

Proceedings of  
The National Conference and Training Workshop  
“Wildlife and Aerobiology”

February 6-7, 2015

**CONFERENCE SECRETARIAT**

Environmental Health & Wildlife, Department of Zoology, University of the Punjab, Lahore, Pakistan  
Phone: 0300 4401535, Email: [zali.zool@pu.edu.pk](mailto:zali.zool@pu.edu.pk)

**EDITORS**

*Dr. Zulfiqar Ali (Transnational Education Coordinator-TNE-308) University of the Punjab, Lahore, Pakistan.*

*Prof. Luiza Cintra Campos, University College London-UK*

*Prof. Ian Colbeck, Biological Science, University of Essex, UK*

*Dr. Zaheer Ahmad Nasir, Cranfield University UK*

**Editorial Assistant:** *Ms Sidra Safdar, Wildlife and Ecology, University of Veterinary and Animal Sciences, Lahore, Pakistan.*

**REVIEWERS**

*Dr. Shazia Aslam, Biological Science, University of Essex, UK*

*Dr. James Butler, CSIRO Australia*

*Dr. David E. Naugle, The University of Montana Missoula, USA*

*Dr. Weilong Liu, Chinese Academy of Sciences, Chengdu, Sichuan, China*

*Prof. Mihal Lazaridis, Technical University of Crete, Greece*

*Prof. Leanne Hepburn, University of Essex – UK*

*Dr. Jiří Smolík Institute of Chemical Process Fundamentals ASCR, Prague, Czech Republic*

*Prof. Kostas Eleftheriadis, National Centre for Scientific Research, Greece*

*Dr. Guy Coulson, National Institute of Water and Atmospheric Research (NIWA), New Zealand*

*Dr. Jakub Ondráček, Institute of Chemical Process Fundamentals ASCR, Prague, Czech Republic*

*Dr. Tim Skewes, CSIRO Marine and Atmospheric Research, Australia*

*Dr. Nicole Murphy, CSIRO Marine and Atmospheric Research, Australia*

*Prof. Farkhanda Manzoor, Lahore College for Women University, Lahore, Pakistan*

*Prof. Sikander Sultan, Microbiology & Molecular Genetics University of the Punjab, Lahore, Pakistan*

*Dr. Shakil Ahmad, Department of Botany, University of the Punjab, Lahore, Pakistan*

*Dr. Abdul Majid Khan, Department of Zoology, University of the Punjab, Lahore, Pakistan*

*Dr. Arshad Javid, Wildlife and Ecology, University of Veterinary and Animal Sciences, Lahore, Pakistan.*

*Dr. Fakhar I Abbas BRC, Islamabad, Pakistan*

*Dr. Fehmeeda Bibi, LPP, Faculty of Veterinary Sciences, Bahauddin Zakariya University, Multan, Pakistan*

**ACKNOWLEDGMENTS**

The intention behind the conference was to provide a platform for experts and young researchers to present their findings in the multiple facets of wildlife and environmental health issues in Pakistan. The conference provided the premier interdisciplinary forum for researchers, practitioners and educators to present and discuss the most recent innovations, trends, and concerns, practical challenges encountered and the solutions adopted in the field of wildlife and aerobiological science. Apart from the invaluable knowledge exchanged through this conference and training, development of new linkages with other Higher Education Institutes around the country was an additional benefit.

I am grateful to the respected worthy Vice Chancellor, Prof Dr Mujahid Kamran, Prof Muhammad Akhtar, Prof. Muhammad Naeem Khan, Prof. Javid Iqbal Qazi, Prof. Abdul Qadir, Prof. Sikander Sultan, Ms Arifa Sosan, Mr. Hassan Ali, Syed Hammad Naqi, WWF-Pakistan and British Council for their support in successfully organizing this conference. The Honourable Judges and moderators, faculty members, presenters and the students as well also deserve acknowledgment for their efforts. I must acknowledge the full support Prof. Khalid Javed, Editor-in-Chief, The JAPS, and editors of JAPS without their substantial help and abundant support, it was impossible to achieve the target. It surely has been a team work and the inexhaustible efforts of the administrative editors, and Mr. Muhammad Attique (Editorial Assistant, JAPS) that cannot be left unrecognized. I am grateful to all of you who have been a wonderful support in making it happen. Thank you very much!

