematology and biochemical components of blood of the Sprague Dawley rat. *Pakistan J. Zool.*, **35**: 237-244. **0.105**
336. **SHAKOORI, A.R.**, SATTAR, S. AND KHALID, N. 2003. Zinc resistant bacteria from industrial wastewater and their use as bioremediator. *Pakistan J. Zool.*, **35**: 245-257. **0.105**
337. KHURSHID, A., AHMED, I., OVAIS, M., WALKER-NASIR, E., **SHAKOORI, A.R.** AND NASIR UD DIN., 2003. Identification and characterization of predicted glycosylation in selectins using microarrays. *Pakistan J. Zool.*, **35**: 259-262. **0.105**
338. SHAKOORI, F.R., KHAWAJA, K., RAFIQ, A., AND **SHAKOORI, A.R.**, 2003. Nickel resistant bacteria isolated from industrial effluents and their role in bioremediation. *Proc. Pakistan Acad. Sci.*, **40**: 1-14. **0.105**
339. SALEEM, M.S. WILKINS, R.M., MANTLE. D., AHMAD, S. AND **SHAKOORI, A.R.**, 2003. Effect of starvation on proteases in insecticides-resistant and susceptible strains of *Musca domestica*. *Pakistan J. Zool.*, **35**: 311-318. **0.105**
340. AHMAD, I., WALKER-NASIR, E., HOESSLI, D.C., KHURSHID, A., **SHAKOORI, A.R.** AND NASIR UD DIN, 2003. Control of platelet aggregation based on post-translational modifications of the cytoplasmic domain of alpha Iib beta-3 platelet integrin. *Pakistan J. Zool.*, **35**: 329-336. **0.105**
341. REHMAN, A. AND **SHAKOORI, A.R.**, 2003. Isolation, growth, metal tolerance and metak uptakje of the green alga, *Chlamydomonas* (Chlorophyta) and its role in bioremediation of heavy metals.. *Pakistan J. Zool.*, **35**: 337-342. **0.105**
342. WALKER-NASIR, E., AHMAD, I., HOESSLI, D.C., **SHAKOORI, A.R.** AND NASIR UD DIN, 2003. Mucin glycoproteins. *Proc. Pakistan Acad. Sci.*, **40**: 205-232.
343. SHER, F., **SHAKOORI, A.R.**, AND ALI, S.S., 2003. Toxicity of phosphine against 4th instar larvae of *Trogoderma granarium* collected from different godowns. *Proc. Pakistan Congr Zool.*, **23**: 67-76.
344. SHAKOORI, F.R., ALI, N.M., MUGHAL, M.S. AND **SHAKOORI, A.R.**, 2003. Microbiological analysis of honey of *Apis mellifera*. *Proc. Pakistan Congr Zool.*, **23**: 237-242.
345. **SHAKOORI, A.R.**, KAUSAR, N. AND LONE, K.P., 2003. Effect of single dose of dimethazine on regeneration of partially hepatectomized rabbit liver. *Proc. Pakistan Congr Zool.*, **23**: 243-270.

Total IF for 2003 **2.557**

346. ANWAR, K.K., ALI, S.S. AND **SHAKOORI, A.R.**, 2004. Effect of a single sublethal dose of permethrin on the biochemical components of developing muscles in chick embryo. *Pakistan J. Zool.*, **36**: 7-12. **0.105**
347. ANWAR, K.K., ALI, S.S. AND **SHAKOORI, A.R.**, 2004. Effect of a single sublethal dose of permethrin on the development of liver in chick embryo. *Pakistan J. Zool.*, **36**: 59-68. **0.105**
348. AHMAD, I., OVAIS, M., FAYYAZUDDIN, CHAUDHRY, M.I., **SHAKOORI, A.R.** AND NASIRUDDIN, 2004. Prediction of the role of post-translational modifications in processing of transforming growth factor β 1 in *Mus musculus*. *Pakistan J. Zool.*, **36**: 85-88. **0.105**
349. QAMER, S. AND **SHAKOORI, A.R.**, 2004. Increased hydroxymethylfurfural and decreased diastase activity as indicators of degradation of quality of honey. *Pakistan J. Zool.*, **36**: 165-167. **0.105**
350. **SHAKOORI, A.R.**, REHMAN, A. AND HAQ, R.U., 2004. Multiple metal resistance in the ciliate *Vorticella microstoma*, isolated from industrial effluents and its potential in bioremediation of toxic waste. *Bull. environ. Contam. Toxicol.*, **72**: 1046-1051. **0.609**
351. **SHAKOORI, A.R.**, ISMAIL, S., ZULFIQAR, S. AND MUJEEB, K.A., 2004. Effect of α Cypermethrin on esterases of 6th instar larvae and 10 days old adults of three different strains of *Tribolium castaneum*. *Pakistan J. Zool.*, **36**: 173-188. **0.105**
352. AHMAD, I., HOESSLI, D.C., WALKER-NASIR, E., KHURSHID, A., RAFIK, S.M., **SHAKOORI, A.R.** AND NASIR-UD-DIN, 2004. Protein modification and functional implications for Oct-4 in human stem cells. *Pakistan J. Zool.*, **36**: 211-218. **0.105**
353. SALEEM, M.A., WILKINS, R.M., MANTLE, D. AND **SHAKOORI, A.R.**, 2004. *In vivo* effects of cyfluthrin on proteolytic enzyme activities of malathion-resistant and susceptible strains of *Tribolium castaneum*. *Pakistan J. Zool.*, **36**: 239-246. **0.105**
354. **SHAKOORI, A.R.**, AHMED, I., KHURSHID, A., AND NASIRUDDIN, 2004. Possible functional role of selectins: Prediction based on post-translational modification sites. Proceedings of two day seminar on "Bioinformatics, Information Technology and Biostatistics" (ed. M. Ahmad), pp. 1-12, organized by Islamic Society of Statistical Sciences, held at National College of Business Administration & Economics, Lahore, Pakistan on December 27-28, 2003. **0.105**
355. NASIRUDDIN, AHMAD, I., KHURSHID, A., WALKER-NASIR, E., FAYYAZUDDIN, AND **SHAKOORI, A.R.**, 2004. Evolving new concepts in pursuit of expanding vision: Bioinformatics as a source of new approaches – combinatorial metabolism in *Plasmodium falciparum*. Proceedings of two day seminar on "Bioinformatics, Information Technology and Biostatistics" (ed. M. Ahmad), pp. 13-29, organized by Islamic Society of Statistical Sciences, held at National College of Business Administration & Economics, Lahore, Pakistan on December 27-28, 2003. **0.105**
356. KHURSHID, A., AHMAD, I., FAYYAZUDDIN, **SHAKOORI, A.R.** AND NASIRUDDIN, 2004. Bioinformatics current development: A tool for biologists. . Proceedings of two day seminar on "Bioinformatics, Information Technology and Biostatistics" (ed. M. Ahmad), pp. 31-42, organized by Islamic Society of Statistical Sciences, held at National College of Business Administration & Economics, Lahore, Pakistan on December 27-28, 2003. **0.105**
357. AHMAD, I., KHURSHID, A., FAYYAZUDDIN, NASIRUDDIN AND **SHAKOORI, A.R.**, 2004. Predicting the role by post-translational modification in functional control of integrins as model and integrin mediated drug targeting- an application of bioinformatics. . Proceedings of two day seminar on "Bioinformatics, Information Technology and Biostatistics" (ed. M. Ahmad), pp. 43-57, organized by Islamic Society of Statistical Sciences, held at National College of Business Administration & Economics, Lahore, Pakistan on December 27-28, 2003. **0.105**
358. SHER, F., ALI, S.S. AND **SHAKOORI, A.R.**, 2004. Phosphine-induced changes in various esterase levels in 4th instar larvae of *Trogoderma granarium*. *Pakistan J. Zool.*, **36**: 257-260. **0.105**
359. REHMAN, A. AND **SHAKOORI, A.R.**, 2004. Tolerance and uptake of cadmium and nickel by *Cholrella* sp isolated from tannery effluents. *Pakistan J. Zool.*, **36**: 327-332. **0.105**
360. AHMAD, I., WALKER-NASIR, E., **SHAKOORI, A.R.**, SALEEM, M., RAFIK, M.S., HUSSAIN, S.A. AND NASIR-UD-DIN, 2004. Interplay of glycosylation and phosphorylation in murine Oct-2 regulates its POU domain binding. *Pakistan J. Zool.*, **36**: 333-338. **0.105**
361. **SHAKOORI, A.R.**, BIBI, S., ALI, S.S. AND LONE, K.P., 2004. Effect of anabolic steroid, dimethazine, on the hepatic enzymes of regenerating liver in the partially hepatectomized rabbits. *Proc. Pakistan Congr. Zool.*, **24**: 1-18. **1.659**
362. AHSAN, M.M. AND **SHAKOORI, A.R.**, 2004. Biochemical and haematological abnormalities in human population exposed to hexavalent chromium in effluents of tanneries in industrial area of Kasur District. *Proc. Pakistan Congr. Zool.*, **24**: 213-236. **1.659**
363. RAZA, M., CHAUDHRY, B. AND **SHAKOORI, A.R.**, 2005. Effect of diabetes on the blood sugar, cholesterol, triglycerides, and creatinine level of normal, overweight, and obese subjects. *Proc. Pakistan Congr. Zool.*, **25**: 99-112. **1.659**
364. ASHRAF, S., BUKHARI, D.A., QUREISHI, Z.A., AND **SHAKOORI, A.R.**, 2005. PCR based identification of *Pasteurella multocida* serotype B that causes haemorrhagic septicaemia in cattle and buffaloes of Pakistan. *Proc. Pakistan Congr. Zool.*, **25**: 113-121. **1.659**
365. QAMAR, S., MUZAFFAR, N., ALI, S.S. AND **SHAKOORI, A.R.**, 2005. Physicochemical analysis of Pakistani unifloral honey from different nectar sources. *Proc. Pakistan Congr. Zool.*, **25**: 123-130. **1.659**

366. REHMAN, A., SHAKOORI, F.R. AND **SHAKOORI, A.R.**, 2005. Toxicity and uptake of chromium and lead in protozoa – A review. *Proc. Pakistan Congr. Zool.*, **25**: 163-178.
367. SAQIB, Z.A. AND **SHAKOORI, A.R.**, 2005. Insecticide tolerant bacteria as bioremediators of endosulphan and heptachlor contaminated soil – A review. *Proc. Pakistan Congr. Zool.*, **25**: 179-216.
368. **SHAKOORI, A.R.**, HUMA, Z., DAR, N. AND ALI, S.S., 2005. Lead resistant yeast from industrial wastewater capable of decontaminating it of heavy metals. *Pakistan J. Zool.*, **37**: 1-12. **0.105**
369. AHMED, K., SHAKOORI, F.R. AND **SHAKOORI, A.R.**, 2005. Etiology of Salmonellosis in Northern Areas of Pakistan. *J. Hlth. Popul. Develop. Count.*,/URL: <http://www.jhpdc.unc.edu/pp.1-13>. Published 17 March 2005.
370. REHMAN, A., ASHRAF, S., QAZI, J.I. AND **SHAKOORI, A.R.**, 2005. Uptake of lead by a ciliate, *Stylonychia mytilus*, isolate from industrial effluents: Potential use in bioremediation of wastewater. *Bull. Environ. Contam. Toxicol. USA*, **75**: 290-296. **0.609**
371. AHMAD, I., HOESSLI, D.C., WALKER-NASIR, E., FAYYAZ-UD-DIN, **SHAKOORI, A.R.**, AND NASIR-UD-DIN, 2005. Recognition of protease binding site in bovine pancreatic RNase B: Role of Thr45 modification by O-GlcNAc, phosphate and their interplay. *Pakistan J. Zool.*, **37**: 81-86. **0.105**
372. ABBAS, N. AND **SHAKOORI, A.R.**, 2005. The cloning of PreS gene from Pakistanian isolates of hepatitis B virus into a high expression vector pKK-2323-3. *Pakistan J. Zool.*, **37**: 165- 186. **0.105**
373. SHAKOORI, F.R., SHAHZAD, M., BUKHARI, D.A. AND **SHAKOORI, A.R.**, 2005. Silver resistant yeast strains isolated from industrial waste water and their ability to uptake silver from the medium. *Pakistan J. Zool.*, **37**: 221-228. **0.105**
374. KHURSHEED, N. AND **SHAKOORI, A.R.**, 2005. Characterization of locally isolated strains of *Bacillus thuringiensis* and their evaluation as potential bioicides against house fly *Musca domestica*. *Pakistan J. Zool.*, **37**: 249-255. **0.105**
375. AHMAD, I., HOESSLI, D.C., WALKER-NASIR, E., QAZI, W.M., **SHAKOORI, A.R.**, AND NASIR-UD-DIN, 2005. Prediction of Tyr residues involved in autophosphorylation of FLT3 positive leukemias. *Pakistan J. Zool.*, **37**: 289-292. **0.105**
376. **SHAKOORI, A.R.**, AHMAD, I. AND NASIRDUDIN, 2005. *In vivo* protein –structure function. Proceedings of the 8th Islamic Countries Conference on Statistical Sciences (ed. M. Ahmad), volume 13, pp. 435-439. Islamic Countries Society of Statistical Sciences, December 19-22, 2005, held in Lahore, Pakistan.
377. AHMAD, I., WALKER-NASIR, E., QAZI, W.M., HOESSLI, D.C., **SHAKOORI, A.R.** AND NASIRDUDIN, 2005. Regulation of Oct-2 binding and activation: Interplay of phosphorylation and glycosylation. Proceedings of the 8th Islamic Countries Conference on Statistical Sciences (ed. M. Ahmad), volume 13, pp. 447-452. Islamic Countries Society of Statistical Sciences, December 19-22, 2005, held in Lahore, Pakistan.
- Total IF for 2005** **1.239**
378. AHMAD, I., HOESSLI, D.C., WALKER-NASIR, E., RAFIK, S.M., **SHAKOORI, A.R.**, AND NASIR-UD-DIN, 2006. Oct-2 DNA binding transcription factor: functional consequences of phosphorylation and glycosylation. *Nucleic Acids Res.*, **34**: 175-184. **6.878**
379. QAZI, W.M., AHMED, M., HOESSLI, D.C., AHMAD, I., KHAWAJA, I., WAJAHAT, T., KALEEM, A., WALKER-NASIR, E., RAHMAN, N., **SHAKOORI, A.R.** AND NASIRUDDIN, 2006. Consensus sequences as targets for phosphorylation of amino acids in phosphoproteins: statistical computing analysis. *Pakistan J. Zool.*, **38**: 55-63. **0.105**
380. AHMAD, I., HOESSLI, D.C., WALKER-NASIR, E., CHOUDHARY, M.I., RAFIK, S.M., **SHAKOORI, A.R.**, AND NASIR-UD-DIN, 2006. Phosphorylation and glycosylation interplay: Protein modifications at hydroxyamino acids and prediction of signaling functions of the human $\beta 3$ integrin family. *J. Cell. Biochem.*, (Published on line in April, 2006), **99(3)**:706-718. **3.54**
381. REHMAN A., SHAKOORI, F.R. AND **SHAKOORI, A.R.**, 2006. Heavy metal resistant ciliate, *Euplotes mutabilis*, isolated from industrial effluents can decontaminate wastewater of heavy metals. *Bull. Environ. Contam. Toxicol.*, **76**: 907-913. **0.609**
382. WAJAHAT, T., KALEEM, A., AHMAD, I., HOESSLI, D.C., WALKER-NASIR, E., QAZI, W.M., SALEEM, M., **SHAKOORI, A.R.**, AND NASIRUDDIN, 2006. Mammalian epidermal growth factor receptor. Role of phosphorylation and glycosylation. *Pakistan J. Zool.*, **38**: 85-92. **0.105**
383. KALEEM, A., AHMAD, I., WAJAHAT, T., HOESSLI, D.C., WALKER-NASIR, E., HUSSAIN, S.A., QAZI, W.M., **SHAKOORI, A.R.**, AND NASIRUDDIN, 2006. Somatic cell cycle regulation by histone H3 modifications: action of OGT and kinases. *Pakistan J. Zool.*, **38**: 137-144. **0.105**
384. AHSAN, M.M., SHAKOORI, F.R. AND **SHAKOORI, A.R.**, 2006. Biochemical and haematological abnormalities in factory workers exposed to hexavalent chromium in tanneries of Kasur District. *Pakistan J. Zool.*, **38**: 239-253. **0.105**
385. AHSAN, M.M. AND **SHAKOORI, A.R.**, 2006. Chromium as an environmental contaminant – A review. *Pakistan J. Zool. Suppl. Ser.*, **8**: 1-30. **0.105**
386. RASHID, M.U., ZAIDI, A., TORRES, D., SULTAN, F., BENNER, A., NAQVI, B., **SHAKOORI, A.R.**, SEIDEL-RENKERT, A., FAROOQ, H., NAROD, S., AMIN, A. AND HAMANN, U., 2006. Prevalence of BRCA1 and BRCA2 mutations in Pakistani breast and ovarian cancer patients. *Int. J. Cancer*, published on line 22 September 2006, **119**: 2832-2839. **4.734**

387. REHMAN, A., SHAKOORI, F.R. AND **SHAKOORI, A.R.**, 2006. Uptake of heavy metals by a ciliate, *Tachysoma pellionella*, isolated from industrial effluents and its potential use in bioremediation of toxic wastewater. *Bull. Environ. Contam. Toxicol.*, **77**: 469-476. **0.609**
388. ALI, N.S., ALI, S.S. AND **SHAKOORI, A.R.**, 2006. Survival and body weight loss of starved adults of lesser grain borer, *Rhyzopertha dominica* (Coleoptera:Bostrichidae) at different relative humidities. *Pakistan J. Zool.*, **38**: 317-320. **0.105**
389. KALEEM, A., WAJAHAT, T., AHMAD, I., HOESSLI, D.C., NASIR, E.W., QAZI, W.M., **SHAKOORI, A.R.** AND NASIR UD DIN, 2006. Regulation of apoptosis by histone H2B modifications. *Pakistan J. Zool.*, **38**: 305-312. **0.105**
390. CHAUDHARY, Z.I., AHMED, R.S., HUSSAIN, S.M.I., AND **SHAKOORI, A.R.**, 2006. Detection of *Toxoplasma gondii* infection in butchers and buffaloes by polymerase chain reaction and latex agglutination test. *Pakistan J. Zool.*, **38**: 333-336. **0.105**
391. SAMI, A.J. AND **SHAKOORI, A.R.**, 2006. Heterogeneity among insect cellulases. *Pakistan J. Zool.*, **38**: 337-340. **0.105**
392. YOUSAFZAI, A.M. AND **SHAKOORI, A.R.**, 2006. Bioaccumulation of chromium, nickel, lead, copper and zinc in the skin of *Tor putitora* as an indicator of the presence of heavy metal load in River Kabul, Pakistan. *Pakistan J. Zool.*, **38**: 341-34. **0.105**
393. YOUNAS, M., CHAUDHARY, Z.I., KHAN, M.A., MUNIR, M.A., **SHAKOORI, A.R.**, MEHMOOD, N. AND TIPU, M.Y., 2006. Prevalence of *Salmonella* species in poultry eggs in Lahore through polymerase chain reaction (PCR). *Sci. Int.*, **18**: 220-233.
394. YOUNAS, M., CHAUDHARY, Z.I., KHAN, M.A., MUNIR, M.A., **SHAKOORI, A.R.**, MEHMOOD, N. AND TIPU, M.Y., 2006. Prevalence of *Salmonella* species in poultry meat in Lahore through polymerase chain reaction (PCR). *Sci. Int.*, **18**: 309-312.
395. ABBAS, N., ARSHAD, Y., AND **SHAKOORI, A.R.**, 2006. Mutations in the hepatitis B virus core gene and its efficacy as a vaccine – A Review. *Proc. Pakistan Congr. Zool.*, **26**: 103-129.
396. REHMAN, A., SHAKOORI, F.R. AND **SHAKOORI, A.R.**, 2006. Toxicity and uptake of heavy metals in protozoa - A Review. *Proc. Pakistan Congr. Zool.*, **26**: 131-153.
- Total IF for 2006** **17.42**
397. YOUSAFZAI, A.M. AND **SHAKOORI, A.R.**, 2007. Heavy metal bioaccumulation in the muscles of Mahaseer, *Tor putitora* as an evidence of heavy metal pollution in River Kabul, Pakistan. *Pakistan J. Zool.*, **39**: 1-8. **0.105**
398. KALEEM, A., KHAN, T.S., AHMAD, W., SALEEM, M., KHAWAJA, A. R., HUSSAIN, S.A., **SHAKOORI, A.R.**, AND NASIR UD DIN, 2007. Post-translational modifications of non-histone high mobility group nucleosomal proteins. *Pakistan J. Zool.*, **39**: 57-64. **0.105**
399. REHMAN, A., SHAKOORI, F.R. AND **SHAKOORI, A.R.**, 2007. Seasonal variation in protozoan population in tannery effluents. *Pakistan J. Zool.*, **39**: 69-76. **0.105**
400. KALEEM, A., AHMAD, W., KHAN, T.S., AHMAD, I., **SHAKOORI, A.R.** AND NASIRUDDIN, 2007. *In silico* post-translational modification of histone H1: redgulation of transcription. *Pakistan J. Zool.*, **39**: 87-94. **0.105**
401. QAMER, S., EHSAN, M., NADEEM, S. AND **SHAKOORI, A.R.**, 2007. Free amino acids content of Pakistani unifloral honey produced by *Apis mellifera*. *Pakistan J. Zool.*, **39**: 99-102. **0.105**
402. AHMAD, I., HOESSLI, D., GUPTA, R., WALKER-NASIR, E., RAFIK, S.M., CHAUDHARY, M.I., **SHAKOORI, A.R.** AND NASIRUDDIN, 2007. *In silico* determination of intracellular glycosylation and phosphorylation sites in human selectins: implications for biological function. *J. Cell. Biochem, USA*, **100**: 1558-1572. **3.54**
403. REHMAN, A., SHAKOORI, F.R. AND **SHAKOORI, A.R.**, 2007. Heavy metal resistant *Distigma proteus* (Euglenophyta) isolated from industrial effluents and its possible role in bioremediation of contaminated wastewater. *World J. Microbiol. Biotechnol. Published on line 31 October 2006* (<http://dx.doi.org/10.1007/s11274-006-9291-5>) *World J. Microbiol. Biotechnol.*, **23**: 753-758. **0.945**
404. REHMAN, A., ALI, A., MUNEER, B. AND **SHAKOORI, A. R.**, 2007. Resistance and biosorption of mercury by bacteria isolated from industrial effluents. *Pakistan J. Zool.*, **39**: 137-146. **0.105**
405. SALEEM, M.A., WILKINS, R.M., MANTLE, D. AND **SHAKOORI, A.R.**, 2007. *In vivo* effect of β -cyfluthrin on proteolytic enzyme activities in insecticide-resistant and -susceptible strains of *Musca domestica*. *Pakistan J. Zool.*, **39**: 171-178. **0.105**
406. ALI, N.S., MUNIR, M., ALI, S.S. AND **SHAKOORI, A.R.**, 2007. Efficacy of mixtures of an organophosphate malathion and a synthetic pyrethroid deltamethrin against lesser grain borer, *Rhyzopertha dominica*. *Pakistan J. Zool.*, **39**: 179-184. **0.105**
407. REHMAN, A., SHAKOORI, F.R. AND **SHAKOORI, A.R.**, 2007. Multiple metal resistance and uptake by a ciliate, *Stylonychia mytilus*, isolated from industrial effluents and its possible use in wastewater treatment. *Bull. Environ. Contam. Toxicol. Published on line DOI 10.1007/s00128-007-9270-z. Bull. Environ. Contam. Toxicol.*, **79**: 410-414. **0.609**
408. SHUJA, R.N. AND **SHAKOORI, A.R.**, 2007. Identification, cloning and sequencing of a novel stress inducible metallothionein gene from locally isolated *Tetrahymena tropicalis lahorensis*. *Gene* (2007), doi:10.1016/j.gene.2007.08.019. *Gene*, **405**: 19-26. **2.871**
409. ABBAS, N., AHMAD, A. AND **SHAKOORI, A.R.**, 2007. Overexpression and purification of PreS region of hepatitis B virus antigenic surface protein adr subtype in *Escherichia coli*. *J. Biochem. Mol. Biol.*, **40**: 1002-1008. **2.141**
410. YOUSAFZAI, A.M. AND **SHAKOORI, A.R.**, 2007. Toxic effects of aquatic pollution on the white muscle of mahaseer, *Tor putitora* (Hamilton) from River Kabul, NWFP, Pakistan. *Pakistan J. Zool.*, **39**: 215-227. **0.105**

411. AHMAD, I., AHMAD, W., WALKER-NASIR, E., SALEEM, M., **SHAKOORI, A.R.** AND NADIRUDDIN, 2007. Histone H1 sub-types in mouse: Interplay between phosphorylation and O-glycosylation. *Pakistan J. Zool.*, **39**: 245-257. **0.105**
412. REHMAN, A., SHAKOORI, F.R. AND **SHAKOORI, A.R.**, 2007. Potential use of a ciliate, *Vorticella microstoma*, surviving in lead containing industrial effluents in waste water treatment. *Pakistan J. Zool.*, **39**: 259-264. **0.105**
413. ABBAS, N., BAIG, I.A. AND **SHAKOORI, A.R.**, 2007. Faecal contamination of drinking water from deep aquifers in Multan, Pakistan. *Pakistan J. Zool.*, **39**: 271-277. **0.105**
414. MUNEEB, B., SHAKOORI, F.R., REHMAN, A. AND **SHAKOORI, A.R.**, 2007. Chromium resistant yeast with multi-metal resistance isolated from industrial effluents and their possible use in microbial consortium for bioremediation of waste water. *Pakistan J. Zool.*, **39**: 289-297. **0.105**
415. MALIK, S.A., AHMAD, I., KHAN, T.S., **SHAKOORI, A.R.** AND NASIRUDDIN, 2007. RUNX1 transcription repression and stability: Interplay between phosphorylation and O-GlcNAc modification. *Pakistan J. Zool.*, **39**: 299-309. **0.105**
416. MUJEEB, K.A. AND **SHAKOORI, A.R.**, 2007. Toxicity of synthetic pyrethroid, Fury, against different developmental stages of three strains of *Tribolium castaneum* (Herbst.). *Pakistan J. Zool.*, **39**: 361-366. **0.105**
417. REHMAN, A., FAROOQ, H. AND **SHAKOORI, A.R.**, 2007. Copper tolerant yeast, *Candida tropicalis*, isolated from industrial effluents: its possible use in wastewater treatment. *Pakistan J. Zool.*, **39**: 405-412. **0.105**
418. IQBAL, Q.J., ANDLEEB, S., REHMAN, A. AND **SHAKOORI, A.R.**, 2007. Hexavalent chromium resistant bacteria isolated from industrial effluents and their potential; use in bioremediation of toxic waste waters. *Proc. Pakistan Congr. Zool.*, **27**: 1-17.
419. SAMI, A.J. AND **SHAKOORI, A.R.**, 2007. Extracts of plant leaves have inhibitory effect on the cellulose activity of whole body extracts of insects – a possible recipe for bioinsecticides. *Proc. Pakistan Congr. Zool.*, **27**: 105-118.
420. ABBAS, N. AND **SHAKOORI, A.R.**, 2007. Hepatitis B virus: X gene. *Proc. Pakistan Congr. Zool.*, **27**: 127-136. **11.786**
421. KALEEM, A., HOESSLI, D.H., AHMAD, I., WALKER-NASIR, E., NASIM, A., **SHAKOORI, A.R.** AND NASIRUDDIN, 2007. Immediate-early gene regulation by interplay between different post-translational modifications on human histone H3. *J. cell. Biochem.*, Published on line DOI 10.1002/jcb.21454, June 2007, **103**: 835-851, 2008. **3.54**
422. RASHID, M.U., TORRES, D., ZAIDI, A., RASHEED, F., SULTAN, F., **SHAKOORI, A.R.**, AMIN, A. AND HAMANN, U., 2007. No association between *BRCA* mutations and sex ratio in offsprings of Pakistani *BRCA* mutation carriers. *Breast Cancer Res. Treat.*, Published on line DOI 10.1007/s10549-007-9521-z. *Breast Cancer Res. Treat.*, **107**: 155-156, 2008. **5.684**
423. REHMAN, A., SHAKOORI, F.R. AND **SHAKOORI, A.R.**, 2007. Uptake of heavy metals by *Stylonychia mytilus* and its possible use in decontamination of industrial wastewater. *World J. Microbiol. Biotechnol.* Published on line (<http://dx.doi.org/10.1007/s11274-006-9291-5>). *World J. Microbiol. Biotechnol.*, **24**: 47-53, 2008. **0.945**
424. REHMAN, A., SHAKOORI, F.R. AND **SHAKOORI, A.R.**, 2007. Heavy metal resistant freshwater ciliate, *Euplotes mutabilis*, isolated from industrial effluents has potential to decontaminate wastewater of toxic metals. *Bioresource Technology*, Published on line doi:10.1016/j.biortech.2007.08.007. *Bioresource Technology*, **99**: 3890-3895, 2008. **4.453**
425. KHWAJA, T.A., WAJAHAT, AHMAD, I., HOESSLI, D.C., WALKER-NASIR, E., KALEEM, A., QAZI, W.M., **SHAKOORI, A.R.** AND NASIRUDDIN, 2007. *In silico* modulation of apoptotic Bcl2 proteins by mistletoe lectin-1: Functional consequences of protein modifications. *J. cell. Biochem.*, DOI 10.1002/jcb.21412 May 2007, *J. cell. Biochem.*, **103**: 479-491, 2008. **3.54**
426. AHMAD, I., KHAN, T.S., HOESSLI, D.C., WALKER-NASIR, E., KALEEM, A., **SHAKOORI, A.R.** AND NASIR-UD-DIN, 2008. *In silico* modulation of HMGN-1 binding to histones and gene expression by interplay of phosphorylation and O-GlcNAc modification. *Prot. Pept. Lett.*, **15**: 193-199. **1.10**
427. RAZA, M., CHAUDHARY, B. AND **SHAKOORI, A.R.**, 2008. Relationship of tumor necrosis factor alpha genotypes with various biochemical parameters of normal, over-weight and obese human subjects. *Pakistan J. Zool.*, **40**: 1- 12. **0.189**
428. QAMER, S., AHMAD, F., LATIF, F., ALI, S.S. AND **SHAKOORI, A.R.**, 2008. Physicochemical analysis of *Apis dorsata* honey from Terai Forests, Nepal. *Pakistan J. Zool.*, **40**: 53-58. **0.189**
429. SAMI, A.J., YASMEEN, N. AND **SHAKOORI, A.R.**, 2008. Cellulolytic activity of microbial flora of agricultural insects. *Pakistan J. Zool.*, **40**: 60-63. **0.189**
430. AHMAD, I., HOESSLI, D.C., QAZI, W.M., KHURSHID, A., MAHMOOD, A., WALKER-NASIR, E., AHMAD, M., **SHAKOORI, A.R.** AND NASIRUDDIN, 2008. MAPREes: An efficient method to analyze protein sequence around post-translational modification sites. *J. cell. Biochem.*, **104**: 1220-1231. **3.381**
431. REHMAN, A., ALI, A. AND **SHAKOORI, A.R.**, 2008. Biosorption of mercury by bacteria isolated from industrial effluents: potential use in bioremediation of wastewater. *Pakistan J. Zool.*, **40**: 115-122. **0.189**
432. YOUSAFZAI, A.M., KHAN, A.R. AND **SHAKOORI, A.R.**, 2008. Hematological and biochemical responses of blood of an endangered south asian freshwater fish, *Tor putitora* against aquatic pollution. *Pakistan J. Zool.*, **40**: 123-134. **0.189**
433. KALEEM, A., KHURSHID, A., AHMAD, I., NASIR, E.W., KHAN, S., CHAUDHARY, M.I., **SHAKOORI, A.R.**, AND NASIRUDDIN, 2008. Terminal galactose as cancer recognition marker: computing analysis with implications of vicinal sugars, linkage and anomery. *Pakistan J. Zool.*, **40**: 135-144. **0.189**
434. SAMI, A.J., AWAIS, M. AND **SHAKOORI, A.R.**, 2008. Preliminary studies on the production of endo-1,4-β-D-glucanases activity produced by *Enterobacter cloacae*. *African J. Biotechnol.*, **7** (9):1318-1322. **0.565**

435. ALI, S.A., ZAIDI, S.K., DACWAG, C.S., SALMA, N., YOUNG, D.W., **SHAKOORI, A.R.**, MONTECINO, M.A., LIAN, J.B., van WIJNEN, A.J., IMBALZANO, A.N., STEIN, G.S., AND STEIN, J.L., 2008. Phenotypic transcription factors epigenetically mediate cell growth control. *Proc. Nat. Acad. Sci. USA*, www.pnas.org/cgi/doi/10.1073/pnas.0800970105, *PNAS*, **105**: 6632-6637. **3.961**
436. NASIRUDDIN, AHMAD, I., **SHAKOORI, A.R.** AND HOESSLI, D.C., 2008. Developing protein structure-function relationship *in silico*. *Curr. Organic Chem.*, **12**: 957-971.
437. YOUSAFZAI, A.M., KHAN, A.R. AND **SHAKOORI, A.R.**, 2008. An assessment of chemical pollution in River Kabul and its possible impacts on fisheries. *Pakistan J. Zool.*, **40**: 199-210. **0.189**
438. AHMAD, I., QAZI, W.M., KHURSHID, A., AHMAD, M., HOESSLI, D.C., KHAWAJA, I., CHOUDHARY, M.I., **SHAKOORI, A.R.** AND NASIRUDDIN, 2008. MAPREes: Mining association patterns among preferred amino acid residues in the vicinity of amino acids targeted for post-translational modifications. *Proteomics*, **8**: 1954-1958. **5.479**
439. SAMI, A.J. AND **SHAKOORI, A.R.**, 2008. Biochemical characterization of endo-1,4 β -D-gluconase activity of a green insect pest *Aulacophora foveicollis* (Lucas). *Life Sci. J.*, **5**(2): 30-36. **4.505**
0.073
440. REHMAN, A., SHUJA, R. AND **SHAKOORI, A.R.**, 2008. Tolerance of two ciliates, *Stylonychia mytilus* and *Paramecium caudatum*, isolated from industrial effluents to an organophosphate, endosulphan and their potential use in bioremediation of insecticide-contaminated wastewater. *Pakistan J. Zool.*, **40**: 255-261. **0.189**
441. RASHID, M.U., TORES, D., ZAIDI, A., RASHEED, F., SULTAN, F., **SHAKOORI, A.R.**, AMIN, A. AND HAMANN, U., 2008. No association between BRCA mutations and sex ratio in offspring of Pakistani BRCA mutation carriers. *Breast Cancer Res Treat.* **107**(1): 155-156. **5.684**
442. REHMAN, A., SHAKOORI, F.R. AND **SHAKOORI, A.R.**, 2008. Heavy metals resistant rotifers from a chromium contaminated wastewater can help in environmental cleanup. *Pakistan J. Zool.*, **40**: 309-316. **0.189**
443. MUMTAZ, N., CHASUDHRY, Z.I., MAHMOOD, N., AND **SHAKOORI, A.R.**, 2008. Reliability of PCR for detection of bovine tuberculosis in Pakistan. *Pakistan J. Zool.*, **40**: 347-352. **0.189**
444. YOUSAFZAI, A.M., KHAN, A.R. AND **SHAKOORI, A.R.**, 2008. Heavy metal pollution in River Kabul affecting the inhabitant fish population. *Pakistan J. Zool.*, **40**: 331-340. **0.189**
445. KALEEM, A., AHMAD, I., **SHAKOORI, A.R.**, AND NASIRUDDIN, 2008. Regulation of neurofibromin by post-translational modifications. *Pakistan J. Zool.*, **40**: 417-422. **0.189**
446. YOUSAFZAI, A.M. AND **SHAKOORI, A.R.**, 2008. Heavy metal accumulation in gills of an endangered south Asian freshwater fish as an indicator of aquatic pollution. *Pakistan J. Zool.*, **40**: 423-431. **0.189**
- Total IF for 2008** **54.776**
447. RASHID, M.U., TORES, D., RASHEED, F., SULTAN, F., **SHAKOORI, A.R.**, AMIN, A., SCHLAEFER, K. AND HAMANN, U., 2009. No association of miscarriage and BRCA carrier status in Pakistani breast/ovarian cancer patients with a history of parental consanguinity. *Breast Cancer Res Treat.* DOI 10.1007/s10549-008-0095-1. **116**(1):211-213. **5.684**
448. KALEEM, A., AHMAD, I., HOESSLI, D.H., WALKER-NASIR, SALIM, M., **SHAKOORI, A.R.** AND NASIRUDDIN, 2009. Epidermal growth factor receptors: function modulation by phosphorylation and glycosylation interplay. *Mol. Biol. Rep.*, DOI 10.1007/s11033-008-9223-6. *Mol. Biol. Rep.*, **36**: 631- 639 , 2009. **0.829**
449. YOUSAFZAI, A.M., KHAN, A.R. AND **SHAKOORI, A.R.**, 2009. Trace metal accumulation in the liver of an endangered South Asian freshwater fish dwelling in sub-lethal pollution. *Pakistan J. Zool.*, **41**: 35-41. **0.200**
450. ELAHI, S., KALEEM, A., AHMAD, I., HAQ, I.U., **SHAKOORI, A.R.**, AND NASIRUDDIN, 2009. Functional regulation of glutamate receptor GluR1: Long term potentiation and depression of GluR1 by post translational modifications. *Pakistan J. Zool.*, **41**: 71-78. **0.200**
451. DURRANI, A.Z. AND **SHAKOORI, A.R.**, 2009. Study on ecological growth conditions of cattle *Hyalomma* ticks in Punjab, Pakistan. *Iranian J. Parasitol.*, **4**: 24-30. **0421**
452. MUNEEB, B., REHMAN, A., SHAKOORI, F.R. AND **SHAKOORI, A.R.**, 2009. Evaluation of consortia of microorganisms for efficient removal of hexavalent chromium from industrial wastewater. *Bull. Environ. Contam. Toxicol.*, DOI.1007/s00128-009-9662-3. *Bull. Environ. Contam. Toxicol.*, **82**(5): 597- 600 . **0.609**
453. REHMAN, A., SHAKOORI, F.R. AND **SHAKOORI, A.R.**, 2009. Heavy metal uptake by *Euplotes mutabilis* and its possible use in bioremediation of industrial wastewater. *Bull. Environ. Contam. Toxicol.*, DOI.10.1007/s00128-009-9725-5. *Bull. Environ. Contam. Toxicol.*, **82** (1): 130-135. **0.609**
454. AHMAD, I., MEHMOOD, A., KHURSHID, A., QAZI, W.M., HOESSLI, D.C., WALKER-NASIR, E., **SHAKOORI, A.R.** AND NASIRUDDIN, 2009. Phosphoproteome sequence analysis and significance: mining association patterns around phosphorylation sites utilizing MAPRes. *J. cell. Biochem.*, DOI 10.1002/jcb.22220. **108**:64-74, 2009. **3.381**
455. REHMAN, A., BUKHARI, D.A.A., SHAKOORI, F.A. AND **SHAKOORI, A.R.**, 2009. Heavy metal induced total proteins profile of ciliates isolated from industrial wastewater. *Pakistan J. Zool.*, **41**: 245-252. **0.200**
456. QAMER, S., MUZAFFAR, N., ALI, S.S., AND **SHAKOORI, A.R.**, 2009. Effect of storage on various honey quality parameters of unifloral sidder honey from Pakistan. *Pakistan J. Zool.*, **41**: 313-316. **0.200**
457. AHMED, B., SHAKOORI, F.R., ALI, S.S. AND **SHAKOORI, A.R.**, 2009. Antimicrobial resistance pattern and plasmid analysis of *Escherichia coli* from patients suffering from acute diarrhea in Azad Kashmir, Pakistan. *Pakistan J. Zool.*, **41**: 371-380. **0.200**

