

FACULTY SHORT VITA / BOOKS AND PUBLICATIONS

DR. NAVEEDA RIAZ: Incharge

Dr. Naveeda Riaz had done her Ph.D in 2001 from Center of Excellence in Molecular Biology, Lahore where she worked with Plant Transformation Group. She transformed Basmati Rice with two genes from a soil Bacterium called *Bacillus thureingensis* for development of insect resistant. These transgenic lines were subjected to successful field trials. She joined the National Institute on Deafness and Other Communication Disorders (NIDCD) at the National Institutes of Health, in the same year for her Post Doc. studies. She worked for the five years on Human Genetics especially on Genetics of Stuttering and taste. She identified a major locus at chromosome 12q using Linkage and Association approach that has the gene causing Stuttering. Her Ph.D and Post Doc. Work has been published in International Journals. She joined International Islamic University in 2007 where she worked on Bioinformatics in collaboration with other institutes and Universities. Her area of Interest includes Genetic Engineering and Human Genetics.

PUBLICATIONS:

- **Riaz, N.**, Husnain, T, Fatima, T, Makhdoom, R., Bashir, K., Masson, L., Altosaar, I and S. Riazuddin (2006). Development of indica basmati rice harboring two insecticidal genes for sustainable resistance against lepidopteran insects. South African Journal of Botany 72:217-223.
- Kim, U.K., Wooding, S., **Riaz, N.**, Jorde, L. and Drayna, D. (2006). Evolutionary genetic analysis of variation in the human *TAS1R* taste receptor genes. Chem. Senses June 2006:1-13.
- **Riaz, N.**, Steinberg, S., Ahmed, J. Pluzhnikov, A. Riazuddin, S., Cox, N. and Drayna, D. (2005) Genomewide significant Linkage to Stuttering on Chromosome 12. Am J Hum Genet 76:647-651.
- Bashir K., Husnain, T., Fatima, T., **Riaz, N.** Rahat Makhdoom and S. Riazuddin. (2005). Novel indica basmati line (B-370) expressing two unrelated *Bacillus thuringiensis* genes is highly resistant to two lepidopterans in the field. Crop Protection 24:870-879.
- Husnain T., Bashir K., Fatima T., **Riaz N.**, Janjua Z.N., Rasheed, M.H., and S. Riazuddin (2004). Risk assessment studies of transgenic rice. Proceedings of 8th International Symposium on the Biosafety of Genetically Modified Organisms September 26 – 30, 2004, Montpellier, France. p 99-101.
- Husnain T., Bokhari S.M., **Riaz N.**, Fatima T., Shahid A.A., Bashir K., Jan A. and Riazuddin S. (2003) Pesticidal genes of *Bacillus thuringiensis* in transgenic rice technology to breed insect resistance. 36 (3):133-142 Pak J. of Biochem. and Mol. Biol.).

DR. ASMA GUL:

Dr. Asma Gul is assistant professor of Biotechnology and Bioinformatics. She has done her PhD from Quaid-I-Azam University, Islamabad. On the basis of her excellent academic background and research work, she got indigenous PhD fellowship from HEC. Her Research expertise includes Human Molecular Genetics, Molecular Microbiology and Molecular Immunology. She is an HEC approved supervisor and her research has been published in International journals with good impact factor. She has started her Post Doc. at the University of Cambridge, UK for Post doctorate research. Her Post doc is funded by HEC. Recently she has been selected as one of the members of Board of Advance Studies in Quaid-I-Azam University, Islamabad.

PUBLICATIONS:

- **Gul A**, Hassan MJ, Mahmood S, Chen W, Rahmani S, Naseer MI, Dellefave L, Muhammad N, Rafiq MA, Ansar M, Chishti MS, Ali G, Siddique T and Ahmad W. Genetic studies of autosomal recessive primary microcephaly in 33 Pakistani families: novel sequence variants in *ASPM* gene. *Neurogenetics*. 2006; 7(2): 105-10.
- **Gul A**, Hassan MJ, Hussain S, Raza SI, Chishti MS and Ahmad W. A novel deletion mutation in *CENPJ* gene in a Pakistani family with autosomal recessive primary microcephaly. *J Hum Genet*. 2006; 51(9): 760-4.
- Wali A, John P, **Gul A**, Lee K, Chishti MS, Ali G, Hassan MJ, Leal SM and Ahmad W. A novel locus for alopecia with mental retardation syndrome (APMR2) maps to chromosome 3q26.2-q26.31. *Clinical Genetics*. 2006; 70(3): 233-9.
- M. Naeem, M. Jelani, K. Lee, G. Ali, M.S. Chishti, A. Wali, **A. Gul**, P. John, M.J. Hassan, S.M. Leal and W. Ahmad. Ectodermal dysplasia of hair and nail type: mapping of a novel locus to chromosome 17p12-q21.2. *British Journal of Dermatology*. 2006; 155: 1184-1190.
- **Gul A**, Tariq M, Khan MN, Hassan MJ, Ali G and Ahmad W. Novel protein-truncating mutations in the *ASPM* gene in families with autosomal recessive primary microcephaly. *Journal of Neurogenetics*. 2007; 21: 153-163.

DR. SHAHEEN SHEHZAD:

Dr. Shaheen Shehzad is working as Assistant Professor in the department of Biotechnology and Bioinformatics, at International Islamic University Islamabad,

Pakistan. Her Research expertise includes Molecular Biology, Biotechnology and Molecular and Population Genetics. She has done Ph.D. from Quaid-I-Azam University, Islamabad and has good experience of different Biotechnological Techniques like PCR, Linkage Analysis, Sequencing, Gene Mapping, Gel Electrophoresis, etc. Her work is published in reputed International journals. Her Master and M.Phil. was also from the Quaid-i-Azam University and she got distinction and bestowed with the Gold Medal in M.Sc. Her name has been included in the list of HEC approved supervisors.

PUBLICATIONS:

- Afzal, M., **Sikandar, S.**, Shah, M. and Ibrar, M., 2001 “Ecological Zones of Pakistan”. Natural History Research in Pakistan. pp 123-146.
- **Sikandar, S.** 2002. “Evaluation of diversity in schizophrenic population of Pakistan”. Proc. Pakistan Congr. Zool., Vol.22, pp.223-235.
- Shaukat, S.S., Siddiqui, I.A. and **Sikandar, S.**, 2003. “Biological Control of Nematodes”. Proceedings of the Workshop on Information Handling in Biological Research. pp. 25-48.
- Sohail, K. and **Sikandar, S.**, 2003. “Information Handling Tool: WIN/ISIS”. Proceedings of the Workshop on Information Handling in Biological Research. pp. 85-89.
- Shaukat, S.S., Siddiqui, I.A., Ali.Z. and **Sikandar, S.**, 2004. “Fecundity and Factors regulating germination of *Vernonia cinerascens* and *V. Cinerea*”. Int. J. Biol.& Biotech., 1(3): pp. 279-291.
- Santos RLP, El-Shanti H, **Sikandar S**, Lee K, Bhatti A, Yan K, Chahrour MH, McArthur NM, Pham TL, Mahasneh AA, Ahmad W, Leal SM (2006). Novel sequence variants in the *TMIE* gene in families with autosomal recessive hearing impairment. J Mol Med 84:226-231
- Santos RLP, Hassan MJ, **Sikandar S**, Lee K, Ali G, Martin PE, Chahrour MH, Yan K, Ahmad W, Leal SM (2006). DFNB68, a novel autosomal recessive non-syndromic hearing impairment locus at chromosomal region 19p13.2”. Hum Genet 120:85-92

DR. NYLA JABEEN:

Dr. Nyla Jabeen is Assistant Professor of Biotechnology. She did her Ph.D research work at Quaid-i-Azam University in collaboration with Agriculture Biotechnology Institute, National Agricultural Research Council, Islamabad. Her research expertise includes molecular biology, gene transformation, crop diseases and Plant tissue culture. She has

successfully established a protocol for *in vitro* propagation and *Agrobacterium* mediated gene transformation of tomato. She developed tomato transgenic lines resistant to many fungal pathogens. She has published her research in National and International journals. She worked for the promotion of Biological Sciences in Pakistan at Higher Education Commission, Islamabad. During her stay at HEC she has been involved in programs related to the university teacher's training, curriculum development, distant learning and researcher industry liaison. She has organized and participated in several National and International workshops/ conferences on teaching methodologies, advanced molecular techniques and researcher industry liaison for details please visit <http://ncgls.hec.gov.pk>, <http://pakistanimes.net/2005/03/05/oped3.htm>. She is HEC approved PhD supervisor. She is working on *in vitro* propagation and development of resistance against biotic and abiotic stresses in crops.