## **PANEL OF MODERATORS/JUDGES**

1-	Prof. Dr. Mujahid Kamran, Vice Chancellor	Chairman/Convener
2-	Dr. Zulfiqar Ali, Department of Zoology	Chief organizer/Moderator
3-	Prof. Dr. Muhammad Akhtar, Department of Zoology	Moderator/Judge
4-	Prof. Dr. Javid Iqbal Qazi, Department of Zoology	Moderator/Judge
5-	Prof. Dr Muhammad Naeem Khan, Department of Zoology,	Moderator/Judge
6-	Dr Sikander Sultan, Microbiology & Molecular Genetics	Moderator/Judge
7-	Dr Shakil Ahmad, Department of Botany	Moderator/Judge
8-	Prof. Dr Muhammad Abdul Qadir, Department of Chemistry,	Moderator
9-	Prof. FarkhandaManzoor, LCWU	Moderator
10-	Miss Bushra Nisar Khan, Centre for Undergraduate Studies	Moderator
11-	Mr. Sibte-e-Hassan Zaki, WWF Pakistan	Moderator/Judge (Natural Photography)
12-	Hassan Ali WWF-Pakistan	Moderator/Judge (Natural Photography)

## **PARTICIPATING INSTITUTIONS**

1. Biological Science Department, University of Essex, Colchester, UK
2. Institute of Biological Science, Faculty of Science, University of Malaya, Kuala Lumpur, Malaysia
3. Social and Economic Sciences Program CSIRO Ecosystem Sciences, Brisbane, Australia
4. School of Energy, Environment and Agrifood, Cranfield University, Cranfield, Bedfordshire UK
5. Institute of Mountain Hazards and Environment, Chinese Academy of Sciences Chengdu, China
6. Geographic Information Centre, AIT, Thailand
7. HIRC, University College London, UK
8. ICIMOD, Nepal
9. WWF-Pakistan
10. Lahore College for Women University, Lahore, Pakistan
11. Government College University, Lahore, Pakistan
12. British Council, Pakistan
13. Bio-resource Research Centre, Islamabad, Pakistan
14. Institute of Natural and Management Sciences, Rawalpindi, Pakistan
15. Lahore Garrison University for Women, Lahore, Pakistan
16. Lahore Zoo, Lahore, Pakistan
17. Ministry of Environment, Islamabad, Pakistan
18. University of Azad Jammu & Kashmir, Muzaffarabad, AJK
19. Women University, Bagh, AJK
20. ARS North Mingora Swat, Pakistan
21. University of Haripur, Pakistan
22. University of Khyber Pakhtunkhwa, Pakistan
23. University of Agriculture, Peshawar, Khyber Pakhtunkhwa, Pakistan
24. Virtual University of Pakistan, Lahore, Pakistan
25. Bahauddin Zakariya University, Multan, Pakistan
26. University of Veterinary and Animal Sciences, Lahore, Pakistan
27. Hazara University, Garden Campus Mansehra, Khyber Pakhtunkhwa, Pakistan
28. The University of Agriculture, Peshawar, Pakistan
29. University of Health Sciences, Lahore, Pakistan
30. Shaheed Benazir Bhutto University Dir Upper Sheringal, Khyber Pakhtunkhwa, Pakistan
31. Quaid-i-Azam University, Islamabad, Pakistan
32. Department of Wildlife and Fisheries, AJK, Pakistan
33. PMAS University of Arid Agriculture, Rawalpindi, Pakistan
34. Government College University, Faisalabad, Pakistan
35. Government Post Graduate Islamia College for Women, Lahore, Pakistan
36. University of the Punjab, Lahore, Pakistan
37. University of Baluchistan, Quetta, Pakistan
38. GIS, NESPAK National Engineering Services Pakistan.
39. Fisheries Research & Training Institute Manawan, Post Office Batapur (53400), G.T. Road Lahore, Pakistan.
40. Bioinformatics Lab, National Institute for Genomics and Advanced Biotechnology, National Agricultural Research Centre, Park Road, Islamabad, Pakistan

# THE JOURNAL OF ANIMAL AND PLANT SCIENCES

[www.thejaps.org.pk](http://www.thejaps.org.pk)