458. DURRANI, A.Z., MAQBOOL, A., MAHMOOD, N., KAMAL, K. AND **SHAKOORI, A.R.**, 2009. Chemotherapeutic trials with *Calotropis procera* against experimental infection with *Theileria annulata* in cross bred cattle in Pakistan. *Pakistan J. Zool.*, **41**: 389-398. **0.200**
459. NASIR-UD-DIN, KALEEM, A., AHMAD, I., WALKER-NASIR, E., HOESSLI, D.C. AND **SHAKOORI, A.R.**, 2009. Effect on the Ras/Raf signaling pathway of post translational modifications of neurofibromin: *In silico* study of protein modification responsible for regulatory pathways. *J. cell. Biochem.*, DOI 10.1002/jcb.22301. **108**:816-824, 2009. **3.381**
0.200
460. SALEEM, M.A., ASHFAQ, M., AND **SHAKOORI, A.R.**, 2009. *In vivo* effect of spinosad on proteases of insecticide-resistant and susceptible strains of *Musca domestica*. *Pakistan J. Zool.*, **41**: 455-462.
461. AHMED, B., SHAKOORI, F.R., ALI, S.S. AND **SHAKOORI, A.R.**, 2009. Antimicrobial resistance and plasmid profile analysis of clinically isolated *Shigella dysenteriae* in Azad Kashmir, Pakistan. *Pakistan J. Zool.*, **41**: 495-503. **0.200**
462. SHUJA, R.N. AND **SHAKOORI, A.R.**, 2009. Identification and cloning of first cadmium metallothionein like gene from locally isolated ciliate, *Paramecium* sp. *Mol. Biol. Rep.*, DOI 10.1007/s 1103-008-9213-8. *Mol. Biol. Rep.*, **36**(3): 549-560, 2009. **0.829**
463. BUKHARI, D.A.A. AND **SHAKOORI, A.R.**, 2009. Cloning and expression of *Bacillus thuringiensis cry11* crystal protein gene in *Escherichia coli*. *Mol. Biol. Rep.*, DOI 10.1007/s11033-008-9366-5, *Mol. Biol. Rep.*, **36** (7) :1661-1670. **0.829**
464. DURRANI, A.Z., MAHMOOD, N. AND **SHAKOORI, A.R.**, 2009. Prevalence of post parturient haemoglobinuria in buffalo and therapeutic trials with toltrifos sodium and tea leaves. *Pakistan J. Zool. Suppl. Ser.*, **9**: 829-834. **0.200**
- Total IF for 2009** **18.372**
465. BUKHARI, D.A.A. AND **SHAKOORI, A.R.**, 2010. Isolation and molecular characterization of *cry4* harbouring *Bacillus thuringiensis* isolates from Pakistan and mosquitocidal activity of their spores and total proteins. *Pakistan J. Zool.*, **42**: 1-15. **0.200**
466. SALEEM, F. AND **SHAKOORI, A.R.**, 2010. Characterization of *cry2A*-type gene(s) from Pakistani isolates of *Bacillus thuringiensis* toxic to lepidopteran and dipteran insects. *Pakistan J. Zool.*, **42**: 181-193. **0.200**
467. DURRANI, A.Z., KAMAL, N., MEHMOOD, N. AND **SHAKOORI, A.R.**, 2010. Prevalence of pestes des petits ruminants (KATA) in sheep and goats of Punjab. *Pakistan J. Zool.*, **42**: 205-210. **0.200**
468. REHMAN, A., SHAKOORI, F.R. AND **SHAKOORI, A.R.**, 2010. Multiple heavy metal tolerant ciliates, *Oxytricha fallax* and *Paramecium caudatum*, isolated from industrial effluents and their potential use in wastewater treatment. *Pakistan J. Zool.*, **42**: 301-309. **0.200**
469. SHAKOORI, F.R., AZIZ, I., REHMAN, A., AND **SHAKOORI, A.R.**, 2010. Isolation and characterization of arsenic reducing bacteria from industrial effluents and their potential use in bioremediation of wastewater. *Pakistan J. Zool.*, **42**: 331-338. **0.200**
470. DURRANI, A.Z., KAMAL, N., **SHAKOORI, A.R.** AND YOUNUS, R.M., 2010. Prevalence of post parturient haemoglobinuria in buffalo and therapeutic trials with toltrifos sodium and tea leaves in Pakistan. *Turkish J. Vet. Anim. Sci.*, **34**: 45-51. **0.210**
471. ALI, S.A., ZAIDI, S.k., DOBSON, J.R., **SHAKOORI, A.R.**, LIAN, J.B., STEIN, J.L., VAN WIJNEN, A.J., AND STEIN, G.S., 2010. Transcriptional corepressor TLE1 functions with Runx2 in epigenetic repression of ribosomal RNA genes. *Proc. Natl. Acad. Sci. USA*, **107**(9): 4165-4169. **9.598**
472. NASIR-UD-DIN, AHMAD, I., ELAHS, S., HOESSLI, D.C. AND **SHAKOORI, A.R.**, 2010. The function of GluR1 and GluR2 in cerebellar and hippocampal; LTP and LTD is regulated by interplay of phosphorylation and O-GlcNAc modification. *J. cell. Biochem.*, **109** (3):585-597. **3.381**
473. ASLAM, A., CHAUDHARY, Z.I., REHMAN, H., ASHRAF, K., AHMAD, N., YAQUB, T., MAQBOOL, A. AND **SHAKOORI, A.R.**, 2010. Comparative evaluation of parasitological, serological and DNA amplification methods for diagnosis of natural trypanosomal infection in equines. *Pakistan J. Zool.*, **42**: 371-376. **0.200**
474. DURRANI, A.Z., MEHMOOD, N. AND **SHAKOORI, A.R.**, 2010. Comparison of three diagnostic methods for *Theileria annulata* in Sahiwal and Friesian cattle in Pakistan. *Pakistan J. Zool.*, **42**: 467-472. **0.200**
475. SHAKOORI, F.R., WAHEED, S., BUKHARI, D.A.A. AND **SHAKOORI, A.R.**, 2010. Spectrum of antibiotic resistance in *cry4* positive local isolates of *Bacillus thuringiensis*. *Pakistan J. Zool.*, **42**: 481-488. **0.200**
476. NADEEM, M.S., RAUF, A., MUSTAFA, M., IQBAL, M. AND **SHAKOORI, A.R.**, 2010. Selective precipitation based economical methods for purification of human serum albumin from the out-dated blood bank samplers. *Pakistan J. Zool.*, **42**: 498-501. **0.200**
477. AHMED, B., SHAKOORI, F.R., ALI, S.S. AND **SHAKOORI, A.R.**, 2010. Characterization of multiple antimicrobial resistant *Shigella sonnei* isolated from diarrhoeal patients in Azad Kashmir, Pakistan. *Pakistan J. Zool.*, **42**: 587-596. **0.200**
478. SALEEM, M.A., WILKINS, R.M. AND **SHAKOORI, A.R.**, 2010. *In vivo* effects of lambda-cyhalothrin on proteases of various body compartments of *Periplaneta americana* (Forsk). *Pakistan J. Zool.*, **42**: 603-610. **0.200**
479. SALEEM, M.A., WILKINS, R.M. AND **SHAKOORI, A.R.**, 2010. Comparative effects of cyfluthrin on intracellular protease activities in insecticide-resistant and susceptible strains of *Musca domestica* L. *Pakistan J. Zool.*, **42**: 623-630. **0.200**
480. REHMAN, A., SHAKOORI, F.A. AND **SHAKOORI, A.R.**, 2010. Resistance and uptake of heavy metals by *Vorticella microstoma* and its potential use in industrial wastewater treatment. *Environ. Progr. Sustain. Energy*, (Impact Factor 1.054) **1.054**

481. CHAUDHRY, R. AND **SHAKOORI, A.R.**, 2010. Isolation and characterization of a novel copper-inducible metallothionein gene of a ciliate, *Tetrahymena tropicalis lahorensis*. *J. cell. Biochem.*, **110**:630-644. **3.381**
482. RAUF, A., NADEEM, M.S., ALI, A., IQBAL, M., MUSTAFA, M., LASTIF, M.M., LATIF, M.M., AHMED, N. AND **SHAKOORI, A.R.**, 2010. Prevalence of hepatitis B and C in internally displaced persons of war against terrorism in Swat, Pakistan. *European J. Publ. Hlth.*, doi:10.1093/eurpub/ckq084 **2.313**
483. SHAKOORI, F.R., TABASSUM, S., REHMAN, A. AND **SHAKOORI, A.R.**, 2010. Isolation and characterization of Cr⁶⁺ reducing bacteria and their potential use in bioremediation of chromium containing wastewater. *Pakistan J. Zool.*, **42**: 651-658. **0.200**
484. ANWAR, K. AND **SHAKOORI, A.R.**, 2010. Cypermethrin toxicity in the liver of developing chick embryo. *Pakistan J. Zool.*, **42**: 725-734. **0.200**
485. NASIR UD DIN, KALEEM, A., IQBAL, Z. AND **SHAKOORI, A.R.**, 2010. The *in silico* interplay between post-translational modification in histone H4 and its role in mouse spermatogenesis. *Pakistan J. Zool.*, **42**: 787-794. **0.200**
486. YOUSAFZAI, A.M., KHAN, A.R. AND **SHAKOORI, A.R.**, 2010. Pollution of large, subtropical rivers - River Kabul Khyberpukhtunkhwa, Province, Pakistan: Physico-chemical indicators. *Pakistan J. Zool.*, **42**: 795-808. **0.200**
487. BAIG, D.N., BUKHARI, D.A.A. AND **SHAKOORI, A.R.**, 2010. *cry* genes profiling and the toxicity of isolates of *Bacillus thuringiensis* from soil samples against American bollworm, *Helicoverpa arimigera*. *J. Appl. Microbiol.*, doi:10.11114.1365-2672.2010.04826.x. **2.098**
488. SAMI, A.J., TABASSUM, F. AND **SHAKOORI, A.R.**, 2010. Biodegradation of cellulose and xylan by a paddy pest *Oxya chinensis*. *Annl. Biol. Res.*, Available online at www.scholarsresearchlibrary.com
489. REHMAN, A., SHAKOORI, F.R. AND **SHAKOORI, A.R.**, 2010. Resistance and uptake of heavy metals by *Vorticella microstoma* and its potential use in industrial wastewater treatment. *Environ. Progr. Sustain. Energy*, **29(4)**: 481-486. DOI 10.1002/ep **0.920**
490. MUIEED, M.A., CHAUDHARY, Z.I. AND **SHAKOORI, A.R.**, 2010. Comparative studies on the sensitivity of polymerase chain reaction (PCR) and microscopic examination for the detection of *Trypanosoma evansi* in horses. *Turkish J. Vet. Anim. Sci.*, **34** (6): 507-512. **0.210**
- Total IF for 2010** **26.365**
491. KALEEM, A., HOESSLI, D.C., IKRAM-UL-HAQ, WALKER-NAASIR, E., BUTT, A., IQBAL Z., ZAMANI, Z., **SHAKOORI, A.R.** AND NASIR-UD-DIN, 2011. CREB in Long term potentiation in hippocampus: Role of post-translational modifications-Studies *in silico*. *J. cell. Biochem.*, **112**: 138-146. (3.381) **3.381**
492. DURRANI, A.Z., YOUNAS, M., KAMAL, N., MEHMOOD, N. AND **SHAKOORI, A.R.**, 2011. Prevalence of ovine *Theileria* species in District Lahore, Pakistan. *Pakistan J. Zool.*, **43**: 57-60. (0.200) **0.338**
493. YOUSAFZAI, A.M. AND **SHAKOORI, A.R.**, 2011. Hepatic responses of a freshwater fish against aquatic pollution. *Pakistan J. Zool.*, **43**: 209-221. (0.200) **0.338**
494. NADEEM, S., NIAZ, B., MUZAMMIL, H.M., RANA, S.M., RAJOKA, M.I., **SHAKOORI, A.R.**, 2011. Optimising carbon and nitrogen sources for L-glutamic acid production by *Brevibacterium* strain NIAB SS-67. *Pakistan J. Zool.*, **43**: 285-290. **0.338**
495. NADEEM, M.S., NISSAR, A., SHAHID, S., IMTIAZ, A., MAHFOOZ, M., ASGHAR, M.T. AND **SHAKOORI, A.R.**, 2011. Purification and characterization of lactate dehydrogenase from the heart ventricles of river buffalo (*Bubalus bubalis*). *Pakistan J. Zool.*, **43**: 315-319. **0.338**
496. SAMI, A.J., NAZIR, M.T., JABEEN, Z., AND **SHAKOORI, A.R.**, 2011. Gene study within the 5' flanking regions of growth hormone gene of first exon in *Bos indicus*. *African J. Biotech.*, **10**: 332-336. **0.573**
497. SAMI, A.J. AND **SHAKOORI, A.R.**, 2011. Cellulase activity inhibition and growth retardation of associated bacterial strains of *Aulacophora foviecollis* by two glycosylated flavonoids isolated from *Mangifera indica* leaves. *African J. Biotech.*, **0.59**
498. SHAKOORI, F.R., ZAFAR, M.F., FATEHULLAH, A., REHMAN, A. AND **SHAKOORI, A.R.**, 2011. Response of glutathione level in a protozoan ciliate, *Stylonychia mytilus*, to increasing uptake of and tolerance to nickel and zinc in the medium. *Pakistan J. Zool.*, **43**: 569-574. **0.338**
499. ALI, N.M., SHAKOORI, F.R. AND **SHAKOORI, A.R.**, 2011. Improvement in methionine production by local bacterial isolates. *Pakistan J. Zool.*, **43**: 611-614. **0.338**

500. SAMI, A.J., ANWAR, M.A., REHMAN, F. AND **SHAKOORI, A.R.**, 2011. Digestive cellulose hydrolyzing enzyme activity (endo- β -1,4-D-glucanase) in the gut and salivary glands of blister beetle, *Mylabris pustulata*. *Pakistan J. Zool.*, **43**: 393-401. **0.338**
501. SHAKOORI, F.R., ZAHID, M.T., BUKHARI, D.A.A. AND **SHAKOORI, A.R.**, 2011. Cloning and expression of cry 11B from a local isolate of *Bacillus thuringiensis* and its mosquitocidal activity. *Pakistan J. Zool.*, **43**: 701-713. **0.338**
502. CHAUDHRY, R. AND **SHAKOORI, A.R.**, 2011. Identification of a new copper resistant protist isolate *Tetrahymena* RT-1 subsp.nov. *Pakistan J. Zool.*, **43**: 781-788. **0.338**
503. ALI, N.M., SHAKOORI, F.R. AND **SHAKOORI, A.R.**, 2011. Improvement in cysteine production by local bacterial isolate. *Pakistan J. Zool.*, **43**: 805-808. **0.338**
504. ALI, N.S., ALI, S.S. AND **SHAKOORI, A.R.**, 2011. Effects of sub-lethal doses of Talstar on biochemical components of malathion-resistant and-susceptible adults of *Rhyzopertha dominica*. *Pakistan J. Zool.*, **43**: 879-887. **0.338**
505. BUTT, A., KALEEM, A., IQBAL, Z., WALKER-NASIR, E., SALEEM, M., **SHAKOORI, A.R.** AND NASIR-UD-DIN, 2011. Functional regulation of DNA binding FOXO1 by post translational modifications: *In silico* study. *Pakistan J. Zool.*, **43**:1167-1175. **0.338**
506. CHAUDHRY, R. AND **SHAKOORI, A.R.**, 2011. Characterization of copper resistant ciliates: Potential candidates for consortia of organisms used in bioremediation of wastewater. *African J. Biotech.*, **10** (45): 9101-9113. **0.573**
507. TASNEEM, W., ZAHEER, H., **SHAKOORI, A.R.**, 2011. Effect of hexavalent chromium on leydig cells. *Proc. Sheikh Zayed Post Grad. Med. Inst.*, **25**: 73-78. **0.338**
508. AHMAD, A., SHEHARBANO AND **SHAKOORI, A.R.**, 2011. Effect of chromium and arsenic on growth and morphology of mice fetal calvarial cells (MFCC). *FUUAST J. Biol.*, **1**: 23-28. **0.338**
- Total IF for 2011** **9.173**
509. ZAHID, N., ZULFIQAR, S. AND **SHAKOORI, A.R.**, 2012. Functional analysis of cus operon promoter of *Klebsiella pneumoniae* using *E. coli lacZ* assay. *Gene*, **495**: 81-88. **2.266**
510. SULEMAN, A. AND **SHAKOORI, A.R.**, 2012. Evaluation of physiological importance of metallothionein protein expressed by *Tetrahymena cadmium metallothionein I (TMCdI)* gene in *Escherichia coli*. *J. cell. Biochem.*, DOI: 10.1002/jcb.24030. *J. cell. Biochem.*, **113**:1616-1622. **3.122**
511. MUJEEB, K.A. AND **SHAKOORI, A.R.**, 2012. Effect of an organophosphate, Pirimiphos-Methyl, on esterases of different developmental stages of stored grain pest red flour beetle, *Tribolium castaneum* (Herbst.) – Spectrophotometric analysis. *Pakistan J. Zool.*, **44**: 301-312. **0.309**
512. AHMAD, A., ALI, M. AND **SHAKOORI, A.R.**, 2012. Isolation and culture of cardiac progenitor and cardiomyocytes from adult mouse. *Pakistan J. Zool.*, **44**: 511-516. **0.309**
513. SMITH, B. N., EVANS, C., ALI, A., ANCLIFF, P.J., HAYEE, B., SEGAL, A. W., HALL, G., KAYA, Z., **SHAKOORI, A.R.**, LINCH, D.C. AND GALE, R.E., 2012. Phenotypic heterogeneity and evidence of a founder effect associated with *G6PC3* mutations in patients with severe congenital neutropenia. *Br. J. Haematol.*, **158**(1): 146-149. **4.942**
514. AHMAD, A., AND **SHAKOORI, A.R.**, 2012. Cytotoxic effect of cigarette smoke condensate on mice and rat mesenchymal stem cells and HeLa cells. *Turk. J. med. Sci.*, **42**: doi:10.3906/sag-1105-19. **0.210**
515. SHAKOORI, T.A., SIN, D.D., BOKHARI, S.N.H., GHAFOR, F. AND **SHAKOORI, A.R.**, 2012.SP-D Polymorphisms and the risk of COPD. *Disease Markers* **33**: 91-100. **1.642**
516. MUJEEB, K.A. AND **SHAKOORI, A.R.**, 2012. Effect of Fury, a synthetic pyrethroid, on esterases of different developmental stages of stored grain pest, red flour beetle, *Tribolium castaneum* (Herbst.)- Spectrophotometric analysis. *Pakistan J. Zool.*, **44**: 601-613. **0.309**
517. MUJEEB, K.A. AND **SHAKOORI, A.R.**, 2012. Effect of Pirimiphos-Methyl, on esterases of different developmental stages of three strains of *Tribolium castaneum* (Herbst.) – An electrophoretic study. *Pakistan J. Zool.*, **44**: 859-868. **0.309**
518. CHAUDHRY, R. AND **SHAKOORI, A.R.**, 2012. A new subspecies of a ciliate *Euplotes musicola* isolated from industrial effluents. *Pakistan J. Zool.*, **44**: 809-822. **0.309**
519. SHAKOORI, F.R., BUTT, A.M., ALI, N.M., ZAHID, M.T. REHMAN, A. AND **SHAKOORI, A.R.**, 2012. Optimization of fermentation media for enhanced amino acids production by bacteria isolated from natural sources. *Pakistan J. Zool.*, **44**: 1145-1157. **0.309**
520. AHMAD, A., AND **SHAKOORI, A.R.**, 2012. Isolation and growth of human keratinocytes from plucked hairs. *Pakistan J. Zool.*, **44**: 1187-1190. **0.309**
521. AHMAD, A., AND **SHAKOORI, A.R.**, 2012. Isolation and differentiation of murine mesenchymal stem cells into osteoblasts in the presence and absence of dexamethasone. *Pakistan J. Zool.*, **44**: 1417-1422. **0.309**
522. DAR, S., SHUJA, R.N. AND **SHAKOORI, A.R.**, 2012. A synthetic cadmium metallothionein (*PMCdI syn*) of *Paramecium* species: expression, purification and characteristics of metallothionein protein. *Mol. Biol. Rep.* DOI 10.1007/s11033-012-2140-8. DOI 10.1007/s11033-012-2140-8 *Mol Biol Rep* (2013) **40**:983–997. **2.506**
523. AHMAD, A., MUNEEB, B. AND **SHAKOORI, A.R.**, 2012. Effect of chromium, cadmium, and arsenic on growth and morphology of HeLa cells. *J. Basic. Appl. Sci.*, **8**: 53-58. **0.309**

524. KHAN, A., CHAUDHARY, Z.I., **SHAKOORI, A.R.**, MAHMOOD, N., IJAZ, M., KHAN, M.Z.U., SAIMA, JAN, I., AND ALI, M.M., 2012. Detection of *Mycobacterium bovis* in buffaloes blood through polymerase chain reaction (PCR) and tuberculin test. *J. Anim. Pl. Sci.*, **22**: 237-241. **0.585**
525. ZULFIQAR, S. AND **SHAKOORI, A.R.**, 2012. Molecular characterization, metal uptake and copper induced transcriptional activation of efflux determinants in copper resistant isolates of *Klebsiella pneumoniae*. *Gene*, **510**: 32-38. **2.341**
526. **SHAKOORI, A.R.**, HOESSLI, D.C. AND NASIRUDDIN, 2012. Post translational modifications in activation and inhibition of Oct-1-DNA binding complex in H2B and other diverse gene regulation: Prediction of interplay sites. *J. cell Biochem.*, DOI 10.1002/jcb.24382. **114**: 266-274 (2013) **3.368**
527. IQBAL, Z., HOESSLI, D.C., KALEEM, A., MUNIR, J., SALEEM, M., AFZAL, I., **SHAKOORI, A.R.**, AND NASIRUDDIN, 2012. Influence of the sequence environment and properties of neighbouring amino acids on amino-acetylation: Relevance for Structure-Function analysis. *J. cell Biochem.* DOI 10.1002/jcb.24426 **114**: 874-887 (2013) **3.368**
528. MURTAZA, B.N., BIBI, A., NADEEM, M.S., CHAUDHRI, M.S. AND **SHAKOORI, A.R.**, 2012. Identification of a novel mutation in codon 31 of Kirstein Rat Sarcoma Viral Oncogene Homologue in Colon Cancer: Another evidence of non-canonical mutational pathway. *Pakistan J. Zool.*, **44**: 1671-1676. **0.309**
- Total IF for 2012** **27.131**
529. AHMAD, A., UMER, R. AND **SHAKOORI, A.R.**, 2013. Umbilical cord blood serum, a better alternative of fetal bovine serum. *Pakistan J. Zool.*, **45**: 167-175. **0.400**
530. QURRATULAIN AND **SHAKOORI, A.R.**, 2013. Frequency of *Kras* gene mutations in endometrioid carcinoma of uterus in Pakistani population. *Pakistan J. Zool.*, **45**: 197-201. **0.400**
531. ALI, N.S., ALI, S.S. AND **SHAKOORI, A.R.**, 2013. Effects of sublethal doses of malathion on biochemical components of malathion-resistant and -susceptible adults of *Rhyzopertha dominica*. *Pakistan J. Zool.*, **45**: 203-212. **0.400**
532. MUNEEB, B., IQBAL, M.J., SHAKOORI, F.R. AND **SHAKOORI, A.R.**, 2013. Tolerance and biosorption of mercury by microbial consortia: Potential use in bioremediation of wastewater. *Pakistan J. Zool.*, **45**: 247-254. **0.400**
533. ALI, B., ANJUM, A., MAHMOOD, S., WADOOD, M.A. AND **SHAKOORI, A.R.**, 2013. Identification of bovine and human tuberculosis in AFB positive and negative patients. *Pakistan J. Zool.*, **45**: 255-260. **0.400**
534. AHMAD, M.S. AND **SHAKOORI, A.R.**, 2013. Isolation, molecular characterization and toxicity of *cry1* gene harboring *Bacillus thuringiensis* from different habitats and localities of Pakistan. *Pakistan J. Zool.*, **45**: 261-271 **0.400**
535. ALI, A., SIDDIQUE, M.K. AND **SHAKOORI, A.R.**, 2013. Frequency of FLT3/ITD mutations in Pakistani acute myeloid leukemia patients. *Pakistan J. Zool.*, **45**: 495-501. **0.400**
536. RAUF, A., NADEEM, M.S., ARSHAD, M., RIAZ, H., LATIF, M.M., IQBAL, M., LATIF, M.Z., AHMED, N. AND **SHAKOORI, A.R.**, 2013. Prevalence of hepatitis B and C virus in the general population of Hill Surang area, Azad Jammu and Kashmir, Pakistan. *Pakistan J. Zool.*, **45**: 543-548. **0.400**
537. AHMAD, A., ZIAUDDIN, A. AND **SHAKOORI, A.R.**, 2013. Isolation and culture of human amniotic fluid stem cells (AFSCs). *Pakistan J. Hlth. Res.*, **1**: 32-35. **0.400**
538. SHAHZADI, A., SHAKOORI, F.R. AND **SHAKOORI, A.R.**, 2013. Immunoinformatics study of promiscuous HLA binding antigenic nanomers of surface glycoproteins of influenza A (H1N1) pdm09 of Asian origin. *Pakistan J. Zool.*, **45**: 733-740. **0.400**
539. QAMER, S., AHMED, F., ALI, S.S., AND **SHAKOORI, A.R.**, 2013. Effect of storage on various honey quality parameters of *Apis dorsata* honey from Nepal. *Pakistan J. Zool.*, **45**: 741-747. **0.400**
540. AHMAD, M.S. AND **SHAKOORI, A.R.**, 2013. Cloning and molecular characterization of *cry1Ca* and *cry1Cb* genes from locally isolated *Bacillus thuringiensis* strains. *Pakistan J. Zool.*, **45**: 759-767. **0.400**
541. BUKHARI, D.A., ZAHID, N. AND **SHAKOORI, A.R.**, 2013. Molecular characterization of *cry4B* gene from local isolates of *Bacillus thuringiensis* encoding 70kDa crystal protein. *Pakistan J. Zool.*, **45**: 779-791. **0.400**
542. AFTAB, N., MURTAZA, B.N., BIBI, A. AND **SHAKOORI, A.R.**, 2013. Association of sequence variation 713-8delC in intron 4 of transforming growth Factor β 1 gene and low bone mineral density in Pakistani female osteoporotic population. *Pakistan J. Zool.*, **45**: 847-855. **0.400**
543. SALEEM, F. AND **SHAKOORI, A.R.**, 2013. A rapid DNA extraction method for *Bacillus thuringiensis*. *Pakistan J. Zool.*, **45**: 1473-1475. **0.400**
544. AHMAD, A. **SHAKOORI, A.R.**, 2013. Cytotoxic and genotoxic effects of Arsenic and Lead on Human Adipose Derived Mesenchymal Stem Cells (AMSCs). *J. Stem Cells. Regen. Med.*, **9(2)**: 29-36. **0.400**
545. ALI, A., SIDDIQUE, M.K., GALE, R.E. AND **SHAKOORI, A.R.**, 2013. Frequency of NPM1 mutations in Pakistani acute myeloid leukemia patients. *Pakistan J. Zool.*, **45**: 1429-1436. **0.400**
546. AZIZ, I., RASHID, M.U., SULTAN, F. AND **SHAKOORI, A.R.**, 2013. Frequency of Pro allele on codon 72 of *TP53* in female breast cancer patients of Pakistan: Molecular stress or Geography. *Pakistan J. Zool.*, **45**: 1437-1446. **0.400**
547. SHUJA, R.N., TAIMURI, S.U., SHAKOORI, F.R. AND **SHAKOORI, A.R.**, 2013. Efficient expression of truncated recombinant cadmium-metallothionein gene of a ciliate, *Tetrahymena tropicalis lahorensis* in *Escherichia coli*. *Molec. Biol. Rep.*, DOI 10.1007/s1103-013-2827-5. **40**: 7061-7068. **1.958**

548. MURTAZA, B.N., BIBI, A., RASHID, M.U., KHAN, Y.I., CHAUDRI, M.S. AND **SHAKOORI, A.R.**, 2013. Spectrum of *K ras* mutations in Pakistani colorectal cancer patients. *Brazilian J. Med. Biol. Res.*, <http://dx.doi.org/10.1590/1414-431x20133046>. (2014) 47(1): 35-41, **1.958**
549. RAUF, A., NADEEM, M.S., RIAZ, H., LATIF, M.M., LATIF, M.Z., AHMED, N., AND **SHAKOORI, A.R.**, 2013 Tuberculosis and hepatitis infections among the underprivileged orphan children of Northern Pakistan. *Pakistan J. Zool.*, **45**: 1765-1770. **0.400**
550. AHMAD, A., SHAH, A. AND **SHAKOORI, A.R.**, 2013. Anti-proliferative effect of arsenic cadmium and lead on human placental cells. *RADS J. Biol. Res.Appl. Sci.*, **4**: 67-74
- Total IF for 2013** **11.116**
551. QAZI, W.M., IQBAL, Z., KHAN, M.S., REHAN, M., MUNIR, J., **SHAKOORI, A.R.**, AND NASIRUDDIN, 2014. GEARS: A genetic algorithm based machine learning technique to develop prediction models. *Pakistan J. Zool.*, **46**: 409-416. **0.404**
552. AHMAD, A., SHAH, A., AND **SHAKOORI, A.R.**, 2014. Anti-proliferative effect of arsenic, cadmium and lead on human placental chorion cells. *Pakistan J. Zool.*, **46**: 561-566. **0.404**
553. SAMI, A.J., ALI, M., **SHAKOORI, A.R.**, 2014. Growth promoting activity of crude protein extract of ruminant placental peptides. *Pakistan J. Zool.*, **46**: 580-583. **0.404**
554. NADEEM, S., NIAZ, B., RAJOKA, M.L., AL-GHANIM, K.A., MUZAMMIL, H.M., MAHBOOB, S., NADEEM, A., YOUSAF, S. AND **SHAKOORI, A.R.**, 2014. Optimizing different vitamins for L-Glutamic acid production by *Brevibacterium* strain NIAB SS59. *Pakistan J. Zool.*, **46**: 733-739. **0.404**
555. MUNIR, J., IQBAL, Z., SALEEM, M., SHAKOORI, F.R., MAHMOOD, Z., **SHAKOORI, A.R.** AND NASIR UD DIN, 2014. The 3D modeling and characterization of wild type and mutated *Plasmodium falciparum* cytochrome b: A computational approach. *Pakistan J. Zool.*, **46**: 841-851. **0.404**
556. HASHMI, A.H., AHMAD, N., RIAZ, S., ALI, L., SIDDIQI, S., KHAN, K.M., **SHAKOORI, A.R.** AND MANSOOR, A., 2014. Genotype CC of rs12979860 is providing protection against infection rather than assisting in treatment response for HCV genotype 3a infection. *Genes and Immunity*, (2014), 1-3. Doi:10.1038/gene.2014.31 **2.913**
557. AHMAD, A., TOOR, R.H., AFTAB, S., AND **SHAKOORI, A.R.**, 2014. Anti-proliferative and genotoxic effect of arsenic and lead on human brain cancer cell line. *Pakistan J. Zool.*, **46**: 1069-1076. **0.404**
558. SAMI, A.J., AND **SHAKOORI, A.R.**, 2014. Potential of Azadirachtin and neem (*Azadirachta indica*) based as biopesticides for *in vitro* insect pests cellulose (Beta 1,4 endoglucanase) enzyme inhibition and *in vivo* repellency on *Tribolium castaneum*. *British Biotechnol. J.*, **4**: 904-917.
559. SAMI, A.J. AND **SHAKOORI, A.R.**, 2014. Isolation of a growth hormone variant from pituitary of water buffalo *Bubalus bubalis* identical to GH from Sei Whale (*Balenoptera borealis*). *Proc. Pakistan Congr. Zool.*, **34**:
560. **SHAKOORI, F.R.**, TASNEEM, F., AL-GHANIM, K., MAHBOOB, S., AL-MISNEED, F., JAHAN, N. AND **SHAKOORI, A.R.**, 2014. Variability in secondary structure of 18S ribosomal RNA as topological marker for identification of *Paramecium* species. *J. cell. Biochem.*, DOI 10.1002/jcb.24885. *JCB* **115**: 2077-2088. **3.263**
561. SAMI, A.J., AHMAD, N., AND **SHAKOORI, A.R.**, 2014. Computational analysis of an acidic lipase of *Tribolium castaneum*. *Pakistan J. Zool.*, **46**: 805-812. **0.404**
562. NADEEM, S., NIAZ, B., RAJOKA, M.I., AL-GHANIM, K.A., MUZAMMIL, H.M., MSAHBOOB, S., NADEEM, A., YOUSAF, S. AND **SHAKOORI, A.R.**, 2014. Optimizing different vitamins for L-Glutamic Acid production by *Brevibacterium* strain NIAB SS59. *Pakistan J. Zool.*, **46**: 733-739. **0.404**
563. ALI, N.S., ALI, S.S. **SHAKOORI, A.R.**, 2014. Biochemical response of malathion-resistant and -susceptible adults of *Rhizopertha dominica* to the sublethal doses of deltamethrin. *Pakistan J. Zool.*, **46**: 853-861. **0.404**
564. AHMAD, A. AND **SHAKOORI, A.R.**, 2014. Anti-proliferative and genotoxic effects of arsenic and lead on human cells *in vitro*. *Toxicol. Environ. Hlth. Sci.*, DOI 10.1007/13530-014-0199-4. **6**(3): 148-154
565. ZAHID, M.T., SHAKOORI, F.R., ZULFIQAR, S., JAHAN, N. AND **SHAKOORI, A.R.**, 2014. A new ciliate species, *Tetrahymena farahensis*, isolated from the industrial wastewater and its phylogenetic relationship with the other members of the genus *Tetrahymena*. *Pakistan J. Zool.*, **46**: 1433-1445. **0.404**
566. IQBAL, Z., HOESSLI, D.C., QAZI, W.M., AHMAD, M., **SHAKOORI, A.R.**, AND NASIR-UD-DIN, 2014. Exploring the sequence context of phosphorylatable amino acids: The contribution of the upgraded MAPRes tool. *J. Cell. Biochem.*, DOI 10.1002/jcb.24983. *J. cell. Biochem.*, **116**: 370-379, 2015. **3.263**
567. SALEEM, F., ASLAM, R., SALEEM, Y., NAZ, S., SYED, Q., MUNIR, N., KHURSHID, N., **SHAKOORI, A.R.**, 2014. Analysis and evaluation of growth parameters for optimum production of polyhydroxybutyrate (PHB) by *Bacillus thuringiensis* strain CMBL-BT-6. *Pakistan J. Zool.*, **46**: 1337-1344. **0.404**
568. IQBAL, Z., HASSAN, M., MUNIR, J., MARIAM, I., SHAKOORI, F.R. AND **SHAKOORI, A.R.** AND NASIR UD DIN, 2014. Identification of novel dihydrofolate reductase inhibitor as potential antimalarial drug. *Pakistan J. Zool.*, **46**: 1263-1270. **0.404**

