

Kuheli Sen

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I am a Biotechnologist and Molecular/microbiologist currently working as a Research Scientist. My responsibilities include planing and executing Next Generation Sequencing and pacbio Assays from Nucleic Acid extraction, quality assessment, library construction to sequencing and analyzing data as well as developing, testing, validating and implementing new genomic technologies and protocols. I am also an expert at Microarrays, QPCR assays, Nanostring and Fluidigm assays. Previously worked on cell culture techniques, plant tissue culture and all microbiological assays. I am knowledgeable, dedicated, dependable and able to work independently as well as part of a team.

Education and Training

Certificate of Specialization in Biotechnology (GPA 4) St. Louis Community College at Florissant Valley, St Louis, MO	Dec 2014
Ph.D. (Microbiology, Biotechnology) GBPUA&T. Pantnagar, India	Aug 2005
M.S. (Botany, Biotechnology) GBPUA&T. Pantnagar, India	Aug 2001
B.Sc. (Zoology, Botany, Chemistry) Ch. Charan Singh Univ. Meerut, India	Jun 1999

Work Experience

MOgene LC.

Research Scientist since Jan 2015

Intern Aug 2014 - Dec 2014

Next Generation Sequencing: Manage and execute NGS based projects as well as developed, tested, validated and implemented new genomic technologies and protocols.

Preparing DNA libraries using illumina, pacbio and KAPA reagent kits and load them to sequencer for gene sequencing, performing Quality Check for DNA samples using bioanalyzer, tapestation, nanodrop, agarose gel electrophoresis, quantitate DNA using picogreen assay, QPCR and Qubit. Operating Nextseq, Miseq and pacbio sequencers. DNA, RNA and protein isolations. Operating liquid handlers. Uses Microsoft excel, word and powerpoint .

Regulated and executed Clinical Diagnostic Laboratory Test (CLIA).

Other Assays : Demonstrated knowledge and experience in QPCR based Assays, Nanostring assays, protein assays and Fluidigm assays

Microarrays : One color and dual color microarray based gene expression, Comparative Genomic Hybridization of DNA samples by labeling the samples with cyanine dyes and hybridizing them on agilent microarray slides. Scanning the slides, extracting the features using feature extraction software and analyzing the data using genomic workbench software to detect mutation in different DNA samples.

Sigma-Aldrich

Intern Jun 2014 – Aug 2014

Mammalian Cell Culture techniques : Performed Sterile Techniques and used Biological Safety Cabinet for cell culture techniques, estimated cell count using Hemocytometer and automated cell counter, passing cells and maintaining cells for few months, estimating % confluence of cells, creating minipools of cells in a 96 well plate, cell banking.

Molecular techniques : Isolated genomic DNA from plant tissue, bacteria and mammalian cells and estimated concentration, isolated plasmid DNA from *E.coli* (minipreps and maxipreps), Polymerase Chain Reaction (PCR) and PCR cleanups, transformation and transfection.

Lecturer, CMR Institute of Management and Science, Bangalore, India

Oct 2006 – Nov 2007

Microbiology, Biotechnology and Molecular genetics :Theory and Lab classes for B.S. and M.S. students.

For B.S. students (Theory) I taught General Microbiology which includes different types of microflora, classification of bacteria and fungi. Detailed description of gram positive and gram negative bacteria and different types of fungi.

B.S.Lab Class : gram staining of bacteria to differentiate gram positive and gram negative bacteria. Staining and differentiating different types of fungus under microscope.

For M.S. students (Theory) I taught Molecular Genetics which includes Different Laws of Genetics , dominant and recessive genes, different hereditary diseases, molecular basics of genetics which includes linkage and crossing over. Molecular description of cell division and different types of syndromes.

M.S.Lab Class : DNA isolation from plants. Plant tissue culture. Different stages of cell division under microscope. Solving genetics problems using Laws of Heredity.

PhD Thesis :

‘P’ Solubilization Potential of Plant Growth Promoting *Pseudomonas* Mutants At Low and Ambient Temperature

Thesis work focused on potential of cold tolerant mutants of *Ps. fluorescens* strains for improving plant growth and thus promoting organic farming in an eco friendly environment.

Awards /Fellowship

- National Eligibility Test (NET) -2003
- GATE – 2001(Graduate Aptitude Test in Engineering).

Research Publication

Das, K., Katiyar, V. and Goel, R. (2003) 'P' solubilization potential of plant growth promoting *Pseudomonas* mutants at low temperature. *Microbiol. Res.* 158, 359-362.

Abstracts in Conferences

Das, K.; and Sharma. A. 2003. Biocontrol of Plant Pathogens by Rhizobacteria from diseased Rice Plants. International Symposium on " Molecular Toxicology and Environmental Health". Held at ITRC, Lucknow from Nov. 5-8, 2003. (Abst. ME-2)

Das, K., Kumar, A. and Rao, P.B. 2003. Use of RAPD markers to study genetic diversity in various species of the genus *Sonchus*, family Asteraceae. National Symposium on "Improving Crop Productivity in an Ecofriendly Environment : Physiological and Molecular Approaches" held at G.B.P.U.A. & T., Pantnagar from Oct. 15-17, 2003. (Abst. P/VI/6).

Trainings

Training course on pacbio sequencing and library construction.

Training course on "Gene Cloning and Expression", 11-31 August, 2003, conducted by NATP.TO E, Veterinary Vaccines Technology held at Indian Veterinary Research Institute, Bareilly.

Workshop on "Online documentation of Plant Biodiversity of India with special reference to Uttaranchal", conducted by Department of Molecular Biology & Genetic Engineering, G.B.P.U.A. & T. Pantnagar from Jan.10-14, 2004.

Training course on "IPR and WTO issues: Relevance for Uttaranchal" conducted by Patent Information Centre held at G.B.P.U.A. & T., Pantnagar.