Volume 25, No. (Suppl.) 2015

## CONTENTS

Sr. No.	TITLE	Page No.
<b>REVIEW ARTICLES</b>		
01	<b>GLACIER RECEDING AND ECOLOGICAL THRESHOLDS FOR TIBETAN PLATEAU AND ASSOCIATED CRYOSPHERE</b>	278-296
	Zulfiqar Ali, Weilong Liu, Wang Xiaodan, Irfan Zainab, Zaidi Zona, Syed Turab Raza, Hassan Ali and Rashid Saleem	
02	<b>AIR POLLUTION AND ITS IMPACT ON AGRICULTURAL CROPS IN DEVELOPING COUNTRIES – A REVIEW</b>	297-302
	Shakil Ahmed	
03	<b>OCCURRENCE OF <i>SALMONELLA</i> IN FRESHWATER FISHES: A REVIEW</b>	303-310
	Fahmeeda Bibi, Shafqat Nawaz Qaisrani, Atif Nisar Ahmad, Masood Akhtar, Bushra Nisar Khan and Zulfiqar Ali	
<b>RESEARCH ARTICLES</b>		
04	<b>MITOCHONDRIAL <i>ATP6</i> AND <i>ATP8</i> GENES BASED MOLECULAR DIVERSITY AND PHYLOGENETIC ANALYSIS IN PUNJAB URIAL (<i>Ovisvigneipunjabiensis</i>)</b>	311-318
	Tanveer Hussain, Masroor Ellahi Babar, Muneeb Muhamed Musthafa, Rashid Saif, Faiz Hussain, Muhammad Aqeel, Nasir Naveed, Muhammad Tariq Pervez, Waseem Ahmad Khan, Ziaullah, Samuel Shahzad and Atif Yaqub	
05	<b>PREDICTING THE POTENTIAL HABITAT AND DISTRIBUTION OF WESTERN TRAGOPAN (<i>Tragopanmelanocephalus</i>) IN SELECTED AREAS OF AJ&amp;K, PAKISTAN: A MAXENT MODELING APPROACH</b>	319-323
	Hassan Ali, Usman Akram, Sawaid Abbas, Muhammad Shafiq Ahmed, Faisal Mueen Qamer, Babar Khan, Muhammad Naeem Awan, Zulfiqar Ali, Abdul Aleem Chaudhry, Atifa Saghir and Masahiko Nagai	
06	<b>RESILIENCE OF LOCAL COMMUNITIES TO CLIMATE CHANGE AROUND A RAMSAR SITE IN PAKISTAN</b>	324-333
	Saima Yaqoob Shelly, Zulfiqar Ali, Fahmeeda Bibi, Zaheer Ahmad Nasir, Ian Colbeck and James R. A. Butler	
07	<b>SOCIOECOLOGICAL ASSESSMENT AND LOCAL COMMUNITY PERCEPTION TOWARDS WILDLIFE CONSERVATION AROUND MANGLA DAM, AJK</b>	334-340
	Bushra Nisar Khan and Zulfiqar Ali	
08	<b>PROSPECTS FOR ALLEVIATING POVERTY AND PROTECTING THE TAUNSA BARRAGE WILDLIFE SANCTUARY, INDUS RIVER, PAKISTAN, THROUGH CULTURAL- AND ECO-TOURISM</b>	341-347
	Zulfiqar Ali, SaimaYaqub Shelly, Fehmeeda Bibi, Zaheer Ahmad Nasir, Ian Colbeck and James R. A. Butler	
09	<b>PREVALENCE OF DENGUE FEVER DURING 2011 - 2012 IN PUNJAB</b>	348-354
	Zulfiqar Ali, Gulshan Zahra, Hassan Ali, BushraNisar Khan, FehmeedaBibi and Abdul Majid Khan	