569. AHMED, B., AL-GHANIM, K., MAHBOOB, S., SHAKOORI, F.R., AND **SHAKOORI, A.R., 2014**. Plasmid profile analysis and antimicrobial resistance pattern of Shigella flexneri strains isolated from Azad Kashmir, Pakistan. *Pakistan J. Zool.*, **46**:1605-1616. **0.404**
570. SALEEM, F., YOUNAS, A., BASHIR, R., NAZ, S., MUNIR, N. AND **SHAKOORI, A.R., 2014**. Molecular cloning and characterization of *Exoichitinase A* gene of indigenous *Bacillus tghuringiensis* isolates. *Pakistan J. Zool.*, **46**:1491-1501. **0.404**
571. CHAUDHRY, R., CHAUDHRY, M.T., AL-GHANIM, K., MEHBOOB, S., AND **SHAKOORI, A.R., 2014**. Structure modeling of small subunit ribosomal RNA (SSU rRNA) of copoper resistant ciliates. *Pakistan J. Zool.*, **46**:1625-1632. **0.404**
572. MUNIR, J., IQBAL, Z., HOESLLI, D.C., **SHAKOORI, A.R.** AND NASIR –UD-DIN, 2014. *In silico* analysis of 2,4 substituted heterocycles and glutamic acid containing antifolates as inhibitors of malarial (*Plasmodium falciparum*) protein, dihydrofolate reductase- thymidylate synthase. *J. Proteom. Bioinform.*, **7** (11): 367-373. **15.499**
- Total IF for 2014**
573. AHMAD, A., AFTAB, S., TOOR, R.H., AND **SHAKOORI, A.R.**, 2015. Cytotoxic and genotoxic effect of arsenic and lead on rat mesenchymal stem cells (rMSCs). *Pakistan J. Zool.*, **47**: 41-47. **0.478**
574. AHMAD, A., ASHRAF, S. AND **SHAKOORI, A.R.**, 2015. Cytotoxic and genotoxic effects of arsenic and lead on primary human breast cancer cell lines. *Pakistan J. Zool.*, **47**: 79-87. **0.478**
575. ALI, S.A., JUSTILIEN, V., BUKHARI, S.Z.H., LEE, J. AND **SHAKOORI, A.R.**, 2015. Role of transcription regulatory complexes and epigenetic modifications in driving the cell fate decisions. *Pakistan J. Zool.*, **47**: 287-293. **0.478**
576. ASGHAR, M.T., AL-GHANIM, K., MAHBOOB, S., SHARIF, M., NAZIR, J., AND **SHAKOORI, A.R.**, 2015. *Sphingomonas* sp. is a novel cell culture contaminant. *J. cell. Biochem.*, DOI:10.1002/jcb.25044. JCB, **116**: 934-942. **3.446**
577. AHMAD, A., ASHRAF, S., AL-GHANIM, K., MEHBOOB, S., TOOR, R.H., AND **SHAKOORI, A.R.**, 2015.. Anti-proliferative effects of arsenic, cadmium and lead on rat pups brain cells. *Pakistan J. Zool.*, **47**: 515-522. **0.478**
578. KHAN, Z., HUSSAIN, S. Z., REHMAN, A., ZULFIQAR, S. AND **SHAKOORI, A. R.**, 2015. Evaluation of cadmium resistant bacterium, *Klebsiella pneumonia*, isolated from industrial wastewater for its potential use to bioremediate environmental cadmium. *Pakistan J. Zool.*, **47**: 1533-1543. **0.478**
579. SALEEM, F., NISAR, U., YOUNAS, A., JABEEN, F., QAZI, J.I., KHURSHEED, N., MUNIR, N., NAZ, S. AND **SHAKOORI, A. R.**, 2015. Molecular characterization of *Bacillus* chitinase for bioconversion of chitin waste. *Natural Product Research*, DOI:10.1080/14786419.2015.1040789. **30** (6): 720-723. **1.009**
580. RAMZAN, M., AIN, N.U., ILYAS, S., UMER, M., BANO, S., SARWAR, S., SHAHZAD, N., AND **SHAKOORI, A. R.**, 2015. A cornucopia of screening and diagnostic techniques for human papilloma virus associated cervical carcinoma. *J. Virol. Meth.*, **222**: 192-201. **2.011**
581. SAMI, A.J., JABBAR, B., AHMAD, N., NAZIR, M.T., AND SHAKOORI, A. R., 2015. In silico analysis of structure-function relationship of a neutral lipase from *Tribolium castaneum*. *Proc. Pakistan Congr. Zool.*, **35**:1-16. **8.856**
- Total IF for 2015**
582. ZAHID, M.T., SHAKOORI, F.R., ZULFIQAR, S., AHMAD, I., AL-GHANIM, K., MEHBOOB, S. AND **SHAKOORI, A. R.**, 2016. Molecular characterization of a copper metallothionein gene from a ciliate *Tetrahymena farahensis*. *J. cell. Biochem.*, DOI 10.1002/jcb.25484. *J. Cell. Biochem.*, **117**:1843-1854. **3.446**
583. MURTAZA, B.N., DOAK, S., MORGAN, C., NADEEM, M.S., AL-GHANIM, K.A. AND **SHAKOORI, A. R.**, 2016. A crosstalk between K ras (Kirsten Rat Sarcoma Viral Oncogene Homologue) and adherence molecule complex leads to disassociation of cells – a possible contribution towards metastasis in colorectal cancer. *J. Cell. Biochem.*, DOI 10.1002/jcb.25531 *J. Cell. Biochem.*, **117**:2340-2345. **3.446**
584. SAMI, A.J., BILAL, S., KHALID, M., SHAKOORI, F.R., REHMAN, F.U., AND **SHAKOORI, A. R.**, 2016. Effect of crude neem (*Azadirachta indica*) powder and Azadirachtin on the growth and acetylcholinesterase activity of *Tribolium castaneum* (Herbst) (Coleoptera:Tenebrionidae). *Pakistan J. Zool.*, **48**(3): 881-886. **0.491**
585. SALEEM, F., AMJAD, Q., KALEEM, A., ABDULLAH, R., IQTEDAR, M., NAZ, S. AND **SHAKOORI, A. R.**, 2016. In silico analysis of loop residues of the receptor binding domain of *Bacillus thuringiensis* Cry2Ac11 toxin. *Pakistan J. Zool.*, **48**(3): 821-828. **0.491**
586. MUNEER. B., LALI, T., IQBAL, M.J., SHAKOORI, F.R. AND **SHAKOORI, A. R.**, 2016. Arsenic processing of yeast isolates IIB-As1 and IIB-As2 and production of glutathione under stress conditions. *J. Basic Microbiol.*, DOI:10.1002/jobm.201600092 **1.585**
587. TASADDUQ, R., GORDON, J., AL-GHANIM, K.A., LIAN, J.B., VAN WIJNEN, A.J., STEIN, J.L., STEIN, G.S., AND **SHAKOORI, A. R.**, 2016. Ethanol extract of *Cissus quadrangularis* enhances osteoblast differentiation and mineralization of murine pre-osteoblastic MC3T3-E1 Cells. *J. Cell. Physiol.*, DOI: 10.1002/jcp.2525449. **4.155**
588. ANJUM, F., SHAKOORI, F.R., AL-GHANIM, K.A., AND **SHAKOORI, A. R.**, 2016. Effect of inorganic mercury on drug metabolizing enzymes of promethazine-pretreated and phenoibarbitone-pretreated male rabbit. *Pakistan J. Zool.*, **48**(5): 1485-1494. **0.491**
589. MUNEER. B., IQBAL, M.J., SHAKOORI, F.R. AND **SHAKOORI, A. R.**, 2016. Isolation, identification, and cadmium processing of *Pseudomonas aeruginosa* (EP-Cd1) isolated from soil contaminated with electroplating industrial wastewater. *Pakistan J. Zool.*, **48**(5): 1495-1502. **0.491**

590. KHAN, Z., REHMAN, A., HUSSAIN, S.Z., NISAR, M.A., ZULFIQAR, S. AND **SHAKOORI, A. R.**, 2016. Cadmium resistance and uptake by bacterium, *Salmonella enterica* 43C, isolated from industrial effluent. *AMB Expr* (2016)6:54. DOI 10.1186/s13568-016-0225-9 **2.167**
591. SAMI, A. J., KHALID, M., IQBAL, S., AFZAL, M. AND **SHAKOORI, A. R.**, 2016. Synthesis and application of chitosan-starch based nanocomposite in wastewater treatment for the removal of anionic commercial dyes. *Pakistan J. Zool.*, DOI <http://dx.doi.org/10.17582/journal.pjz/2016.xx.xxx.xxx>. **0.491**
592. ZAHID, A. AND **SHAKOORI, A. R.**, 2016. Frequency of E6 and E7 oncogenes of human papillomavirus types 16 and 18 in cervical cancer patients in Pakistani women. *Pakistan J. Zool.*, **48 (6)** : 1911-1917. **0.491**
593. QAYYUM, A., NAGI, A.H., MURTAZA, B.N. AND **SHAKOORI, A. R.**, 2016. Prevalence of colorectal adenocarcinoma in northern regions of Pakistan: A cross sectional study. *Pakistan J. Zool.*, **48 (6)** : 1885-1890. **0.491**
594. RAUF, A., NADEEM, M.S., KHAN, J.A., MUHAMMAD, K., AND **SHAKOORI, A. R.**, 2016. Highly immunogenic recombinant HBV core protein from Pakistani isolates: A potential candidate vaccine for hepatitis B in Pakistan. *Pakistan J. Zool.*, **48 (6)** : 1919-1924. **0.491**
595. SAMI, A.J., KHALID, M., MEHMOOD, A., HUSSAIN, T., AFTAB, S., AND **SHAKOORI, A.R.**, 2016. Fabrication of a model scaffold for bone tissue engineering using acrylamide and biopolymers. *Smposium Proceedings, (Interdiscip. Res. Cent. Biomed. Mater.)* ISSN 222-3029. Int. Symp. Biomed. Mater: Clin. REquirem. REgulat. Affairs. Pages
- Total IF for 2016 **18.727**
596. ALI, A., GALE, R.E. AND **SHAKOORI, A. R.**, 2017. Detection of FLT3/TKD and IDH1 mutations in Pakistani acute myeloid leukemia patients by denaturing HPLC. *J. Cell. Biochem.*, Volume 118, Issue 5, May 2017, Pages: 1174–1181, DOI 10.1002/jcb.25761. **3.085**
597. SAMI, A.J., KHALID, M., IQBAL, S., AFZAL, M. AND **SHAKOORI, A.R.**, 2017. Synthesis and Application of Chitosan-Starch Based Nanocomposite in Wastewater Treatment for the Removal of Anionic Commercial Dyes. *Pakistan J. Zool.*, **49**: 21-26. **0.547**
598. ADALAT, R., SALEEM, F., CRICKMORE, N., NAZ, S. and **SHAKOORI, A.R.**, 2017. In vivo crystallization of three-domain Cry toxins. *Toxins*, **9**,80; doi: 10.3390/toxins9030080 **3.030**
599. MUSHTAQ, R., BEHLE, R., LIU, R., NIU, L., SONG, P., **SHAKOORI, A.R.**, JURAT-FUENTES, J.L., 2017. Activity of *Bacillus thuringiensis* Cry1Ie2, Cry2Ac7, Vip3Aa11 and Cry7Ab3 proteins against *Anticarsia gemmatilis*, *Chrysodeixis includens* and *Ceratoma trifurcata*. *J. Inverteb. Pathol.*, **150**: 70-72. **2.198**
600. TASNEEM, F., SHAKOORI, F.R. AND **SHAKOORI, A.R.**, 2017. Phylogenetic relationship of locally isolated *Paramecium* species inferred from Histone H4 genes. *Pakistan J. Zool.*, **49**: 1767-1774. **0.547**
601. SALEEM, F. AND **SHAKOORI, A.R.**, 2017. The First Cry2AC-type protein toxic to *Helocoverpa armigera*: Cloning and overexpression of cry2Ac7 gene from SBS-BT1 strain of *Bacillus thuringiensis*. *Toxins*, **9**: 358;doi:10.3390/toxins9110358. **3.030**
602. SAMI, A.J., KHALID, M., FAROOQ, A., MEHMOOD, A. AND **SHAKOORI, A.R.**, Fabrication of novel formulated IPNs impregnated with placental growth hormone for proliferation of chondrocytes in tissue engineering applications. *Material & Design*
603. SAMI, A.J., KHALID, M., SHEHZAD, R., MUGHAL, S. AND **SHAKOORI, A.R.**, 2017. Purification and bioactivity of placental lactogen from water buffalo, *Bubalus bubalis*. *Pakistan J. Zool.*, **49**:2307-2312. doi: <http://dx.doi.org/10.17582/journal.pjz/2017.49.6.2307.2312> **0.547**
- Total IF for 2017 **12.984**
604. SAMI, A.J., KHALID, M., JAMIL, T., AFTAB, S., MANGAT, A.A., **SHAKOORI, A.R.**, AND IQBAL, S., 2018. Formulation of novel chitosan guar gum based hydrogels for sustained drug release of paracetamol. *Int. J. Biol. Macromol.*, **108**: 324-332. (IF 3.672) **3.672**
605. SAMI, A.J., BILAL, S., KHALID, M., NAZIR, M.T. AND **SHAKOORI, A.R.**, 2018 . A comparative study of inhibitory properties of saponins (derived from *Azadirachta indica*) for acetylcholinesterase of *Tribolium castaneum* and *Apis mellifera*. *Pakistan J. Zool.*, **50**: 725-733. doi : <http://dx.doi.org/10.17582/journal.pjz/2017.49> **0.790**
606. MUSHTAQ, R., **SHAKOORI, A.R.** AND JURAT-FUENTES, J.L., 2018. Domain III of Cry1Ac is critical to binding and toxicity against soybean looper (*Chrysodeixis includens*) but not to velvetbean caterpillar (*Anticarsia gemmatilis*). *Toxins*, **10**:95; doi:10.3390/toxins10030095 **3.895**
607. ZAHID, M.T., SHAKOORI, F.R., ZULFIQAR, S., AL-GHANIM, K.A. AND **SHAKOORI, A. R.**, 2018. Growth characteristics, metal uptake and expression analysis of copper metallothionein in a newly reported ciliate, *Tetrahymena farahensis*. *Pakistan J. Zool.*, **50**: 1171-1181. **0.790**
608. NADEEM, M.S., AHMAD, H., MOHAMMAD, K., MUHAMMAD, K., ULLAH, I., BOATHMAN, O.A.S., ALI, N., ANWAR, F., ZAMZAMI, M.A. AND **SHAKOORI, A. R.**, 2018. Identification of variants in the mitochondrial lysine-

- tRNA (*MT-TK*) gene in myoclonic epilepsy - pathogenicity evaluation and structural characterization by in silico approach. *J. cell. Biochem.*, DOI:10.1002/jcb.26857 **3.448**
609. SHAKOORI, F.R. RIAZ, T., RAMZAN, U., FERAZ, A. AND SHAKOORI, A.R., 2018. Toxicological Effect of Esfenvalerate on Carbohydrate Metabolizing Enzymes and Macromolecules of a Stored Grain Pest, *Trogoderma granarium*. *Pakistan J. Zool.*, 50: 2185-2192 **0.790**
610. ZAINAB, R., ELAHI, S., KALEEM, A., HOESSLI, D.C., IQTEDAR, M., ABDULLAH, R., SALEEM, F., KHAN, S., IJAZ, A., NAZ, S. AND SHAKOORI, A. R., 2018. Computational Pharmacophore Modelling of 5-HT_{2a} and D₂ Receptor Inhibitors of Schizophrenia. *Pakistan J. Zool.*, 50: 2331-2342 **0.790**
611. ADALAT, R., SALEEM, F., BASHIR, A., AHMAD, M., ZULFIQAR, S. AND SHAKOORI, A. R., 2018. Multiple upstream start codons (AUG) in 5' untranslated region enhance translation efficiency of *cry2Ac11* without helper protein. *J. cell. Biochem.* DOI: 10.1002/jcb.27534 **3.448**
612. TOOR, R., TASSADDUQ, R., ADHIKARI, A., CHAUDHARY, M.I., LIAN, J.B., STEIN, J.L., STEIN, G.S. AND SHAKOORI, A. R., 2018. Ethyl acetate and n-butanol fraction of *Cissus quadrangularis* promotes the mineralization potential of murine pre-osteoblast cell line MC3T3-E1 (sub-clone4). *Journal of cell. Physiol.* DOI:10.1002/jcp27707 **4.522**
J. Cell Physiol., 2019; 234:10300-10314.
- IF for 2018 22.145**
613. ZULFIQAR, S., SHEHZAD, K., TAHIR, S., AL-GHANIM, K.A. AND SHAKOORI, A. R., 2019. Dual role of multicopper oxidase of *Klebsiella pneumoniae* as a copper homeostatic element and novel alkaline laccase with potential application in green chemistry. *Pakistan J. Zool.*, **51**:107-115. **0.790**
614. KHALID, A., TAYYAB, M., SHAKOORI, A.R., HASHMI, A.S., YAQUB, T., AWAN, A.R., WASIM, M., FIRYAL, S., HUSAIN Z., AND RASHID, N., 2019a. Cloning, expression and characterization of highly active recombinant thermostable cellulase from *Thermotoga naphtholphila*. *Pakistan J. Zool.*, **51**:925-935. **0.790**
615. KHALID, A., TAYYAB, M., SHAKOORI, A.R., HASHMI, A.S., YAQUB, T., AWAN, A.R., WASIM, M., FIRYAL, S., SAEED, S., HUSAIN Z., AND RASHID, N., 2019b. Optimization of conditions for the maximal production of recombinant thermostable cellulase from *Thermotoga naphtholphila* using *E. coli* BL21 codonPlus (DE3) as expression host. *Pakistan J. Zool.*, **51**: 1371-1377. **0.790**
616. AFTAB, S. AND SHAKOORI, A.R., 2019. Low glucose availability alters the expression of genes involved in initial adhesion of human glioblastoma cancer cell line SF767. *J. cell. Biochem.* 2019; 1-16. DOI: 10.1002/jcb.28940 **3.448**
617. TOOR, R., MALIK, S., QAMAR, H., BATOOL, F., TARIQ, M., NASIR, Z., TASSADDUQ, R., LIAN, J.B., STEIN, J.L., STEIN, G.S. AND SHAKOORI, A. R., 2019. Osteogenic potential of hexane and dichloromethane fraction of *Cissus quadrangularis* on murine pre-osteoblast cell line MC3T3-E1 (sub-clone 4). *J. cell. Physiol.* DOI:10.1002/jcp.28869 **4.522**
618. NADEEM, M.S., RAZEETH, M., CHOUDHRY, H.M.Z., ANWAR, F., ZAMZAMI, M.A., MURTAZA, B.N., AL-ABBASI, F.A.M., KHAN, M.I. AND SHAKOORI, A. R., 2019. LC-MS/MS based metabolic profiling of *Escherichia coli* under heterologous gene expression stress. *J. cell. Biochem.* DOI:10.1002/jcb.28962 **3.448**
619. MURTAZA, B.N., CHAUDRY, M.S., NADEEM, S.I., NADEEM, M.S., AND SHAKOORI, A. R., 2019. Spotting rs112445441 in non-Hodgkin lymphoma: another clue for the context-dependent crosstalk between RAS-MAPK and P13K mediated pathways. *Pakistan J. Zool.*, DOI: <http://dx.doi.org/10.17582/journal.pjz/2019.51> **0.790**
620. NOREEN, A., REHMAN, A., AFTAB, S. AND SHAKOORI, A. R., 2019. Antiproliferative effect of oxidative stress induced by Tellurite in breast carcinoma cells. *J. Cancer Res. Pract.*, **6**: 68-75. DOI: 10.4103/JCRP.JCRP_5_19
621. MURTAZA, B.N., QAYUM, A., NADEEM, S.I., AL-MALIKI, N.A., ALAMRI, A., AND SHAKOORI, A. R., 2019. Conformational changes in wild type KRAS induced by two novel variants p.E31K and p.G138V. *Pakistan J. Zool.*, **51**: 0.791227-1233. **0.790**
- IF for 2019 23.338**
622. NADEEM, M.S., ZAMZAMI, M.A., CHOUDHRY, H., MURTAZA, B.N., KAZMI, I., AHMAD, H. AND SHAKOORI, A.R., 2020. Origin, potential therapeutic targets and treatment of Cronovirus diseases (COVID-19). *Pathogens*, 9:307; doi:10.3390.pathogens9040307 **3.018**
623. FERAZ, A., SHAKOORI, F.R., RIAZ, T. AND SHAKOORI, A.R., 2020. Development of resistance in stored grain pest, *Trogoderma granarium* (Everts) against deltamethrin and its effective control by synergistic toxicity of bifenthrin and chlorpyrifos. *J. Stored Grain Res.*, <https://doi.org/10.1016/j.jspr.2020.101673> **2.123**
624. KHALID, Z., YOUSAF, M.A., KHAN, A., SHAKOORI, F.R., MUNIR, M. AND SHAKOORI, A. R., 2020. Debunking Myths about COVID-19, Paranoiac Misconceptions, Recent Developments and its Current Stance. *Pakistan J. Zool.*, <https://dx.doi.org/10.17582/journal.pjz/20200608144416> **0.790**

625. FEROUZ, A., **SHAKOORI , A.R. AND** SHAKOORI, F.R., 2020. Effect of Sublethal Doses of Bifenthrin and Chlorpyrifos Administered Alone and in Combinations on Esterases of Stored Grain Pest, *Trogoderma granarium*. *Pakistan J. Zool.*, <https://dx.doi.org/10.17582/journal.pjz/20200501083425> **0.790**
626. TASNEEM, F., SHAKOORI, F.R., ILYAS, M., SHAHZAD, N., POTEKHIN, A., AND **SHAKOORI , A.R., 2020.** Genetic diversity of *Paramecium* species on the basis of multiple loci analysis and ITS secondary structure models. *J. Cell. Biochem.*, 121:3837-3853. DOI: 10.1002/jcb.29546 **4.237**
627. MUNIR, T., JAVED, M., TASNEEM, F., ASLAM, B., ALI, M., MUTAHIR, Z., ALI, M.A., UMER M., AHMAD, M., FAROOQ, K., HASSAN, U., MUSTAFA, T., ANJUM, R.S., AND **SHAKOORI , A.R., 2020.** SHISA3, an antagonist of the Wnt/ β -catenin signaling, is epigenetically silenced and its ectopic expression suppresses growth in breast cancer. *PLoS ONE*, <https://doi.org/10.1371/journal.pone.0236192> **2.776**
- 628.

IF for 2020 13.734

Total IF so far 392.35

B) TECHNICAL REPORTS OF RESEARCH PROJECTS

1. MUFTI, S.A., **SHAKOORI, A.R.** AND GILL, N., 1978. Heterotopic transplantation of entire muscles in mammals. First Technical Report of **Project PSF/RES/P-PU/BIO (75)**, pages 32.
2. MUFTI, S.A., **SHAKOORI, A.R.** AND GILL, N., 1979. Heterotopic transplantation of entire muscles in mammals. Final Technical Report of **Project PSF/RES/P-PU/BIO (75)**, pages 103.
3. **SHAKOORI, A.R.** AND ALI, S.S., 1981. Morphological and metabolic hazards of chlorinated insecticides on small mammals in Pakistan. First Annual Technical Report of **Research Project PSF/RES/P-PU/BIO (93)**, pages 63.
4. **SHAKOORI, A.R.** AND ALI, S.S., 1982. Morphological and metabolic hazards of chlorinated insecticides on small mammals in Pakistan. Second Annual Technical Report of Pakistan Science Foundation **Research Project No. P-PU/BIO (93)**, pages 151.
5. **SHAKOORI, A.R.** AND ALI, S.S., 1984. Morphological and metabolic hazards of chlorinated insecticides on small mammals in Pakistan. Final Technical Report of Pakistan Science Foundation **Research Project No. P-PU/BIO (93)**, pp 444.
6. **SHAKOORI, A.R.** AND ALI, S.S., 1986. Effect of lead and cadmium on fish, *Cirrhina mrigala*. First Technical Report of Pakistan Science Foundation **Research Project No. P-PU/BIO (121)**.
7. **SHAKOORI, A.R.**, 1986. Biochemical effects of synthetic pyrethroids on *Tribolium castaneum*. First quarterly Technical Report of **UGC Research Project**.
8. **SHAKOORI, A.R.**, 1987. Biochemical effects of synthetic pyrethroids on *Tribolium castaneum*. Second quarterly Technical Report of **UGC Research Project**.
9. **SHAKOORI, A.R.** AND ALI, S.S., 1987. Effect of lead and cadmium on fish, *Cirrhina mrigala*. Second Technical Report of Pakistan Science Foundation **Research Project No. P-PU/BIO (121)**.
10. **SHAKOORI, A.R.**, 1988. Biochemical effects of synthetic pyrethroids on *Tribolium castaneum*. Final Technical Report of **UGC Research Project**.
11. **SHAKOORI, A.R.**, 1988. Effect of lead and cadmium on fish, *Cirrhina mrigala*. Final Technical Report of PSF research **project No. PPU/Bio(121)**.
12. **SHAKOORI, A.R.**, AZIZ, F., ASLAM, F., SABIR, N. AND ALAM, J., 1991. Pyrethroid induced macromolecular abnormalities and their effects on growth in chicks of *Gallus domesticus*. First Annual Technical Report of **NSRDB Research Project Un-Lhr-05**.
13. **SHAKOORI, A.R.**, 1991. Electrophoretic studies on esterases of *Tribolium castaneum*: A Correlation with Insecticide Resistance. First Technical **Report UGC Sponsored Research Project**, pp. 31.
14. **SHAKOORI, A.R.**, AZIZ, F., ASLAM, F. AND ALAM, J. 1992. Pyrethroid induced macromolecular abnormalities and their effects on growth in chicks of *Gallus domesticus*. Second Annual Technical Report of **NSRDB Research Project Un- Lhr-05**.
15. **SHAKOORI, A.R.**, SHAKOORI, F.R. AND AHSAN, M., 1998. Assessment of physiological and genetic defects in human population exposed to industrial pollutants in the industrial area of district Kasur, Pinjab, Pakistan. Final Technical Report of the PSF Research Project P-PU/Envr (36), pp. 171.
16. SAMI, A.J. AND **SHAKOORI, A.R.**, 2007. Role of pest's cellulases in crop damage. Screening of local insect pests for cellulose enzyme activity and its characterization. First Annual Technical Report of research project funded by Higher Education Commission, Pakistan under National Research Grants Program for Universities, pp. 120.

17. SAMI, A.J. AND **SHAKOORI, A.R., 2008**. Role of pest's cellulases in crop damage. Second Annual Technical Report of research project funded by Higher Education Commission, Pakistan under National Research Grants Program for Universities, pp. 107.
18. SAMI, A.J. AND **SHAKOORI, A.R., 2009**. Role of pest's cellulases in crop damage.. Final Technical Report of research project funded by Higher Education Commission, Pakistan under National Research Grants Program for Universities, pp. 102.
19. **SHAKOORI, A.R. AND NASIRUDDIN, 2011**. Final Technical Report of PAS project "Expression and characterization of metallothionein proteins: Multifunctionality of proteins and post translational modification of carboxyl group in protein". Pp.116.
20. **SHAKOORI, A.R., 2017**. First Annual Technical Report of PAS Research Project entitled "osteogenic Potential of a Local Herb *Cissus quadrangularis*: Development of Potential Drug for Osteoporosis" pp. 55.
21. **SHAKOORI, A.R., 2018**. Second Annual Technical Report of PAS Research Project entitled "Osteogenic Potential of a Local Herb *Cissus quadrangularis*: Development of Potential Drug for Osteoporosis" pp. 42.
22. **SHAKOORI, A.R., 2019**. Final Annual Technical Report of PAS Research Project entitled "Osteogenic Potential of a Local Herb *Cissus quadrangularis*: Development of Potential Drug for Osteoporosis" pp. 55.
- 23.

C) THESES WRITTEN BY ME

1. Anatomy of *Caenestheria propinqua* (Sars) 1962; M.Sc. degree; supervisor: **Prof. Dr. Muhammad Saleem**, Department of Zoology, Government College, Lahore).
2. Eine neuartige Methode zur Isolierung von Nucleolen aus tierischen Zellen (1972; Dr. rer. nat. (=Ph.D.) degree; Supervisor: **Prof. Dr. Gunther Siebert**, Institut für biologische Chemie und Ernährungswissenschaft, Universität Hohenheim, Stuttgart, West Germany).

D) THESES WRITTEN UNDER MY SUPERVISION

1. **Nasir Javaid Mian**: Biochemical and cytological effects of thioacetamide on kidney of rabbit (**M.Sc., 1973**).
2. **Mah-e-Drakhshan**: Biochemical and cytological effects of thioacetamide on liver of mouse (**M.Sc., 1973**).
3. **Fauzia Ashraf**: Biochemical and cytological effects of some insecticides on kidney on mouse (**M.Sc.; 1974**).
4. **Abdul Waheed**: Biochemical and cytological effects and gamma radiations on chick liver (**M.Sc.; 1974**).
5. **Saeed Ahmad Khan**: Effect of thioacetamide on the histology of liver and kidney in rabbit (**M.Sc.; 1974**).
6. **Saleem Akhtar Zaheer**: Studies on blood serum protein: an electrophoretic study (**M.Sc. Hons., 1974**).
7. **Umbreen Butt**: Morphological effects of thioacetamide on the development of *Drosophila* sp. (**M.Sc. Hons.; 1975**).

8. **Anis Bukhtiar:** Biochemical effects of thioacetamide on the development of *Drosophila* sp. (M.Sc. Hons.; 1975).
9. **Waseem Ahmad Shah:** Studies on blood serum proteins in chick (M.Sc. Hons, 1974).
10. **Farkhanda Malik:** Biochemical effects of opium and charas on various organs of mouse (M.Sc., 1977).
11. **Lutufullah Virk:** Biochemical effects of cannabis on various organs of mouse (M.Sc., 1977).
12. **Mohammad Zahid Butt:** Inhibition of development of *Musca domestica* in the presence of thioacetamide-morphological studies. (M.Sc., 1979).
13. **Amina Parveen:** Inhibition of development of *Musca domestica* in the presence of thioacetamine-Biochemical studies (M.Sc., 1979).
14. **Riazul-Haq:** Biochemical and haematological changes induced by starvation and refeeding in blood and liver of rabbit (M.Sc.; 1980).
15. **Yasmin G. Rasool:** Effect of long term feeding of dieldrin on the blood and liver of rats (M.Sc.; 1980).
16. **Arshad Imtiaz Cheema:** Effect of weak doses of thioacetamide on the molecular readjustment after partial hepatectomy in rabbit blood serum (M.Sc. 1981)
17. **Afzal Rani:** Biochemical and histological changes in the regenerating liver after thioacetamide treatment of partially hepatectomized rabbit (M.S.; 1981).
18. **Mohammad Zafar Iqbal:** Saccharin induced hepatotoxicity in mice. (M.Sc.; 1981).
19. **Tasnim Amir Raza:** Cytological studies of adenohipophysis in normal and experimental animals-Detailed study of the effect of PTU on thyrotrophos. (M. Phil.; 1977).
20. **Mansoob Ahmad Khan:** Changes induced by ligation of common bile duct on the histological structure of rat liver (M. Phil.; 1977).
21. **Nighat Rizvi:** Covalent binding of thioacetamide with nucleic acids and nucleosides: spectrophotometric studies (M.Sc. 1982).
22. **Mohammad Amir Khattak:** Covalent binding of thioacetamide with nucleic acids - electrophoretic studies (M.Sc., 1982).
23. **Riaz Ahmad:** Isolation of *Micrococcus luteus* mutants resistant to alkylating chemicals (M.Sc., 1982).
24. **Mushtaq Ahmad:** Isolation of *Micrococcus luteus* mutants sensitive to alkylating chemicals (M.Sc., 1982).
25. **Nahid Kausar:** Effect of anabolic steroid (dimethazine) on the regeneration of liver after partial hepatectomy in male rabbits: studies on liver (M.Sc., 1982).
26. **Tallat Anwer Afridi:** Effect of anabolic steroids on the regeneration of liver after partial hepatectomy in male rabbits: studies on blood (M.Sc., 1982).
27. **Bushra Chaudhry:** Repair of O2 methylated thymine in bacteria (M.Sc., 1984).
28. **Nayyar Abbas Mirza:** Repair of O4 methylated thymine in bacteria (M.Sc., 1983).
29. **Maisa Ejaz:** Scanning of bacteria for restriction endonucleases (M.Sc., 1983).
30. **Nasima Kausar:** Effect of anabolic steroid on some enzymes of partially hepatectomized rabbit blood serum. (M.Sc., 1983).
31. **Sharifa Bibi:** Effect of anabolic steroid on some enzymes of liver of partially hepatectomized rabbit (M.Sc., 1983).
32. **Riffat Bashir:** Effect of synthetic pyrethroids on the developing chick embryo liver (M.Sc., 1983).
33. **Mohammad Fayyaz:** Effect of synthetic pyrethroids on the stored garin pests *Tribolium castaneum* (M.Sc., 1983).

34. **Yasmeen Akhtar:** Expression of locally isolated plasmid in *Micrococcus luteus*. (M.Sc., 1984).
35. **Tallat Rana:** Possible covalent binding of DNA with thioacetamide (M.Sc., 1984).
36. **Farzana Haq:** Analysis of locally isolated bacteria for the presence of restriction endonucleases (M.Sc., 1984).
37. **Raufa Akhtar:** Biochemical characterization of locally isolated indigenous strains of *Rhizobium* species (M.Sc., 1984).
38. **Najma Shaheen:** Effect of synthetic pyrethroid on the liver function tests of developing chicks (M.Sc., 1984).
39. **Khawaja Abdul Mujeeb:** Toxic effects of lead on the liver and muscle of a freshwater fish (M.Sc., 1985).
40. **Mohammad Zahoor Malik:** Biochemical effects of cyhalothrin on *Tribolium* (M.Sc., 1985).
41. **Farah Naz:** Effects of thioacetamide on the growth of bacteria; isolation of possible mutants (M.Sc., 1985).
42. **Faraha Khaggah:** Biochemical effects of cadmium on blood serum and liver of *Gallus domesticus* (M.Sc., 1985).
43. **Shabnam Saeed:** Biochemical effects of a synthetic pyrethroid on *Tribolium* larvae (M.Sc., 1985).
44. **Ghazala Nasreen:** Synergistic effects of malathion and Danitol on the adults of *Tribolium castaneum* (M.Sc., 1986).
45. **Tanveer Ali:** Effect of cadmium on liver and muscle of *Cirrhina mrigala* (M.Sc., 1986).
46. **Kokab Raheela:** Effect of heavy metals (mercury) on biochemical components of regenerating liver following partial hepatectomy in rabbits (M.Sc., 1986).
47. **Ghazala Mahjabeen:** Effect of heavy metal (mercury) on the liver function tests during regeneration following partial hepatectomy (M.Sc., 1986).
48. **Amir Akhtar Malik:** Covalent binding of thioacetamide with DNA - *in vivo* studies (M.Sc., 1986).
49. **Uzma Butt:** Effect of danitol on blood of domesticated rabbits. (M.Sc., 1987).
50. **Raheela Riffat:** Effect of danitol on biochemical components and histological structure of liver of rabbits. (M.Sc., 1987).
51. **Zulfqar Ali Saqib:** Effect of Polytrin C on *Tribolium castaneum*. (M.Sc., 1987).
52. **Mohammad Ayub Qureshi:** Effect of zinc on liver and muscle of grass carp. (M.Sc., 1987).
53. **Akbar Ali Cheema:** Studies on inhibition of acetylcholinesterase of vertebrates by organophosphorus insecticides: acetylcholinesterase of goat brain (Ph.D., 1987).
54. **Najamunnisa Gill:** Studies on autotransplantation of entire skeletal muscles in mammals (Ph.D., 1987).
55. **Farkhanda Malik:** Toxicological effects on deltamethrin on blood and liver of *Gallus domesticus*. (M.Phil., 1988).
56. **Mohammad Javaid Iqbal:** Toxic effects of mercuric chloride on Chinese grass carp, *Ctenopharyngodon idella*. (M.Phil., 1988).
57. **Figar Ahmad:** Toxic effects of danitol on chinese grass carp, *Ctenopharyngodon idella*. (M.Phil., 1988).
58. **Abdul Latif:** Toxic effects of fenvalerate on chinese grass carp, *Ctenopharyngodon idella* (M.Phil., 1988).
59. **Munazzah Sabir:** Effects of Karate (a pyrethroid) on some macromolecular composition of blood of rabbits (M.Sc., 1989).
60. **Jabeen Alam:** Toxic effects of a pyrethroid bifenthrin of the liver of rabbits: Biochemical and histological studies (M.Sc., 1989).

61. **Fauzia Aslam:** Biochemical and histological effects of Karate on the liver of rabbit, *Oryctolagus cuniculus* (M.Sc. 1989).
62. **Farah Aziz:** Toxicological effects of Talstar (Bifenthrin) on haematological and biochemical composition of blood of rabbit *Oryctolagus cuniculus* (M.Sc., 1989).
63. **Sajida Rehman:** Identification, characterization and metal tolerance studies of a locally isolated *Rhodotorula* strain (M.Sc., 1989).
64. **Yasmin Akhtar:** Isolation and restriction analysis of *Thiobacillus ferrooxidans* DNA (M.Sc., 1989).
65. **Salma Muzaffar:** Toxicological effects of bifenthrin on the liver and muscles of chick, *Gallus domesticus* (M.Sc., 1989).
66. **Syed Ata ur Rehman Rizvi:** Effects of aflatoxin in poultry (Ph.D., 1988).
67. **Syed Shahid Ali:** Morphological and biochemical hazards caused by some organochlorinated insecticides on blood and liver of rat (Ph.D., 1989).
68. **Mushtaq A. Saleem:** Toxicological studies on synthetic pyrethroids against red flour beetle *Tribolium castaneum* (Herbst.) (Coleoptera: Tenebrionidae) (Ph. D., 1989).
69. **Shah Bano Mujeeb:** Effects of pyrethroid insecticides on the growth and toxicity of *Bacillus thuringiensis*. (M.Sc., 1990).
70. **Anila Iftikhar:** Effects of thioacetamide, MNNG and heptachlor on the growth and toxicity of *Bacillus thuringiensis*. (M.Sc., 1990).
71. **Mohammadn Mansha:** Analysis and characterization of heat shock proteins in *Bacillus thuringiensis*. (M.Sc., 1990).
72. **Amjad Javed:** Isolation and characterization of plasmids in different bacteria (M.Sc., 1990).
73. **Samira Agha:** Toxic effects of a synthetic pyrethroid on *Tribolium castaneum* larvae. (M.Sc., 1990).
74. **Sofia Noreen:** Electrophoretic evaluation of esterases induced by insecticides in *Tribolium castaneum*. (M.Sc., 1990).
75. **S. Sohail Razal Jaffri:** Toxic effects of a synthetic pyrethroid on a freshwater fish. (M.Sc., 1990).
76. **Farah Anjum:** Effects of heavy metals on drug metabolizing enzymes in rabbits. (Ph.D., 1991).
77. **Naveeda Tufail:** Toxicological effects of synthetic pyrethroids on red flour beetle, *Tribolium castaneum* (Herbst). (Ph.D., 1991).
78. **Namana Gulrukh Bhatti:** Toxicity of Trebon (insecticide) on *Tribolium castaneum*. (M.Sc., 1991).
79. **Saima Tariq:** Induction of heat shock proteins in *Bacillus thuringiensis*. (M.Sc., 1991).
80. **Sameera Rashid:** Isolation and characterization of plasmid from clinically important bacterial isolates from local hospital. (M.Sc., 1991).
81. **Anila Iftikhar:** Isolation and characterization of plasmids of *Bacillus thuringiensis*. (M.Sc., 1991).
82. **Ghazala Yasmeen:** Electrophoretic studies on esterase of chick blood (M.Sc., 1991).
83. **Mohammad Ilyas:** Effect of insecticide (Trebon 30EC) on blood serum proteins of fresh water fish, *Cirrhina mrigala*. (M.Sc., 1991).
84. **Mohammad Younus:** Biochemical analysis of pericardial fluid in chicks of *Gallus domesticus* suffering from hydropericardium syndrome (M.Sc., 1992).
85. **Mohammad Amin:** Toxic effects of cadmium chloride on the haematology of fish *Tilapia mossambica* (M.Sc., 1992).
86. **Munazza Kaukab:** Electrophoretic studies on the total proteins of sporulating and non-sporulating *Bacillus thuringiensis* (M.Sc., 1993).
87. **Sadia Durrani:** Toxic effects of a synthetic pyrethroid on the red flour beetle, *Tribolium castaneum* (M.Sc., 1993).

88. **Fareeha Khaliq:** Studies on esterases of *Tribolium castaneum* (M.Sc., 1993).
89. **Kokab Malik:** Studies on cadmium induced proteins in *Bacillus thuringiensis* (M.Sc., 1993).
90. **Nighat Naheed:** Studies on thermo-induced proteins in freshwater fish (M.Sc., 1993).
91. **Waseem Tufail:** Isolation and characterization of plasmids of antibiotic resistant *Bacillus thuringiensis* (M.Sc., 1993).
92. **Shazia Rab:** Biochemical analysis of pericardial fluid of chicks suffering from hydropericardium syndrome (M.Sc., 1993).
93. **Hamid Raza:** Isolation and characterization of plasmids of antibiotic resistant *Shigella* (M.Sc., 1993).
94. **Waseem Tufail:** Isolation and characterization of plasmids of antibiotic resistant *Bacillus thuringiensis* (M.Sc., 1993).
95. **Dinar Shah:** Biochemical analysis of muscles of farmed and wild freshwater edible fishes (M.Sc., 1994).
96. **Najeeba Ali:** Induction of metallothioneins by lead acetate in *Bacillus thuringiensis* (M.Sc., 1994).
97. **Nargis Riaz:** Effect of synthetic pyrethroid on the growth of *Bacillus thuringiensis* (M.Sc., 1994).
98. **Bushra Khan:** Analysis of esterases during development of malathion resistant and susceptible strains of *Tribolium castaneum* (M.Sc., 1994).
99. **Shabnam Younas:** Analysis of esterases during different developmental stages of FSS II, CTC 12 and PAK strain of *Tribolium castaneum* (M.Sc., 1994).
100. **Hajira Mujib:** Effect of Deltaphos on the esterases of adult beetles of *Tribolium castaneum* (M.Sc., 1995).
101. **Huma Latif:** Effect of Decis-D on the esterases of adult beetles of *Tribolium castaneum* (M.Sc., 1995).
102. **Kanwal Naeem:** Effect of Decis-D on the esterases of sixth instar larvae of *Tribolium castaneum* (M.Sc., 1995).
103. **Nadia Bajwa:** Effect of Deltaphos on the esterases of sixth instar larvae of *Tribolium castaneum* (M.Sc., 1995).
104. **Munazza Makhdoom:** Isolation of chromium resistant bacteria and study of their ability to reduce chromium (M.Sc., 1995), 105. **Naheed Iftikhar:** Isolation of different species of *Bacillus* from soil samples and their evaluation as bioinsecticide (M.Sc., 1995).
105. **Muhammad Amin Shaikh:** Epidemiology of haemorrhagic septicaemia in buffaloes (Ph.D., 1995).
106. **Zafar Iqbal Chaudhary:** Effects of aflatoxicosis on chick muscles, fat and bone growth and possible reversal of aflatoxicosis by nandrolone-decanoate (Ph.D., 1995).
107. **Riaz ul Haq:** A study on the growth and genome organization of *Thiobacillus ferrooxidans* (Ph.D., 1996).
108. **Sajida Rehman:** Osteocalcin gene identification of multiple copies, genomic organization and tissue specific expression (Ph.D., 1996).
109. **Neelum Moizuddin:** Solar induced skin damage and protective effect of anti-oxidants in hairless mice and human volunteers (Ph.D., 1996).
110. **Farah Aziz:** Cell cycle control of human H4 histone gene transcription: contribution of cis, acting elements and coagunate histone nuclear factors. (Ph.D., 1996).
111. **Fauzia Aslam:** Structural and functional analysis of glycocorticoid responsive elements in osteocalcin gene promotor. (Ph.D., 1996).
112. **Farhana Riaz Chaudhry:** Isolation of cadmium tolerant bacteria from industrial effluents. (M.Sc., 1996).