Publications

- Nyla Jabeen, Bushra Mirza, Zubeda Chaudhary, Hamid Rashid and Muhammad Gulfraz. (2009). Study of the factors affecting *Agrobacterium* mediated gene transformation in tomato. Pakistan Journal of Botany. 41: 2605-2614.
- Muhammad Gulfraz, Sajid Mehmood, Nasir Minhas and Nyla Jabeen. (2008). Composition and antimicrobial properties of essential oil of *Foeniculum vulgare*. African Journal of Biotechnology. 7:4364-4368.
- Sajid Mehmood, Amina Bashir, Asif Ahmad, Zahid Akram, Nyla Jabeen and Muhammad Gulfraz. (2008). Molecular characterization of regional *Sorghum bicolor* varieties of Pakistan. Pakistan Journal of Botany. 40(5): 2015-2021, 2008
- Nyla Jabeen, Zubeda Chaudhry, Hamid Rashid and Bushra Mirza (2005). Genotype and Phenotype affects the shoot regeneration in *Lycopersicon Esculentum*. Pakistan Journal of Botany. 37(4): 899-903, 2005
- N.Jabeen** and B.Mrza (2002). Ethyl Methane Sulfonate enhances genetic variability in *Capsicum annuum*. Asian Journal of Plant Sciences 4(1): 425-428, 2002.
- N.Jabeen** and B. Mirza (2002). Ethyl methane sulfonate induces morphological mutations in *Capsicum annuum*. International Journal of Agriculture and Biology

DR. SOBIA TABASSUM:

Dr. Sobia Tabassum is Assistant Professor of Biotechnology and Bioinformatics. She had carried out her Ph.D research work at Washington State University, USA which kindled her interest for biotechnology. Her research expertise includes molecular biology, gene manipulation / genetic engineering and pharmaceutical Chemistry. She has published in National and International impact factored journals. She has authored one scientific book which has been published in various countries including UK and USA. She has made excellent progress with her research and gained invaluable experience in molecular analyses where she had identified 21 resistance gene analog polymorphism markers which would be helpful in DNA fingerprinting techniques for rust resistance. She was awarded Gold Medal in M.Sc. and won

various other awards including foreign scholarship from HEC. Besides, she has been selected as HEC approved supervisor. Currently she is focusing on using efficient technologies that combine pharmaceutical agents and biotechnology.

PUBLISHED SCIENTIFIC BOOK

Sobia Tabassum. 2010. Fingerprinting techniques for identification of rust resistance genes. International Publishers in USA, UK and Germany. ISBN 978-3-8383-3581-0.

PUBLICATIONS:

- **S. Tabassum.** 2006. Qualitative analysis of protein of *Dalbergia sissoo*., Jour. Chem.Soc. Vol 28, No. 3.
- **S. Tabassum.** 2006. Biochemical analysis of *Saussurea heteromalla* (medicinal source), Jour.Chem.Soc. Vol. 28, No.5.
- Mujeeb, Alvina Gul, Muhammad Farooq, Sumaira Rizwan, **Sobia Tabassum**, Hadi Bux and M. Ashraf. 2007. Cytogenetics of some *Triticum aestivum* and *T. turgidum* x *Aegilops variabilis* Intergeneric hybrids and their derived Amphiploids. Pak. J. Bot., 39(2): 415-420.
- **Sobia Tabassum** and Xianming Chen. (2010) Evaluation of Pakistan wheat germplasms for stripe rust resistance through molecular markers. Life sciences Vol 53(9), pp 1-12.
- **Sobia Tabassum** and Muhammad Ashraf. (2010). A molecular study of genetic diversity in *Dalbergia sissoo* ” PJB Vol:42(1) pp:79-88.
- **Sobia. Tabassum** (2010). Future of Biotechnology in Pakistan, Review Article. NUST Journal of Natural Sciences. Accepted
- **Sobia Tabassum** (2010). Engineering of crops by natural resistance. NUST Journal of Natural Sciences. Accepted.
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- **Sobia Tabassum.** (2010). Evaluation of slow yellow rusting. Candian Center of Science and Education. Accepted.