10	<b>COMMUNITY STRUCTURE AND DIVERSITY OF BUTTERFLIES IN TOLIPIR NATIONAL PARK, AZAD JAMMU AND KASHMIR (AJK) PAKISTAN</b>	355-358
	Abul Hassan Faiz, Fakhar-I-Abbas, Zulfiqar Ali and Laraib Zahra	
11	<b>STUDIES ON PARASITIC PREVALENCE IN RING NECKED PHEASANTS (<i>Phasianuscolchicus</i>) IN CAPTIVITY</b>	359-364
	Sana Ashraf, Arshad Javid, Muhammad Ashraf, Muhammad Akram, Muhammad Altaf, Irfan, Hamda Azmat, G. Jabeen and Zulfiqar Ali	
12	<b>SOME ASPECTS OF REPRODUCTIVE POTENTIALS OF A CAPTIVELY MAINTAINED STOCK OF <i>ALECTORIS CHUKAR</i>: FECUNDITY, HATCHABILITY AND SURVIVAL RATE</b>	365-370
	Naqoosh Zahra, Fakhar-I-Abbas, Safia Janjua and Sana Jafar	
13	<b>FOOD OF PHEASANT TAILED JACANA, <i>Hydrophasianuschirurgus</i> IN PUNJAB, PAKISTAN</b>	371-377
	Zahid Iqbal Khan and Muhammad Sharif Mughal	
14	<b>AVIAN DIVERSITY OF LAHORE ZOO SAFARI IN WINTER SEASON LAHORE, PAKISTAN</b>	378-381
	Hassan Raza, Shahid Mehmood, Bushra Nisar Khan, Fehmeeda Bibi and Zulfiqar Ali	
15	<b>ASSESSMENT OF WATERFOWL DIVERSITY OF RIVER CHENAB, PAKISTAN</b>	382-388
	Muhammad Altaf, Arshad Javid, , Abdul Majid Khan, Muhammad Umair, Irfan, Sana Ashraf, Muhammad Idran, Muhammad Sultan Haider and Zulfiqar Ali	
16	<b>ORNITHO-FAUNA OF CITY AND RAVI CAMPUSES OF UNIVERSITY OF VETERINARY AND ANIMAL SCIENCES, LAHORE, PAKISTAN</b>	389-396
	Zulfiqar Ali, Saima Yaqub Shelly, Fehmeeda Bibi and Syed Saleem Ahmad	
17	<b>ASSESSMENT OF BIRDS' FAUNA, OCCURRENCE STATUS, DIVERSITY INDICES AND ECOLOGICAL THREATS AT MANGLA DAM, AJK</b>	397-403
	Bushra Nisar Khan and Zulfiqar Ali	
18	<b>AVIFAUNAL DIVERSITY OF TOLIPIR NATIONAL PARK AZAD JAMMU AND KASHMIR (AJK) PAKISTAN</b>	404-409
	Abul Hassan Faiz, Fakhar-I-Abbas, Zulfiqar Ali and L. Zahra	
19	<b>ON HABITAT OF PHEASANT TAILED JACANA, <i>Hydrophasianuschirurgus</i> IN PUNJAB PAKISTAN</b>	410-415
	Zahid Iqbal Khan and Muhammad Sharif Mughal	
20	<b>AVIAN BIODIVERSITY OF BAJWAT WETLAND, DISTRICT SIALKOT, PAKISTAN</b>	416-422
	Munir Ahmad Bhinder, Muhammad Iqbal, Muhammad Shahbaz, M.Y. Zahoor, and Wasim Shahzad	
21	<b>GENETIC DIVERSITY AMONG COMMON LEOPARD (<i>Pantherapardus</i>) INHABITING AZAD JAMMU AND KASHMIR, PAKISTAN</b>	423-428
	Syeda Shaista Bibi, Attika Rehman, Riaz Aziz Minhas, Saiqa Andleeb, Muhammad Siddique Awan, and Kainaat William	
22	<b>HABITAT PREFERENCE AND ROOST SITE SELECTION OF <i>Rhinopomahardwickii</i> GRAY, 1831 IN NORTH WESTERN PAKISTAN</b>	429-432
	Faiz-ur-Rahman, Farzana Perveen, Tabinda Rauf, Mohammad Salim, Zulfiqar Ali, Sajjad Khan, M. Shehr Yar and Noor Islam Khan	