113. **Summra Gill:** Isolation of salt tolerant bacteria from soil samples. (M.Sc., 1996).
114. **Salma Afroz:** Isolation of different species of bacteria from soil samples and their evaluation as bioinsecticides. (M.Sc., 1996).
115. **Faiza Anwar:** Isolation of hydrocarbon degrading bacteria from industrial waste. (M.Sc., 1996).
116. **Shazia Tahseen:** Isolation and characterization of chromium tolerant bacteria from industrial effluents. (M.Sc., 1996).
117. **M. Hamid Rashid:** Purification and characterization of native proteolytically nicked and chemically modified beta glucosidase from *Aspergillus niger* (Ph.D., 1997).
118. **Birjis Zahra:** Isolation and characterization of hydrocarbon degrading bacteria. (M.Sc., 1997).
119. **Asifa Shamim:** Isolation and characterization of yeast for their possible use in cleaning toxic hydrocarbons from environment (M.Sc. 1997).
120. **Zill-i-Huma:** Isolation and characterization of lead resistant yeast from industrial effluents (M.Sc. 1997).
121. **Saeed Anwar:** Isolation of Bacillus species from soil samples and their evaluation as bio-insecticides (M.Sc. 1997).
122. **Asma Choudhary:** Isolation and characterization of insecticide degrading bacteria from soil and industrial effluents (M.Sc. 1997).
123. **Firdaus Kazmi:** Toxicological and biochemical consequences of exposure of the rat to organophosphate pesticides (Ph.D., 1998) (in collaboration with Quaid-i-Azam University, Islamabad)
124. **Bushra Munir:** Isolation and characterization of copper resistant bacteria isolated from the industrial effluents (M.Sc., 1998) 126. **Romana Jamil:** Isolation and characterization of insecticide degrading yeast from soil samples (M.Sc. 1998).
125. **Nazra Jabeen:** Role of lead resistant yeast strains isolated from industrial effluents of tanneries in waste water treatment (M.Sc., 1998).
126. **Saima Munir:** Isolation and characterization of insecticide degrading yeast from soil samples (M.Sc., 1998).
127. **Mamoona Ishaq:** Toxicity of Fenvalerate to different developmental stages of three different strains of *Tribolium castaneum* (M.Sc., 1998).
128. **Mohammad Ashraf Mirza:** Immune responses against bacterial invasion in *Labeo rohita* (Hamilton) (Ph.D., 1999).
129. **Fatima Qureshi:** Isolation of cadmium resistant bacteria from industrial effluents and their use in environmental clean up. (M.Sc. 1999).
130. **Saba Jawed:** Seasonal variation in number and activity of chromium resistant bacteria in industrial effluents. (M.Sc. 1999).
131. **Shaista Jabeen:** Isolation and characterization of cadmium resistant yeast from industrial wastes. (M.Sc. 1999).
132. **Saadia Ismail:** Effect of pyrethroid (Alpha cypermethruin) on esterases of larvae and 10 days old adults of three different strains of *Tribolium castaneum*. (M.Sc. 1999).
133. **Sumble Zulfikar:** Effect of synthetic pyrethroid (Fury) esterases of adults of six different strains of *Rhyzopertha dominica*. (M.Sc. 1999).
134. **Hafsah Nabeel:** Histological changes induced by hexavalent chromium on kidneys of albino mice (M.Phil. 2000).
135. **Amjad Javed:** AML as transcriptional regulator and osteoblast differentiation mediator (Ph.D., 2000).

136. **Khawaja Abdul Mujeeb**; Studies on insecticide resistance in *Tribolium castaneum* (herbst). (Ph.D., 2000).
137. **Qaisera Latif**: Microbiological assessment of drinking water in campus of Punjab University (M.Sc., 2000)..
138. **Shazia Ghafoor**: Isolation and characterization of lead resistant bacteria and their possible use in bioremediation. (M.Sc., 2000).
139. **Humairah Farooq**: Isolation and characterization of mercury resistant yeast and their possible use in bioremediation. (M.Sc., 2000).
140. **Nadia Khalid**: Isolation and characterization of cadmium resistant bacteria and their role in bioremediation. (M.Sc., 2001).
141. **Saba Sattar**: Isolation and characterization of zinc resistant bacteria and their role in bioremediation. (M.Sc., 2001).
142. **Beenish Bashir**: Effect of insecticide on the microsomal esterases of *Tribolium castaneum*. (M.Sc., 2001).
143. **Adeela Tariq Qureshi**: Insecticide resistant yeast and its role in environmental clean up. (M.Sc., 2001).
144. **Shumyla Sarwar**: Isolation and characterization of cadmium resistant yeast and their role in bioremediation. (M.Sc., 2001).
145. **Amir Rafiq**: Isolation and characterization of zinc resistant bacteria from industrial effluents and their role in bioremediation. (M.Sc., 2001).
146. **Kiran Khawaja**: Isolation and characterization of Nickel resistant bacteria from industrial effluents and their use in bioremediation process. (M.Sc., 2001).
147. **Shahid Nadeem**: Bacterial isolates and their improvements for better amino acid fermentation for glutamine and lysine (Ph.D., 2002).
148. **Khalil Ahmed**: Study on the common bacterial etiological agents of diarrhoea and dysentery in the Northern Area of Pakistan and their sensitivity pattern. (Ph.D., 2002)
149. **Syed Kaleem Zaidi**: Role of interacting proteins in CBF/AML/PEPB2 mediated gene regulation. (Ph.D., 2002).
150. **Noreen Shakoor**: Metal resistant and metal accumulation efficiency of yeast capable of growing in media containing iron or sulphur (M.Sc., 2002).
151. **Farhan Saboor**: Effect of pH on uptake of heavy metals by lead resistant bacterial isolates and heavy metal precipitation. (M.Sc., 2002).
152. **Farhana Saleem**: Isolation and characterization of nickel resistant yeast from industrial waste and their role in bioremediation of waste water (M.Phil., 2002)
153. **Muhammas Yasir Arafat Khan**: Isolation and characterization of zinc resistant yeast from industrial waste and their role in bioremediation of waste water (M.Phil., 2002).
154. **Saba Khaliq**: Isolation and characterization of hydrocarbon resistant bacteria (M.Sc., 2003)
155. **Sidra Tauqir**: Isolation and characterization of manganese resistant bacteria and their role in bioremediation. (M.Sc., 2003)
156. **Nazish Mazhar Ali**: The study of bacterial fauna of local honey (M.Phil., 2003)
157. **M. Shehzad**: Isolation and characterization of silver resistant bacteria and their role in environmental clean up (M.Phil., 2003).

158. **Nazia Khurshid** : Studies on the locally isolated strains of *Bacillus* for their possible use as bioinsecticides (Ph.D., 2003)
159. **Ishtiaq Ahmad** : The role of protein modifications by sugars and phosphate in their structure-function behaviour: A computer assisted study in selectins (M.Phil, 2003).
160. **Muhammad Mashhood Ahsan**: Biochemical and haematological abnormalities in human population exposed to hexavalent chromium in effluents of tanneries in industrial area of district Kasur (Ph.D., 2003)
161. **Ali Muhammad**: Toxicological effects of industrial effluents dumped in River Kabul on Mahaseer, *Tor putitora* at Aman Garh Industrial Area, Nowshehra, Peshawar, Pakistan (Ph.D., 2004)
162. **Samina Qamar**: Biochemical analysis of honey with particular reference to the variety of free amino acids from *Zizyphus jujoba* (Ph.D., 2004)
163. **Nadia Dar**: Studies on yeast strains isolated from industrial areas of Pakistan for detoxification of heavy metals (Ph.D., 2004) 166. **Zulfikar Ali Saqib** :Studies on insecticide degrading bacteria (Ph.D., 2004)
164. **Jahanzaib**: Diagnosis and prevalence of *Trypanosoma evansi* in camels through polymerase chain reaction and haematocrit centrifugation technique in Punjab (Pakistan) (M.Sc. Hons Pathology, 2005)
165. **Muhammad Asif Muieed**: Comparative studies on the sensitivity of polymerase chain reaction and microscopic examination for the detection of *Trypanosoma evansi* in horses (M.Sc. Hons. Pathology, 2005)
166. **Rana Sajjad Ahmed**: Detection of *Toxoplasma gondii* infection in butchers and buffaloes by polymerase chain reaction and latex agglutination test (M.Sc. Pathology, 2005)
167. **Muzna Raza**: Studies on association of TNF-alpha with obesity. (M.Sc., Microbiology & Molecular Genetics, 2005)
168. **Muhammad Bilal**: Molecular epidemiology of bovine tuberculosis in humans (M. Phil. Pathology, 2005)
169. **Sumbal Nazir**: Isolation, characterization and screening of *Bacillus thuringiensis* positive for Cry9 gene (M.Phil. GCU, 2005)
170. **Muhammad Suleman**: Molecular detection of *Babesia bigemina* and *Babesia bovis* in carrier cattle by duplex polymerase chain reaction (PCR) (M. Phil. Pathology, 2006)
171. **Muhammad Younus Rana**: Pathogenesis of Salmonellosis with respect to carrier status in poultry and its public health impact. (Ph.D. Pathology, 2006)
172. **Muhammads Usman Rashid**: Hereditary breast and/or ovarian cancer in Pakistan: Identification of genetic and non genetic risk factors. (Ph.D., 2006)
173. **Aftab Ahmad Chatta**: Overexpression and purification of Hepatitis B surface antigen PreS region from *E. coli* (B.Sc. Hons Microbiology & Molecular Genetics, 2006)
174. **Asma Hina**: Expression of recombinant Pre-S hepatitis B virus protein using NHB3 clone in *E. coli* expression system (B.Sc. Hons Microbiology & Molecular Genetics, 2006)
175. **Farah Bashir**: Isolation and characterization of cadmium resistant bacteria from effluents of Kasur tanneries and Kot Lakhpat industrial area (M.Sc. Microbiology & Molecular Genetics, 2006)
176. **Saadia Ashraf** : Molecular characterization of capsular protein gene of *Pasteurella multocida* isolated from different localities in Pakistan (M.Sc. Microbiology & Molecular Genetics, 2006)
177. **Shumaila Sanam**: Characterization of *ACR2* gene responsible for arsenic resistance in yeast isolated from industrial effluents of Kasur tanneries (M.Sc. Biochemistry, 2006)

178. **Hina Pervaiz Mir** : Characterization of *arsA*, *arsB* and *arsC* genes responsible for arsenic resistance in bacteria isolated from industrial effluents of Kot Lakhpat (**M.Sc. Biochemistry, 2006**)
179. **Muhammad Suleman**: Molecular detection of *Babesia bigemina* and *Babesia bovis* in carrier cattle by duplex polymerase chain reaction (PCR) (**M.Phil. Pathology, 2006**)
180. **Bushra Muneer**: Role of microorganisms in remediation of heavy metals in industrial wastes (**Ph.D., 2006**).
181. **Abdul Rehman**: Survey of Protozoan fauna surviving in stress conditions in industrial wastes and their role in bioremediation (**Ph.D. 2006**)
182. **Abdul Razzaq**: Standardization of avian leucosis diagnostic technique through polymerase chain reaction (PCR) and confirmation with enzyme labeled immunosorbent assay (ELISA) (**M.Phil. Pathology, 2006**)
183. **Kiran Akhtar**: Screening and subscreening of *Bacillus thuringiensis* for cry1 gene (**M.Phil. GCU, 2007**)
184. **Shahzad Waheed**: Isolation of megaplasmids and determination of antibiotic resistance gene in *Bacillus thuringiensis* (**M.Phil. GCU, 2007**)
185. **Neelum Aftab**: Analysis of a sequence variation 713-8delC of transforming growth factor Beta1 (TGF β 1) gene in local osteoporotic female population in relation to bone mineral density (**B.Sc. MMG, 2007**)
186. **Raazia Tasadduq**: Association between *ars 235768* variation in bone morphogenetic protein 2 (*bmp2*) gene and bone mineral density in local osteoporotic female population (**B.Sc. Hons. MMG, 2007**)
187. **Yusra Saeed**: Association between an SP1 binding site polymorphism in Col1A1 gene and bone mineral density in local osteoporotic female population (**B.Sc. Hons. MMG, 2007**)
188. **Raheela Akhtar Durani** : Comparative study on the sensitivity of polymerase chain reaction (PCR) and conventional serological methods for the diagnosis of brucellosis in ruminants (**M.Phil Pathology, 2007**)
189. **Naima Mumtaz**: Comparison of multiplex PCR and conventional methods for the diagnosis of Tuberculosis (TBN) in human, buffalo and cattle in Lahore District. (**M.Phil. Pathology, 2007**)
190. **Muhammad Karim**: A study of PCR based detection of cry11 gene from locally isolated strains of *Bacillus thuringiensis* (**M.Sc. Zoology, 2007**)
191. **Asadullah Khan**: Standardization of tuberculin test in buffaloes and subsequent detection of Mycobacterium in milk and blood through polymerase chain reaction (**M.Phil. Pathology, 2007**)
192. **Madiha Kanwal**. Sequence and mutation analysis of interferon beta 1 (IFN β 1) gene in blood cancer patients of acute lymphoblastic leukemia (ALL) (**B.Sc. Hons. MMG, 2008**)
193. **Muhammad Jawad Khan**. Sequence and mutation analysis of interferon beta 1 (IFN β 1) gene in paraffin embedded tissues of larynx, liver and lung carcinoma (**B.Sc. Hons. MMG, 2008**)
194. **Faiza Saleem**. Molecular characterization of Cry2 genes from local isolates of *Bacillus thuringiensis* (**Ph.D., Biological Sciences, 2007**).
195. **Deeba Noreen Baig**. Cloning and molecular characterization of Cry1Ac gene from local isolates of *Bacillus thuringiensis* (**Ph.D., Biological Sciences, 2007**).
196. **DilAra Abbas Bukhari**. Cloning and molecular characterization of Cry4 gene from local isolates of *Bacillus thuringiensis* (**Ph.D., Biological Sciences, 2007**).
197. **Muhammad Yunus Rana**: Pathogenesis of Salmonellosis with respect to carrier status and its public health impact (**Ph.D. Pathology, 2007**)
198. **Aneela Zamir Durrani**: Epidemiology, serodiagnosis and chemoprophylaxis of theileriosis in bovines (**Ph.D. Veterinary Medicine, 2008**)

199. **Nageena Zahid.** Expression of *cry4B* gene from *Bacillus thuringiensis* in *Escherichia coli* encoding 70kDa crysyal proteins (**B.Sc. Hons. MMG, 2008**).
200. **Mamoonah Chaudhry.** Expression of *cry4A* toxic region of gene from *Bacillus thuringiensis* in *Escherichia coli* (**B.Sc. Hons. MMG, 2008**)
201. **Mehvish Fatima Zafar:** Detection of mertallothionein gene of some ciliates isolated from industrial waste water (**M.Phil. GCU, 2009**)
202. **Muhammad Tariq Zahid:** Molecular characterization of Cry 11 gene from local isolaste of *Bacillus thuringiensis* (**M.Phil. GCU, 2009**)
203. **Basharat Ahmed:** Mechanism of plasmid mediated antibiotics resistance in Gram negative bacteria (**Ph.D. Zoology, 2009**)
204. **Rukhsana Shuja:** Identification, cloning and experession of metallothionein gene of locally isolated ciliates *Paramecium* sp and *Tetrahymena tropicalis lahorensis*. (**Ph.D., Biological Sciences, 2009**)
205. **Rahila Chaudhry:** Molecular identification of metal resistant ciliates and molecular characterization of copper metallothionein gene of *Tetrahymena* (**Ph.D., Biological Sciences, 2009**)
206. **Nighat Shahid Ali:** Toxicity of organophosphorous and synthetic pyrethroid insecticides mixtures on the biochemical components of stored graion pest, *Rhyzopertha dominica*. (**Ph.D. Zoology, 2009**)
207. **Ishrat Aziz:** Specrrum of p53 tumor suppressor gene mutation in Pakistrani female cancer patients (**Ph.D., Biological Sciences, 2011**)
208. **Nageena Zahid:** Monitoring the activity of copper mediated induction of cus operon promoter in *E. coli* (**M.Phil. Biological Sciences, 2010**)
209. **Aliya Suleman:** Cloning, expression, purification and physiological importance of MutTMCd1 gene (**M.Phil. Biological Sciences, 2010**)
210. **Saira Dar:** Cloning and expression of a synthetic cadmium metallothionein gene (*PMCd1Syn*) of *Paramecium* sp. (**M.Phil. Biological Sciences, 2010**)
211. **Akbar Ali :** Spectrum of FLT3 and NPM1 mutations in acute myeloid leukemia inn Pakistani patients (**Ph.D. Biological Sciences, 2011**)
212. **Abdul Rauf:** Molecular Characterization, Expression and Purification of Hepatitis B Virus Core Antigen from Pakistani Population (**Ph.D. Biological Sciences, 2011**)
213. **Tania Rauf Shakoori:** Genetic polymorphism of surfactant protein D in chronic obstructive pulmonary disease patients (**Ph.D. Human Physiology, 2011**)
214. **Bibi Nazia Murtaza :** Molecular analyusis and detection of specific mutation in K-Ras (Kirsten-Ras viral oncogene homologue) in Pakistani Colorectal Cancer Patients (**Ph.D. Biological Sciences, 2011**)
215. **Asia Bibi .** Studies on the pattern of genetic alterations in TP53 tumor suoppressor gene among Pakistani colorectal cancer patients (**Ph.D. Biological Sciences, 2011**)
216. **Soumble Zulfiqar:** Molecular analyasis of gene(s) responsible for copper resistance in bacteria isolated from industrial effluents (**Ph.D. Biological Sciences, 2011**).
217. **Munawar Ahmad Saleem:** Cloning and molecular cgharacterization of Cry1C gene from local isolates of *Bacillus thuringiensis* having dual toxicity against lepidopteran and dipteran insects (**Ph.D. Biological Sciences, 2011**).
218. **Saadat Ali:** Alpha-1-antitrypsin polymorphism in the potential disease group and heaklthy control population of Punjab (**Ph.D. Biological Sciences, 2011**)

219. **Madeeha Shahzadi Lodhi:** Correlation of leptin gene expression in subcutaneous adipose tissue with plasma leptin level during cholelithiasis in obese and non obese patients **(M.Phil., Biochemistry, 2011)**
220. **Syed Akhter Ali:** Role of transcription factors and co-repressor proteins in epigenetic regulation of cell fate determination **(Ph.D. Biological Sciences, 2011)**
221. **Basharat Ali:** Epidemiology and molecular characterization of bovine and human tuberculosis in human rural population of Punjab Pakistan. **(Ph.D., Biological Sciences, 2012)**
222. **Qurratulain:** Genetic and ultrastructural changes in endometrial carcinoma of uterus in Pakistani population. **(Ph.D. Microbiology & Molecular Genetics, 2013)**
223. **Sana Tahir :** Regulation of copper regulatory genes in *Klebsiella pneumonia* **(M.Phil. Industrial Biotechnology, 2013)**
224. **Saima Akram :** Molecular Analysis of copA gene – a P type ATPase in *Klebsiella pneumonia* **(M.Phil. Industrial Biotechnology, 2013)**
225. **Khurram Shahzad (IBB)**
226. **Naseem Ramzan (Comsats, Sahiwal)**
227. **Rubina Mushtaq:** Cloning and expression of C-terminally truncated Cry1Ac gene of *Bacillus thuringiensis* **(M.Phil. Biological Sciences, 2013)**
228. **Muhammad Tahir Asghar:** Cell Culture Contamination, Member of alpha proteobacteria **(M.Phil. Biological Sciences, 2013)**
229. **Tahira Batool:** Effect of ethanolic extract of *Cissus quadrangularis* on growth kinetics of cultured renal distal tubule epithelial cells, MDBK **(M.Phil. Biological Sciences, 2014)**
230. **Saira Aftab:** Expression of epithelial and neuron specific cell adhesion genes in SF 767 glioblastoma cell line **(M.Phil. Biological Sciences, 2014)**
231. **Raazia Tassaduq:** Osteogenic potential of Herb, *Cissus quadrangularis*: Effect of ethanolic extract on differentiation of mouse preosteoblast cell line, MC3T3-E1 **(Ph.D. Biological Sciences, 2014)**
232. **Adnan Farooq:** Comparative study of human growth hormone variants. **(Ph.D. Biochemistry, 2014)**
233. **Aftab Ahmad:** Effect of heavy metals (Lead and Arsenic) contaminated drinking water on differentiation of mammalian mesenchymal stem cells into osteoblast **(Ph.D. Biological Sciences, 2015)**
234. **Madiha Shad:** Expression, partial purification of CueR and its transcriptional control in the presence of silver in *Klebsiella pneumonia* **(M.Phil. Biological Sciences, 2015)**
235. **Qurrat ul Ain:** Genetic and ultrastructural changes in endometrial carcinoma of uterus in Pakistani populations. **(Ph.D. Molecular Genetics, 2015)**
236. **Asia Ghous (PUZ)**
237. **Khayam Javed:** CRISPR/HDR mediated PCSK9 knockout in human hepatocellular carcinoma cell lines (HepG2) and insertion of function LoxP flanked green fluorescent protein **(M.Phil. Biological Sciences, 2016)**
238. **Abeedha Tu-Allah:** Copper responsive genes confer resistance to gold in *Klebsiella pneumoniae* KW **(M.Phil. Biological Sciences, 2016).**
239. **Shabana Malik:** Osteogenic potential of herb *Cissus quadrangularis*: Effect of dichloromethane fraction on differentiation of mouse pre-osteoblast cell line MC3T3 (sub-clone4) **(M.Phil. Biological Sciences, 2016)**
240. **Hira Nizam:** Molecular characterization of a cadmium metallothionein *PMCd1* and a novel metallothionein *PMMT1* genes in *Paramecium* **(M.Phil. Biological Sciences, 2016).**

241. **Sidra Mustafa:** Molecular characterization of CueR-a Mer like transcriptional regulator against multi-metal resistance in *Klebsiella pneumoniae* (M.Phil. Biological Sciences, 2016).
242. **Amina Younas:** Molecular characterization of copper responsive CopA, a P-type ATPase in *Klebsiella pneumoniae* *Klebsiella* (M.Phil. Biological Sciences, 2016).
243. **Musadak Iqbal (GC)**
244. **Saleha Batool (PUZ)**
245. **Sana Amjad (PUZ)**
246. **Faiza Batool:** Effect of dichloromethane fractions of *Cissus quadrangularis* on mineralization potential of mouse pre-osteoblast cell line MC3T3-E1 (Subclone 4) (M.Phil. Biological Sciences, 2017).
247. **Haleema Qamar:** Effect of hexane fractions of *Cissus quadrangularis* on growth kinetics proliferation of mouse pre-osteoblast cell line MC3T3-E1 (Subclone 4) (M.Phil. Biological Sciences, 2017).
248. **Iram Yaqoob:** Functional characterization of CopA - a P-type ATPase through gene knock out system (M.Phil. Biological Sciences, 2017).
249. **Asraf Hussain Hashmi:** Molecular characterization of viral and host genetic factors in hepatitis C virus infection (Ph.D. Biological Sciences, 2017)
250. **Ambreena Hafiz:** Mechanistic Analysis of insecticide resistance in stored grain pest, *Trogoderma granarium* (Everts) (Ph.D. Zoology, 2017)
251. **Tabassum Yousaf (M.Phil. Biological Sciences, 2018)**
252. **Sidra Noreen (M.Phil. Biological Sciences, 2018).**
253. **Aisha Khalid:** Molecular characterization of thermostable cellulose from *Thermotoga naphthophila* (Ph. D. Biochemistry, UVAS, 2019)
254. **Aliya Zahid:** Genetic Analysis of Cervical Cancer in Pakistani Women (Ph.D. Molecular Genetics, 2017)
255. **Fareeda Tasneem:** Paramecium diversity and phylogeny: Three loci molecular characterization (Ph.D. Zoology, 2019)
256. **Gul Afshan:** Investigation on the development of antibodies against hepatitis C virus (HCV) envelope glycoproteins. (Ph.D. in Pharmaceutical Sciences, 2019)
257. **Rubina Mushtaq:** Production of *Bacillus thuringiensis* Cry proteins and analysis of mode of action of their toxicity. (Ph.D. Biological Sciences, 2019)
258. **Zainab Nasir:** Isolation and identification of anti-adipogenic components from ethyl acetate fraction of *Cissus quadrangularis* (M.Phil. Biological Sciences, 2019)
259. **Maria Tariq:** Isolation and identification of anti-adipogenic components from butanol fraction of *Cissus quadrangularis* (M.Phil. Biological Sciences, 2019)
260. **Hafsa**
261. **Saira Aftab**
262. **Rabail Hassan Toor:** Osteogenic and anti-obesity potential of *Cissus quadrangularis*: Elucidation of differentiation Process in mouse preosteoblast and pre-adipocyte cell lines. (Ph.D. Biological Sciences, 2020)
263. **Ayesha Zafar**
264. **Qurrat ul Ain Amjad**
265. **Abeeda tullah**
266. **Asmara Imtiaz**
267. **Ayesha Liaqat:** Molecular Characterization of copper resistant genes of *Paramecium* sp isolated from industrial Wastewater.
268. **Roohi Ijaz:** *Trogoderma granarium*: High throughput sequencing of phosphine susceptible and resistant species and phylogenetic studies based on cytochrome oxidase 1 gene.

269. **Itrat Zahra:** Characterization of cadmium resistant ciliates and understanding the molecular mechanism involved in its efflux.

E. LIST OF SOME ABSTRACTS

1. SIEBERT, G., SCHLATTERER, B. AND **SHAKOORI, A.R.**, 1972. Non-aqueous isolation of nucleoli from rat liver. Meet. Fed. Europ. Biochem. Soc., B: 1087.
2. **SHAKOORI, A.R.**, ROMEN, W., OELSCHLAGER, W., SCHLATTERER, B. AND SIEBERT, G., 1973. Isolation of nucleoli from rat liver in organic solvents-a new route towards biochemical studies. *Proc. Pak. Assoc. Advanc. Sci, 24th. Pak. Sci. Conf.*, June, 1973 pp C6C7.
3. **SHAKOORI, A.R.**, 1973. Sonication as a disruption method for the non-aqueous isolation of nucleoli and chromatin from bovine seminal vesicle and rat liver. *Proc. Pak. Assoc. Advance. Sci. 24th. Pak. Sci. Conf.*
4. **SHAKOORI, A.R.**, AND DRAKHSAN, M., 1974. Biochemical effects of thioacetamide on the liver of mice. *Proc. Pak. Assoc. Advance. Sci., 25th. Pak. Sci. Conf.*
5. **SHAKOORI, A.R.**, MIAN, N.J. AND AHMAD, M.S., 1974. Biochemical and cytological effects of thioacetamide on the kidney of rabbit. *Proc. Pak. Assoc. Advance. Sci., 25th. Pak. Sci. Conf., 1974.*
6. **SHAKOORI, A.R.**, AND AHMAD, M.S., 1974. Changes in nucleic acid contents during postnatal growth of chicken liver. *Proc. Pak. Assoc. Advanc. Sci, 25th. Pak. Sci. Conf., March, 1974, P.C8.*
7. **SHAKOORI, A.R.**, WAHEED, A. AND AHMAD, M.S., 1974. Effect of total body gamma irradiation on the growth and nucleic acids contents of liver of *Gallus domesticus*. *Proc. Pak. Assoc. Advanc. Sci. 25th. Pak. Sci. Conf., March, 1974, P. C8.*
8. RAZA, T.A. AND **SHAKOORI, A.R.**, 1980. Cytological studies of adenohipophysis in normal and experimental rats. *Proc. Pak. Assoc. Advanc. Sci. 26th-27th. Pak. Sci. Conf., 29th December-2 January, 1980, page 46 D.*
9. **SHAKOORI, A.R.**, ASHRAF, F. AND ASLAM KHAN, M., 1980. Nucleic acids content of *Anopheles stephensi* collected from different localities of Iran and Pakistan. *Proc. Pakistan Assoc. Advanc. Sci., 26th-27th., Pak. Sci. Conf., 29th December, 1979-2 January, 1980, page 45 D.*
10. **SHAKOORI, A.R.**, AND KHAN, M.A., 1980. Changes induced by experimental cholestasis on the histological structure of rat liver. *Proc. Pakistan Assoc. Advanc. Sci., 26th-27th., Pak. Sci. Conf., 29th December, 1979-2 January, 1980. pp. 46D-47D.*
11. **SHAKOORI, A.R.** AND BUTT, U., 1980. Effect of thioaceta-mide on the development of a dipterous fly. *Proc. Pak. Assoc. Advanc. Sci., 26th-27th. Pak. Sci. Conf., 29th December, 1979-2 January, 1980, page 43D.*
12. **SHAKOORI, A.R.**, AND BAKHTIAR, A., 1980. Biochemical effects of thioacetamide on the development of a dipteran fly *Zaprionus indiana*. *Proc. Pak. Assoc. Advanc. Sci., 26th-27th. Pak. Sci. Conf., 29th December 1979-2 January 1980, pages.*
13. ALI, S.S., AND **SHAKOORI, A.R.** AND HAQ, R., 1981. Effect of long term feeding of dieldrin mixed diet on albino rats. Biochemical changes in blood serum. *Proc. 2nd. Pakistan Congr. Zool. (Abstr. Sec.). December, 26-27, 1981, page 11-12.*

14. **SHAKOORI, A.R.** AND HAQ, R., 1981. Effect of starvation and refeeding on the blood and liver of domesticated rabbits. *Proc. 2nd Pakistan Congr. Zool., (Abstr. Sci.)*, December, 26-27, 1981 12-13.
15. ALI, S.S., IQBAL, M.Z. AND **SHAKOORI, A.R.**, 1982. Biochemical and histological effects of saccharin sodium on the liver of mice. *Proc. 3rd Pakistan Congr. Zool.*, pp 26-27.
16. ALI, S.S. AND **SHAKOORI, A.R.**, 1982. Effect of feeding DDT mixed diet to albino rats: Haematological and biochemical studies. *Proc. 3rd Pakistan Congr. Zool.*, pp. 27-29.
17. GILL, N., **SHAKOORI, A.R.**, AND MUFTI, S.A., 1982. Morphometric studies on the effect of xylocaine on the normal and transplanted extensor digitorum longus muscles of rats. *Proc. 3rd Pakistan Congr. Zool.*, pp. 37, 1982.
18. **SHAKOORI, A.R.**, AND CHEEMA, A.I.A., 1982. Effect of thioacetamide on the molecular readjustment following partial hepatectomy in rabbit blood serum. *Proc. 3rd Pakistan Congr. Zool.*, pp. 42-43, 1982.
19. **SHAKOORI, A.R.** AND RANI, A., 1982. Biochemical and histological changes in the regenerating liver after thioacetamide treatment of partially hepatectomized rabbits. *Proc. 3rd Pakistan Congr. Zool.*, pp. 44-45, 1982.
20. **SHAKOORI, A.R.**, 1983. Cell structure and function. *Rep. Nat. Workshop Biol. Educ.*, pp. 15. sponsored by UNESCO, Ministry of Education and University, Islamabad, February 16-24, 1983.
21. **SHAKOORI, A.R.**, AFRIDI, T.A., ALI, S.S. AND LONE, K.P., 1983. Effect of dimethazine on the biochemical readjustments in blood serum of partially hepatectomized rabbits. *Proc. 4th Pakistan Congr. Zool.*, p. 28, 1983.
22. GILL, N. AND **SHAKOORI, A.R.**, 1983. Muscle regeneration following transplantation of extensor digitorum longer (EDL) muscle in a denervated condition in albino rats. *Proc. 4th Pakistan Congr. Zool.*, p. 29, 1983.
23. **SHAKOORI, A.R.**, KAUSAR, N., ALI, S.S. AND LONE, K.P., 1983. Effect of dimethazine on the regenerating liver of partially hepatectomized rabbit. *Proc. 4th Pakistan Congr. Zool.*, p. 30, 1983.
24. ALI, S.S. AND **SHAKOORI, A.R.**, 1983. Biochemical changes in blood serum following short term feeding of lindane mixed diet to albino rats. *Proc. 4th Pakistan Congr. Zool.*, p. 31, 1983.
25. ALI, S.S. AND **SHAKOORI, A.R.**, 1983. Hepatotoxic effect of arrivo, a pyrtheroid on albino rats. *Proc. 4th Pakistan Congr. Zool.*, p. 32, 1983.
26. SALEEM, M.A., **SHAKOORI, A.R.** AND ALI, S.S., 1983. Starvation and refeeding in *Tribolium castaneum* (Herbst) I. Effect on some biochemical components of sixth instar larvae. *Proc. 4th Pakistan Congr. Zool.*, p. 59, 1983.
27. **SHAKOORI, A.R.**, FAYYAZ, M., SALEEM, MA. AND ALI, S.S., 1985. Studies on the effects of a recently developed synthetic pyrethroid, Fenprothrin on some biochemical components of *Tribolium castaneum* larvae. *Proc. 5th Pakistan Congr. Zool.*, pp. 12-13, 1985.
28. CHEEMA, A.A., **SHAKOORI, A.R.**, SHAH, F.H., 1985. Kinetic studies on acetylcholinesterase in brain of a goat. *Proc. 5th Pakistan Congr. Zool.*, p. 14, 1985.
29. **SHAKOORI, A.R.**, RIZVI, N, AND AHMAD, M.S., 1985. Possible interaction of nucleosides with thioacetamide. *Proc. 5th Pakistan Congr. Zool.*, p. 15, 1985.
30. **SALEEM, M.A. AND SHAKOORI, A.R.**, 1985. Effects of sublethal doses of deltamethrin on some biochemical components of 6th instar larvae of *Tribolium castaneum* (Herbst). *Proc. 5th Pakistan Congr. Zool.*, pp. 16-18, 1985.
31. SALEEM, M.A. AND **SHAKOORI, A.R.**, 1985. Starvation and refeeding in *Tribolium castaneum* (Herbst) II. Effect of some biochemical components of adults. *Proc. 5th Pakistan Congr. Zool.*, pp. 18-20, 1985.

32. SALEEM, M.A. AND **SHAKOORI, A.R.**, 1985. Comparative biochemical effects of sublethal doses of permethrin, malathion and their interaction in *Tribolium castaneum* adults. *Proc. 5th Pakistan Congr. Zool.*, pp. 21-24, 1985.
33. SALEEM, M.A. AND **SHAKOORI, A.R.**, 1985. Biochemical effect of sublethal doses of cypermethrin on the sixth instar larvae of *Tribolium castaneum* (Herbst). *Proc. 5th Pakistan Congr. Zool.*, pp. 42-43, 1985.
34. **SHAKOORI, A.R.** AND HAQ, R., 1985. Sensitivity of yeast, *Schizosaccharomyces pombe* to N-methyl-N-nitro-n-nitrosoguanidine (MNNG). *Proc. 5th Pakistan Congr. Zool.*, pp. 43-44, 1985.
35. ALI, S.S., **SHAKOORI, A.R.** AND SALEEM, M.A., 1985. Morphological and biochemical toxicity of cypermethrin -A pyrethroid on the liver of albino rats. *Proc. 5th Pakistan Congr. Zool.*, pp. 45-46, 1985.
36. ALI, S.S., **SHAKOORI, A.R.** AND RIZVI, N., 1985. Biochemical toxicity of aldrin in albino rats; Studies on blood. *Proc. 5th Pakistan Congr. Zool.* pp. 46-48, 1985.
37. **SHAKOORI, A.R.**, 1985. Genetic basis of adaptive response of *Micrococcus luteus* to alkylating agents. *International Symposium on Biologically active macromolecules*, held at University of Baluchistan, Quetta, March 30-April 4, 1985.
38. **SHAKOORI, A.R.**, FAYYAZ, M., SALEEM, M.A. AND ALI, S.S., 1985. Toxicological studies on a recently developed synthetic pyrethroid, fenprothrin against *Tribolium castaneum* (Herbst) larvae. *Proc. Sixth Pakistan Congr. Zool.*, pp. 36-37.
39. GILL, N. AND **SHAKOORI, A.R.**, 1985. Transplantation of anterior tibialis muscle in mice. *Proc. Sixth Pakistan Congr. Zool.*, pp. 38.
40. **SHAKOORI, A.R.**, MIRZA, N.A., AND SALEEM, M.A., 1985. Repair of O4 methylated thymine in bacteria. *Proc. Sixth Pakistan Congr. Zool.*, pp. 41-42.
41. SALEEM, M.A. AND **SHAKOORI, A.R.**, 1985. Malation induced macromolecular abnormalities in the sixth instar larvae of *Tribolium castaneum* (Herbst). *Proc. Sixth Pakistan Congr. Zool.*, pp. 49-50.
42. SALEEM, M.A. AND **SHAKOORI, A.R.**, 1985. Mechanism of action of a chitin inhibitor, diflubenzuron in *Tribolium castaneum* larvae; Biochemical studies. *Proc. Sixth Pakistan Congr. Zool.*, pp. 60-61.
43. SHALEEM, A., AND **SHAKOORI, A.R.**, 1985. Biochemical effects of diflubenzuron + permethrin and refeeding in *Tribolium castaneum* larvae. *Proc. Sixth Pakistan Congr. Zool.*, pp. 61-63.
44. SALEEM, M.A. AND **SHAKOORI, A.R.**, 1985. Some macromolecular abnormalities developed by interaction of permethrin and malathion and refeeding in *Tribolium castaneum* larvae. *Proc. Sixth Pakistan Congr. Zool.*, pp. 63-65.
45. ALI, S.S. AND **SHAKOORI, A.R.**, 1985. Long term toxicology of dieldrin mixed diet to albino rats: Haematological and biochemical studies on blood serum. *Proc. Sixth Pakistan Congr. Zool.*, pp. 67-68.
46. SHAHEEN, N., AHSAN, M., SALEEM, M.A., ALI, S.S. AND **SHAKOORI, A.R.**, 1985. Toxic effects of permethrin on LFT in chicks. *Proc. Sixth Pakistan Congr. Zool.*, p. 68.
47. ALI, S.S. AND **SHAKOORI, A.R.**, 1985. Biochemical and histo-pathological studies of aldrin on rat liver. *Proc. Sixth Pakistan Congr. Zool.*, pp. 68.
48. **SHAKOORI, A.R.**, ALI, S.S. AND SALEEM, M.A., 1986. Effects of six months feeding of cypermethrin - a new synthetic pyrethroid on the blood and liver of albino rats. *Proc. International Symposium on Environmental Pollution and Toxicology*, Sept. 9-11, 1986. Hongkong.
49. **SHAKOORI, A.R.** AND FARAH, A., 1986. Liver dysfunction following administration of Cadmium in rabbit. *Proc. Int. Symp. Environ. Pollution and Toxicology*, Sep. 9-11, 1986, Hongkong.