DR. SUMBUL KHALID:

Dr. Sumbul Khalid, Phd in Biochemistry, currently acting as Assistant Professor in the department. PhD Thesis title is “Cloning of somatotropin from indigenous buffalo breeds, over-expression, purification and characterization”. Areas of interests are Biotechnology, Endocrinology, Molecular Biology, Biochemistry. During PhD won the HEC indigenous PhD scholarship and the PhD research has been selected and published by a German publishing group as a book, titled “Growth Hormone of Pakistani Buffalo”.

PUBLICATIONS:

- **Khalid, S.**, S.F. Mahmood., I. S Mirza., Q. Bashir., A. Fatima., S. Z. Saba, Z. Mustansar and A. Khanum. Cloning, Expression and Modeling Studies of Somatotropin cDNA of Local Buffalo Breed Nili- Ravi. Journal of the Chemical Society of Pakistan, Volume 30 No. 5: p. 712 – 726, August 2008.

Dr. ASIF MIR

Dr. Asif Mir is Assistant Professor in department of Bioinformatics and Biotechnology. In recent years, he is focusing on the effort of gene identification has been mainly performed using large autosomal dominant or recessive pedigrees for genome-wide linkage analysis and subsequent gene identification. The identification of disease causing, predisposing and modifying genetic factors responsible for inherited disorder will find its application in new molecular genetic tests, genetic counseling services, development of new genetic therapies for disease through understanding the underlying pathogenetic mechanisms.

The aim of our research is to analyse the molecular pathogenesis of autosomal recessive inherited disorders in our population by combining interdisciplinary research fields such as clinical science and family ascertainment, molecular genetics, bioinformatics and molecular biology.

MS. MEHROSH KHALID:

Mehrosh has been a faculty member in the Department of Bioinformatics & Biotechnology since 2007. With my more than 2 years of progressively responsible experience, she offers a distinguished career earmarked by accomplishments in leading and directing information-technology operations across broad disciplines, including software development, software quality assurance, and project management and bear two international publications. Her research interests lay in the field of computer software engineering and database technologies in conjunction with the bioinformatics software development.

PUBLICATIONS:

- *Syed Nasir Mehmood Shah, Mehrosh Khalid, Saqiba Safdar, Dr. Muhammad Younus Javed, “CMMI Issues at Initial Levels in Pakistani IT Industry”, CWRC08, 3 Nov 2008, Wah, Pakistan.*
- *Syed Nasir Mehmood Shah, Mehrosh Khalid, Saqiba Safdar, Dr. Muhammad Younus Javed, “A FRAMEWORK FOR SUCCESSFUL IMPLEMENTATION OF CMMI”, Proceedings of 2008 Student Conference on Research and Development (SCORED 2008), 26-27 Nov. 2008, Johor, Malaysia*

MS. ATIYA MAHMOOD AHMED:

Atiya Mahmood Ahmed is working as Research / Teaching associate in Department of Bioinformatics and Biotechnology since December 2009. Her area of research includes computational identification and characterization of unknown proteins and finding their structural and functional determinants. Current research is on computational prediction of micro RNA targets in different viruses. Her MS Bioinformatics is in progress in IIUI with 1st position in course work

MS. SAMINA BILAL

ASSISTANT DIRECTOR

BS (Bioinformatics) International Islamic University, Islamabad

MS (In Progress) Muhammad Ali Jinnah University

MS. ROBINA KHAN NIAZI

LAB MANAGER

M. Sc Quaid-I-Azam University Islamabad

INTERIM FACULTY

Dr. Sumaira Farrakh

Dr. Sumaira Farrakh joined the department on 23th August 2010. She did her Ph.d from Quaid-e-Azam university in 2009 in cell biology and cytogenetic. She worked as Visiting Scientist for one and half year in Molecular biology Department of Wageningen university and Research center , The Netherlands. She worked for four years as Research

fellow in National Agricultural Research Center Islamabad. Her areas of interest are recombinant DNA (cloning, PCR, restriction mapping, GATEWAY technology); transformation of plants (*A. tumefaciens*), in vitro tissue culture, protein-GFP fusions Tissue embedding and Microtome, Wheat Wide Crosses / Pre-breeding.