23	<b>DISTRIBUTION RANGE AND POPULATION STATUS OF INDIAN GREY WOLF (<i>Canis lupus pallipes</i>) AND ASIATIC JACKAL (<i>CANIS AUREUS</i>) IN LEHRI NATURE PARK, DISTRICT JHELMUM, PAKISTAN</b>	433-440
	Muhammad Saad, Maqsood Anwar, Muhammad Wasim, Mohammad Salim and Zulfiqar Ali	
24	<b>SMALL MAMMALS' DIVERSITY OF SELECTED VILLAGES OF POTHWAR (PUNJAB), PAKISTAN</b>	441-445
	Abul Hassan Faiz, Fakhar-I-Abbas, Zulfiqar Ali, S. Nadeem, M. Mushtaq, L. Zahra and L. Safder	
25	<b>DISTRIBUTION OF INDIAN FLYING FOX <i>Pteropus giganteus</i> BRÜNNICH, 1782 IN FOUR DISTRICTS OF KHYBER PAKHTUNKHWA</b>	446-449
	Mohammad Salim and Muhammad Mahmood-ul-Hassan	
26	<b>OCCURRENCE OF <i>Rhinopomamicrophyllum</i>(Brunnich, 1782) IN KHYBER PAKHTUNKHWA, PAKISTAN</b>	450-453
	Faiz-ur-Rahman, Farzana Perveen, Tabinda Rauf, Mohammad Salim, Sajjad Khan, Hamid Ullah, Anwar Ullah, Zul Kamal and Zulfiqar. Ali	
27	<b>MORMOPHOMETRIC CHARACTERS AND DISTRIBUTION OF BAT (Mammalia: <i>Chiroptera</i>) FAUNA IN NORTHWESTERN PAKISTAN</b>	454-460
	Faiz-Ur-Rahman, Farzana Perveen, Tabinda Rauf, Mohammad Salim, Zulfiqar Ali and M. N. K. Khattak	
28	<b>NEW COLLECTION OF <i>Conohyussindiensis</i>, A MIDDLE MIOCENE SUID, FROM CHAKWAL OF PAKISTAN</b>	461-465
	Sadaf Aslam, Abdul Majid Khan and Muhammad Akhtar	
29	<b><i>Kobus porrecticornis</i> FROM THE UPPER SIWALIKS OF TATROT, PAKISTAN</b>	466-471
	Ayesha Iqbal, Abdul Majid Khan and Muhammad Akhtar	
30	<b>COMPARATIVE HEMATO-BIOCHEMICAL STUDY ON THEILERIOSIS IN NATURALLY INFECTED PUNJAB URIAL (<i>Ovisvigneipunjabiensis</i>) AND DOMESTIC SHEEP (<i>Ovisaries</i>) IN PAKISTAN.</b>	472-476
	Sammuel Shahzad, Muhammad Yasin Tipu, Asim Aslam, Tanveer Hussain, Zulfiqar Ali, SaimaYaqub Shelly, Ziaullah, Muhammad Babar Saleem, Atif Yaqoob and Syed Saleem Ahmad	
31	<b>TRYPANOSOMA INFESTATIONS IN ROYAL BENGAL TIGER (<i>Pantheratigristigris</i>) AT LAHORE ZOOLOGICAL GARDENS AND ITS THERAPY</b>	477-482
	Bushra Nisar Khan, Zulfiqar Ali, Roheela Yasmeen, Fahmeeda Bibi, Ziaullah and Nasir Mehboob	
32	<b>STUDY OF DISEASE RECORDS OF ZOO ANIMALS IN LAHORE ZOO, PAKISTAN</b>	483-492
	Aayza Nemat, Zulfiqar Ali, Sana Ahmad, Syeda Khadija Sikander and Zahra Hussain	
33	<b>DIET PROVISION FOR ZOO ANIMALS IN CAPTIVE CONDITIONS OF LAHORE ZOO, PAKISTAN</b>	493-499
	Syeda Khadija Sikander, Zulfiqar Ali, AayzaNemat, Sana Ahmad, Zahra Hussain, Kiran Saleem, and Muhammad Naeem Khan	
34	<b>ENCLOSURE SIZE OF ANIMALS OF LAHORE ZOOLOGICAL GARDEN IN COMPARISON OF INTERNATIONAL NORMS</b>	500-508
	Zahra Hussain, Zulfiqar Ali, Aayza Nemat, Sana Ahmad, Syeda Khadija Sikander and Kiran Saleem	
35	<b>THE STUDY OF PUBLIC PERCEPTION FOR CAPTIVE ANIMALS AT LAHORE ZOO, PAKISTAN</b>	509-513
	Sana Ahmad, Zulfiqar Ali, AayzaNemat, Syeda Khadija Sikander, Zahra Hussein and Kiran Saleem	