50. **SHAKOORI, A.R.**, IQBAL, M.J. AND ALI, S.S., 1986. Haematological and biochemical changes induced by lead toxicity in a freshwater fish, *Cirrhina mrigala*. *Proc. Int. Symp. Environ. Poll. Toxicity*, Sept. 9-11, 1986, Hongkong.
51. MUJEEB, K.A., IQBAL, M.J., ALI, S.S. AND **SHAKOORI, A.R.**, 1987. Lead induced biological changes in the liver and muscle of freshwater fish, *Cirrhina mrigala*. *Proc. 7th Pakistan Congr. Zool.*, pp. 4-6.
52. SALEEM, M.A. AND **SHAKOORI, A.R.**, 1987. Resistance correlation to biochemical responses in larvae and adults of a susceptible and two resistant strains of *Tribolium castaneum*. *Proc. 7th Pakistan Congr. Zool.*, 33-34.
53. SALEEM, M.A. AND **SHAKOORI, A.R.**, 1987. Inductions of carbohydrases, phosphomonoesterases, aminotransferases, dehydrogenases and some other enzymes by cypermethrin (Ripcord 25EC) in *Tribolium castaneum* larvae. *Proc. 7th Pakistan Congr. Zool.*, pp. 34-36.
54. SALEEM, M.A. AND **SHAKOORI, A.R.**, 1987. Enzymatic inductions by permethrin (Talcord 10EC) in the 6th instar larvae of *Tribolium castaneum* (Herbst) (Coleoptera: Tenebrionidae). *Proc. 7th Pakistan Congr. Zool.*, pp. 36-38.
55. SALEEM, M.A. AND **SHAKOORI, A.R.**, 1987. Effect of cypermethrin (Ricord 25EC) on carbohydrates, lipids, nucleic acids, proteins and some metabolites of *Tribolium castaneum* larvae. *Proc. 7th Pakistan Congr. Zool.*, pp. 38-40.
56. SALEEM, M.A. AND **SHAKOORI, A.R.**, 1987. Variation of biochemical metabolites induced by permethrin (Talcord 10EX) in *Tribolium castaneum* larvae. *Proc. 7th Pakistan Congr. Zool.*, pp. 40-42.
57. **SHAKOORI, A.R.**, MALIK, K.Z. AND SALEEM, M.A., 1987. Biochemical effects of cyhalothrin (Karate 2.5EC) on sixth instar larvae of *Tribolium castaneum*. *Proc. 7th Pakistan Congr. Zool.*, pp. 42-44.
58. **SHAKOORI, A.R.**, MALIK, M.Z. AND SALEEM, M.A., 1987. Biochemical effects of cyhalothrin (Karate 2.5EC) on adult beetles of *Tribolium castaneum*. *Proc. 7th Pakistan Congr. Zool.*, pp. 44-46.
59. IQBAL, M.J., ALI, S.S. AND **SHAKOORI, A.R.**, 1987. Effect of lead acetate on haematology of common edible fish *Cirrhina mrigala*. *Proc. 7th Pakistan Congr. Zool.*, pp. 51-52.
60. ALI, S.S. AND **SHAKOORI, A.R.**, 1987. Effect of feeding lindane mixed diet on some enzymatic activities of blood serum of albino rats. *Proc. 7th Pakistan Congr. Zool.*, pp. 52-53.
61. FAYYAZ, M., ALI, S.S., IQBAL, M.J. AND **SHAKOORI, A.R.**, 1987. Biochemical hazards of fenvalerate in common fish *Cirrhina mrigala* Pakistan. *Proc. 7th Pakistan Congr. Zool.*, pp. 54-55.
62. ALI, S.S. AND **SHAKOORI, A.R.**, 1987. DDT induced haematological alterations in albino rats. *Proc. 7th Pakistan Congr. Zool.*, pp. 56-57.
63. **SHAKOORI, A.R.** AND FARAH, A., 1987. Liver dysfunction following administration of cadmium in rabbit. *Proc. 7th Pakistan Congr. Zool.*, pp. 73-74.
64. **SHAKOORI, A.R.**, IQBAL, M.J. AND ALI, S.S., 1987. Haematological and biochemical changes induced by lead toxicity in a freshwater fish *Cirrhina mrigala*. *Proc. 7th Pakistan Congr. Zool.*, pp. 74-76.
65. FARAH, A. AND **SHAKOORI, A.R.**, 1987. Effect of phenobarbitol and promethazine on the liver function tests of rabbits. *Proc. 7th Pakistan Congr. Zool.*, pp. 83-83a.
66. GHAZALA, N., SALEEM, M.A., AND **SHAKOORI, A.R.**, 1987. Fenprothrin (danitol) induced macromolecular abnormalities in adult beetles of *Tribolium castaneum*. *Proc. 7th Pakistan Congr. Zool.*, pp. 83a-83c.
67. **SHAKOORI, A.R.**, MUJEEB, A. AND IQBAL, M.J., 1988. Biochemical changes induced by cadmium chloride on liver of freshwater fish (*Cirrhina mrigala*). *Proc. 8th Pakistan Congr. Zool.*, pp. 30-32.

68. IQBAL, M.J. AND **SHAKOORI, A.R.**, 1988. Effect of cadmium chloride on the haematology of freshwater fish (*Cirrhina mrigala*). *Proc. 8th Pakistan Congr. Zool.*, pp. 33-35.
69. MUJEEB, A., IQBAL M.J. AND **SHAKOORI, A.R.**, 1988. Effect of cadmium chloride on muscle of a freshwater fish *Cirrhina mrigala*. *Proc. 8th Pakistan Congr. Zool.*, pp. 36-37.
70. TUFAIL, N., **SHAKOORI, A.R.**, AND SALEEM, M.A., 1988. Enzymatic induction caused by a synthetic pyrethroid-Talstar 10EC in a susceptible strain of *Tribolium castaneum* adult beetle. *Proc. 8th Pakistan Congr. Zool.*, pp. 39-40.
71. TUFAIL, N. **SHAKOORI, A.R.** AND SALEEM, M.A., 1988. Bio-chemical effects of sublethal doses of a recently developed pyrethroid Talstar 10EC on PKS strain of *Tribolium castaneum*. *Proc. 8th Pakistan Congr. Zool.*, pp. 41-42.
72. **SHAKOORI, A.R.**, NASREEN, G., SALEEM, M.A. AND FAYYAZ, M., 1988. Effect of malathion and Danitol on the adults of *Tribolium castaneum*. *Proc. 8th Pakistan Congr. Zool.*, pp. 106-107.
73. **SHAKOORI, A.R.**, SAEED, S. AND FAYYAZ, M., 1988. LC50 calculations of cypermethrin (Arrivo 10EC) against 6th and final instar larvae of *Tribolium castaneum*. *Proc. 8th Pakistan Congr. Zool.*, pp. 107-108.
74. **SHAKOORI, A.R.**, KHAGGAH, I., ANJUM, F. AND FAYYAZ, M., 1988. Biochemical hazards of cadmium on liver and blood serum of *Gallus domesticus*. *Proc. 8th Pakistan Congr. Zool.*, pp. 109-110.
75. ANJUM, F., MAHJABEEN, G. AND **SHAKOORI, A.R.**, 1988. Liver function during regenerate following partial hepatectomy in rabbits: effect of mercury. *Proc. 8th Pakistan Congr. Zool.*, pp. 95-98.
76. ANJUM, F., RAHEELA, K. AND **SHAKOORI, A.R.**, 1988. Effect of mercuric chloride on regenerating liver after partial hepatectomy. *Proc. 8th Pakistan Congr. Zool.*, pp. 98-101.
77. BUTT, U. AND **SHAKOORI, A.R.**, 1988. Evaluation of Danitol toxicity in rabbits. I. Effect on blood serum. *Proc. 8th Pakistan Congr. Zool.*, pp. 101-102.
78. RIFFAT, R. AND **SHAKOORI, A.R.**, 1988. Evaluation of Danitol toxicity in rabbit II. Effect on liver. *Proc. 8th Pakistan Congr. Zool.*, p. 102.
79. **SHAKOORI, A.R.**, FAYYAZ, M. AND SAEED, S., 1988. Effect of cypermethrin (Arrivo) on serum biochemical components and cypermethrin activities of *Tribolium castaneum* larvae. *Proc. 8th Pakistan Congr. Zool.*, pp. 103-104.
80. interaction in blood and liver. *Proc. 8th Pakistan Congr. Zool.*, pp. 104-105.
81. ALI, S.S. AND **SHAKOORI, A.R.**, 1988. Lindane induced haematology and biochemical alterations in blood of albino rat, *Rattus norvegicus*. *Proc. 8th Pakistan Congr. Zool.*, pp. 54-56.
82. ALI, S.S. AND **SHAKOORI, A.R.**, 1988. Some metabolic alterations induced by short term feeding of endrin on blood of albino rats. *Proc. 8th Pakistan Congr. Zool.*, pp. 73-75.
83. SALEEM, M.A., **SHAKOORI, A.R.** AND WILKINS, R.M., 1988. Study on the effect of starvation through HPLC in free amino acids of a resistant-CTC12 strain of *Tribolium castaneum*. *Proc. 8th Pakistan Congr. Zool.*, pp. 76-77.
84. SALEEM, M.A., **SHAKOORI, A.R.** AND WILKINS, R.M., 1988. Free amino acids studies through HPLC on starved FSS II susceptible strain of *Tribolium castaneum* adult beetles. *Proc. 8th Pakistan Congr. Zool.*, pp. 77-78.
85. SALEEM, M.A., **SHAKOORI, A.R.** AND TUFAIL, N., 1988. Studies on loss of total body weights and mortality of 8th instar larvae and adult beetles of *Tribolium castaneum* after starvation. *Proc. 8th Pakistan Congr. Zool.*, p. 79.
86. TUFAIL, N., **SHAKOORI, A.R.** AND SALEEM, M.A., 1988. Enzymatic responses of PKS strain of *Tribolium castaneum* against

- Talstar 10EC- A synthetic pyrethroid recently introduced in Pakistan. *Proc. 8th Pakistan Congr. Zool.*, pp. 80-81.
87. TUFAIL, N., **SHAKOORI, A.R.** AND SALEEM, M.A., 1988. Talstar induced abnorminities in FSS II susceptible strain of *Tribolium castaneum* adult beetles. *Proc. Pakistan Congr. Zool.*, 8: 81-83.
88. SALEEM, M.A. AND **SHAKOORI, A.R.**, 1988. Enzymatic abnormalities induced by a recently developed pyrethroid- Fenpropathrin in a susceptible FSS II strain of *Tribolium castaneum*. *Proc. 8th. Pakistan Congr. Zool.*, pp. 88- 89
89. SALEEM, M.A. AND **SHAKOORI, A.R.**, 1988. Effect of fenpropathrin on some enzyme activities of a resistant CTC 12 strain of *Tribolium castaneum* adult beetle. *Proc. 8th Pakistan Congr. Zool.*, pp. 90-91.
90. SALEEM, M.A. AND **SHAKOORI, A.R.**, 1988. Biochemical effects of Fenpropathrin (Danitol 10EC) on a resistant (CTC 12) strain of *Tribolium castaneum*. *Proc. 8th Pakistan Congr. Zool.*, pp. 92.
91. SALEEM, M.A. AND **SHAKOORI, A.R.**, 1988. Biochemical effects of Fenpropathrin (Danitol 10EC) on a resistant (CTC 12) strain of *Tribolium castaneum*. *Proc. 8th Pakistan Congr. Zool.*, pp. 92-93.
92. KHAN, M.I., RAHMAN, S., REHMAN, Z. AND **SHAKOORI, A.R.**, 1989. Identification and characterization of laboratory contaminant coloured yeast. *Proc. Pakistan Congr. Zool.*, 9: 53.
93. IQBAL, M.J., MUGHAL, A.L., ALI, S.S. AND **SHAKOORI, A.R.** 1989. Toxic effects of mercuric chloride on the liver of chinese grass carp, *Ctenopharyngodon idella*. *Proc. Pakistan Congr. Zool.*, 9: 60-61.
94. MUGHAL, A.L., IQBAL, M.J., FAYYAZ, M. AND **SHAKOORI, A.R.**, 1989. Toxic effects of fenvalerate on the liver of chinese grass carp. *Ctenopharyngodon idella*. *Proc. Pakistan Congr. Zool.*, 9: 61.
95. MUGHAL, A.L., IQBAL, M.J., FAYYAZ, M. AND **SHAKOORI, A.R.**, 1989. Toxic effects of fenvalerate on the muscle of chinese grass carp. *Ctenopharyngodon idella*. *Proc. Pakistan Congr. Zool.*, 9: 62.
96. ALI, S.S., QURESHI, M.A., IQBAL, M.J. AND **SHAKOORI, A.R.**, 1989. Zinc chloride induced biochemical changes in the common carp *Cyprinus carpio*: effects in muscle. *Proc. Pakistan Congr. Zool.*, 9: 64.
97. ALI, S.A., QURESHI, M.A., IQBAL, M.J. AND **SHAKOORI, A.R.**, 1989. Zinc chloride induced biochemical changes in the common carp *Cyprinus carpio*: effects on liver. *Proc. Pakistan Congr. Zool.*, 9: 64-65.
98. **SHAKOORI, A.R.**, AND AZIZ, F., 1990. Toxicological effects of bifenthrin on rabbit blood. *Proc. Pakistan Congr. Zool.* 10: 8.
99. **SHAKOORI, A.R.**, AND ALAM, J., 1990. Biochemical and histological effects of bifenthrin on rabbit liver. *Proc. Pakistan Congr. Congr. Zool.*, 10: 8-9.
100. **SHAKOORI, A.R.**, AND ALAM, F., 1990. Biochemical and histological effects of Karate on the liver of rabbit, *Oryctolagus cuniculus*. *Proc. Pakistan Congr. Zool.*, 10: 9.
101. **SHAKOORI, A.R.**, AND SABIR, M., 1990. Effect of Karate (A pyrethroid). On some macromolecular components of blood of rabbits. *Proc. Pakistan Congr. Zool.*, 10: 9-10.
102. NAVEEDA, T. AND **SHAKOORI, A.R.**, 1990. Effect of starvation and refeeding on various biochemical components of three strains of *Tribolium castaneum* adults. *Proc. Pakistan Congr. Zool.*, 10: 10.
103. NAVEEDA, T. AND **SHAKOORI, A.R.**, 1990. Changes in enzyme milieu induced by starvation and refeeding in resistant and susceptible strains of *Tribolium castaneum* adults. *Proc. Pakistan Congr. Zool.*, 10: 10-11.

104. NAVEEDA, T. AND **SHAKOORI, A.R.**, 1990. Toxicity of a synthetic pyrethroid mavrik 2E on some biochemical components of two strains of *Tribolium castaneum* adult. *Proc. Pakistan Congr. Zool.*, **10**: 11.
105. NAVEEDA, T. AND SHAKOORI, A.R., 1990. Effect of sublethal doses of Pay-Off on some biochemical components of a resistant and a susceptible strain of *Tribolium castaneum*. *Proc. Pakistan Congr. Zool.*, **10**: 11-12.
106. NAVEEDA, T. AND SHAKOORI, A.R., 1990. Comparative toxicity of a synthetic pyrethroid mavrik 2E on some enzyme activities of two strains of *Tribolium castaneum* adults. *Proc. Pakistan Congr. Zool.*, **10**: 12.
107. **SHAKOORI, A.R.**, AND MANSHA, M., 1991. Analysis and characterization of heat shock proteins in *Bacillus thuringiensis*. *Proc. Pakistan Congr. Zool.*, **11**: 10.
108. **SHAKOORI, A.R.**, AGHA, S. AND SALEEM, M.A., 1991. Toxicological effects of sumicidin super on the sixth instar larvae of malathion resistant and susceptible strains of red flour beetle, *Tribolium castaneum*. *Proc. Pakistan Congr. Zool.*, **11**: 10-11.
109. **SHAKOORI, A.R.**, AND JAVED, A. 1991. Isolation and characterization of plasmids from *Bacillus thuringiensis*, *Pseudomonas aeruginosa* and *Escherichia coli*. *Proc. Pakistan Congr. Zool.*, **11**: 11.
110. **SHAKOORI, A.R.**, NOREEN, S. AND SALEEM, M.A., 1991. Sumicidin-induced changes in the acetylcholinesterase and carboxylesterase of *Tribolium castaneum* larvae. *Proc. Pakistan Congr. Zool.*, **11**:
111. **SHAKOORI, A.R.**, AND MAJEED, S.B. 1991. Antagonistic toxic effect of *Bacillus thuringiensis* and synthetic pyrethroids, alongwith characterization of isolated plasmid from insecticide treated *B. thuringiensis*. *Proc. Pakistan Congr. Zool.*, **11**: 12.
112. **SHAKOORI, A.R.**, AND IFTIKHAR, A., 1991. Evaluation of plasmid DNA isolated from *Bacillus thuringiensis* after treatment with a mutagen (MNNG), carcinogen (TAA) and an insecticide (Heptachlor) and toxicity of insecticide treated *B. thuringiensis* to *Zaprionis indiana*. *Proc. Pakistan Congr. Zool.*, **11**: 12-13.
113. **SHAKOORI, A.R.**, AND RAZA, S.S., 1991. Effect of synthetic pyrethroids on the blood serum proteins of a herbivorous freshwater fish, *Tilapia mossambica*. *Proc. Pakistan Congr. Zool.*, **11**: 13.
114. TUFAIL, N., **SHAKOORI, A.R.**, AND SALEEM, M.A., 1991. Biochemical effects of alphamethrin in FSS II strain *Tribolium castaneum* larvae. *Proc. Pakistan Congr. Zool.*, **11**: 24-25.
115. TUFAIL, N., **SHAKOORI, A.R.**, AND SALEEM, M.A., 1991. Alphamethrin induced biochemical changes in PAK strain *Tribolium castaneum* larvae. *Proc. Pakistan Congr. Zool.*, **11**: 25.
116. RIZVI, S.A.R., AND **SHAKOORI, A.R.**, 1991. Immunomodulatory effects of aflatoxin B1 in chickens. *Proc. Pakistan Congr. Zool.*, **11**: 25-26.
117. RIZVI, S.A.R., AND **SHAKOORI, A.R.**, 1991. Immunomodulatory effects of aflatoxin in chickens. *Proc. Pakistan Congr. Zool.*, **11**: 26.
118. SALEEM, M.A., AND **SHAKOORI, A.R.**, 1991. Toxicity of two formulations of permethrin (Ambush and Talcord) on *Tribolium castaneum* adult beetles. *Proc. Pakistan. Congr. Zool.*, **11**: 26-27.
119. SALEEM, M.A., AND **SHAKOORI, A.R.**, 1991. Comparative biochemical effects of two formulations of permethrin on *Tribolium castaneum* larvae. *Proc. Pakistan Congr. Zool.*, **11**: 27.
120. SALEEM, M.A. AND **SHAKOORI, A.R.**, 1991. Interaction of Gamma-BHC with permethrin and cypermethrin in 6th instar larvae of *Tribolium castaneum*. *Proc. Pakistan Congr. Zool.*, **11**: 27.
121. SALEEM, M.A. AND **SHAKOORI, A.R.**, 1991. Synergistic effects of Gamma-BHC with permethrin and cypermethrin in adult beetles of *Tribolium castaneum*. *Proc. Pakistan Congr. Zool.*, **11**: 28.

122. SALEEM, M.A., **SHAKOORI, A.R.**, AND NAVEEDA, T., 1991. Gamma-BHC induced macromolecular abnormalities in adult beetles of *Tribolium castaneum*. *Proc. Pakistan Congr. Zool.*, **11**: 28.
123. SALEEM, M.A., **SHAKOORI, A.R.**, AND NAVEEDA, T., 1991. Macromolecular abnormalities developed by Gamma-BHC in 6th instar larvae of *Tribolium castaneum*. *Proc. Pakistan Congr. Zool.*, **11**: 29.
124. ASLAM, F., AND **SHAKOORI, A.R.**, 1991. Toxicological effect of talstar on chick muscle. *Proc. Pakistan Congr. Zool.*, **11**: 31-32.
125. ALAM, J., AND **SHAKOORI, A.R.**, 1991. Toxicological effect of talstar on chick liver. *Proc. Pakistan Congr. Zool.*, **11**: 32.
126. GILL, N., AND **SHAKOORI, A.R.**, 1991. Effect of exercise on intact and transplanted-EDL muscle in albino rats. *Proc. Pakistan Congr. Zool.*, **11**: 33.
127. AZIZ, F., AND **SHAKOORI, A.R.**, 1991. Toxicological effects of talstar on growth, haematological and biochemical components of blood of *Gallus domesticus*. *Proc. Pakistan Congr. Zool.*, **11**: 38.
128. **SHAKOORI, A.R.**, JAVED, A. AND MANSHA, M., 1991. Characterization of heat shock proteins and plasmid DNA in *Bacillus thuringiensis* and *Escherichia coli*: *Proc. International symposium on Contemporary Biology*, Islamabad. p. 63.
129. **SHAKOORI, A.R.**, QURESHI, M.A., IQBAL, M.J. AND ALI, S.S., 1991. Zinc-induced biochemical abnormalities in liver and muscle of common carp, *Cyprinus carpio*. *Proc. First Symposium on Fish and Fisheries of Pakistan*, pp. 11-19. Government College, Lahore.
130. **SHAKOORI, A.R.**, ALI, T. IQBAL, M.J. AND ALI, S.S., 1991. Cadmium toxicity in a freshwater fish, *Cirrhinus mrigala*. *Proc. First Symposium on Fish and Fisheries of Pakistan*, pp. 20-21. Government College, Lahore.
131. **SHAKOORI, A.R.** AND ALI, S.S., 1991. Toxic response of blood serum proteins of a freshwater fish, *Oreochromis mossambicus* after exposure to talstar, a synthetic pyrethroid. *Proc. First Symposium on Fish and Fisheries of Pakistan*, pp. 21-22. Government College, Lahore.
132. MUGHAL, A.L., IQBAL, M.J., ALI, S.S. AND **SHAKOORI, A.R.**, 1991. Haematological response of chinese grass carp, *Ctenopharyngodon idella* to fenvalerate exposure. *Proc. First Symposium on Fish and Fisheries of Pakistan*, p. 31. Government College, Lahore.
133. IQBAL, M.J., ALI, S.S. AND **SHAKOORI, A.R.**, 1992. Toxic effects of mercuric chloride on chinese grass carp, *Ctenopharyngodon indella*. *Proc. Pakistan Congr. Zool.*, **12**: 121.
134. ILYAS, M. AND **SHAKOORI, A.R.**, 1992. Effect of trebon 30EC on blood serum proteins of a freshwater fish, *Cirrhinus mrigala*. *Proc. Pakistan Congr. Zool.*, **12**: 124.
135. GULRUKH, N. AND **SHAKOORI, A.R.**, 1992. Toxic effects of trebon 30EC on *Tribolium castaneum* adults. *Proc. Pakistan Congr. Zool.*, **12**: 125.
136. IFTIKHAR, A. AND **SHAKOORI, A.R.**, 1992. Electrophoretic analysis of whole body proteins of *Tribolium castaneum* after exposure to an organochlorinated insecticide. *Proc. Pakistan Congr. Zool.*, **12**: 125-126.
137. AZIZ, F. AND **SHAKOORI, A.R.**, 1992. Effects of Danitol on the growth pattern in broiler and cockerel chicks of *Gallus domesticus*. *Proc. Pakistan Congr. Zool.*, **12**: 126-127.
138. ASLAM, F. AND **SHAKOORI, A.R.**, 1992. Effects of Danitol on the biochemical and histological parameters of Gastrocnemius muscle of *Gallus domesticus*. *Proc. Pakistan Congr. Zool.*, **12**: 127.
139. ALI, M., HASNAIN, S. AND **SHAKOORI, A.R.**, 1992. A survey report on reproductive waste and genetic defects in villages of district Kasur. *Proc. Pakistan Congr. Zool.*, **12**: 146.
140. RASHEED, S., **SHAKOORI, A.R.** AND BARI, A., 1992. Characterization of plasmids isolated from bacterial resistant to different antibiotics. *Proc. Pakistan Congr. Zool.*, **12**: 146-147.

141. IFTIKHAR, A. AND **SHAKOORI, A.R.**, 1992. Amplification of plasmid DNA in *Bacillus thuringiensis*. *Proc. Pakistan Congr. Zool.*, **12**: 149.
142. **SHAKOORI, A.R.** AND TARIQ, S., 1992. Induction of heat shock proteins in *Bacillus thuringiensis*. *Proc. Pakistan Congr. Zool.*, **12**: 149-150.
143. RIZVI, S.R. AND **SHAKOORI, A.R.**, 1993. Effects of aflatoxin in poultry: Aflatoxin residues in tissue of birds feeding contaminated meals. *Proc. Pakistan Congr. Zool.*, **13**: 1.
144. FAYYAZ, M. AND **SHAKOORI, A.R.**, 1993. Effect of fenvalerate (Sumicidin) on hepatic enzymes and other biochemical components of fish (*Cirrhina mrigala*). *Proc. Pakistan Congr. Zool.*, **13**: 21.
145. AMIN, M. AND **SHAKOORI, A.R.**, 1993. Toxic effects of cadmium chloride on haematology of fish, *Tilapia mossambica*. *Proc. Pakistan Congr. Zool.*, **13**: 25.
146. IQBAL, J.M., ALI, S.S., MOGHAL, L.A. AND **SHAKOORI, A.R.**, 1993. Toxic effects of mercuric chloride on chinese grass carp, *Ctenopharyngodon idella*. *Proc. Pakistan Congr. Zool.*, **13**: 28.
147. MOGHAL, L.A., ALI, S.S., IQBAL, J.M. AND **SHAKOORI, A.R.**, 1993. Toxic effects of Danitrol (Pyrethroid) on chinese grass carp, *Ctenopharyngodon idella*. *Proc. Pakistan Congr. Zool.*, **13**: 29-30.
148. IFTIKHAR, A. AND **SHAKOORI, A.R.**, 1993. Electrophoretic analysis of esterases of *Tribolium castaneum* and their characterization using inhibitors. *Proc. Pakistan Congr. Zool.*, **13**: 30.
149. YOUNUS, M. AND **SHAKOORI, A.R.**, 1993. Biochemical analysis of pericardial fluid in chicks of *Gallus domesticus* suffering from hydropericardium syndrome. *Proc. Pakistan Congr. Zool.*, **13**: 31.
150. **SHAKOORI, A.R.** AND AHMED, B., 1993. Plasmid-mediated antibiotic resistance in Enterobacteria. *Proc. Pakistan Congr. Zool.*, **13**: 53-54.
151. **SHAKOORI, A.R.** AND STEIN, G.S., 1993. Differential expression of the chromosomal high mobility group proteins 14 and 17 during the onset of differentiation in mammalian osteoblasts and promyelocytic leukemia cells. *Proc. Pakistan Congr. Zool.*, **13**: 54.
152. **SHAKOORI, A.R.**, 1993. Vitamin D mediated osteocalcin gene expression in cultured rat osteoblasts and osteosarcoma cells. *Proc. Biotechnology for Sustainable Development*, December 15-20, 1993, NIBGE, Faisalabad, Pakistan.
153. **SHAKOORI, A.R.**, VAN WIJNEN, A.J. AND STEIN, G.S., 1994. Variation in vitamin D receptor transcription factor complexes associated with the osteocalcin gene vitamin D responsive element in osteoblasts and osteosarcoma cells. *Proc. Pakistan Congr. Zool.*, **14**: 14.
154. CHUGHTAI, W.T. AND **SHAKOORI, A.R.**, 1994. Characterization of plasmids isolated from *Bacillus thuringiensis* resistant to antibiotics. *Proc. Pakistan Congr. Zool.*, **14**: 16.
155. MALIK, K. AND **SHAKOORI, A.R.**, 1994. Cadmium induced metallothioneins in *Bacillus thuringiensis*. *Proc. Pakistan Congr. Zool.*, **14**: 21.
156. IQBAL, M.J. AND **SHAKOORI, A.R.** 1994. Lead toxicity in a fresh water fish, *Cirrhina mrigala*. *Proc. Pakistan Congr. Zool.*, **14**: 23.
157. NAHEED, N., SADIQ, M. AND **SHAKOORI, A.R.**, 1994. Effects of seasonal variations on the protein pattern of a freshwater fish, *Cirrhina mrigala*. *Proc. Pakistan Congr. Zool.*, **14**: 24.
158. RAHMAN, S., OBERDORF, A., TANHAUSER, S., MONTECINO, M.A., **SHAKOORI, A.R.**, LIAN, J.B., STEIN, G.S., LAIPIS, P. AND STEIN, J.L., 1994. Multiple copies of the osteocalcin gene in mouse and rats. *Proc. Pakistan Congr. Zool.*, **14**: 111.
159. **SHAKOORI, A.R.**, AZIZ, F., ASLAM, F., ALAM, J. AND SABIR, M., 1994. Pyrethroid induced macromolecular abnormalities and their effects of growth in chicks of *Gallus domesticus*. *Proc. Pakistan Congr. Zool.*, **14**: 114-120.
160. DESAI, R.K., VAN WIJNEN, A.J., **SHAKOORI, A.R.**, BORTELL, R., STEIN, J.L., LIAN, J.B. AND STEIN, G.S., 1994. Phosphorylation dependent interactions of heteromeric VDR/RXR protein complexes

- recognizing single and double steroid hormone half sites in the rat osteocalcin Vitamin D responsive element. *J. Bone. Min. Res.*, **9 (suppl)**: C465, p. S419.
161. ASLAM, F., AND **SHAKOORI, A.R.**, 1994. Bone meeting.
162. AZIZ, F., AND **SHAKOORI, A.R.**, 1994. *Meeting of American Society for Cell Biology*.
163. **SHAKOORI, A.R.**, AND OTHERS. 1995. *Internation Conference of Biochemistry*, Lahore, Pakistan.
164. **SHAKOORI, A.R.**, COPPER, C., VAN WIJNEN, A.J., AND STEIN, G.S., 1995. Cytokine-induction of proliferation and expression of CDC2 and cyclin a in FDC-PI myeloid hematopoietic progenitor cells: Regulation of ubiquitous and cell cycle dependent histone gene transcription factors. Fourth Int. Symp. workshop *Appl. Mol. Biol. Res. Agric. Hlth. Environm.* April 9-11, 1995, page 5
165. **SHAKOORI, A.R.**, COPPER, C., VAN WIJNEN, A.J., STEIN, J.L., AND STEIN, G.S., 1995. Cytokine-induction of proliferation and expression of CDC2 and cyclin a in FDC-PI myeloid hematopoietic progenitor cells: Regulation of ubiquitous and cell cycle dependent histone gene transcription factors. *Proc. Pakistan Congr. Zool.*, **15**: 1-2.
166. ASLAM, F., LIAN, J.B., **SHAKOORI, A.R.**, STEIN, G.S., STEIN, G.L., LITWACK, G., VAN WIJNEN, A.J., AND SHALHOUB, V., 1995. Glucocorticoid responsiveness of the osteocalcin gene by multiple distal and proximal elements. *Proc. Pakistan Congr. Zool.*, **15**: 23.
167. AZIZ, F., VAN WIJNEN, A.J., **SHAKOORI, A.R.**, LIAN, J.B., STEIN, J.L., AND STEIN, G.S., 1995. Molecular dissection of multipartite cell cycle domain of H4 gene transcription. *Proc. Pakistan Congr. Zool.*, **15**: 3.
168. NOREEN, S., SHAKOORI, A.R., AND SALEEM, M.A., 1995. Electrophoretic evaluation of esterases induced by sumicidin super in *Tribolium castaneum*. *Proc. Pakistan Congr. Zool.*, **15**: 5.
169. SALEEM, M.A., **SHAKOORI, A.R.**, WILKINS, R.M., AND MANTLE, D., 1995. Comparison of proteolytic enzyme activities in insecticide resistant and susceptible strains of *Musca domestica*: Effect of insecticides on protease activities *In vitro*. *Proc. Pakistan Congr. Zool.*, **15**: 5-6.
170. TUFAIL, N., SALEEM, M.A., AND **SHAKOORI, A.R.**, 1995. Effect of starvation and refeeding in resistant and susceptible strains of *Tribolium castaneum* adult beetles. *Proc. Pakistan Congr. Zool.* **15**: 8-9.
171. SALEEM, M.A., TUFAIL, N., AND **SHAKOORI, A.R.**, 1995. Biochemical effects of *Bacillus thuringiensis*, *B. thuringiensis* + Permethrin and *B. thuringiensis* + Cypermethrin on 6th instar larvae of *Tribolium castaneum*. *Proc. Pakistan Congr. Zool.*, **15**: 9.
172. KAZMI, F., **SHAKOORI, A.R.**, AND ARSLAN, M., 1995. Effects of sublethal doses of an organophosphate insecticide, diazinon on the blood and liver of Sprague Dawley rats. *Proc. Pakistan Congr. Zool.*, **15**: 17-18.
173. RIAZ, N., JAVED, A., AND **SHAKOORI, A.R.**, 1995. Effect of insecticide on the growth of *Bacillus thuringiensis* Kurstaki HD-1. *Proc. Pakistan Congr. Zool.*, **15**: 18-19.
174. **SHAKOORI, A.R.**, MAKHDOOM, M., AND RIAZUL HAQ, 1995. Characterization of chromium resistant bacteria from the industrial effluents of tanneries in Kasur and their possible use for cleaning chromium containing industrial effluents. *Proc. Pakistan Congr. Zool.*, **15**: 19.
175. ALI, N., JAVED, A., AND **SHAKOORI, A.R.**, 1995. Lead induced proteins and plasmid DNA of *Bacillus thuringiensis*. *Proc. Pakistan Congr. Zool.*, **15**: 20.
176. KHAN, B., AND **SHAKOORI, A.R.**, 1995. Estimation of level of esterases in the various developmental stages of PAK, R and S strains of *Tribolium castaneum* (Herbst). *Proc. Pakistan Congr. Zool.*, **15**: 22.

177. RAZA, H., AND **SHAKOORI, A.R.**, 1995. Characterization of plasmid isolated from Shigella dysenteria resistant to various doses of antibiotics. *Proc. Pakistan Congr. Zool.*, 15: 22-23.
178. YOUNAS, S., AND **SHAKOORI, A.R.**, 1995. Estimation of esterases in three different strains (PAK strain, FSS-II strain and CTC-12 strain) of *Tribolium castaneum* (Herbst). (Coleoptera: Tenebrionidae). *Proc. Pakistan Congr. Zool.*, 15: 23.
179. KHURSHID, N., AND **SHAKOORI, A.R.**, 1995. Survey of locally isolated species of soil Bacilli from different areas of Pakistan. *Proc. Pakistan Congr. Zool.*, 15: 23-24.
180. IFTIKHAR, N., AND **SHAKOORI, A.R.**, 1995. Toxicity of different strains of *Bacillus* from soil in and around Lahore. *Proc. Pakistan Congr. Zool.*, 15: 26.
181. ANWAR, K.K., AND **SHAKOORI, A.R.**, 1995. Biochemical changes in the blood serum of newly hatched chicken of *Gallus domesticus*, developed from eggs with singles sublethal doses of a synthetic pyrethroid, permethrin. *Proc. Pakistan Congr. Zool.*, 15: 2728.
182. SHAH, D., AND **SHAKOORI, A.R.**, 1995. Chemical composition of wild and farmed *Catla catla*. *Proc. Pakistan Congr. Zool.*, 15: 28.
183. RAB, A., AFZAL, M., AKHTAR, N., AND **SHAKOORI, A.R.**, 1995. Growth performance of Catla-Labeo hybrid and its comparison with parents in poly-culture system. *Proc. Pakistan Congr. Zool.*, 15: 87.
184. RAB, A., AFZAL, M., AKHTAR, N., AND **SHAKOORI, A.R.**, 1995. Growth performance of Labeo-Catla hybrid under stress condition of over crowding and low temperature and its comparison with parents under pond monoculture system. *Proc. Pakistan Congr. Zool.*, 15: 88.
185. ASLAM, F., **SHAKOORI, A.R.**, LIAN, J.B. AND STEIN, G.S. 1995. Glucocorticoid responsiveness of the osteocalcin gene by multiple distal and proximal elements. *Second National Symposium on Basic and Applied Research in Health care and Social development* 23-24 Septemeber, 1995. The Aga Khan University, Karachi. p. 180.
186. **SHAKOORI, A.R.**, AND STEIN, G.S., 1995. Vitamin D regulated osteocalcin gene expression: are we closer to therapeutic applications of Vitamin D?. *Fifth Biennial PMRC Research Congress. The Aga Khan University, Karachi.* December, 19-20 1995. p. 4.
187. **SHAKOORI, A.R.**, ASLAM F., SHALHOUB, V., VAN WIJNEN, A.J., STEIN, J.L., STEIN, G.S. AND LIAN, J.B., 1996. Contribution of distal and proximal promoter elements to glucocorticoid regulation of osteocalcin gene transcription. *Proc. Pakistan Congr. Zool.*, 16: 1-2.
188. GILL, S., HASNAIN, S. AND **SHAKOORI, A.R.**, 1996. Indigenous salt-tolerant bacteria from saline areas. *Proc. Pakistan Congr. Zool.*, 16: 6.
189. KHUSHID, N. AND **SHAKOORI, A.R.**, 1996. Studies on the toxicity of locally isolated strains of Bacillus against insects. *Proc. Pakistan Congr. Zool.*, 16: 9-10.
190. KAZMI, F. AND **SHAKOORI, A.R.**, 1996. Effects of sublethal of Diazinon and Chlorpyrifos on the blood and liver of Sprague Dawley rats. *Proc. Pakistan Congr. Zool.*, 16: 10-11.
191. DAR, N. AND **SHAKOORI, A.R.**, 1996. Degradation of chromium by yeasts from industrial effluents. *Proc. Pakistan Congr. Zool.*, 16: 11.
192. ASMATULLAH, QURESHI, S.N. AND **SHAKOORI, A.R.**, 1996. Embryotoxic effects of chromium in chick. *Proc. Pakistan Congr. Zool.*, 16: 12-13.
193. RASHID, S., LATIF, N., **SHAKOORI, A.R.** AND ARSHAD, M., 1996. Sero-prevalence of brucellosis in sheep and goats in Faisalabad. *Proc. Pakistan Congr. Zool.*, 16: 19-20.
194. SABA, A., ARSHAD, M., **SHAKOORI, A.R.** AND LATIF, N., 1996. Sero-prevalence of bovine brucellosis in Faisalabad. *Proc. Pakistan Congr. Zool.*, 16: 20-21.
195. LATIF, N., NUSRAT, S., **SHAKOORI, A.R.** AND ARSHAD, M., 1996. Sero-epidemiological studies on brucellosis in women in Faisalabad. *Proc. Pakistan Congr. Zool.*, 16: 22-23.