PUBLICATIONS:

- **Rizwan, Sumaira**, Iftikhar, Ahmad, Kazi, Abdul Mujeeb, Sahi, Ghulam Mustafa, Mirza, Javed Iqbal, Attiq-ur-Rehman and Ashraf, Muhammad(2010) 'Virulence variation of *Puccinia striiformis* Westend. f. sp. tritici in Pakistan', Archives Of Phytopathology And Plant Protection, 43: 9, 875 — **882**
- Mujeeb-Kazi, A., Alvina Gul, M. Farooq, **S. Rizwan** and I. Ahmad. 2008. Rebirth of Synthetic Hexaploids with global implications for Wheat Improvement. Australian Journal of Agricultural Research, 59, 391–398
- **S.Rizwan**, I. Ahmad, M. Ashraf, G. M. Sahi, J.I. Mirza, A.R. Ratto and MUJEEB-KAZI A. 2007. new sources of wheat yellow rust (*Puccinia striiformis* f. *Triticci*). Pakistan Journal of Botany., 39(2): 595-602
- **S.Rizwan**, I. Ahmad, M. Ashraf, J.I. Mirza, G. M. Sahi, , A.R. Ratto and Mujeeb-Kazi A. 2007. Evaluation of synthetic hexaploid of wheat (*Triticum turgidum* X *Ae. tauschii*) and their durum parents for stripe rust (*P. striiformis*) resistance. Mexican journal of phytopathology, 152-160
- Mujeeb-Kazi, A., Alvina Gul, M. Farooq, **S. Rizwan** and J. I. Mirza. 2007. Genetic diversity of *Aegilops variabilis* ($2n = 4x = 28$; UUSS) for Wheat Improvement: Morpho-cytogenetic characterization of some derived amphiploids and their practical significance. Pakistan Journal of Botany, 39(1): 57-66
- Mujeeb-Kazi, A., Alvina Gul, M. Farooq, **S. Rizwan** and J. I. Mirza, 2007. Cytogenetics of some *Triticum aestivum* and *T. turgidum* x *Aegilops variabilis* hybrids and their derived amphiploids. Pakistan Journal of Botany, 39(2): 415-420, 2007
- Mujeeb-Kazi, A., Alvina Gul, I. Ahmad, M. Farooq, **S. Rizwan**, H. Bux, S. Iftikhar, S. Asad and R. Delgado, 2007 *Aegilops tauschii* as a Spot blotch (*Cochliobolus sativus*) resistance source for bread wheat improvement. Pakistan Journal of Botany, 39(4): 1207-1216
- **S. Rizwan**, I. Ahmad, M. Ashraf, S. Aziz, T. Yasmine, A.Sattar. 2005. Advance Effect of Pesticides on Reproduction Hormones of Women Cotton Pickers. Pakistan Journal of Biological Sciences. 8: 1588-1591

Dr. Bushra Uzair Zafar

Dr. Bushra Uzair Zafar is assistant professor in the department of Bioinformatics & biotechnology, International Islamic University Islamabad. Dr. Bushra has done Ph.D from Centre for Molecular Genetics, University of Karachi. The topic of her Ph.D thesis was ‘Genetic diversity of marine bacteria’ her thesis is a novel piece of work a combination of microbiology and biotechnology. During her Ph.D she was awarded merit scholarship by Higher Education Commission of Pakistan. She has learned and used the latest techniques of not only microbiology, biotechnology but also of analytical chemistry. She also got chance of spending six months at the University of Birmingham UK and University of Dundee, Scotland on two collaborative projects funded by DFID, U.K. During her Ph.D project she has isolated and studied the genetic characters of marine bacteria from Arabian Sea. She has discovered few novel characters as production of antibacterial compounds, Solubilization of phosphates and liberation of free phosphate etc. One antibiotic isolated and purified showed activity against MRSA (multiple drug resistant staphylococcus aureus) is being patented in U.S.A. she has also shown that couple of bacteria which were solubilizing phosphate were also promoting plant growth. Further during her visit at Birmingham University she had been involved in development of a model system for biologically mediated removal of heavy metals from aqueous solution. Most of her work has been published in national and international journals having impact factor. After completing her Ph.D she has joined as a Post doctorate fellow for a research project on “Screening of marine bacteria for the production of novel compounds”