36	<b>EFFECT OF DIFFERENT FEED INGREDIENTS ON GROWTH, SENSORY ATTRIBUTES AND BODY COMPOSITION OF <i>Labeorohita</i></b>	514-518
	Khalid Javed Iqbal, Muhammad Ashraf, Arshad Javid, Naureen Aziz Qureshi, Noor Khan, HamdaAzmat, Muhammad Altaf, Hamid Majeed, Muhammad Sultan Haider, Irfan, Waseem Shazad and Muhammad Yasir Zahoor	
37	<b>NUTRITIONAL EFFICACY OF ACID FISH SILAGE IN <i>Labeorohita</i> AT GROW-OUT STAGE</b>	519-526
	Muhammad Sultan Haider, Muhammad Ashraf, Hamda Azmat, Anjum Khaliq, Arshad Javid, Ghulam Mustafa, Sana Ashraf, Irfan, Muhammad Altaf, Zulfiqar Ali and Fouzia Bashir	
38	<b>CYTOCHROME OXIDASE SUBUNIT 1 (COI) GENE BASED PHYLOGENETIC ANALYSIS OF MAHSEER (<i>Tor putitora</i>) OF PAKISTAN</b>	527-531
	Fauzia Khaliq, Nuzhat Shafi, Attika Rehman and Safia Janjua	
39	<b>ICHTHYO-DIVERSITY OF RIVER ZHOB, DISTRICT ZHOB, BALOCHISTAN</b>	532-535
	Zaigham Hasan, Najeeb Ullah, Sana Ullah and Asmatullah Kakar	
40	<b>OPTIMIZATION OF DNA EXTRACTION AND PCR PROTOCOL FOR RAPD ANALYSIS OF <i>Tor putitora</i></b>	536-541
	Nuzhat Shafi, Safia Janjua, Sana Jafar, Khurshid Anwar and Afsar Mian	
41	<b>STUDIES ON SURVIVAL OF ENDANGERED INDUS GOLDEN MAHSEER (<i>Tor macrolepis</i>) AND ITS IMPACT ON GROWTH OF OTHER CARPS</b>	542-549
	Anser Mahmood Chatta, Zulfiqar Ahmad, Sikender Hayat, Sajid Ali Naqvi and Abdul Majid Khan	
42	<b>ICHTHYOFAUNAL DIVERSITY OF RIVER PANJKORA, DISTRICT DIR LOWER, KHYBER PAKHTUNKHWA</b>	550-563
	Zaigham Hasan, Sana Ullah, Syed Basit Rasheed, Asmatullah Kakar and Naheed Ali	
43	<b>THE STATUS OF FISH DIVERSITY OF RIVER CHENAB, PAKISTAN</b>	564-569
	Muhammad Altaf, Arshad Javid, Abdul Majid Khan, Ali Hussain, Muhammad Umair and Zulfiqar Ali	
44	<b>THE STUDY OF HORTICULTURAL ATTRIBUTES OF SELECTED MEDICINAL PLANTS OF KHANPUR VALLEY IN THE SUB HIMALAYAN MOUNTAINS OF PAKISTAN</b>	570-575
	Shah Masaud Khan, Noor ul Amin and Habib Ahmad	
45	<b>SOME PRELIMINARY STUDIES ON PHYTOCHEMICALS AND ANTIOXIDANT POTENTIAL OF (<i>Fagopyrum esculentum</i>) CULTIVATED IN CHITRAL, PAKISTAN</b>	576-579
	Rabia Abbasi, Safia Janjua, Attika Rehman, Kainaat William and S.W. Khan	
46	<b>BIOLOGICAL EVALUATION, CHARACTERIZATION AND DISTRIBUTION OF SOME LICHENS OF HIMALAYAN REGION, PAKISTAN</b>	580-586
	Asmat Ullah, Kainaat William, Attika Rehman, S. W. Khab and Zafar Iqbal,	
47	<b>HETEROSIS STUDIES FOR VARIOUS FATTY ACIDS COMPOSITION OF INDIAN MUSTARD (<i>Brassica jucea</i> L.)</b>	587-592
	Naushad Ali, Jehan Bakht, Khalid Naveed, Muhammad Liaquat, Sher Aslam Khan, M. Saeed, Sardar Ali, Ijaz Hussain, Shah Masaud Khan and Mohammad Salim	
48	<b>EFFECTS OF LOW TEMPERATURE STORAGE AND VAPOR HEAT TREATMENT ON THE QUALITY OF SWEET ORANGE</b>	593-599
	Ijaz Hussain and Abdur Rab	