196. NADEEM, S., YAQOOB, N., **SHAKOORI, A.R.** AND AHMAD, M.S., 1996. Isolation of amino acid fermenting bacteria from water of irrigation channels and irrigated cotton field soil. *Proc. Pakistan Congr. Zool.*, **16**: 38.
197. KAZI, J.I., SHAZIA, S.I. AND **SHAKOORI, A.R.**, 1996. Cultivation of chromium tolerant ciliate protozoa in the industrial effluents of tanneries of Kasur Area. *Proc. Pakistan Congr. Zool.*, **16**: 38-39.
198. SALEEM, M.A., **SHAKOORI, A.R.** AND MANTLE, D., 1996. In vivo Ripcord induced macromolecular abnormalities in *Tribolium castaneum* larvae. *Proc. Pakistan Congr. Zool.*, **16**: 39-40.
199. ALI, S.S., KHALIQUE, M. AND **SHAKOORI, A.R.**, 1996. Study of UV absorption spectra of various organophosphate pesticides. *Proc. Pakistan Congr. Zool.*, **16**: 40-41.
200. TAHSEEN, S., HAQ, R. AND **SHAKOORI, A.R.**, 1996. Isolation and characterization of chromium resistant bacteria from the industrial effluents. *Proc. Pakistan Congr. Zool.*, **16**: 41.
201. REHMAN, A., HAQ, R. AND **SHAKOORI, A.R.**, 1996. Isolation and characterization of lead resistance bacteria from industrial effluents. *Proc. Pakistan Congr. Zool.*, **16**: 42.
202. SAEED, K.I., HAQ, R. AND **SHAKOORI, A.R.**, 1996. Isolation and characterization of hydrocarbon degrading yeast from sewage water and industrial waste along Bund Road, Lahore. *Proc. Pakistan Congr. Zool.*, **16**: 42-43.
203. ANWAR, F., HAQ, R. AND **SHAKOORI, A.R.**, 1996. Isolation and characterization of hydrocarbon degrading bacteria from industrial effluents along Sheikhpura Road. *Proc. Pakistan Congr. Zool.*, **16**: 43.
204. NAWAZ, M., ALI, S.S., HAQ, R. AND **SHAKOORI, A.R.**, 1996. Isolation and characterization of insecticide degrading bacteria. *Proc. Pakistan Congr. Zool.*, **16**: 47.
205. AFROZ, S. AND **SHAKOORI, A.R.**, 1996. Toxicity of different strains of *Bacillus* isolated from soil samples from different areas of Pakistan. *Proc. Pakistan Congr. Zool.*, **16**: 48.
206. MUJEEB, K.A. AND **SHAKOORI, A.R.**, 1996. The toxicity of primiphosmethyl to different development of stages of three different strains of *Tribolium castaneum*. *Proc. Pakistan Congr. Zool.*, **16**: 66-67.
207. AHMAD, I. NAQVI, Z.H., GILL, R.A. AND **SHAKOORI, A.R.**, 1997. Effect of different protein levels on growth, feed efficiency and digestability of nutrients in lambs. *Proc. Pakistan Congr. Zool.*, **17**: 4.
208. ANWAR, S., HAQ, R. AND **SHAKOORI, A.R.**, 1997. Isolation of *Bacillus* from soil samples and their possible use as bioinsecticide. *Proc. Pakistan Congr. Zool.*, **17**: 13.
209. ZAHRA, B., HAQ, R. AND **SHAKOORI, A.R.**, 1997. Characterization of hydrocarbon degrading bacteria isolated from industrial effluents and petrol pumps. *Proc. Pakistan Congr. Zool.*, **17**: 15-16.
210. KHURSHID, N. AND **SHAKOORI, A.R.**, 1997. Evaluation of toxic effects of locally solated strains of *Bacillus* against houseflies. *Proc. Pakistan Congr. Zool.*, **17**: 21-22.
211. **AZIZ, F., SHAKOORI, A.R.**, STEIN J.L. AND STEIN J.S., 1997. Molecular dissection of a multi-partitie cell cycle domain of H4 gene transcription. *Proc. Pakistan Congr. Zool.*, **17**: 25-26.
212. KHANUM, F., LATIF, N., ARSHAD, M. AND **SHAKOORI, A.R.**, 1997. Sero-prevalence of brucellosis in livestock farmers in Faisalabad. *Proc. Pakistan Congr. Zool.*, **17**: 26.
213. SHIREEN, A., LATIF, N. ARSHAD, M. AND **SHAKOORI, A.R.** 1997. Sero-prevalence of brucellosis in cattle slaughtered at Faisalabad Abattoir. *Proc. Pakistan Congr. Zool.*, **17**: 28.

214. EHSAN, S., LATIF, N., ARSHAD, M. AND **SHAKOORI, A.R.**, 1997. Sero-prevalence of brucellosis in goat slaughtered at Faisalabad Abattoir. *Proc. Pakistan Congr. Zool.*, **17**: 28-29.
215. KHAN, S., LATIF, N., ARSHAD, M. AND **SHAKOORI, A.R.**, 1997. Sero-prevalence of brucellosis in veterinarian in Faisalabad. *Proc. Pakistan Congr. Zool.*, **17**: 29.
216. RAZA, A.W., LATIF, N., ARSHAD, M. AND **SHAKOORI, A.R.**, 1997. Sero-prevalence of brucellosis in butchers and slaughtered house workers in Faisalabad. *Proc. Pakistan Congr. Zool.*, **17**: 30.
217. HAQ, S., LATIF, N., ARSHAD, M. AND **SHAKOORI, A.R.**, 1997. Sero-epidemiological studies of brucellosis at Rakh Ghulaman and Kaloorkot Livestock farmer. *Proc. Pakistan Congr. Zool.*, **17**: 31-32.
218. QURESHI, S.Y., QURESHI, H.Y., NAQVI, Z.H., LATIF, N. AND **SHAKOORI, A.R.**, 1997. Comparative study of aspartate aminotransferase (AST) and alanine aminotransferase (ALT) in different social groups of people of Faisalabad. *Proc. Pakistan Congr. Zool.*, **17**: 32-33.
219. DAR, N. AND **SHAKOORI, A.R.**, 1997. Heavy metal induced proteins in yeast strains isolated from industrial effluents. *Proc. Pakistan Congr. Zool.*, **17**: 37-38.
220. SAYEED, K., HAQ, R. AND **SHAKOORI, A.R.**, 1997. Isolation of cadmium tolerant bacterial strains from industrial waste. *Proc. Pakistan Congr. Zool.*, **17**: 39.
221. HUMA, Z., HAQ, R. AND **SHAKOORI, A.R.**, 1997. Isolation of lead resistant yeast strains from industrial effluents. *Proc. Pakistan Congr. Zool.*, **17**: 40.
222. MUDASSAR, M. AND **SHAKOORI, A.R.**, 1997. Isolation of chromium resistant bacterial from industrial effluents and their use to clean up chromium containing waste water. *Proc. Pakistan Congr. Zool.*, **17**: 41.
223. QURESHI, A.S., HAQ, R. AND **SHAKOORI, A.R.**, 1997. Degradation of polycyclic aromatic hydrocarbon by yeast isolated from oil polluted soil. *Proc. Pakistan Congr. Zool.*, **17**: 41.
224. MUJEEB, K.A. AND **SHAKOORI, A.R.**, 1997. Effects of primiphos methyl (acetellic 50EC) on esterases and soluble proteins of *Tribolium castaneum*. *Proc. Pakistan Congr. Zool.*, **17**: 42.
225. NOOR, H., HAQ, R. AND **SHAKOORI, A.R.**, 1997. Isolation of lead resistant bacteria from industrial effluents. *Proc. Pakistan Congr. Zool.*, **17**: 42.
226. ASHMATULLAH, QURESHI, S.N. AND **SHAKOORI, A.R.**, 1997. Teratogenicity of hexavalent chromium in developing chicks of *Gallus domesticus*. *Proc. Pakistan Congr. Zool.*, **17**: 126.
227. SAQIB, Z.A. AND **SHAKOORI, A.R.**, 1997. Isolation of insecticide degrading bacteria and their tolerance against insecticides. *Proc. Pakistan Congr. Zool.*, **17**: 127.
228. ZIA, N.A., CHOUDRY, A., HAQ, R. AND **SHAKOORI, A.R.**, 1997. Isolation and characterization of insecticide degrading bacteria. *Proc. Pakistan Congr. Zool.*, **17**: 128.
229. QAZI, J.I., NOOR, S. AND **SHAKOORI, A.R.**, 1997. Isolation of amino acids yielding from bacterial from soil and water samples of Lahore area. *Proc. Pakistan Congr. Zool.*, **17**: 128.
230. ASMATULLAH, LATIF, A.A., HAQ, R. AND **SHAKOORI, A.R.**, 1997. Effect of hexavalent chromium on post-hatching development of *Gallus domesticus*. *Proc. Pakistan Congr. Zool.*, **17**: 129.
231. AHMAD, N., LATIF, N. AND **SHAKOORI, A.R.**, 1998. Seroprevalence of brucellosis in human beings and domestic animals in certain urban and rural areas around Satiana Road, Faisalabad. *Proc. Pakistan Congr. Zool.*, **18**:1-2.
232. AKHTAR, M., LATIF, N. AND **SHAKOORI, A.R.**, 1998. Clinical epidemiological studies and antibiotic therapy of Brucella infected patients treated at allied and district headquarter hospital, Faisalabad. *Proc. Pakistan Congr. Zool.*, **18**:3-4.
233. MUJEEB, K.A. AND **SHAKOORI, A.R.**, 1998. Insecticide resistance in stored grain pest *Tribolium castaneum*: Effects of Fury (18.1EC) on esterases and soluble proteins. *Proc. Pakistan Congr. Zool.*, **18**: 17-18.

234. KHURSHEED, N. AND **SHAKOORI, A.R.**, 1998. Evaluation of toxic effects of locally isolated strains of *Bacillus* genus against houseflies. *Proc. Pakistan Congr. Zool.*, **18**: 18.
235. REHMAN, A., HAQ, R. AND **SHAKOORI, A.R.**, 1998. Adaptation of ciliate protozoans to higher concentrations of heavy metal ions. *Proc. Pakistan Congr. Zool.*, **18**: 18-19.
236. ZAIDI, S.K., HAQ, R. AND **SHAKOORI, A.R.**, 1998. Processing of toxic ions by a yeast strain capable of growing in inorganic media with no organic supplement. *Proc. Pakistan Congr. Zool.*, **18**: 19.
237. JABEEN, N., HAQ, R., AND **SHAKOORI, A.R.**, 1998. Role of lead resistant yeast strains isolated from industrial effluents of tanneries in waste water treatment. *Proc. Pakistan Congr. Zool.*, **18**: 21-22.
238. DAR, N. AND **SHAKOORI, A.R.**, 1998. Cadmium resistant yeast isolated from industrial effluents. *Proc. Pakistan Congr. Zool.*, **18**: 24-25.
239. RASOOL, G., LATIF, N. AND **SHAKOORI, A.R.**, 1998. Seroepidemiological studies on brucellosis in livestock farmers in certain villages around Sargodha Road, Faisalabad. *Proc. Pakistan Congr. Zool.*, **18**: 26-27.
240. IQBAL, M.J., HAQ, R. AND **SHAKOORI, A.R.**, 1998. Isolation of mercury resistant bacteria from effluents of Kasur tanneries. *Proc. Pakistan Congr. Zool.*, **18**: 32.
241. Qazi, J.I., ASHRAF, U. AND **SHAKOORI, A.R.**, 1998. Biotechnological implication of Protozoa in cleaning industrial effluents containing heavy metals. *Proc. Pakistan Congr. Zool.*, **18**: 36.
242. RIAZ, S. AND **SHAKOORI, A.R.**, 1998. Isolation of amino acid producing bacteria from soil and water samples. *Proc. Pakistan Congr. Zool.*, **18**: 38-39.
243. JAMIL, R., HAQ, R. AND **SHAKOORI, A.R.**, 1998. Isolation and characterization of Insecticide degrading yeast strains from industrial effluents. *Proc. Pakistan Congr. Zool.*, **18**: 39.
244. KHAN, M.A., HAQ, R. AND **SHAKOORI, A.R.**, 1998. Isolation and characterization of zinc resistant bacterial strains from industrial wastes of Kasur area. *Proc. Pakistan Congr. Zool.*, **18**: 41-42.
245. MUNIR, S., HAQ, R. AND **SHAKOORI, A.R.**, 1998. Isolation and characterization of hydrocarbon degrading bacteria from industrial effluents along Kasur Road. Isolation and characterization of hydrocarbon degrading bacteria from industrial effluents along Kasur Road. *Proc. Pakistan Congr. Zool.*, **18**: 44.
246. BUKHARI, S.I., ALI, S.S., HAQ, R. AND **SHAKOORI, A.R.**, 1998. Molecular characterization of insecticide degrading bacterial strains isolated from industrial effluents and agricultural soils. *Proc. Pakistan Congr. Zool.*, **18**: 45.
247. MUNEEB, B., HAQ, R. AND **SHAKOORI, A.R.**, 1998. Isolation of copper tolerant bacterial strains from industrial wastes. *Proc. Pakistan Congr. Zool.*, **18**: 47-48.
248. ISHAQ, M., MUJEEB, K.A. AND **SHAKOORI, A.R.**, 1998. The toxicity of fenvalerate to different developmental stages of three different strains of *Tribolium castaneum*. *Proc. Pakistan Congr. Zool.*, **18**: 59.
249. QAZI, J.I., RAQEEB, A. AND **SHAKOORI, A.R.**, 1998. Characterization and growth optima of some amino acids producing bacteria. *Proc. Pakistan Congr. Zool.*, **18**: 127.
250. ISHAQ, M., MUJEEB, K.A. AND **SHAKOORI, A.R.**, 1999. Role of esterases in insecticide resistance in stored grain pest, *Tribolium castaneum* (Herbst) (Tenebrionidae: Coleoptera). *Proc. Pakistan Congr. Zool.*, **19**: 191.
251. QURESHI, F., HAQ, R. AND **SHAKOORI, A.R.**, 1999. Isolation of cadmium tolerant bacteria from industrial effluents and their use in environmental clean up. *Proc. Pakistan Congr. Zool.*, **19**: 192-193.
252. JABEEN S., DAR, N., HAQ, R. AND **SHAKOORI, A.R.**, 1999. Isolation and characterization of cadmium resistant yeast strains from industrial effluents. *Proc. Pakistan Congr. Zool.*, **19**: 194-195.

253. MUNEEB, B., HAQ, R. AND **SHAKOORI, A.R.**, 1999. Isolation and characterization of Cu²⁺ resistant bacteria from the industrial effluents. *Proc. Pakistan Congr. Zool.*, **19**: 195-196.
254. JAVED, S. AND **SHAKOORI, A.R.**, 1999. Seasonal variation in number and activity of chromium resistant bacteria in industrial wastes. *Proc. Pakistan Congr. Zool.*, **19**: 196.
255. KHURSHID, N. AND **SHAKOORI, A.R.**, 1999. Toxic effects of locally isolated strains of *Bacillus* against mosquitoes, *Anopheles stephensi*. *Proc. Pakistan Congr. Zool.*, **19**: 196-197.
256. HAQ, R. AND **SHAKOORI, A.R.**, 1999. A self sustained micro-ecosystem of protozoa and algae. *Proc. Pakistan Congr. Zool.*, **19**: 197-198.
257. DAR, N. AND **SHAKOORI, A.R.**, 1999. Isolation and characterization of heavy metal resistant yeasts from industrial effluents of Kasur. *Proc. Pakistan Congr. Zool.*, **19**: 198.
258. ASMATULLAH, ASLAM, T. AND **SHAKOORI, A.R.**, 1999. Toxicity of an organophosphorus insecticide in pregnant mice and developing fetuses. *Proc. Pakistan Congr. Zool.*, **19**: 198-199.
259. ASMATULLAH, KHAN, A.R. AND **SHAKOORI, A.R.**, 1999. Embryotoxic effects of sub-lethal doses of methidophos in mice. *Proc. Pakistan Congr. Zool.*, **19**: 199-200.
260. QAZI, J.I., MARIAM, Z. AND **SHAKOORI, A.R.**, 1999. Growth of microorganisms indigenous of tanneries effluent in the presence of molasses, peptone and varying concentrations of CR+6. *Proc. Pakistan Congr. Zool.*, **19**: 200-201.
261. QAZI, J.I., QURESHI, A.W. AND **SHAKOORI, A.R.**, 1999. Effects of media composition on bacterial conversion of glucose and inorganic nitrogen into extracellular amino acid(s). *Proc. Pakistan Congr. Zool.*, **19**: 201.
262. AHMED K. AND **SHAKOORI, A.R.**, 1999. The common ecological agents of diarrhoea and dysentery in the northern areas of Pakistan, Gilgit and their sensitivity pattern. *Proc. Pakistan Congr. Zool.*, **19**: 202-203.
263. RIAZ, S. AND **SHAKOORI, A.R.**, 1999. Upgradation of agricultural wastes to produce amino acids through microbial fermentation. *Proc. Pakistan Congr. Zool.*, **19**: 203-204.
264. AFSHAN, A., HAQ, R. AND **SHAKOORI, A.R.**, 1999. Isolation and characterization of chromium resistant yeast from industrial effluents. *Proc. Pakistan Congr. Zool.*, **19**: 204-205.
265. REHMAN, A., HAQ, R. AND **SHAKOORI, A.R.**, 1999. Metal resistance in protozoa isolated from the industrial effluents. *Proc. Pakistan Congr. Zool.*, **19**: 205.
266. JAMIL, R. AND **SHAKOORI, A.R.**, 1999. Isolation and characterization of insecticide degrading yeast strains from industrial effluents. *Proc. Pakistan Congr. Zool.*, **19**: 206.
267. ASHRAF, S., HAQ, R., REHMAN, A. AND **SHAKOORI, A.R.**, 1999. A study on growth and survival of lead resistant protozoa. *Proc. Pakistan Congr. Zool.*, **19**: 223-224.
268. ANDLEEB, S., HAQ, R. AND **SHAKOORI, A.R.**, 1999. Isolation of chromium resistant bacteria from industrial effluents and chromium detoxification by bacteria. *Proc. Pakistan Congr. Zool.*, **19**: 224-225.
269. ISMAIL, S. MUJEEB, K.A. AND **SHAKOORI, A.R.**, 1999. Effect of insecticide pyrethroid (Alpha Cypermethrin) on esterases of 6th instar and 10 days old adults of *Tribolium castanum*. *Proc. Pakistan Congr. Zool.*, **19**: 225.
270. AHMAD, S.M. AND **SHAKOORI, A.R.**, 1999. Separation of rabbit immunoglobulins by salt precipitation technique. *Proc. Pakistan Congr. Zool.*, **19**: 226-227.
271. MUJEEB, K.A. AND **SHAKOORI, A.R.**, 1999. Effect of pyrethroid (Fury) on different strains of *Rhizopertha dominica*. *Proc. Pakistan Congr. Zool.*, **19**: 227.
272. **SHAKOORI, A.R.**, WIJINEN, A.V., STEIN, J.L. AND STEIN, G.S., 1999. Molecular and functional anatomy of rat CBfa1 promoter involved in skeletal specific transcriptional control of osteocalcin gene. *Proc. Pakistan Congr. Zool.*, **19**: 229.

273. AZIZ, F., STEIN, J.L., **SHAKOORI, A.R.** AND STEIN, G.S., 1999. Transcriptional regulation of cell cycle controlled human histone H4 gene. *Proc. Pakistan Congr. Zool.*, **19**: 229-230.
274. JAVED, A., LIAN, J., STEIN, J.L., STEIN, G.S. AND **SHAKOORI, A.R.**, 1999. Contributions of nuclear architecture to bone-specific and steroid hormone regulated osteocalcin gene transcription. *Proc. Pakistan Congr. Zool.*, **19**: 230-232.
275. JAVEED, A., STEIN, J.L., LIAN, J.B., STEIN, G.S. AND **SHAKOORI, A.R.**, 1999. Core binding factor (CBF) transcriptional regulators suppress avian bone sialoprotein promoter activity. *Proc. Pakistan Congr. Zool.*, **19**: 232-233.
276. SAMAD, Z., ALI, S.S. AND **SHAKOORI, A.R.**, 1999. Isolation and characterization of pentachlorophenol degrading bacteria from industrial wastes. *Proc. Pakistan Congr. Zool.*, **19**: 244-245.
277. MAQBOOL, S., ALI, S.S., MUJEEB, K.A. AND **SHAKOORI, A.R.**, 1999. Study of esterases from various strains of *Phyzopertha dominica* collected from different godowns in Punjab. *Proc. Pakistan Congr. Zool.*, **19**: 245-246.
278. ANULLAH, A., ILYAS, Z., ALI, S.S. AND **SHAKOORI, A.R.**, 1999. Toxicological effect of pentachlorophenol on the kidney of mouse, *Mus musculus*. *Proc. Pakistan Congr. Zool.*, **19**: 246-247.
279. ASHRAF, S., REHMAN, A., HAQ, R.U. AND **SHAKOORI, A.R.**, 2000. Culturing of leadf resistant Protozoa isolated from industrial effluents. *Proc. Pakistan Congr Zool.*, **20**:1.
280. SALEEM, M.A. AND **SHAKOORI, A.R.**, 2000. Joint effects of Diflubenzuron and Cyperrmethrin and subsequently refeeding on some macromolecules of *Triboilum castaneum*. *Proc. Pakistan Congr Zool.*, **20**:1-2.
281. SALEEM, M.A. AND **SHAKOORI, A.R.**, 2000. Synergistic effects of Diflubenzuron and Perrmethrin on some macromolecules of *Triboilum castaneum* larvae. *Proc. Pakistan Congr Zool.*, **20**: 2-3.
282. SALEEM, M.A. AND **SHAKOORI, A.R.**, 2000. Synergistic effects of Perrmethrin and Cypermethrin on the toxicity of gamma-HCH on some macromolecules of *Triboilum castaneum* larvae. *Proc. Pakistan Congr Zool.*, **20**: 3-4.
283. SALEEM, M.A. AND **SHAKOORI, A.R.**, 2000. Synergistic effects of synthetic pyrethroids on the toxicity of gamma-HCH on some enzymes of *Triboilum castaneum* larvae. *Proc. Pakistan Congr Zool.*, **20**:4.
284. **SHAKOORI, A.R.**, TSAI, M.C. AND GORROD, J.W., 2000. In vitro brain meytabolism on nicotine delta iminium ion, and the presence of cotinine in mouse brain after intraperitoneal adminidstration of delta iminium ion and cotinine. *Proc. Pakistan Congr Zool.*, **20**:5.
285. QURESHI, F., JABEEN, S.A. AND **SHAKOORI, A.R.**, 2000. Bioremediation of industrial waste waters through Cd resistanct bacteria isolated from industrial efflkents of Sialkot. *Proc. Pakistan Congr Zool.*, **20**: 6.
286. AFSHAN, A., HAQ, R.U. AND **SHAKOORI, A.R.**, 2000. Dichromate-resistant yeast isolated from industrial wastes and their possible role in bioremediation of waste water. . *Proc. Pakistan Congr Zool.*, **20**: 7.
287. FAROOQ, H. AND **SHAKOORI, A.R.**, 2000. Isolation and characterization of mercury resistant yeast strains from industrial effluents and their use in bioremediation.. *Proc. Pakistan Congr Zool.*, **20**: 9-10.
288. RIAZ, S. AND **SHAKOORI, A.R.**, 2000. Increased production of lysine and glutamic acid by bacterial isolates after their exposure to ultraviolet radfation. .. *Proc. Pakistan Congr Zool.*, **20**:10.

289. JABEEN, S., QURESHI, F., AZIZ, F. AND **SHAKOORI, A.R.**, 2000. Bioremediation of industrial waste waters through cadmium resistant yeast isolated from industrial effluents of Sialkot. *Proc. Pakistan Congr Zool.*, **20**: 11-12.
290. GHAFFAR, S., QURESHI, F. AND **SHAKOORI, A.R.**, 2000. Isolation of lead resistant bacteria from industrial effluents and their possible use in bioremediation. *Proc. Pakistan Congr Zool.*, **20**: 15-16.
291. JAVED, S., KHURSHED, N. AND **SHAKOORI, A.R.**, 2000. Seasonal variation in chromium resistant bacterial population in ponds receiving waste waters from tanneries. *Proc. Pakistan Congr Zool.*, **20**: 16-17.
292. ZULFIQAR, S., ISMAIL, S., MUJEEB, K.A. AND **SHAKOORI, A.R.**, 2000. Analysis of esterases of different strains of *Rhyzopertha dominica* as indicator of resistance against a synthetic pyrethroid (Fury). *Proc. Pakistan Congr Zool.*, **20**: 17-18.
293. AHMED, K. AND **SHAKOORI, A.R.**, 2000. The common bacterial etiologic agent of diarrhoea and dysentery in the northern areas of Pakistan Gilgit and their sensitivity pattern. *Proc. Pakistan Congr Zool.*, **20**: 18.
294. KHURSHED, N. AND **SHAKOORI, A.R.**, 2000. Optimization of a medium for a high yield production of *Bacillus thuringiensis* and *B. sphaericus* effective against the houseflies, *Musca domestica*. *Proc. Pakistan Congr Zool.*, **20**: 19-20.
295. NADEEM, S., QURESHI, M.J. AND **SHAKOORI, A.R.**, 2000. Enhanced L-lysine production by *Escherichia coli* mutant *E. coli* SW30 NIAB after MNNG treatment. *Proc. Pakistan Congr Zool.*, **20**: 20-21.
296. REHMAN, A. AND **SHAKOORI, A.R.**, 2000. Seasonal variation of the Protozoan fauna isolated from industrial waste of tanneries of Kasur. *Proc. Pakistan Congr Zool.*, **20**: 33.
297. JAVED, A., HIEBERT, S., VAN WIJNEN, A., STEIN, J.L., LIAN, J.B., STEIN, G.S. AND **SHAKOORI, A.R.**, 2000. Groucho/TLE/RESP proteins associated with the nuclear matrix and repress RUNX (CBFA-AML/PEBP2a) dependent activation of tissue specific gene transcription. *Proc. Pakistan Congr Zool.*, **20**: 35-36.
298. ZAIDI, S.K., JAVED, A., CHOI, J.Y., ZHOU, W., VAN WIJNEN, A.J., STEIN, J.L., LIAN, J.B., STEIN, G.S. AND **SHAKOORI, A.R.**, 2000. Structure-function determinants for subnuclear targeting and transactivation in the RUNX-2/CBFA1/AML3 transcription factor. *Proc. Pakistan Congr Zool.*, **20**: 36-37.
299. ISMAIL, S., ZULFIQAR, S., MUJEEB, K.M., SALEEM, M.A. AND **SHAKOORI, A.R.**, 2000. Analysis of esterases of 6th instar and 10 days old adult beetles of three different strains of *Tribolium castaneum* as indicator of resistance against alpha-cypermethrin (alpha pyrethroid). *Proc. Pakistan Congr Zool.*, **20**: 39-40.
300. SAQIB, Z.A. AND **SHAKOORI, A.R.**, 2000. Screening of insecticide degrading bacteria from Lahore and Vehari. *Proc. Pakistan Congr Zool.*, **20**: 45.
301. MUJEEB, K.A. AND **SHAKOORI, A.R.**, 2000. Comparative studies on esterases, as parameter of insecticide resistance in *Tribolium castaneum* (Herbst). *Proc. Pakistan Congr Zool.*, **20**: 46.
302. DAR, N. AND **SHAKOORI, A.R.**, 2000. Bioaccumulation of lead by yeast and its utilization in industrial clean up. *Proc. Pakistan Congr Zool.*, **20**: 47.
303. QAMAR, S., **SHAKOORI, A.R.** AND MUZAFFAR, N., 2000. Quality evaluation of indigenous honey. *Proc. Pakistan Congr Zool.*, **20**: 47-48.
304. ALI, S.S., ILYAS, Z. AND **SHAKOORI, A.R.**, 2000. Hepato-toxic effects of pentachlorophenol in the mice: Biochemical studies. *Proc. Pakistan Congr Zool.*, **20**: 48-49.

305. SAMAD, Z., ALI, S.S. AND **SHAKOORI, A.R.**, 2000. Studies on the bioremediation of pentachlorophenol: Screening and characterization of useful bacteria. *Proc. Pakistan Congr Zool.*, **20**: 50-51.
306. AHMAD, S.M. AND **SHAKOORI, A.R.**, 2000. Quantitative analysis of rabbit immunoglobulins in antiserum produced against eukaryotic antigen (Human A+ RBCs). *Proc. Pakistan Congr Zool.*, **20**: 60-61.
307. LATIF, B., MUNEER, B AND **SHAKOORI, A.R.**, 2000. Bacteriological examination of drinking water of New Campus area of Punjab University of Lahore. *Proc. Pakistan Congr Zool.*, **20**: 61-62.
308. MUNIR, M. AND SHAKOORI, A.R., 2000. Resistance of organophosphate and pyrethroids in different strains of *Rhyzopertha dominica* (Coleoptera: Bostrichidae). *Proc. Pakistan Congr Zool.*, **20**: 77-78.
309. REHMAN, A. AND **SHAKOORI, A.R.**, 2001. Isolation and culturing of protozoa from industrial effluents and their role in bioremediation. *Proc. Pakistan Congr Zool.*, **21**: 12.
310. MUNEER, B. AND **SHAKOORI, A.R.**, 2001. Role of microorganisms in remediation of heavy metals in industrial wastes. *Proc. Pakistan Congr Zool.*, **21**: 13.
311. SALEEM, M.A. AND **SHAKOORI, A.R.**, 2001. Biochemical effects of Gamma-HCH and interaction with permethrin and cypermethrin. I. Enzyme activities of *Tribolium castaneum* adult beetles. *Proc. Pakistan Congr Zool.*, **21**: 13.
312. SARWAR, S. AND **SHAKOORI, A.R.**, 2001. Isolation and characterization of cadmium resistant yeast from industrial effluents and their role in bioremediation. *Proc. Pakistan Congr Zool.*, **21**: 14.
313. SALEEM, M.A. AND **SHAKOORI, A.R.**, 2001. Biochemical effects of Gamma-HCH and interaction with permethrin and cypermethrin. II. Some macromolecules of *Tribolium castaneum* adult beetles. *Proc. Pakistan Congr Zool.*, **21**: 14.
314. SAQIB, Z.A. AND **SHAKOORI, A.R.**, 2001. Chlorinated insecticide degrading bacteria isolated from soil samples and their possible use in bioremediation. *Proc. Pakistan Congr Zool.*, **21**: 39.
315. ALI, A., MUNEER, B. AND **SHAKOORI, A.R.**, 2001. Isolation and characterization of Ag⁺² resistant bacteria from the industrial effluents. *Proc. Pakistan Congr Zool.*, **21**: 43.
316. QURESHI, A., SAQIB, Z.A. AND **SHAKOORI, A.R.**, 2001. Resistant yeast isolated from the industrial effluents and their possible role in waste water clean up. *Proc. Pakistan Congr Zool.*, **21**: 44.
317. ALI, S.S., REHMAN, R.A., MUJEEB, K.A. AND **SHAKOORI, A.R.**, 2001. Studies on the phosphine-induced changes in various esterase levels and their role in development of resistance in 6th instar larvae of *Tribolium castaneum*. *Proc. Pakistan Congr Zool.*, **21**: 44-45.
318. KHALID, N. AND **SHAKOORI, A.R.**, 2001. Isolation and characterization of Cd⁺² resistant bacteria from industrial effluents and uses in bioremediation. *Proc. Pakistan Congr Zool.*, **21**: 45.
319. KHAWAJA, K., SHAKOORI, F.R. AND **SHAKOORI, A.R.**, 2001. Isolation and characterization of nickel resistant bacteria from industrial effluents and their use in bioremediation process. *Proc. Pakistan Congr Zool.*, **21**: 46.
320. **SHAKOORI, A.R.** AND SULTAN, S., 2001. Zn⁺² resistant bacteria from industrial effluents and their role in bioremediation. *Proc. Pakistan Congr Zool.*, **21**: 47.
321. DAR, N. AND SHAKOORI, A.R., 2001. Dichromate resistant yeasts isolated from industrial effluents and their utilization in bioremediation. *Proc. Pakistan Congr Zool.*, **21**: 47.
322. AHMED, K. AND SHAKOORI, A.R., 2001. Effect of antibacterial agents against bacteria causing diarrhoea and dysentery. *Proc. Pakistan Congr Zool.*, **21**: 48.
323. MUNIR, M., ALI, N.S. AND **SHAKOORI, A.R.**, 2001. Efficacy of mixtures of insecticides on stored grain pest, *Rhyzopertha dominica*. *Proc. Pakistan Congr Zool.*, **21**: 71.

324. ALI, N.S., MUNIR, M. ALI, S.S. AND **SHAKOORI, A.R.**, 2001. Efficacy of mixtures of an organophosphate malathion and A synthetic pyrethroid, talstar against lesser grain borer, *Rhyzopertha dominica*. *Proc. Pakistan Congr Zool.*, **21: 71**.
325. RAFIQ, A., SHAKOORI, F.R. AND **SHAKOORI, A.R.**, 2001. Isolation and characterixation of Zn⁺² resistant bacteria from industrial effluents and their role in bioremediation. *Proc. Pakistan Congr Zool.*, **21: 123**.
326. LATIF, Q., MUNEER, B. AND **SHAKOORI, A.R.**, 2001. Microbiological assessment of drinking water in campus of Punjab University. *Proc. Pakistan Congr Zool.*, **21: 127**.
327. HAMOOD, A., KHURSHID, N. AND **SHAKOORI, A.R.**, 2001. Isolation and characterization of nickel resistant bacteria from the industrial effluents. *Proc. Pakistan Congr Zool.*, **21: 40**.
328. QAMAR, S., MUZAFFAR, N. AND **SHAKOORIM, A.R.**, 2001. Effect of temperature on diastase activity and hydroxymethylfurfural (HMF) production in honey. *Proc. Pakistan Congr Zool.*, **21: 49**.
329. DAR, N. AND **SHAKOORI, A.R.**, 2002. Cadmium resistant yeasts isolated from industrial effluents and biosorption of metals. *Proc., Pakistan Congr. Zool.*, **22:11**.
330. KHURSHID, N. AND **SHAKOORI, A.R.**, 2002. Comparison between two species of Bacillus, *B. thuringiensis* and *B. sphaericus* for their evaluation as more potent bioinsecticide. *Proc., Pakistan Congr. Zool.*, **22:13**.
331. REHMAN, A. AND **SHAKOORI, A.R.**, 2002. Isolation and culturing protozoa from industrial wastes and their role in remediation of heavy metals. *Proc., Pakistan Congr. Zool.*, **22:13-14**.
332. SAQIB, Z.A. AND **SHAKOORI, A.R.**, 2002. Isolation of bacterial strains capable of biodegradation of chlorinated insecticides from agricultural fields. *Proc. Pakistan Congr. Zool.*, **22::8**.
333. RAFIQ, A., SHAKOORI, F.R. AND **SHAKOORI, A.R.**, 2002. Sensitive resistant bacteria from industrial effluents and their role in bioremediation. *Proc. Pakistan Congr. Zool.*, **22::28-29**.
334. MUNEER, B. AND **SHAKOORI, A.R.**, 2002. Role of copper resistant yeast in the remediation of heavy metals. *Proc. Pakistan Congr. Zool.*, **22:29**.
335. SALEEM, F., SHAKOORI, F.R. AND **SHAKOORI, A.R.**, 2002. Isolation and characterization of nickel resistant yeast from industrial effluents and its role in bioremediation. *Proc. Pakistan Congr. Zool.*, **22:29-30**.
336. SHAKOOR, N., SHAKOORI, F.R. AND SHAKOORI, A.R., 2002. Metal resistance and accumulation efficiency of yeast capable of growing on inorganic media containing iron or sulphur. *Proc. Pakistan Congr. Zool.*, **22:31**.
337. MUNIR, M., ALI, N.S. AND SHAKOORI, A.R., 2002. Comparative study of insecticide susceptibility and level of esterases in lesser grain borer, *Rhyzopertha dominica*. *Proc. Pakistan Congr. Zool.*, **22:31-32**.
338. SABOOR, F., SHAKOORI, F.R. AND SHAKOORI, A.R., 2002. Effect of pH on uptake of heavy metals by lead resistant bacterial isolates and heavy metal precipitation. *Proc. Pakistan Congr. Zool.*, **22:32**.
339. MUJEEB, K.A., BASHIR, B. AND SHAKOORI, A.R., 2002. Effect of pyrethroid. Permethrin on the microsomal esterases of *Tribolium castaneum*. *Proc. Pakistan Congr. Zool.*, **22:32-33**.
340. GHANJAR, I., ALI, S.S. AND **SHAKOORI, A.R.**, 2002. Immunotoxic and haematocrit effects of pentachlorophenol sodium in rabbits against human particular antigens. *Proc. Pakistan Congr. Zool.*, **22:34**.
341. SEHAR, S., **SHAKOORI, A.R.** AND ALI, S.S., 2002. Studies on various esterases of larvae of Khapra beetle *Trogoderma granarium* collected from different areas of Punjab. *Proc. Pakistan Congr. Zool.*, **22:37**.