PUBLICATIONS

- **Patent**

- Inventor(s): Ahmed N, Uzair B, Ahmad V U, Kousar F. New 7-(3-furyl)-3, 7-dimethyl-7, 8-dihydro-1-naphthalenol (bushrin) useful to treat warm-blooded animal affected by bacterial infections, in the preparation of antimicrobial compositions and as antiseptics or disinfectants. Patent Number(s): US2008090900-A1
- Uzair Bushra, Nuzhat Ahmed, Viqar Uddin Ahmad, Faryal Vali Mohammad & David H. Edwards. 2008. The isolation, purification and biological activity of a novel antibacterial compound produced by *Pseudomonas stutzeri*. FEMS Microbiology Letters. Vol 279. 243-240.
- Uzair B. and N. Ahmed. Viqar Uddin Ahmad, Faryal Vali Mohammad 2008. Development of a model system for the biologically mediated removal of lanthanum from solution using sodium phytate as a potential phosphate donor. Journal of the Chemical Society of Pakistan.
- Uzair, B; Ahmed, N; Mohammad, FV, et al. 2008. Detection, Isolation and partial characterization of antifungal compound(s). Produced by *Pseudomonas*

aeruginosa CMG1055 Author(s):.Source: Journal of the Chemical Society of Pakistan Volume: 30 Issue: 4 Pages: 649-653 Published:

- Uzair B, N Ahmed, Viqar Uddin Ahmad, 2008. Antibacterial activity of marine bacteria from Arabian sea of Pakistan. Internet Journal of Microbiology pp 1-11 <http://www.ispub.com/ostia/index.php>
- Uzair B. and N. Ahmed. 2007. Solubilization of Insoluble Phosphate Compounds by Attached and Free Living Marine Bacteria. Journal of Basic and Applied Sciences. Vol 3, No 2. 59 – 63
- Uzair B., and N. Ahmed, F. Kousar, and D. H. Edwards. 2006b. Isolation and characterization of marine Pseudomonas strain that inhibit growth of indigenous and clinical isolates. Internet Journal of Microbiology. pp. 1 – 8. <http://www.ispub.com/ostia/index.php>.
- Uzair B., and N. Ahmed, V. Ahmed, and F. Kousar. 2006c. A new antibacterial compound produced by indigenous marine bacteria; fermentation, isolation and biological activity. Natural Product Research. 20 (14): 1326-1331.
- Uzair B. and N. Ahmed. 2006a. Screening and Characterization of biologically important marine bacteria. International Journal Biotechnology. 3(2): 455-461.
- Uzair B. and N. Ahmed. 2007. Screening of phytate hydrolysing marine bacteria isolated from Baluchistan Coast. Journal of Basic and Applied Sciences. 3 (1): 19-23.
- Uzair B. and N. Ahmed. 2006. Antibacterial Activity of Marine Bacterium against Pathogenic and Environmental Isolates of Vibrio Species. Pakistan Journal of marine Sciences vol.15 (2), 193-199.
- Ahmed N., N. Jamil, B. Uzair and F. M. Qureshi. 2003. Biodiversity of bacterial flora from coastal areas of Pakistan: Sindh and Baluchistan. In: Global taxonomy Initiative in Asia, Junko Shimura (eds), Research Report for National Institute for Environmental Studies, Japan pp. 167-176.

ADJUNCT FACULTY

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for Information Technology, Chak shahzad, Islamabad, Pakistan

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Professor, NUST, Center of Virology & Immunology, Islamabad, Pakistan

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