49	<b>ASSESSING THE IMPACT OF AMBIENT OZONE POLLUTION ON BIOCHEMICAL CHARACTERISTICS OF <i>Vignaradiatal</i>. PLANTS BY USING ETHYLENEDIUREA</b>	600-605
	Azeem Haider and Shakil Ahmed	
50	<b>SCREENING AND ASSESSMENT OF LACCASE PRODUCING TRICHODERMA SPECIES ISOLATED FROM DIFFERENT ENVIRONMENTAL SAMPLES</b>	606-610
	Shakil Ahmed and Huma Arshad Siddiqui	
51	<b>EVALUATING THE EFFECTS OF OXIDANTS ON CANOLA GROWTH AND YIELD AT URBAN, RURAL ROADSIDE AND RURAL REMOTE SITES USING ETHYLENEDIUREA IN LAHORE-PAKISTAN</b>	611-619
	Shakil Ahmed	
52	<b>CHANGES IN PARTICULATE MATTER CONCENTRATIONS AT DIFFERENT ALTITUDINAL LEVELS WITH ENVIRONMENTAL DYNAMICS</b>	620-627
	Zaidi Zona, Zulfiqar Ali, Safdar Sidra, Nimra Afzal, Mubashir Ahmad, Khadija Aziz, Zainab Irfan, Quratulain, Bushra Ansari, Syed Turab Raza, Zaheer Ahmad Nair and Ian Colbeck	
53	<b>COMPARATIVE AMBIENT AND INDOOR PARTICULATE MATTER ANALYSIS OF OPERATION THEATRES OF GOVERNMENT AND PRIVATE (TRUST) HOSPITALS OF LAHORE, PAKISTAN</b>	628-635
	Afzal Nimra, Zulfiqar Ali, Muhammad Naeem Khan, Tanzila Gulshan, S. Sidra, Javed Raza Gardezi, Maryam Riaz Tarar, Muhammad Saleem, Zaheer Ahmad Nasir and Ian Colbeck	
54	<b>COMPARATIVE STUDY OF PARTICULATE MATTER IN THE TRANSPORT MICROENVIRONMENT (BUSES) OF PAKISTAN AND UK</b>	636-643
	Khadija Aziz, Zulfiqar Ali, Zaheer Ahmad Nasir and Ian Colbeck	
55	<b>AIR QUALITY (PARTICULATE MATTER) AT HEAVY TRAFFIC SITES IN LAHORE, PAKISTAN</b>	644-648
	Zulfiqar Ali, Abdul Rauf, Safdar Sidra, Zaheer Ahmad Nasir and Ian Colbeck	
56	<b>ASSESSMENT OF AIRBORNE PARTICULATE MATTER (PM<sub>2.5</sub>) IN UNIVERSITY CLASSROOMS OF VARRYING OCCUPANCY</b>	649-655
	Khadija Aziz, Zulfiqar Ali, Zaheer Ahmad Nasir and Ian Colbeck	
57	<b>EXPOSURE TO NO<sub>2</sub> IN OCCUPATIONAL BUILT ENVIRONMENTS IN URBAN CENTRE IN LAHORE</b>	656-659
	Syedah Andleeb, Zulfiqar Ali, Faiza Afzal, Ayesha Abdul Razzaq, TahirMehmood, Nausheen Noor, Farzana Rasheed, Zaheer Ahmad Nasir and Ian Colbeck	
58	<b>PARTICULATE POLLUTION IN URBAN RESIDENTIAL BUILT ENVIRONMENTS DURING WINTER AND SUMMER SEASON IN LAHORE, PAKISTAN</b>	660-665
	Zulfiqar Ali, Farhat Naz, Zaheer Ahmad Nasir, Safdar Sidra and Ian Colbeck	
59	<b>STATE OF AIR QUALITY IN AND OUTSIDE OF HOSPITAL WARDS IN URBAN CENTRES – A CASE STUDY IN LAHORE, PAKISTAN</b>	666-671
	Tanzila Gulshan, Zulfiqar Ali, Zaidi Zona, Bushra Ansari, Mubashir Ahmad, Irfan Zainab, Zaheer Ahmad Nasir and Ian Colbeck	
60	<b>DETERMINATION OF INDOOR AND OUTDOOR AIR QUALITY UNDER DIFFERENT VENTILATION CONDITIONS IN A RESIDENTIAL AREA OF LAHORE, PAKISTAN</b>	672-676
	Moneeza Abbas, Sadia Razzaq, RabiaShahzadi, Atiq-ur-Rahman, Farkhanda Manzoor and Zulfiqar Ali	