342. SHAKOORI, F.R., KHAWAJA, K., RAFIQ, A. AND **SHAKOORI, A.R.**, 2002. Nickel resistant bacteria isolated from industrial effluents and their role in bioremediation. *Proc. Pakistan Congr. Zool.*, **22**:107.
343. FAROOQ, H. AND **SHAKOORI, A.R.**, 2002. Presentation of a model yeast reactor for remediation of industrial metal pollution. *Proc. Pakistan Congr. Zool.*, **22**:107-108.
344. ALI, A., MUNEEB, B. AND **SHAKOORI, A.R.**, 2002. Metal processing ability of Hg²⁺ resistant bacteria in heavy metal elimination. *Proc. Pakistan Congr. Zool.*, **22**:108.
345. REHMAN, A. AND **SHAKOORI, A.R.** 2002. Isolation of heavy metals resistant rotifers from a chromium contaminated site. *Proc. Pakistan Congr. Zool.*, **22**:111.
346. MUNEEB, B. AND **SHAKOORI, A.R.**, 2002. Accumulation of cadmium by bacteria isolated from industrial effluents. *Proc. Pakistan Congr. Zool.*, **22**:113.
347. AHMED, K., SHAKOORI, F.R. AND **SHAKOORI, A.R.**, 2002. Shigellosis in the northern areas of Pakistan. *Proc. Pakistan Congr. Zool.*, **22**:114.
348. QAMAR, S., AHMAD, F. AND **SHAKOORI, A.R.**, 2002. Physico-chemical analysis of Nepal's Apis dorsata (giant honey bee) honey. *Proc. Pakistan Congr. Zool.*, **22**:120.
349. MUHAMMAD, A., QAMAR, S., ALI, S.S. AND **SHAKOORI, A.R.**, 2002. Biochemical and haematological response of Mahaseer *Tor putitora* netted from polluted and non-polluted areas of River Kabul, NWFP. *Proc. Pakistan Congr. Zool.*, **22**:120.
350. AHMED, K., SHAKOORI, F.R. AND **SHAKOORI, A.R.**, 2003. Diarrhoea due to *Escherichia coli* in children of under 5 year age in northern areas, Pakistan. *Proc. Pakistan Congr. Zool.*, **23**: 14.
351. REHMAN, A. AND **SHAKOORI, A.R.**, 2003. Heavy metal resistance in a ciliate protozoa 'Oxytricha' isolated from tannery effluents and its role in bioremediation of toxic wastes. *Proc. Pakistan Congr. Zool.*, **23**: 29-30.
352. DAR, N. AND **SHAKOORI, A.R.**, 2003. Isolation and characterization of cadmium resistant yeast and their use in bioremediation. *Proc. Pakistan Congr. Zool.*, **23**: 32.
353. MUNEEB, B. AND **SHAKOORI, A.R.**, 2003. Combined effect of bacteria and yeast isolated from the industrial effluents for removal of Pb from industrial wastewater. *Proc. Pakistan Congr. Zool.*, **23**: 91.
354. KHURSHED, N., AND **SHAKOORI, A.R.**, 2003. Detailed study of *Bacillus thuringiensis* locally isolated from soil for its use as bioinsecticide. *Proc. Pakistan Congr. Zool.*, **23**: 91-92.
355. SAQIB, Z.A. AND **SHAKOORI, A.R.**, 2003. Biodegradation of chlorinated insecticides (Endosulfan and heptachlor) by bacteria isolated from soil samples of agricultural fields. *Proc. Pakistan Congr. Zool.*, **23**: 15-16
356. **SHAKOORI, A.R.**, 2003. Possible functional role of selectins: Predictions based on post-translational modifications sites. *Proc. Bioinformatics. Information Technology and Biostatistics*, *p.*
357. **SHAKOORI, A.R.**, 2003. Writing a successful grant proposal. *Proc. Med. Res. Soc. Pakistan*, **16**:12.
358. **SHAKOORI, A.R.**, , JAVED, A., STEIN, J.L. AND STEIN, G.S., 2003. Modulation of tissue specific gene transcription by the C/EBP Co-activators and the Groucho/TLE Co-repressor. *Proc. 7th Pakistan Soc. Biochem. Mol. Biol. Conf.*, *p.* **37**.
359. REHMAN, A., **SHAKOORI, A.R.**, 2003. Heavy metal resistant Rotifers from chromium contaminated wastewater can help in environmental clean up. *Proc. 7th Pakistan Soc. Biochem. Mol. Biol. Conf.*, pages 103-104.
360. **SHAKOORI, A.R.** AND NASIR UD DIN, 2004. Possible functional role of selectins: Prediction based on post translational modifications. *Proc. Pakistan Congr. Zool.*, **24**: 1.

361. ABBAS, N., AKHTAR, M. AND **SHAKOORI, A.R.**, 2004. The cloning of PreS gene from Pakistanian isolates of hepatitis B virus into a high expression vector pKk223-3. . *Proc. Pakistan Congr. Zool.*, 24: 13.
362. ABBAS, D., KHURSHID, N. AKHTAR, M. AND **SHAKOORI, A.R.**, 2004. Characterization of cry proteins from locally isolated strains of *Bacillus thuringiensis*. *Proc. Pakistan Congr. Zool.*, 24: 13.-14.
363. SALEEM, F., KHURSHID, N., AKHTAR, M. AND **SHAKOORI, A.R.**, 2004. PCR based identification of genes for pesticidal crystal proteins in locally isolated strains of *Bacillus thuringiensis*. *Proc. Pakistan Congr. Zool.*, 24: 15.
364. MUNEER, B. AND **SHAKOORI, A.R.**, 2004. Bioremediation of chromium by metal reducing microorganisms isolated from the waste water of tanneries. *Proc. Pakistan Congr. Zool.*, 24: 15.
365. SALEEM, M.A., WILKINS, R.M., MANTLE, D., NASREEN, A. AND **SHAKOORI, A.R.**, 2004. *In vivo* effect of beta Cyfluthrin on proteases in insecticide-resistant and susceptible strains of *Tribolium castaneum*. *Proc. Pakistan Congr. Zool.*, 24: 22-23.
366. SALEEM, M.A., WILKINS, R.M., MANTLE, D., AND **SHAKOORI, A.R.**, 2004. *In vivo* effect of Cyfluthrin on proteolytic enzyme activities of malathion-resistant and susceptible strains of *Tribolium castaneum*. *Proc. Pakistan Congr. Zool.*, 24: 23.
367. SALEEM, M.A., WILKINS, R.M., MANTLE, D., CHEEMA, G.M. AND **SHAKOORI, A.R.**, 2004. *In vivo* effect of lambda Cyfluthrin on proteolytic enzyme activities of malathion-resistant and susceptible strains of *Tribolium castaneum*. *Proc. Pakistan Congr. Zool.*, 24: 24.
368. SALEEM, M.A., WILKINS, R.M., MANTLE, D., AND **SHAKOORI, A.R.**, 2004. *In vivo* effect of lambda Cyfluthrin on proteases of various body compartments of *Periplaneta americana*. *Proc. Pakistan Congr. Zool.*, 24: 24-25.
369. SAQIB, Z.A., SHAKOORI, F.R. AND **SHAKOORI, A.R.**, 2004. Isolation, purification and enrichment of chlorinated cyclodiene insecticide degrading bacterial strains from agricultural fields soil samples. *Proc. Pakistan Congr. Zool.*, 24::31.
370. REHMAN, A. AND **SHAKOORI, A.R.**, 2004. Multiple metal resistance in ciliates isolated from industrial effluents and role of protozoa in bioremediation of toxic waste. *Proc. Pakistan Congr. Zool.*, 24:32-33.
371. MUNIR, M. AND **SHAKOORI, A.R.**, 2004. Detection of malathion, bifenthrin and deltamethrin resistance and analysis of esterase activities in *Rhyzopertha dominica*. *Proc. Pakistan Congr. Zool.*, 24:33.
372. DAR, N. AND **SHAKOORI, A.R.**, 2004. Protein profile of the heavy metal resistant yeast. *Proc. Pakistan Congr. Zool.*, 24:33.
373. AHMED, K. AND **SHAKOORI, A.R.**, 2004. Common bacterial etiological agents of diarrhoea and dysentery in the Northern areas of Pakistan and their sensitivity. *Proc. Pakistan Congr. Zool.*, 24:34.
374. SHAKOORI, F.R., ALI, N.M. AND **SHAKOORI, A.R.**, 2004. Study on bacterial contamination in honey. *Proc. Pakistan Congr. Zool.*, 24:38.
375. RASHID, M.U., SULTAN, F., ZAIDI, A., NAQVI, B., **SHAKOORI, A.R.**, AMIN, A., AND HAMANN, U., 2004. Prevalence and spectrum of BRCA1 germ line mutations in Pakistani breast and or ovarian cancer families. The INCTR Annual Meeting 2004 – Cancer Control in Developing Countries. Cairo, Egypt. Abstract no. 64.
376. RASHID, M.U., SULTAN, F., ZAIDI, A., NAQVI, B., **SHAKOORI, A.R.**, AMIN, A., AND HAMANN, U., 2004. Contribution of BRCA1 germline mutations in Pakistani breast and or ovarian cancer families. International Ph.D. Poster Presentation, Heidelberg, Germany. Poster 65.

377. ABBAS, D.A., KHURSHEED, N. AND **SHAKOORI, A.R.**, 2005. PCR-based detection, cloning and sequencing analysis of cry4 gene from locally isolated strain of *Bacillus thuringiensis*. *Proc. Pakistan Congr. Zool.*, 25::9.
378. SALEEM, F., AKHTAR, M. AND **SHAKOORI, A.R.**, 2005. A novel strategy to clone cry2A gene from a local isolate of *Bacillus thuringiensis*. *Proc. Pakistan Congr. Zool.*, 25::9.-10.
379. MUNEEER, M. AND **SHAKOORI, A.R.**, 2005. Polyacrylamide gel electrophoretic assessment of esterases in *Rhyzpopertha dominica* resistant to insecticides. *Proc. Pakistan Congr. Zool.*, 25::10.
380. NOREEN, D. AND **SHAKOORI, A.R.**, 2005. Isolation and PCR based detection of pesticidal crystal gene from locally isolated strains of *Bacillus thuringiensis*. *Proc. Pakistan Congr. Zool.*, 25::16.
381. AHMAD, I., **SHAKOORI, A.R.**, AND NASIRUDDIN, 2005. Role of O- GlcNAc modification, phosphorylation and their interplay in octomer binding transcription factors. *Proc. Pakistan Congr. Zool.*, 25::16.
382. ABBAS, N. AND **SHAKOORI, A. R.**, 2005. Sequence analysis of PreS gene for Pakistani hepatitis B virus. *Proc. Pakistan Congr. Zool.*, 25::17.
383. MUNEEER, B. AND **SHAKOORI, A.R.**, 2005. Synergistic role of microorganisms in the remediation of chromium from the industrial wastewater of tanneries. *Proc. Pakistan Congr. Zool.*, 25::18-19.
384. SHAKOORI, F.R., SHAHID, N., SALEEM, F. AND **SHAKOORI, A.,R.**, 2005. Isolation of megaplasmids from metal resistant and hydrocarbon degrading bacteria. *Proc. Pakistan Congr. Zool.*, 25::19.
385. REHMAN, A. AND **SHAKOORI, A.R.**, 2005. Multiple metal resistance in ciliates isolated from industrial effluents and role of protozoa in bioremediation of toxic wastes. *Proc. Pakistan Congr. Zool.*, 25::34-35.
386. SAQIB, Z.A., **SHAKOORI, A.R.**, 2005. Enrichment of chlorinated cyclodiene insecticide degrading bacteria isolated from soil samples. *Proc. Pakistan Congr. Zool.*, 25::36.
387. SALEEM, M.A., WILKINS, R.M., MANTLE, D. AND **SHAKOORI, A.R.**, 2005. Effect of beta-cyfluthrin on proteolytic enzyme activities in a resistant and susceptible strains of *Tribolium castaneum* adult beetles in vivo. *Proc. Pakistan Congr. Zool.*, 25::37-38
388. SALEEM, M.A., WILKINS, R.M., MANTLE, D. AND **SHAKOORI, A.R.**, 2005. *In vivo* effect of beta-cyfluthrin on proteolytic enzyme activities in resistant and susceptible strains of *Musca domestica*. *Proc. Pakistan Congr. Zool.*, 25::38
389. RASHID, M.U., SULTAN, F., TORRES, D., ZAIDI, A., **SHAKOORI, A.R.**, AMIN, A., AND HAMANN, U., 2005. Contribution of BRCA2 germline mutations to hereditary breast/ovarian cancer in Pakistan. Shaukat Khanum Memorial Cancer Hospital & Research Centre Symposium 2005, Lahore, Pakistan p. 39..
390. RASHID, M.U., ZAIDI, A., TORRES, D., SULTAN, F., NAQVI, B., **SHAKOORI, A.R.**, FAROOQ, H., AMIN, A., AND HAMANN, U., 2005. Prevalence, spectra and founder effects of BRCA1 and BRCA2 germline mutations in Pakistani breast and/or ovarian cancer families.. 28th Annual San Antonio Breast Cancer Symposium at San Antonio, Texas, USA on December 8-11, 2005.
391. REHMAN, A. AND **SHAKOORI, A.R.**, 2006. Heavy metal resistant ciliates isolated from industrial effluents can decontaminate wastewater of heavy metals. *Proc. Pakistan Congr. Zool.*, **26**: 2-3.
392. BASHIR, F., MUNEEER, B. AND **SHAKOORI, A.R.**, 2006. Isolation and characterization of cadmium resistant bacteria from effluents of Kasur tanneries and Kot Lakhpat industrial areas. *Proc. Pakistan Congr. Zool.*, **26**: 5-6.
393. NOREEN, D., AKHTAR, M. AND **SHAKOORI, A.R.**, 2006. Insecticidal toxins from local isolates of *Bacillus thuringiensis*: Gene cloning and comparison with *B. thuringiensis* subsp. *kurstaki* Cry 1Ac toxins. *Proc. Pakistan Congr. Zool.*, **26**: 11.

394. ABBAS, N., AHMAD, A. ABBAS, D. AND **SHAKOORI, A.R.**, 2006. Cloning, expression and purification of hepatitis B virus Pree S gene from Pakistan. *Proc. Pakistan Congr. Zool.*, **26**: 13.
395. ASHRAF, S., BUKHARI, D., QURESHI, Z.I., AND **SHAKOORI, A.R.**, 2006. Molecular characterization of capsular protein genes of *Pasteurella multocida* isolated from different localities in Pakistan. *Proc. Pakistan Congr. Zool.*, **26**: 13-14.
396. AHMAD, A., ABBAS, N. AND **SHAKOORI, A.R.**, 2006. Overexpression and purification of Hepatitis B surface antigen PreS region from *E. coli*. *Proc. Pakistan Congr. Zool.*, **26**: 17-18.
397. BAIG, D.N. AND **SHAKOORI, A.R.**, 2006. Ribotyping based approach for the identification of *Bacillus thuringiensis* from locally isolated strains. *Proc. Pakistan Congr. Zool.*, **26**: 24-25.
398. SALEEM, F., **SHAKOORI, A.R.** AND AKHTAR, M., 2006. Cloning and expression of Cry 2Ad gene from local isolates of *Bacillus thuringiensis*. *Proc. Pakistan Congr. Zool.*, **26**: 29.
399. NAZIR, S., BAIG, D.N., BUKHARI, D.A.A., SHAKOORI, F.R. AND **SHAKOORI, A. R.**, 2006. Isolation, characterization and screening of *Bacillus thuringiensis* positive for Cry9 gene. *Proc. Pakistan Congr. Zool.*, **26**: 29-30.
400. ALI, A.U., BUKHARI, D.A.A., BAIG, D.N., SHAKOORI, F. R. AND **SHAKOORI, A.R.**, 2006. Isolation and characterization of insecticide degrading bacteria. *Proc. Pakistan Congr. Zool.*, **26**: 30.
401. BUKHARI, D.A.A., ABBAS, N. AND **SHAKOORI, A.R.**, 2006. Cloning and sequence comparison of Cry4A gene from positive control IPS 78 and locally isolated strain of *Bacillus thuringiensis* DAB-B13. *Proc. Pakistan Congr. Zool.*, **26**: 31.
402. RUKHSANA, N. AND **SHAKOORI, A.R.**, 2006. Cloning and sequencing of novel Cd metallothionein gene from two ciliates isolated from tannery effluents, Kasur (Pakistan). *Proc. Pakistan Congr. Zool.*, **26**: 32.
403. CHAUDHARY, R. AND **SHAKOORI, A.R.**, 2006. Identification and characterization of copper resistant gene in protozoa isolated from industrial wastewater. *Proc. Pakistan Congr. Zool.*, **26**: 32-33.
404. MUNEER, B. AND **SHAKOORI, A.R.**, 2006. Removal of metals from industrial wastewater by different combinations of microorganisms (Bacteria, Yeast, Protozoa). *Proc. Pakistan Congr. Zool.*, **26**: 34.
405. CHAUDHARY, S., MUNEER, B. AND **SHAKOORI, A.R.**, 2006. Characterization of Acr2 gene responsible for arsenic resistance in yeast isolated from industrial effluents of Kasur tanneries. *Proc. Pakistan Congr. Zool.*, **26**: 34-35.
406. MIR, H, MUNEER, B. AND **SHAKOORI, A.R.**, 2006. Characterization of arsA, arsB and arsC genes responsible for arsenic resistance in bacteria isolated from industrial effluents of Kot Lakhpat, Lahore. *Proc. Pakistan Congr. Zool.*, **26**: 35.
407. ALI, N.S., ALI, S.S. AND **SHAKOORI, A.R.**, 2006. Survival and body weight loss of starved adults of lesser grain borer, *Rhyzopertha dominica* (Coleoptera:Bostrichidae) at different relative humidities. *Proc. Pakistan Congr. Zool.*, **26**: 36-37.
408. MURTAZA, N. AND **SHAKOORI, A. R.**, 2006. Molecular analysis of Kirsten rat sarcoma viral oncogene homologue (K-ras) and adenomatous polyposis coli (APC) gene in Pakistani colorectal cancer patients. *Proc. Pakistan Congr. Zool.*, **26**: 44-45.
409. HINA, A., ABBAS, N. AND **SHAKOORI, A.R.**, 2006. Expression of recombinant PreS hepatitis B virus protein using NHB3 clone in *E. coli* expression system. *Proc. Pakistan Congr. Zool.*, **26**: 46.
410. BIBI, A. AND **SHAKOORI, A.R.**, 2006. Molecular analysis of TP53 gene in Pakistani colorectal cancer patients. *Proc. Pakistan Congr. Zool.*, **26**: 46-47
411. ZULFIQAR, S. AND **SHAKOORI, A.R.**, 2006. Determination of copper resistance in bacteria. *Proc. Pakistan Congr. Zool.*, **26**: 50.

412. YOUSAFZAI, A.M. KHAN, A.R. AND **SHAKOORI, A.R.**, 2006. Physicochemical parameters as indicators of aquatic pollution in River Kabul, North Western Frontier Province, Pakistan. *Proc. Pakistan Congr. Zool.*, **26**: 137.
413. YOUNAS, M., CHAUDHARY, Z.I., KHAN, M.A., MUNIR, M.A., **SHAKOORI, A.R.**, MEHMOOD, N. AND TIPU, M.Y. 2006. Identification of Salmonella enteridis and Salmonella typhimurium from poultry feed prevalent in Lahore Area through polymerase chain reaction. 3rd National Conference on Agriculture and Sciences, November 21-23.
414. REHMAN, A. AND **SHAKOORI, A.R.**, 2006. Heavy metal resistant ciliates isolated from industrial effluents can decontaminate wastewater of heavy metals. Oral presentation by first author at SETAC Asia/Pacific 2006 Growth with a limit: the integration of Ecosystem Protection for Human Health Benefits, held at Peking University, China on September 18-20, 2006.
415. SALEEM, F., RASHID, N. AND **SHAKOORI, A.R.**, 2007. Cry2Ac from a local isolate: its expression in sugarcane. 20th FAOBMB Congress held on June 18-23, 2006 at Kyoto, Japan.
416. SHUJA, R.N. AND **SHAKOORI, A.R.**, 2007. Identification of novel metallothionein coding gene from *Tetrahymena* sp. *Proc. Pakistan Congr. Zool.*, **27**:2.
417. BUKHARI, D.A.A., AND **SHAKOORI, A.R.**, 2007. Cloning and expression of highly toxic mosquitocidal Cry4A gene from local isolate of *Bacillus thuringiensis* DAB-BT2. *Proc. Pakistan Congr. Zool.*, **27**:4.
418. REHMAN, A. AND **SHAKOORI, A.R.**, 2007. Uptake of chromium and lead by ciliates isolated from industrial effluents and their potential use in bioremediation of wastewater. *Proc. Pakistan Congr. Zool.*, **27**:13.
419. BAIG, D.N. AND **SHAKOORI, A.R.**, 2007. Expression and enhanced toxicity of recombinant cryIAC. *Proc. Pakistan Congr. Zool.*, **27**:14.
420. CHAUDHARY, R. AND **SHAKOORI, A.R.**, 2007. Molecular identification of copper tolerating Protozoa isolated from industrial effluents. *Proc. Pakistan Congr. Zool.*, **27**:25.
421. MUNEEB, B. AND **SHAKOORI, A.R.**, 2007. Chromium-resistant bacteria from industrial effluents and their role in bioremediation of heavy metals. *Proc. Pakistan Congr. Zool.*, **27**:25.
422. BIBI, A. AND **SHAKOORI, A.R.**, 2007. Studies on genetic variation of p53 gene in Pakistani colorectal cancer patients. *Proc. Pakistan Congr. Zool.*, **27**:26.
423. SALEEM, F., AKHTAR, M. AND **SHAKOORI, A.R.**, 2007. Molecular characterization of the first cry2Ac gene from local isolates of *Bacillus thuringiensis* toxic to *Helicoverpa armigera*. *Proc. Pakistan Congr. Zool.*, **27**:26-27.
424. WAHEED, S., BUKHARI, D.A., SHAKOORI, F.R. AND **SHAKOORI, A.R.**, 2007. Isolation of megaplasmids and determination of antibiotic resistance gene in *Bacillus thuringiensis*. *Proc. Pakistan Congr. Zool.*, **27**:27.
425. MURTAZA, N. AND **SHAKOORI, A.R.**, 2007. Molecular analysis of Kirsten rat sarcoma viral oncogene homolog (K-RAS) by DGGE (denaturing gradient gel electrophoresis) in Pakistani colorectal cancer patients. *Proc. Pakistan Congr. Zool.*, **27**:28.
426. SALEEM, M. AND **SHAKOORI, A.R.**, 2007. Molecular characterization of cry1C gene in a Pakistani *Bacillus thuringiensis* strain collection. *Proc. Pakistan Congr. Zool.*, **27**:29.
427. ABBAS, N., AHMAD, A. AND **SHAKOORI, A.R.**, 2007. Over-expression and purification of ad subtype of antigenic surface protein of pre-S region of hepatitis B virus in *E. coli*. *Proc. Pakistan Congr. Zool.*, **27**:33.
428. AKHTAR, K., NOREEN, D., SHAKOORI, F.R. AND **SHAKOORI, A.R.**, 2007. Screening and subscreening of cry1 gene from local isolates of *Bacillus thuringiensis*. *Proc. Pakistan Congr. Zool.*, **27**:34.

429. WAJAHAT, T., **SHAKOORI, A.R.** AND NASIRUDDIN, 2007. Effect of mistletoe lectin-1 on posttranslational modifications of proapoptotic proteins. *Proc. Pakistan Congr. Zool.*, **27**::35.
430. QAZI, W.M., **SHAKOORI, A.R.** AND NASIRUDDIN, 2007. Analysis of phosphoprotein using MAPRes. *Proc. Pakistan Congr. Zool.*, **27**::35.
431. KHURSHID, A., AHMAD, I., **SHAKOORI, A.R.** AND NASIRUDDIN, 2007. Sequence requirement for O-glycosylation: *in silico* analysis of glycoproteins. *Proc. Pakistan Congr. Zool.*, **27**::36.
432. AHMAD, I., **SHAKOORI, A.R.** AND NASIRUDDIN, 2007. *In silico* predicting important functional sites of proteins and their posttranslational modifications. *Proc. Pakistan Congr. Zool.*, **27**::36-37.
433. KHAN, T.S., **SHAKOORI, A.R.** AND NASIRUDDIN, 2007. Interplay between post-translational modification of high mobility group nucleosomal protein, and its role in the regulation of gene expression. *Proc. Pakistan Congr. Zool.*, **27**::37.
434. AHMAD, W., **SHAKOORI, A.R.** AND NASIRUDDIN, 2007. Prediction of posttranslational modification of histone H1: Regulation of transcription. *Proc. Pakistan Congr. Zool.*, **27**::37-38.
435. ALI, N.S., MUNIR, M., ALI, S.S. AND **SHAKOORI, A.R.**, 2007. Efficacy of mixtures of an organophosphate malathion and a synthetic pyrethroid deltamethrin against lesser grain borer, *Rhyzopertha dominica*. *Proc. Pakistan Congr. Zool.*, **27**::40-41.
436. ALI, N.S., ALI, S.S. AND **SHAKOORI, A.R.**, 2007. Comparative effects of sublethal dose of malathion on biochemical components of resistant and susceptible adults of *Rhyzopertha dominica*. *Proc. Pakistan Congr. Zool.*, **27**::41-42.
437. SAMI, A.J., YASMEEN, N., WARIS, F. AND **SHAKOORI, A.R.**, 2007. Cellulase enzymes present in blue pumpkin beetle (*Aulacophora atritennis*). *Proc. Pakistan Congr. Zool.*, **27**::44.
438. **SHAKOORI, A.R.**, 2007. Regulatory control of Runx protein in osteoblast growth and differentiation. *Proc. Pakistan Congr. Zool.*, **27**::159
439. SALEEM, M., TAHIR, M., **SHAKOORI, A.R.** AND AKHTAR, M., 2007. Poster session: Biotechnology "Biological control of insects: Overexpression and characterization of a new cry2Ac-type gene toxic to *Helicoverpa armigera*. " 19th International Conference of Biochemistry and Molecular Biology held on May 27-30, 2007 at Seoul, Korea.
440. RASHID, M.U., TORRES, M., RASHEED, F., SULTAN, F., **SHAKOORI, A.R.**, AMIN, A., SCHLAEFER, K., AND HAMANN, U., 2008. No association of miscarriage and BRCA carrier status in Pakistani breast/ovarian cancer patients with a history of parental consanguinity.
441. RASHID, M.U., TORRES, M., RASHEED, F., SULTAN, F., **SHAKOORI, A.R.**, AMIN, A., SCHLAEFER, K., AND HAMANN, U., 2008. Miscarriage in Pakistani BRCA mutation carriers and non-carriers with a history of parental consanguinity.
442. AZIZ, I., ALI, S. AND **SHAKOORI, A.R.**, 2008. Identification of tp53 gene mutation in sporadic, familial breast cancer cases and Li-Fraumeni Syndrome. Codon 72 polymorphism of tp53 gene be considered as a mutation marker?. 20th Meet. Europ. ASSoc. Cancer Res., held on July 5-8, 2008 in Lyon, France
443. KHURSHID, A., AHMAD, I., **SHAKOORI, A.R.** AND NASIR UD DIN, 2008. Analysis of phosphoelm_07v database and mined association patterns using MAPRes. *Proc. Pakistan Congr. Zool.*, **28**: 14.
444. KHAN, T.S., SAHMAD, I., **SHAKOORI, A.R.** AND NASIR IUD DIN, 2008. Regulation of OCT-I functions by post translational modifications. *Proc. Pakistan Congr. Zool.*, **28**: 15.
445. SAMI, A., NAZIR, M.T., JABEEN, Z., RIAZ, M. AND **SHAKOORI, A.R.**, 2008. Detection of peptides identical to somatotropin and prolactin, sharing the homology in the signature pattern of the growth hormone and prolactin family. *Proc. Pakistan Congr. Zool.*, **28**: 23.

446. AHMAD, A., MUNEEB, B. AND **SHAKOORI, A.R.**, 2008. Effect of heavy metals on growth and morphology of human cells (HeLa cells). *Proc. Pakistan Congr. Zool.*, **28: 23**.
447. KARIM, M. AND **SHAKOORI, A.R.**, 2008. PCR based detection of Cry II gene from locally isolated strains of *Bacillus thuringiensis*. *Proc. Pakistan Congr. Zool.*, **28: 25**.
448. TASADDUQ, R., MURTAZA, B.N. BIBI, A. AND **SHAKOORI, A.R.**, 2008. Association of A rs235768 variation in the bone morphogenetic protein-2 (BMP-2) gene and bone mineral density in local osteoporotic female population. *Proc. Pakistan Congr. Zool.*, **28: 25-26**.
449. KALEEM, A., **SHAKOORI, A.R.** NASIR UD DIN, 2008. Terminal sugars as cancer recognition marker. *Proc. Pakistan Congr. Zool.*, **28: 28**.
450. YOUSAFZAI, A., KHAN, A.R. AND **SHAKOORI, A.R.**, 2008. Haematological and biochemical responses of blood of an endangered Asian freshwater fish, *Tor putitora* against aquatic pollution. *Proc. Pakistan Congr. Zool.*, **28: 28-29**.
451. KANWAL, M. AND **SHAKOORI, A.R.**, 2008. Sequence and mutational analysis of human interferon B1 (IFNB1) gene in paraffin embedded tissues of larynx/liver carcinomas. *Proc. Pakistan Congr. Zool.*, **28: 31**
452. BUKHARI, D.A.A. AND **SHAKOORI, A.R.**, 2008. Cloning and expression of *Bacillus thuringiensis* Cry4B crystal protein gene in *Escherichia coli*. *Proc. Pakistan Congr. Zool.*, **28: 31-32**.
453. SALEEM, M AND **SHAKOORI, A.R.**, 2008. Cloning of Cry1A gene from HD137 strain of *Bacillus thuringiensis*. *Proc. Pakistan Congr. Zool.*, **28: 32**.
454. REHMAN, A. AND **SHAKOORI, A.R.**, 2008. Occurrence of yeasts in industrial effluents and their behaviour in the presence of cadmium. *Proc. Pakistan Congr. Zool.*, **28: 37**.
455. BAIG, D.N. AND **SHAKOORI, A.R.**, 2008. Use of 16S rRNA gene sequence analysis to determine phylogenetic relationships of *Bacillus thuringiensis* group of microorganisms. *Proc. Pakistan Congr. Zool.*, **28: 38**.
456. CHAUDHRY, R. AND **SHAKOORI, A.R.**, 2008. Identification, cloning and sequencing of a novel copper inducible metallothionein gene from *Tetrahymena tropicalis lahorensis*. *Proc. Pakistan Congr. Zool.*, **28: 41**.
457. AKHTAR, M., SHAKOORI, F.R., REHMAN, A. AND **SHAKOORI, A.R.**, 2008. Uptake of nickel by ciliates from the industrial effluents and their role in waste water clean up operations. *Proc. Pakistan Congr. Zool.*, **28: 42**.
458. ALI, N., ALI, S.S AND **SHAKOORI, A.R.**, 2008. Comparative effects of sublethal doses of Talstar on biochemical components of resistant and susceptible adults of *Rhyzopertha dominica*. *Proc. Pakistan Congr. Zool.*, **28: 44**.
459. KHAN, M.J., AND **SHAKOORI, A.R.**, 2008. Sequence and mutational analysis of human interferon B1 (IFNB1) gene in blood samples of acute lymphoblastic leukemia (ALL) patients. *Proc. Pakistan Congr. Zool.*, **28: 30**.
460. SALEEM, F., AKHTAR, M. **SHAKOORI, A.R. AND PARK, H-W.**, 2008. Characterization of the Cry2Ac7 toxin from a Pakistani isolate of *Bacillus thuringiensis* (SBS BT1). First International symposium on Insect Biotechnology held on August 20-23, 2008 at Wuhan, China.
461. SALEEM, F., **SHAKOORI, A.R.**, AND PARK, H-W., 2009. Characterization of Cry2Ac7 toxin from a Pakistani isolate of *Bacillus thuringiensis* (SBS BT-1). *Proc. Pakistan Congr. Zool.*, **29:32**.
462. SALEEM, F., PARK, H-W., AND **SHAKOORI, A.R.**, 2009. Toxicological analysis of Cry2Ac-operon from HD29 strain of *Bacillus thuringiensis* serovar. galleriae.
463. ZAHID, N., BUKHARI, D.A. AND **SHAKOORI, A.R.**, 2009. Expression of cry4B gene from *Bacillus thuringiensis* in *Escherichia coli* encoding 70 kDa. *Proc. Pakistan Congr. Zool.*, **29: 22-23**.

464. SALEEM, F., PARK, H-W., AND **SHAKOORI, A.R.**, 2009. Molecular genetic analysis of the cry2Ac11 operon from the HD29 strain of *Bacillus thuringiensis* subspecies *galleriae*. *Proc. Pakistan Congr. Zool.*, **29**: 31-32.
465. MURTAZA, B.N. AND **SHAKOORI, A.R.**, 2009. Analysis of Kirsten Ras viral oncogene homolog codon 12 mutations in Pakistani colorectal cancer patients. *Proc. Pakistan Congr. Zool.*, **29**: 34.
466. ZULFIQAR, S., AND **SHAKOORI, A.R.**, 2009. Identification, cloning and sequence analysis of cus operon of copper resistant *Klebsiella pneumonia*. *Proc. Pakistan Congr. Zool.*, **29**: 34.
467. BIBI, A., AND **SHAKOORI, A.R.**, 2009. Application of single stranded conformation polymorphism (SSCP) analysis of TP53 gene in colorectal cancer patients. *Proc. Pakistan Congr. Zool.*, **29**: 35.
468. BUKHARI, D.A. AND **SHAKOORI, A.R.**, 2009. Purification of highly toxic mosquitocidal cry4A protein from local isolates of *Bacillus thuringiensis*. *Proc. Pakistan Congr. Zool.*, **29**: 36.
469. BAIG, D.N. AND **SHAKOORI, A.R.**, 2009. Crustal protein encoding genes profile in native *Bacillus thuringiensis* group microorganisms and their phylogenetic relationship. *Proc. Pakistan Congr. Zool.*, **29**: 36-37
470. AZIZ, I., AND **SHAKOORI, A.R.**, 2009. TP53 – From research laboratory to the clinic. *Proc. Pakistan Congr. Zool.*, **29**: 37-38.
471. ALI, A. , AND **SHAKOORI, A.R.**, 2009. Detection of FL T3 internal tandem duplications (FLT3/ITD) in acute myeloid leukemia (AML) patients. *Proc. Pakistan Congr. Zool.*, **29**: 38-39.
472. CHAUDHRY R. AND **SHAKOORI, A.R.**, 2009. Comparison of novel copper-inducible metallothionein gene isoforms of locally isolated *Tetrahymena tropicocalis lahorensis*. *Proc. Pakistan Congr. Zool.*, **29**: 39.
473. SALEEM, M. AND **SHAKOORI, A.R.**, 2009. Formulation of biopesticide and cloning of Cry1C gene from HD 137 strain of *Bacillus thuringiensis*. *Proc. Pakistan Congr. Zool.*, **29**: 39-40.
474. SAMI, A.J. JABEEN, Z. AND **SHAKOORI, A.R.**, 2009. Isolation of a growth hormone variant from water buffalo *Bubalus bubalis* homologous to GH from sea mammals. *Proc. Pakistan Congr. Zool.*, **29**: 40.
475. ABBAS, N., KHAN, L., AFZAL, H., INAYAR, H., ABBAS, D., AND **SHAKOORI, A.R.**, 2009. Characterization of alpha amylase producing bacteria from NWFP. *Proc. Pakistan Congr. Zool.*, **29**: 48
476. SALEEM, M.A., **SHAKOORI, A.R.** AND WILKINS, R.M., 2009. Oxidative stress induces some intracellular proteases in *Musca domestica* L. *Proc. Pakistan Congr. Zool.*, **29**: 466-67.
477. KHAN, A., CHAUDHARY, Z.I., **SHAKOORI, A.R.** MEHMOOD, N., IJAZ, M., KHAN, M.Z., SAIMA, JAN, I., AND ALKI, M.M., 2009. 6th Asian Buffalo Congress Lahore, Pakistan, ABSTRACT No. 59.
478. SALEEM, F., PARK, H-W., AKHTAR, M. AND **SHAKOORI, A.R.**, 2009. Overproduction of Cry2Ac by modification of nucleotide sequences between ribosome binding site and start codon in *Bacillus thuringiensis*. 42nd Annual Meeting of the Society for Invertebrate Pathology, Park City, Utah, USA.
479. SALEEM, F., PARK, H-W., AKHTAR, M. AND **SHAKOORI, A.R.**, 2009. Modification of nucleotides between RBS and ATG resulted in dramatic increase of Cry2AC synthesis. 21st IUBMB and 12th FAOBMB International Congress of Biochemistry and Molecular Biology, Shanghai, China.
480. BIBI, A. AND **SHAKOORI, A.R.**, 2010. Analysis of TP53 hot spot mutations in Pakistani colorectal cancer patients by restriction fragment length polymorphism (RFLP) analysis. *Proc. Pakistan Congr. Zool.*, **30**: 1.
481. BIBI, N.M. AND **SHAKOORI, A.R.**, 2010. A status of Kirsten Ras viral oncogene homolog (K) as codon 13 mutations in Pakistani colorectal patients. *Proc. Pakistan Congr. Zool.*, **30**: 1-2.

