

# CURRICULUM VITAE

## Irfan Safdar Durrani

Biochemist/Molecular Biologist/Biotechnologist

durrani\_si@yahoo.com

House No. 814, Street 38

Home Phone: +92519597714

Block C, PWD Housing Society

Islamabad, Pakistan

Cell Phone: +923339177449

### **PROFESSIONAL EXPERIENCE**

<b>Date</b>	<b>Designation</b>	<b>Institute</b>
Dec 2003 - Present	Lecturer	Institute Of Biotechnology And Genetic Engineering KP Agriculture, Pakistan.
Jun 2003 - Nov 2003	Biochemist / Molecular Biologist	Rehman Medical Institute Peshawar, Pakistan.
May 2003 - Nov 2003	Visiting lecturer for chemical pathology	Razi Institute Medical Sciences Peshawar., Pakistan
September 1998 - May 2000	Lab manager/ Incharge	Naumaan Laboratory
March 1998 - August 1998	Clinical Biochemist	Naumaan Laboratory

### **SERVISE ACTIVITY**

Teaching biotechnology and molecular biology theory and laboratory courses at undergraduate and post graduate levels.

Have supervised Post graduates research projects over the past 3 years.

Have designed independent research projects in the field of molecular Oncology.

Have been an actively involved in arranging seminars and conferences at the host Institute.

### **RESEARCH AND TECHNICAL SKILLS**

**Plant Genetic Engineering** - Research training from Iowa State University USA include Bioinformatic tools ; NCBI; Nucleotide, Protein, Blast, Pubmed, Gene, Primer Design. Tair; Gene. gene model, map viewer, Sequence viewer, Nucleotide sequence view for Genomic DNA sequence. chromosome map. Primer Design using Primer Premier 5, Primer3 and NCBI blast PCR methods; Conventional PCR, Reverse Transcription PCR, LA PCR for gene isolation and making full length gene assemblies. RNAi methods for making gene knockouts to evaluate their functions. Use of Gateway Technology to create entry and destination clones of desired nucleotide stretches in E. coli. and Agrobacterium.

Bacterial Transformations; E coli: heat shock method, electroporation and  
Agrobacterium: Freeze thaw method, electroporation.  
Agrobacterium mediated Plant transformations: leaf disc.  
Tissue culture methods for plant propagation, regenerations and transgenic plant  
selection on antibiotic selective regeneration media.  
Plant handling in greenhouse  
Analytical methods for evaluation of transgene effect in transgenic plants;  
Reverse transcription PCR to confirm transgenic nature of plants using gene specific  
oligonucleotides.  
Isolation and Homogenization of floral nectaries of tobacco plants.  
Isolation of total glucans from floral homogenates by centrifugal fractionation.  
Differential centrifugation for fractionation of starch and water soluble  
polysaccharides.  
Quantification of relative proportions of water soluble sugars and water-soluble  
polysaccharides by amyloglucosidase digestion method.  
Quantification of relative amounts of glucose, D fructose and sucrose using sucrose/D  
glucose/D glucose determination kit.  
Qualitative analysis of starch by DMSO solubilisation and Alcohol precipitation  
method.  
Fractionation of starch fractions by gel permeation chromatography method to  
determine relative ratios of amylose and amylopectin.  
Quantitative real time PCR for Comparison of starch gene expression in transgenic  
plants to wild type.

***Molecular Oncogenetics*** - My Research Work In Molecular Oncogenetics of Chronic  
Myeloid Leukemia (CML) included

Isolation of Genomic DNA & Total RNA from Whole Blood.  
Primer Design for PCR amplification of CML break points on Chromosome 9.  
Reverse Transcription for cDNA synthesis of fusion point of bcr-abl mRNA fusion  
transcripts.  
Optimization of Nested PCR for Detection of bcr-abl Chimeric Transcripts in CML  
patients and PCR amplification of cDNA.  
Agarose gel electrophoresis.  
T/A vector based Cloning of amplicons  
Clone Analysis by Restriction digestion.  
Clone Analysis by PCR.  
Optimization of Quantitative Competitive Reverse transcription PCR. (Qc-RT-PCR)  
for Detection of MRD in CML patients.

***Enzyme Purification and Characterization*** - My Research Work in Enzymology  
included

Maintenance of axenic bacterial cultures.  
Fermentation for  $\beta$ -glucosidase production from microbial sources.  
Optimization of membrane bound enzyme solubilization.

Enzyme purification procedures; ammonium sulfate precipitation, dialysis, fast protein liquid chromatographic fractionations including ion exchange chromatography and gel filtration.  
Enzyme Characterization for optimal pH, thermal stability, and substrate affinity.  
Electrophoresis resolution of native and SDS denatured proteins on polyacrylamide gels.  
Evaluation of enzyme inhibitors and co-factors characterization.  
Zymography of native-proteins separated by FPLC fractionation.

## HONORS AND AWARDS

- Jul 2004: Centre of Biotechnology University of Peshawar. External Examiner for Practical examination of Genetic Engineering.
- Jul 2004: Centre of Biotechnology University of Peshawar. Paper Setter and Paper Checker for Genetic Engineering.
- Jul 2003: Academic Distinction M, Phil. (CGPA 3.92).
- 1994: Social Educational and Scientific Council of Biochemists Biochemistry. Department University of Agriculture Faisalabad.
- Merit Certificate of Excellent Performance

## WORKSHOPS AND CONFERENCES/SYMPOSIA:

Workshop on Implementation Of Bio Safety Guidelines (NIBGE) 1st September 2005. NIBGE, Faisalabad, Pakistan.

International Symposium on Characterization and Management of Emerging Viral Diseases in the Developing World 20-22, Nov 2006, NIBGE Faisalabad, Pakistan.

Workshop on web based tools for genomic and post genomic research. Agricultural University Peshawar. 16-19, April 2007.

Workshop on Real Time PCR , PMAS University of Arid Agriculture.

## RESEARCH PUBLICATIONS

Siddiqui, K.S., Rashid, M.H., Ghauri, T.M., **Durrani, S.I.**, Rajoka, M.I 1997. Short Communication: Purification and Characterization of an Intracellular  $\beta$ -Glucosidase from *Cellulomonas biazotea*. *World Journal of Microbiology And Biotechnology*. 13, 245-247.

M. I. Rajoka, **I.S. Durrani**, A.M. Khalid (2004) Kinetics of improved production and thermostability of an intracellular  $\beta$  glucosidase from a mutant derivative of *Cellulomonas biazotea*. *Biotechnology Letters* 26: 281-285.

M. I. Rajoka, **I.S. Durrani**, A.M. Khalid (2005) Kinetic studies of Native and mutated intracellular  $\beta$  Glucosidases from *Cellulomonas biazotea*. *Protein and peptide letters*, 12, 283-288.