61	<b>PM<sub>2.5</sub> ARISING FROM DIFFERENT COOKING FUELS IN RURAL RESIDENTIAL HOUSES</b>	677-680
	Humaira Amanat, Zulfiqar Ali, S. Sidra, Zaheer Ahmad Nasir and Ian Colbeck	
62	<b>MEASUREMENT OF NO<sub>2</sub> INDOOR AND OUTDOOR CONCENTRATIONS IN SELECTED PUBLIC SCHOOLS OF LAHORE USING PASSIVE SAMPLER</b>	681-686
	Tahir Mehmood, Zulfiqar Ali, Nausheen Noor, S. Sidra, Zaheer Ahmad Nasir and Ian Colbeck	
63	<b>ASSESSMENT OF FINE PARTICULATE MATTER AND GASEOUS EMISSIONS IN URBAN AND RURAL KITCHENS USING DIFFERENT FUELS</b>	687-692
	Annum Saeed, Moneeza Abbas, Farkhanda Manzoor and Zulfiqar Ali	
64	<b>ULTRAFINE PARTICLES IN RURAL AND URBAN DWELLINGS WITH DIFFERENT HOUSEHOLD FUEL USE IN DEVELOPING COUNTRIES – AN EXAMPLE FROM PAKISTAN</b>	693-699
	Zaheer Ahmad Nasir, Ian Colbeck, Zulfiqar Ali and Shakil Ahmed	
65	<b>SEASONAL VARIATION OF PARTICULATE MATTER IN THE AMBIENT CONDITIONS OF KHANSPUR, PAKISTAN</b>	700-705
	Zulfiqar Ali, Kiran Shahzadi, Safdar Sidra, Zaidi Zona, Irfan Zainab, Khadija Aziz, Mubashir Ahmad, Syed Turab Raza, Zaheer Ahmad Nasir and Ian Colbeck	
66	<b>HEAVY METAL COMPOSITION OF PARTICULATE MATTER IN RURAL AND URBAN RESIDENTIAL BUILT ENVIRONMENTS IN PAKISTAN</b>	706-712
	Zaheer Ahmad Nasir, Ian Colbeck, Zulfiqar Ali and Shakil Ahmed	
67	<b>AUTOMOTIVE RELATED EXPOSURE TO PARTICULATE AIR POLLUTION IN DEVELOPING COUNTRIES CITIES</b>	713-718
	Zaheer Ahmad Nasir, Ian Colbeck, Zulfiqar Ali and Shakil Ahmed	
68	<b>ARSENIC LEVELS IN DRINKING WATER AND ASSOCIATED HEALTH RISK IN DISTRICT SHEIKHUPURA, PAKISTAN</b>	719-724
	Moneeza Abbas and Kausar Jamal Cheema	
69	<b>SOCIO-ENVIRONMENTAL DETERMINANT OF EXPOSURE TO WATER AND SANITATION RELATED HAZARDS IN PAKISTAN</b>	725-730
	Fowad Murtaza, Zaheer Ahmad Nasir, Ian Colbeck and Luiza Cintra Campos	
<b><u>Short Communications</u></b>		
70	<b>HABITAT ANALYSIS OF <i>Scotophilus heathii</i> Horsfield, 1831 IN NORTHWESTERN PARTS OF PAKISTAN</b>	731-734
	Faiz-ur-Rahman, Farzana Perveen, Tabinda Rauf, Mohammad Salim, Zulfiqar Ali, Sajjad Khan and Zul Kamal	
71	<b>TREATMENT OF CONJUNCTIVITIS IN PUMA CUBS IN LAHORE ZOO, PAKISTAN</b>	735-737
	Sammuel Shahzad, Muhammad Babar Saleem, Asim Khalid Mahmood, Saima Yaqub Shelly, Syed Saleem Ahmad, Zainab Tariq and Zaria Qadir	
72	<b>MONITORING OF PARTICULATE MATTER CONCENTRATIONS AT HIGH ALTITUDE ECOSYSTEMS OF PAKISTAN AND CHINA</b>	738-740
	Irfan Zainab, Zulfiqar Ali, Muhammad Shafiq Ahmad, Zaidi Zona, Syed Turab Raza, Safdar Sidra, Zaheer Ahmad Nasir, Ian Colbeck, and Weilong Liu	
73	<b>MICROBIAL DYNAMICS DURING VARIOUS ACTIVITIES IN RESIDENTIAL AREAS OF LAHORE, PAKISTAN</b>	741-743
	Safdar Sidra, Zulfiqar Ali, Sikander Sultan, Shakil Ahmad, Zaheer Ahmad Nasir and Ian Colbeck,	



**JCR 2014  
IMPACT FACTOR  
0.448**

**ABSTRACTING/ INDEXING AGENCIES**

*The Journal of Animal and Plant Sciences, (The JAPS) has been listed in Utrich’s Directory Since 2007 and being abstracted in ISI Thomson Reuters Science Citations Index Expanded, Journal Citation Reports/ Science Edition, SCOPUS, Agroforestry Abstracts (Online): Animal Breeding Abstracts; Biocontrol News and Information; Biofuels Abstracts; Botanical Pesticides Abstracts; C AP Abstract; Chemical Abstracts; Crop Physiology Abstracts; Dairy Science Abstracts; Field Crop Abstracts; Forestry abstracts; Global Health; Grasslands and Forage Abstracts; Helminthological Abstracts; Horticultural Science Abstracts; Index Veterinarius; Maize Abstracts Online; Nutrition Abstracts and Reviews; Organic Research Database; Plant Breeding Abstracts; Poultry Abstracts; Protozoological Abstracts; Review of Aromatic and Medicinal Plants; Review of Medical and Veterinary Mycology; Review of Plant Pathology; Rice Abstracts; Rural Development Abstracts; Seed Abstracts; Soils and Fertilizers; Soybean Abstracts (Online); Sugar Industry Abstracts; Tropical Diseases Bulletin; Veterinary Bulletin; Veterinary Science Database; Weed Abstracts; Wheat, Barley and Triticale Abstracts; World Agricultural Economics and Rural Sociology Abstracts.*

***The JAPS is jointly published by Pakistan Agricultural Scientists Forum  
and University of Veterinary and Animal Sciences, Lahore***