482. SALEEM, M. AND **SHAKOORI, A.R.**, 2010. Cloning of different lengths of toxic domains of *Cry1C* gene from HD137 strain of *Bacillus thuringiensis*. *Proc. Pakistan Congr. Zool.*, **30**: 3-4.
483. TASADDUQ, R. AND **SHAKOORI, A.R.**, 2010. Osteoblastogenic effect of a local herb, *Cissus quadrangularis*. *Proc. Pakistan Congr. Zool.*, **30**: 7.
484. ZULFIQAR, S. AND **SHAKOORI, A.R.**, 2010. Quantitative expression analysis of Cus Operon in *Klebsiella pneumoniae* at transcriptional level through real time PCR. *Proc. Pakistan Congr. Zool.*, **30**: 9.
485. AHMAD, A., De OLIVEIRA, E.M., QIAN, K., **SHAKOORI, A.R.**, PHILLIPPS, M.I., 2010. Induction of pluripotent stem cells from human fibroblasts and hepatocytes by ectopic expression of defined transcription factors using adeno associated virus (AAV). *Proc. Pakistan Congr. Zool.*, **30**: 9-10.
486. ZAHID, M.T., SHAKOORI, F.R., BUKHARI, D.A.A., AND **SHAKOORI, A.R.**, 2010. Molecular characterization of *cry11* gene from local isolate of *Bacillus thuringiensis*. *Proc. Pakistan Congr. Zool.*, **30**:10.
487. BUKHARI, D.A.A., AND **SHAKOORI, A.R.**, 2010. Molecular characterization of *cry10* crystal protein gene from local isolates of *Bacillus thuringiensis*. *Proc. Pakistan Congr. Zool.*, **30**:11-12.
488. SAMI, A.J. NAZIR, M.T. AND **SHAKOORI, A. R.**, 2010. Gene study of first exon in the 5' flanking region of growth hormone gene of *Bos indicus*. *Proc. Pakistan Congr. Zool.*, **30**:12-13.
489. ZAHID, N. AND **SHAKOORI, A. R.**, 2010. Cloning of Cus-operon regulatory region (CusSR) for copper homeostasis of *Klebsiella pneumoniae*. *Proc. Pakistan Congr. Zool.*, **30**: 35.
490. AZIZ, I., SHAKOORI, F.R., REHMAN, A. AND **SHAKOORI, A.R.**, 2010. Isolation and characterization of arsenic reducing bacteria from industrial effluents and their potential use in bioremediation of waste water. *Proc. Pakistan Congr. Zool.*, **30**:49-50.
491. SALEEM, F., PARK, H-W., AKHTAR, M. AND **SHAKOORI, A.R.**, 2010. Modification of nucleotide sequence between RBS and start codon in *Bacillus thuringiensis* resulted in increased level of *cry2AC* mRNA. 43rd Annual Meeting of the Society for Invertebrate Pathology, Trabzon, Turkey.
492. **SHAKOORI, A.R.**, 2011. Regulation of Copper Influx-Efflux through plasma membrane in *Klebsiella pneumoniae*. *Abstract: 3rd Intert Symp-cum Training Course on Molecular Medicine and Drug Research.*, page 22.
493. Murtaza, B.N. AND **SHAKOORI, A.R.**, 2011. To investigate the mechanism involved in the progression of prostate cancer and identification of possible diagnostic markers for different stages of prostate cancer. *Proc. Pakistan Congr. Zool.*, **31**: 1.
494. AHMAD, A. AND **SHAKOORI, A.R.**, 2011. Differentiation studies of murine mesenchymal stem cell into osteoblasts in the presence of dexamethasone *Proc. Pakistan Congr. Zool.*, **31**: 4.
495. ZAHID, N. AND **SHAKOORI, A.R.**, 2011. Study of CUS-Operon Promoter of *Klebsiella pneumoniae* for copper sensitivity by using Lac Z as reporter gene. *Proc. Pakistan Congr. Zool.*, **31**: 9
496. AHMAD, A., UMER, R. AND **SHAKOORI, A.R.**, 2011. Human umbilical cord blood serum: a better alternative of fetus bovine serum. *Proc. Pakistan Congr. Zool.*, **31**: 30.
497. SLI, S.S., AHMAD, Q.A., BUKHARI, D.A. AND **SHAKOORI, A.R.**, 2011. Expression of toxin region protein gene *Cry4A* from local isolate of *Bacillus thuringiensis*. *Proc. Pakistan Congr. Zool.*, **31**: 69
498. BUKHARI, D.A. AND **SHAKOORI, A.R.**, 2011. Molecular characterization of cytolytic protein gene from local isolate of *Bacillus thuringiensis*. *Proc. Pakistan Congr. Zool.*, **31**: 239
499. AZIZ, I. AND **SHAKOORI, A.R.**, 2011. Status of Codon 72 polymorphism of *TP53* gene in Pakistani breast cancer patients. *Proc. Pakistan Congr. Zool.*, **31**: 239

500. ZAHID, M.T., SHAKOORI, F.R., BUKHARI, D.A.A. AND **SHAKOORI, A.R.**, 2011. Isolation and phylogenetic analysis of metal resistant ciliates. *Proc. Pakistan Congr. Zool.*, **31: 240**.
501. TASNEEM, F., SHAKOORI, F.R. AND **SHAKOORI, A.R.**, 2011. Isolation and identification of various Paramecium species from aquatic environment receiving industrial wastewater. *Proc. Pakistan Congr. Zool.*, **31: 246**.
502. **SHAKOORI, A. R.**, 2011. Regulation of copper influx-efflux through plasma membrane in *Klebsiella pneumoniae*. *Proc. Pakistan Congr. Zool.*, **31: 246-247**.
503. BIBI, A. AND **SHAKOORI, A.R.**, 2011. Molecular analysis of AGR2 protein in P53 pathway with reference to drug discovery. *Proc. Pakistan Congr. Zool.*, **31: 247**
504. BUKHARI, D.A.A. ZAHID, N. AND **SHAKOORI, A.R.**, 2011. Molecular characterization of cry4B gene from local isolates of *Bacillus thuringiensis* encoding 70kDa crystal protein. *Proc. Pakistan Congr. Zool.*, **31: 249**.
505. AZIZ, I. AND **SHAKOORI, A.R.**, 2012. Bio-banking and linking data in molecular biology: Problems from sample collection to epidemiology. 2012 World Cancer Congress
506. MURTAZA, B.N., DOAK, S.H. AND **SHAKOORI, A.R.**, 2012. A possible cross talk between K Ras and adherent junction mediated signaling?? *Proc. Pakistan Congr. Zool.*, **32: 14-15**.
507. AWAN, D.A., SALEEM, M.A., NADEEM, M.S. AND **SHAKOORI, A.R.**, 2012. An experimental study to elucidate the effect of emamectin synergized with piperonyl butoxide on several enzymes in deltamethrin resistant and susceptible strains of *Tribolium castaneum*. *Proc. Pakistan Congr. Zool.*, **32: 19-20**.
508. ZULFIQAR, S. AND **SHAKOORI, A.R.**, 2012. Structural analysis of cus regulon of *Klebsiella pneumoniae* involved in copper resistance. *Proc. Pakistan Congr. Zool.*, **32: 40**.
509. BIBI, A., HUPP, T. AND **SHAKOORI, A.R.**, 2012. Role of aptamer affecting the P53 pathway protein anterior gradient-2 in breast cancer cells. *Proc. Pakistan Congr. Zool.*, **32: 40-41**.
510. TAHIR, S., ZULFIQAR, S. AND **SHAKOORI, A.R.**, 2012. Amplification and cloning of *CuEO* and *CuER* genes responsible for copper resistance in *Klebsiella pneumoniae*. *Proc. Pakistan Congr. Zool.*, **32: 41-42**.
511. AKRAM, S., ZULFIQAR, S. AND **SHAKOORI, A.R.**, 2012. Amplification and cloning of *CopA*, a copper translocating P-type ATPase in *K. pneumoniae*. *Proc. Pakistan Congr. Zool.*, **32: 43**.
512. TASNEEM, F., SHAKOORI, F.R. AND **SHAKOORI, A.R.**, 2012. Isolation, identification and molecular characterization of ciliates. *Proc. Pakistan Congr. Zool.*, **32: 43**.
513. HUSSAIN, S.A., AHMED, K., **SHAKOORI, A.R.**, RASMUSSEN, Z. AND MILLER, M., 2012. Comparative assessment of bacteria and parasites in pit latrine samples, agriculture field and vegetables in Oshkandas Valley Gilgit-Baltistan. *Proc. Pakistan Congr. Zool.*, **32: 50**.
514. BAIG, S., AHMED, K., **SHAKOORI, A.R.**, RASMUSSEN, Z. AND MILLER, M., 2012. Physical and microbiological analysis of drinking water of Oshkandas Village of Gilgit-Baltistan, Pakistan. *Proc. Pakistan Congr. Zool.*, **32: 50-51**.
515. AHMAD, A. AND **SHAKOORI, A.R.**, 2012. Cytotoxic effect of cigarette smoke condensate on mice and rat mesenchymal stem cells and HeLa cells. *Proc. Pakistan Congr. Zool.*, **32: 62-63**.
516. ZAHID, M.T., SHAKOORI, F.R. AND **SHAKOORI, A.R.**, 2012. Molecular characterization of two isoforms of copper metallothionein gene(s) from a local isolate of *Tetrahymena*. *Proc. Pakistan Congr. Zool.*, **32: 98-99**.
517. HASHMI, A.H. AND **SHAKOORI, A.R.**, 2012. Molecular virology of hepatitis C virus polyprotein cleavage products. *Proc. Pakistan Congr. Zool.*, **32: 106**.

518. SALEEM, F. AND **SHAKOORI, A.R.**, 2012. A rapid extraction method for *Bacillus thuringiensis*. *Proc. Pakistan Congr. Zool.*, **32**: 128
519. FAROOQ, A., SAMI, A.J. AND **SHAKOORI, A.R.**, 2012. Genetic analysis of human growth hormone gene reveals several mutations in the exon 5 of local population in Pakistan. *Proc. Pakistan Congr. Zool.*, **32**: 131.
520. AHMAD, M.S., **SHAKOORI, A.R.** AND JURAT-FUENTAS, J.L., 2012. Identification of Cry2Aa binding proteins in *Helicoverpa zea* using proteomics. *Proc. Pakistan Congr. Zool.*, **32**: 130-131.
521. AZIZ, I. AND **SHAKOORI, A.R.**, 2012. Prevalence of p53 mutations in breast cancer patients in Pakistan. *Proc. Pakistan Congr. Zool.*, **32**: 136-137.
522. **SHAKOORI, A.R.**, 2013. HEJ Conference Kras mutations in CRC
523. SAMI, A.J. AND **SHAKOORI, A.R.**, 2013. Inhibition of alpha amylase of *Tribolium castaneum* and human by *Azadirachta indica* (neem) derived compounds. *Proc. Pakistan Congr. Zool.*, **33**: 16-17.
524. AHMAD, M. S., **SHAKOORI, A.R.**, AND JUART-FUENTAS, J.L., 2013. Identification of cry1C binding proteins in *Spodoptera frugiperda* using proteomics. *Proc. Pakistan Congr. Zool.*, **33**: 17.
525. ZAHID, M.T., SHAKOORI, F.R., JEHAN, N. AND **SHAKOORI, A.R.**, 2013. Expression level studies of *Tetrahymena* copper metallothionein. *Proc. Pakistan Congr. Zool.*, **33**: 36-37.
526. AHMAD, A., UMER, R. AND SHAKOORI, A.R., 2013. Human umbilical cord blood serum: a better alternative of fetal bovine serum. *Proc. Pakistan Congr. Zool.*, **33**: 39.
527. MARIYAM, M., TASNEEM, F., SHAKOORI, F.R. AND **SHAKOORI, A.R.**, 2013. Molecular characterization of *Paramecium* species based on small subunit of ribosomal RNA. *Proc. Pakistan Congr. Zool.*, **33**: 40.
528. SHEHZAD, K., ZULFIQUAR, S. AND **SHAKOORI, A.R.**, 2013. Molecular analysis of cueO multicopper oxidase in locally isolated copper resistant *Klebsiella pneumonia*. *Proc. Pakistan Congr. Zool.*, **33**: 78.
529. IMRAN, R., AHMED, K., **SHAKOORI, A.R.** AND RASMUSSEN, Z., 2013. Microbiological investigation of agriculture soil and edible vegetables for human pathogenic bacteria and parasitic contamination. *Proc. Pakistan Congr. Zool.*, **33**: 83-84.
530. WAHEED, S., SHAKOORI, F.R. AND **SHAKOORI, A.R.**, 2013. Molecular characterization of ars genes responsible for arsenic resistance in *Klebsiella pneumonia*. *Proc. Pakistan Congr. Zool.*, **33**: 96.
531. ZULFIQUAR, S. AND **SHAKOORI, A.R.**, 2013. Copper induced transcriptional activation of cus efflux determinants in copper resistant isolate of *Klebsiella pneumonia*. *Proc. Pakistan Congr. Zool.*, **33**: 96.
532. AKRAM, S., ZULFIQUAR, S. AND **SHAKOORI, A.R.**, 2013. Molecular analysis of copA, a copper translocating P-type ATPase of *Klebsiella pneumonia*. *Proc. Pakistan Congr. Zool.*, **33**: 97.
533. TAHIR, S., ZULFIQUAR, S. AND **SHAKOORI, A.R.**, 2013. Cloning and expression analysis of CueR – a MerR like transcriptional activator, from *Klebsiella pneumoniae* isolated from industrial effluents. *Proc. Pakistan Congr. Zool.*, **33**: 97-98.
534. AFTAB, S. AND **SHAKOORI, A.R.**, 2014. Expression of epithelial and neuron specific cell adhesion genes in SF767 Glioblastoma Cell line. *Proc. Pakistan Congr. Zool.*, **34**: 22.
535. AHMAD, A., SHAH, A. AND **SHAKOORI, A.R.**, 2014. Effect of arsenic, cadmium and lead on proliferation of placental chorion cells. *Proc. Pakistan Congr. Zool.*, **34**: 22-23.
536. BATOOL, T. AND **SHAKOORI, A.R.**, 2014. Effect of ethanolic extract of *Cissus quadrangularis* on the growth of MDBK cells. *Proc. Pakistan Congr. Zool.*, **34**: 23.

537. ZULFIQAR, S. AKRAM, S. AND **SHAKOORI, A.R.**, 2014. Molecular characterization of arsenic resistance proteins in *Klebsiella pneumoniae* CC. *Proc. Pakistan Congr. Zool.*, 34:79.
538. SHEHZAD, K., ZULFIQAR, S. AND **SHAKOORI, A.R.**, 2014. Characterization of multi copper oxidase (CueO) of *Klebsiella pneumonia* and its transcriptional regulation in response to copper. *Proc. Pakistan Congr. Zool.*, 34:80.
539. TAHIR, S., ZULFIQAR, S. AND **SHAKOORI, A.R.**, 2014. Characterization and quantitative analysis of CueR through real time PCR in *Klebsiella pneumonia*. *Proc. Pakistan Congr. Zool.*, 34:80-81.
540. SAMI, A.J. AND **SHAKOORI, A.R.**, 2014. Inhibition of acetylcholinesterases of *Triboilum castaneum* (larval and adult stages) by compounds derived from a medicinal plant *Azadirachta indica*. *Proc. Pakistan Congr. Zool.*, 34: 129.
541. BIBI, A. AND **SHAKOORI, A.R.**, 2015. Comparison of differentiation potential of bone marrow derived and adipose derived mesenchymal stem cells towards nephrogenic lineage. *Proc. Pakistan Congr. Zool.*, 35: 14.
542. ZAHID, M.T., SHAKOORI, F.R., JEHAN, N. AND **SHAKOORI, A.R.**, 2015. Characterization of *Tetrahymena farahensis* MTT2 and quantitative analysis of its expression under copper stress. *Proc. Pakistan Congr. Zool.*, 35: 14-15.
543. AHMED, K., IMRAN, R., **SHAKOORI, A.R.**, RASMUSSEN, Z., AND HUSSAIN, S.A., 2015. Bacterial contamination of various edible vegetables grown using fertilizers in Oshikhandass village, Gilgit-Baltistan, Pakistan. *Proc. Pakistan Congr. Zool.*, 35: 38-39.
544. SHEHZAD, K., ZULFIQAR, S. AND **SHAKOORI, A.R.**, 2015. Cloning, expression and characterization of multicopper oxidase (CueO) in *Klebsiella pneumonia* KW. *Proc. Pakistan Congr. Zool.*, 35: 49.
545. SHED, M., ZULFIQAR, S. AND **SHAKOORI, A.R.**, 2015. Transcriptional profiling of cue-R -an *mer* like transcriptional regulator in response to silver in *Klebsiella pneumonia*. *Proc. Pakistan Congr. Zool.*, 35: 52-53.
546. SALEEM, F., AMJAD, Q, KALEEM, A., ABDULLAH, R., IQTEDAR, M., AND **SHAKOORI, A.R.**, 2016. In silico analysis of loop residues of the receptor binding domain of *Bacillus thuringiensis* CryAC11 toxin. *Proc. Pakistan Congr. Zool.*, 36: 13.
547. TU-ALLAH, A., ZULFIQAR, S. AND **SHAKOORI, A.R.**, 2016. Molecular dependence of gold resistance on copper responsive genes in *Klebsiella pneumonia*. *Proc. Pakistan Congr. Zool.*, 36: 56-57.
548. FERROZ, A., RIAZ, T. AND **SHAKOORI, A.R.**, 2016. Efficacy of phosphine against *Trogoderma granarium* over a range of phosphine concentrations and exposure periods: Effects on metabolites. *Proc. Pakistan Congr. Zool.*, 36: 93.
549. QAMAR, H., TOOR, R.H. AND **SHAKOORI, A.R.**, 2017. Osteogenic potential of herb *Cissus quadrangularis*: Effect of hexane fraction (CQ-HEX) on growth parameters and proliferation of mouse pre-osteoblast cell line MC3T3-E1 (subclone 4) and human adipose-derived mesenchymal stem cells (hAMSC). *Proc. Pakistan Congr. Zool.*, 37: 33-34.
550. MALIK, S., TOOR, R.H., BATOOL, F. AND **SHAKOORI, A.R.**, 2017. Osteogenic potential of herb *Cissus quadrangularis* : Effect of dichloromethane fraction (CQ-DCM) on mouse pre-osteoblast cell line MC3T3-E1 (subclone 4) . *Proc. Pakistan Congr. Zool.*, 37: 34-35.
551. TOOR, R.H. AND **SHAKOORI, A.R.**, 2017. Osteogenic potential of herb *Cissus quadrangularis* : Effect of ethyl acetate and N. Butanol fraction on differentiation of mouse pre-osteoblast cell line MC3T3-E1 (subclone 4) . *Proc. Pakistan Congr. Zool.*, 37: 35.
552. SAEED, H., ZULFIQAR, S. AND **SHAKOORI, A.R.**, 2017. Molecular characterization of ZNT regulon for multi-metal resistance in *Klebsiella pneumonia*. *Proc. Pakistan Congr. Zool.*, 37: 43

553. AFSHAN, G., ZULFIQAR, S., KHAN, M.T.J. AND **SHAKOORI, A.R.**, 2017. Antibodies against hepatitis C virus 3a envelope glycoproteins E1 and E2 following cloning, expression and protein purification in Pakistan. *Proc. Pakistan Congr. Zool.*, 37: 61.
554. MUSHTAQ, R. AND **SHAKOORI, A.R.**, 2017. Identification of Cry2Ac7 as a new cry toxin to control *Anticarsia gemmatilis* and *Chrysodeixis includens*. *Proc. Pakistan Congr. Zool.*, 37: 87.
555. TASNEEM, F., SHAKOORI, F.R. AND **SHAKOORI, A.R.**, 2017. Three loci molecular characterization of locally isolated *Paramecium* species. *Proc. Pakistan Congr. Zool.*, 37: 87.
556. YOUSAF, T., ZULFIQAR, S. AND **SHAKOORI, A.R.**, 2017. Identification of a novel gold specific homeostatic system in *Klebsiella pneumoniae*. *Proc. Pakistan Congr. Zool.*, 37: 90-91.
557. YOUNAS, A., AKRAM, S. ZULFIQAR, S. **SHAKOORI, A.R.**, 2017. Molecular characterization of copper responsive CopA, a P-type ATPase from *Klebsiella pneumoniae*. *Proc. Pakistan Congr. Zool.*, 37: 91-92.
558. NIZAM, H., TASNEEM, F., ZULFIQAR, S. **SHAKOORI, A.R.**, 2017. Enhanced cadmium binding ability in response to novel modifications in a *Paramecium* cadmium metallothionein PMCD1. *Proc. Pakistan Congr. Zool.*, 37: 92.
559. BATOOL, S., NIZAM, H., ZULFIQAR, S. **SHAKOORI, A.R.**, 2017. Molecular characterization of a novel metallothionein PMMT1 in *Paramecium* sp. *Proc. Pakistan Congr. Zool.*, 37: 93.
560. AMJAD, S., NIZAM, H., ZULFIQAR, S. **SHAKOORI, A.R.**, 2017. Isolation and characterization of cadmium resistant *Paramecium* sp. *Proc. Pakistan Congr. Zool.*, 37: 93.
561. DILDAR, S., ZAFAR, A., ALI, B., **SHAKOORI, A.R.** AND SHAKOORI, F.R., 2017. The role of autophagy related gene VDR on autophagy-mediated killing of *Mycobacterium tuberculosis* in Pakistani tuberculosis patients. *Proc. Pakistan Congr. Zool.*, 37: 370.
562. MURTAZA, A., ZAFAR, A., ALI, B., **SHAKOORI, A.R.** AND SHAKOORI, F.R., 2017 The role of interferon-gamma in host defense against tuberculosis in Pakistani patients. *Proc. Pakistan Congr. Zool.*, 37: 370-371.
563. MUSTAFA, S., TAHIR, S., ZULFIQAR, S. AND **SHAKOORI, A.R.**, 2017. Molecular characterization of CueR, a MerR Like transcriptional regulator against multi-drug resistance in *Klebsiella pneumoniae*. *Proc. Pakistan Congr. Zool.*, 37: 374.
564. AFSHAN, G., ZULFIQAR, S., KHAN, M.T.J. AND **SHAKOORI, A.R.**, 2018. Development of antibodies against hepatitis C virus envelope glycoproteins E1 and E2. *Proc. Pakistan Congr. Zool.*, 38: 87.
565. ADALAT, R., SALEEM, F., BASHIR, A. AND **SHAKOORI, A.R.**, 2018. Multiple upstream start codons (AUG) in 5' untranslated region enhance translation efficiency of Cry2AC11 without helper protein. *Proc. Pakistan Congr. Zool.*, 38: 96-97.
566. MUSHTAQ, R. AND **SHAKOORI, A.R.**, 2018. Production of recombinant hybrid Cry1AC protein and analysis of effect of recombination on the toxicity of parent protein. *Proc. Pakistan Congr. Zool.*, 38: 101.
567. AFSHAN, G., ZULFIQAR, S., KHAN, M.T.J. AND **SHAKOORI, A.R.**, 2018. Antibodies against hepatitis C virus 3a envelope glycoproteins E1 and E2 following cloning, expression and protein purification IN Pakistan. *Proc. Pakistan Congr. Zool.*, 38: 101-102.
568. TASNEEM, F. SHAKOORI, F.R. AND **SHAKOORI, A.R.**, 2018. Three loci characterization of locally isolated *Paramecium* species. *Proc. Pakistan Congr. Zool.*, 38: 103-104.
569. TOOR, R.H., SHAMEEL, U. AND **SHAKOORI, A.R.**, 2018. Effect of butanol fraction of *Cissus quadrangularis* on growth parameters and proliferation of mouse pre-adipocyte cell line 3T3-1. *Proc. Pakistan Congr. Zool.*, 38: 390 (Poster 64).
570. IMTIAZ, A. AND **SHAKOORI, A.R.**, 2019. Enhancing the metal binding capacity of metallothionein (MT) isolated from *Paramecium* sp. *Proc. Pakistan Congr. Zool.*, 39: 42-43.

571. Iqbal, M., MUNEEB, B., ZULFIQAR, S., ZAHID, N. AND **SHAKOORI, A.R.**, 2019. Evaluation of copper responsive CURRS promoter activation in term of LACZ gene expression in response to Gold. *Proc. Pakistan Congr. Zool.*, 39: 43.
572. ADALAT, R., SALEEM, F. AND **SHAKOORI, A.R.**, 2019. Effect of upstream modifications on expression of Cry2AC11 in *Bacillus thuringiensis*. *Proc. Pakistan Congr. Zool.*, 39: 78.
573. SALEEM, F. AHMAD, M., KHALID, Z., ADALAT, R., ABDULLAH, R., KALEEM, A., IQTEDAR, M. AND **SHAKOORI, A.R.**, 2019. *Pakistan Congr. Zool.*, 39: 78-79.
574. FERAZ, A., SHAKOORI, F.R. AND **SHAKOORI, A.R.**, 2019. Study of Deltamethrin tolerance and toxicity of bifenthrin, chlorpyrifos and their mixtures for the management of insecticide tolerance in stored grain pest, *Trogoderma granarium*. *Proc. Pakistan Congr. Zool.*, 39: 171.
575. TOOR, R.H., QAMAR, H. AND **SHAKOORI, A.R.**, 2019. Effect of hexane fraction of *Cissus quadrangularis* on the differentiation and mineralization of mouse pre-osteoblast cell line MC3T3 E1 (subclone 4). *Pakistan Congr. Zool.*, 39: 348 (Poster 32)
576. TARIQ, M., NASIR, Z., TOOR, R.H. AND **SHAKOORI, A.R.**, 2019. Determination of mitochondrial dysfunction during differentiation of mouse pre-osteoblast cell line MC3T3 E1 (subclone 4). *Pakistan Congr. Zool.*, 39: 348-349 (Poster 33)
577. AFTAB, S. AND **SHAKOORI, A.R.**, 2020. G9A histone methyltransferase as a potential anticancer target for breast cancer. *Proc. Pakistan Congr. Zool.*, 40: 26
578. KHAN, A., AND **SHAKOORI, A.R.**, 2020. An exploratory research to gain a better understanding of the molecular pathways involved in neuroinflammation. *Proc. Pakistan Congr. Zool.*, 40: 71.
579. MUSHTAQ, R. AND **SHAKOORI, A.R.**, 2020. Identification of proteins for pyramiding with Cry11E2 in transgenic crops to enhance resistance against soybean looper and velvet bean caterpillar. *Proc. Pakistan Congr. Zool.*, 40: 263.
580. KHALI, Z., ALI, S., AFTAB, S. AND **SHAKOORI, A.R.**, 2020. Impact of extracellular matrix on the expression of epithelial to mesenchymal transition markers: An in depth study of crosstalk between tumor microenvironment and cell adhesion molecules. *Proc. Pakistan Congr. Zool.*, 40: 295.
- 581.

F) POPULAR ARTICLES

1. **SHAKOORI, A.R.**, 1987 Genetic Engineering: A Revolutionary Science. *Daily Dawn*, April 11, 1987.
2. **SHAKOORI, A.R.**, 1990. Use of Antibiotics: A review. *Daily Imroze*, June 27, 1990.
3. **SHAKOORI, A.R.**, 1990. A critical review on a book "Freshwater Fishes of Pakistan" Written by M.R. Mirza in the dailies (The Pakistan Times, Imroze), magazines (Urdu Digest, Science Digest, The Ravi) and scientific journal (Pakistan Journal of Zoology).
4. **SHAKOORI, A.R.**, 1993. A critical review on a book "Pakistan ki Macchalian aur Mahi Parvari (Fishes and Fisheries of Pakistan) written M.R. Mirza and M. Nazir Bhatti in Pakistan Journal of Zoology and News dailies.
5. **SHAKOORI, A.R.**, 1993. Remembering a brilliant Pakistani Scientist. *The Nation Friday Review*, November 26, 1993, p. 17.
6. **SHAKOORI, A.R.**, 1995. Cure of genetic diseases through gene therapy. *Scientific Ravian*, 6: 111-114.
7. **SHAKOORI, A.R.**, 1997. Cloning. *Logy*, 4(1): 7-14.

8. **SHAKOORI, A.R.**, 1997. Cloning. Daily Jang, September 9, 1997.
9. **SHAKOORI, A.R.**, 1998. Human cloning. Daily Jang, January 20, 1998.
10. **SHAKOORI, A.R.**, 1998. Cloning : Advantages and Disadvantages: An analysis. Logy 5(2): 4-7.

G) BOOKS

1. **SHAKOORI, A.R.**, HASHMI, T.H., RIAZUDDIN, S. AND SHAIKH, K.H., 1988. (Eds.) *An Annotated Textbook of Biology for Secondary School*, based on modernized curricula in Biology proposed for Secondary Schools in ISESCO Member State, Islamic Educational, Scientific and Cultural Organization, Rabbat, Morocco, pages, 377.
2. **SHAKOORI, A.R.**, HASHMI, T.H., RIAZUDDIN, S. AND SHAIKH, K.H., 1988. (Eds.) *An Annotated Textbook of Biology for Higher Secondary School*, based on modernized curricula in Biology proposed for Secondary Schools in ISESCO Member State, Islamic Educational, Scientific and Cultural Organization, Rabbat, Morocco, pages, 833.
3. **SHAKOORI, A.R.**, 1988. Genetics. In: *An Annotated textbook of Biology for Secondary Schools*, pages 270-310, ISESCO, Rabat, Morocco.
4. **SHAKOORI, A.R.**, 1988. Cellular basis of life (Chapter 1, pages 1-42), Chemistry of Cell (Chapter 2, pages 43-112), Nucleic acids and Genetic Code (Chapter 3, pages 113-145), Reproduction of Cell (Chapter 4, pages 146-168), The Heredity Material (Chapter 5, pages 169-214), The chromosome Theory of Heredity (Chapter 6, pages 215-236), Patterns of Heredity (Chapter 7, pages 237-266), Evolution (Chapter 8, pages 267-301), Human Diseases (Chapter 26, pages 746-771). In *Annotated Textbook of Biology for Higher Secondary Schools*. ISESCO, Rabbat, Morocco.
5. **SHAKOORI, A.R. (Ed. & Author)**, 1992. Chemical composition of cell. In *Textbook of Biology for Class XI*. Published by Punjab Textbook Board, Lahore.
6. **SHAKOORI, A.R.**, 1999. *Cloning - An Introduction*. Urdu Science Board, Lahore.
7. **SHAKOORI, A.R.**, 2002. *Noble Prize winning discoveries*. Urdu Science Board, Lahore.
8. **SHAKOORI, A.R.**, SAEED, H. AND JOHAR, R. (Eds.), 2003. *Biology XII*. Published by Punjab Textbook Board, Lahore. (Also contributed two chapters CHROMOSOMES AND DNA and BIOTECHNOLOGY)
9. QAMER, S. and **SHAKOOR, A. R.**, 2010. *Composition of honey produced by Asian and exotic honeybees*. Paperback -09-2010, VDM Verlag, Dr. Muller Aktiengesellschaft &CO KG, Germany. ISBN 978-3-639-00828-9. Pp. 236.
10. YOUSAFZAI, A.M. AND **SHAKOORI, A.R.**, 2011. *Pollution of Large Sub-Tropical Rivers- River Kabul, Pakistan*. VDM Verlag, Dr. Muller Aktiengesellschaft &CO KG. ISBN 978-3-639-33934-5.
11. KHAN, M. J., KANWAL, M. AND **SHAKOORI, A. R.**, 2011. Interferon Beta 1 Gene and Human Cancer. VDM Verlag, Dr. Muller Aktiengesellschaft &CO KG., Germany. ISBN 978-3-639-35935-0
12. **SHAKOORI, A.R.** AND REHMAN, A., 2011. *Protozoan Fauna of Industrial Wastes and their Role in Bioremediation*, VDM Verlag, Dr. Muller Aktiengesellschaft & CO KG. Germany. ISBN 978-3-639-36906-9.
13. **SHAKOORI, A.R. AND** BUKHARI, D.A., 2011. *Molecular Characterization of Cry4 Gene from Bacillus thuringiensis*. VDM Verlag, Dr. Muller Aktiengesellschaft &CO KG. Germany. ISBN 978-3-639-37596-1. Pp. 345
14. **SHAKOORI, A.R.** AND AHMED, B., 2011. *Plasmid Mediated Antibiotic Resistance in Gram-Negative Bacteria*. VDM Verlag, Dr. Muller Aktiengesellschaft & CO KG. Germany ISBN 978-3-639-37920-4

15. DAR, S. AND **SHAKOORI, A.R., 2011.** *Cloning and Gene Expression of a Synthetic Gene of Paramecium species.* LAP Lambert Academic Publishing GmbH & Co.KG, Germany. ISBN 978-3-8454-778140-2
16. SULEMAN, A. AND **SHAKOORI, A.R., 2011.** *Physiological Importance of Cadmium Metallothionein Protein"* LAP Lambert Academic Publishing GmbH & Co. KG, Germany. ISBN 978-3-8454-7719-0.
17. ZAHID, N. AND **SHAKOORI, A.R., 2011.** *Functional Analysis of Promoter4 of cus Operon - Activity of Copper-mediated Induction of cus Operron Promoter in E. coli.* LAP Lambert Academic Publishing GmbH & Co. KG, Germany. ISBN 978-3-8465-0511-3
18. CHAUDHRY, R. AND **SHAKOORI, A.R., 2011.** *Copper metallothionein Gene of Tetrahymena. – Copper Metallothionein Gene Isoforms.* LAP Lambert Academic Publishing GmbH & Co. KG, Germany. ISBN 978-3-8465-1669-0.
19. **SHUJA, R.N. AND SHAKOORI, A.R., 2011.** **Cadmium metallothionein genes of ciliates: Isolation and characterization of cadmium metallothionein genes.** LAP Lambert Academic Publishing GmbH & Co. KG, Germany. ISBN-13: 978-3-8465-3139-6. pp.160.
20. **SALIHA, Z., SATTAR, A., FARID, A. AND SHAKOORI, A.R., 2012.** **Termites of Pakistasn & their Control.** Zoological Society of Pakistan, pp. 102. ISBN: 9078-969-9715-00-6
21. **KANWAL, M., KHAN, M.J. AND SHAKOORI, A.R., 2012.** **Acute lymphoblastic leukemias (ALL) and interferon beta-1 genes: Mutational analysis of interferon beta 1 (IFN1).).** LAP Lambert Academic Publishing GmbH & Co. KG, Germany. ISBN-13: 9783-6592-3041-7.pp.172
22. **SALEEM, F. AND SHAKOORI, A.R., 2012.** **Development of Bioinsecticides: Molecular characterization of cry2 gene from Pakistani isolates of Bacillus thuringiensis.** LAP Lambert Academic Publishing GmbH & Co. KG, Germany. ISBN-13: 978-3-84844231-7. pp.168.
23. SHAKOORI, T.A. AND **SHAKOORI, A.R., 2013.** Role of surfactant protein D in chronic Obstructive Pulmonary Disease. LAP Lambert Academic Publishing GmbH & Co. KG, Germany. ISBN-13: 978-3-659-34158-8. pp.168..
24. Contributed the following Chapters in "Chromosomwe Structure and Aberrations" Editors: Tariq Ahmad Butt and Aijaz Ahmad Wani. Published by Springer Verlag ISBN: 978-81-322-3671-9 (Hard Cover), 978-81-322-3673-3 (eBook),DOI 10.1007/978-81-322-3673-3
 - Chapter 1: Introduction to Chromosomes by A. R. Shakoori**
 - Chapter 3: Organization of Genetic Material into chromosomes by A. R. Shakoori**
 - Chapter 12: Structural Changes in chromosomes by A.R. Shakoori, Saira Aftab and Khalid Al-Ghanim**
 - Chapter 13: Numerical changes in chromosomes by A. R. Shakoori, Saira Aftab and Farah Rauf Shakoori**
 - Chapter 16: Fluorescent in situ Hybridization (FISH) and its Applications by A. R. Shakoori**
25. Translation of "Stupid Science", Urdu Science Board, Lahore (under print)

20. REFEREE/REVIEWER OF INTERNATIONAL SCIENTIFIC JOURNALS

Name of Journal	Publisher
1. <i>World Journal of Microbiology & Biotechnology</i>	Springer Verlag
2. <i>Pesticide Biochemistry & Physiology</i>	Elsevier
3. <i>Journal of Hazardous Material</i>	Elsevier
4. <i>Bulletin of Environmental Contamination & Toxicology</i>	Springer Verlag
5. <i>Bioresource Technology</i>	Elsevier
6. <i>Journal of Zhejiang University Science B</i>	Springer Verlag
7. <i>Molecular Biology Reports</i>	Springer Verlag
8. <i>Science of the Total Environment</i>	Elsevier
9. <i>Gene</i>	Elsevier
10. <i>Phillipine Journal of Science</i>	Science & Technology Information Institute, Manila
11. <i>Process Biochemistry</i>	Elsevier
12. <i>Biotechnology and Molecular Biology Reviews</i>	Academic Journals
13. <i>Chemical Engineering Journal</i>	Elsevier
14. <i>Journal of Medicine and Medical Sciences</i>	International Research Journals
15. <i>Acta Tropica</i>	Elsevier
16. <i>International Journal of Medicine and Medical</i>	Academic Journal Sciences
17. <i>International Biodeterioration and Biodegradation</i>	Elsevier
18. <i>Journal of Environmental Chemistry & Toxicology</i>	Academic Journals
19. <i>Journal of Clinical & Medical Research</i>	Academic Journals
20. <i>African Journal of Biotechnology</i>	Academic Journals
21. <i>African Journal of Microbiology Research</i>	Academic Journals
22. <i>International Research Journal of Microbiology</i>	International Research Journals
23. <i>Virology Methods</i>	Elsevier
24. <i>Toxicological and Environmental Chemistry</i>	
25. <i>International Journal of Environmental Research and Public Health</i>	
26. <i>Biologia Plantarum</i>	
27. <i>Environmental Monitoring and Assessment</i>	
28. <i>International Aquatic Research</i>	Springer Verlag
29. <i>Saudi Journal of Biological Sciences</i>	
30. <i>Turkish Journal of Fisheries and Aquatic Sciences</i>	TUBITAK, Turkey
31. <i>Journal of Toxicology</i>	Hidawi Publishing Incorporation
32. <i>Molecular Medicine</i>	
33. <i>Journal of Cellular Biochemistry</i>	
34. <i>Journal of Pakistan Collerge of Physicians and Surgeons</i>	

21 PATENTS
a) International



US 20170183668A1

(19) **United States**
 (12) **Patent Application Publication** (10) **Pub. No.: US 2017/0183668 A1**
 Saleem et al. (43) **Pub. Date: Jun. 29, 2017**

(54) **PROCESS FOR RECOMBINANT PROTEIN EXPRESSION AUGMENTATION IN BACILLUS EXPRESSION SYSTEM**

(71) Applicants: **Faiza Saleem**, Lahore (PK); **Hyun-Woo Park**, Riverside, CA (US); **Shagufta Naz**, Lahore (PK); **Abdul Rauf Shakoori**, Lahore (PK)

(72) Inventors: **Faiza Saleem**, Lahore (PK); **Hyun-Woo Park**, Riverside, CA (US); **Shagufta Naz**, Lahore (PK); **Abdul Rauf Shakoori**, Lahore (PK)

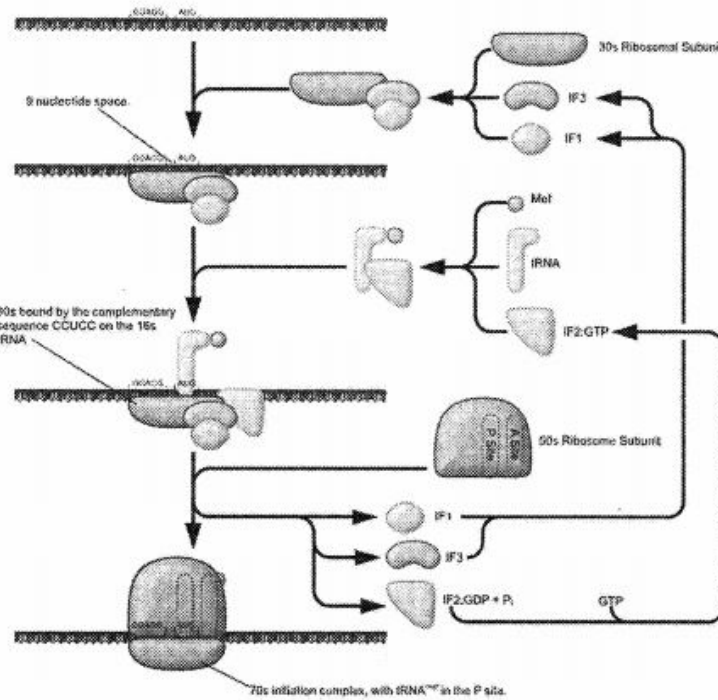
(21) Appl. No.: **14/707,793**

(22) Filed: **May 8, 2015**

Publication Classification

(51) **Int. Cl.**
C12N 15/75 (2006.01)
C07K 14/325 (2006.01)
C07K 14/32 (2006.01)
C12N 15/90 (2006.01)
 (52) **U.S. Cl.**
 CPC *C12N 15/75* (2013.01); *C12N 15/902* (2013.01); *C07K 14/325* (2013.01); *C07K 14/32* (2013.01)

(57) **ABSTRACT**
 A process for efficient expression of a foreign gene in a *Bacillus* host was developed by varying the length and nucleotide sequence in the spacer region between ribosomal binding sequence (RBS) and initiation codon (ATG) of the gene. *Bacillus thuringiensis* cry2Ac gene was selected as a model gene because it requires an upstream open reading frame designated as orf2 for its efficient expression and crystallization in a *Bacillus* host.



b) National (Submitted)

Sr #	Title	Name/s of Inventor/s	Country	Attorney Docket Number	Listed Date
	Process for recombinant protein expression augmentation in <i>Bacillus</i> expression system	Dr. Faiza Saleem, Hyun-Woo Park Prof. Dr. Shagufta Naz, Prof. Dr. Abdul Rauf Shakoori	USA	2015.0120	15-05-2015

New insecticidal toxins described in “*Bacillus thuringiensis* Toxin Database”

(Web address: http://www.lifesci.susx.ac.uk/home/Neil_Crickmore/Bt/)

Toxin	Accession No.	Authors	Year	Host Strain
Cry2Ab11	AM691748	Saleem and Shakoori	2007	CMBL-BT1
Cry2Ac7	AM292031	Saleem & Shakoori	2006	SBS-BT1
Cry2Ac8	AM421903	Saleem & Shakoori	2007	CMBL-BT1
Cry2Ac9	AM421904	Saleem & Shakoori	2007	CMBL-BT2
Cry2Ac11	AM689531	Saleem & Shakoori	2007	HD29
Cry2Ac12	AM689532	Saleem & Shakoori	2007	CMBL-BT3
Cry2Ad3	AM268418	Saleem <i>et al</i>	2006	CMBL-BT5
Cry2Ad4	AM490199	Saleem <i>et al</i>	2007	CMBL-BT2
Cry2Ad5	AM765844	Saleem <i>et al</i>	2007	HD29