

**Dr. TUI RAY**  
Plant Biology Division  
Samuel Roberts Noble Foundation  
2510 Sam Noble Parkway  
Ardmore, OK 73401  
Phone no.: 580-224-6132  
E-mail: [tray@noble.org](mailto:tray@noble.org)

---

### **CURRENT POSITION:**

**Research Associate** (May 2008-present), Genomics Core Facility, Plant Biology Division, The Samuel Roberts Noble Foundation.

Conducting research projects involve DNA sequencing, marker analysis, real time qRT-PCR, Affymetrix microarray analysis, *in situ* PCR and chromosomal *in situ* hybridization.

### **EDUCATION:**

**Ph. D.** in Botany (2007), Centre of Advanced Study, Cell and Chromosome Research, Dept. of Botany, University of Calcutta, Kolkata, India.

**M. Sc.** in Botany (1999), Dept. of Botany, University of Calcutta, Kolkata, India.

**B. Sc.** in Botany (1997), Presidency College, University of Calcutta, Kolkata, India.

### **WORK EXPERIENCE:**

**Research Technician** (Feb, 2008 – April, 2008), Microarray Facility, Plant Biology Division, The Samuel Roberts Noble Foundation, Ardmore, USA.

Worked on isolation of Switchgrass RNA and studied gene expression using real time PCR; additionally worked on EST plasmid preparation and DNA sequencing at Microarray Facility, Plant Biology Division, The Samuel Roberts Noble Foundation, Ardmore, USA.

**Lecturer in Botany** (2006- 2007) Vidyasagar College for Women, Kolkata, India.

**Junior & Senior Research Fellow** (2002 – 2006), Centre of Advanced Study, Cell and Chromosome Research, Department of Botany, University of Calcutta, Kolkata, India.

1) Worked on Ph. D. thesis entitled 'Cytological, Biochemical and Molecular Characterisation of Some Economically Important Species of Amaranthaceae and Chenopodiaceae' at Centre of Advanced Study, Cell and Chromosome Research, Department of Botany, University of Calcutta, Kolkata, India.

2) Studied the genetic diversity and phylogenetic relationships between some economically important members of the two families with the help cytological, biochemical and molecular markers. One population specific RAPD marker was identified from *A. gangeticus* (syn. *tricolor*) which was converted to ecotype specific SCAR marker and the sequence was submitted to GenBank.

3) In addition to karyotyping, a highly nutritional 35 kDa protein coding *AmA1* gene was physically localized on chromosomes of *A. hypochondriacus* and its copy number was determined by using primed *in situ* labeling (PRINS) and Cycling- PRINS.

Worked on chromosomal localization of T-DNA genes (Lectin, Hygromycin and *gus*) to identify transgene copy number in transgenic indica rice cultivars developed through *Agrobacterium*-mediated genetic transformation using Primed *in-situ* labeling (PRINS, C-PRINS) in collaboration with Bose Institute, Kolkata, India.

4) Studied somaclonal variation of micropropagated plants using molecular markers like isozyme, RAPD and ISSR in collaboration with Bose Institute, Kolkata, India.

5) Worked on 'Standardization and development of protocols for micropropagation of ornamental and fruit plants namely *Gerbera jamesonii*, *Cordyline terminalis*, *Diffenbachia sp.* and *Musa sp.* by different pathways viz. direct organogenesis, organogenesis via callus culture and somatic embryogenesis' in Arusha BioTech and Research Pvt. Ltd., Kolkata, India.

**Scientist-cum-Consultant** (2000 – 2002), Arusha BioTech and Research Pvt. Ltd. Salt Lake, Kolkata, India

### **TECHNICAL EXPERIENCE:**

**Molecular biology:** Basic Molecular Biological techniques such as, plasmid DNA isolation (miniprep, maxiprep), EST plasmid preparations, *E. coli* transformation, plant DNA and RNA isolation, PCR, RT-PCR, Q-PCR, cloning in different vectors (pUC, pGEM T/A), cDNA synthesis, RAPD, ISSR analysis etc.

**Cytological analysis:** Karyotyping (using IKAROS), Primed *in-situ* labeling (PRINS, C-PRINS) and Fluorescence *in-situ* hybridization (FISH). Detection using fluorescence microscope (Zeiss, Leica), (FISH IMAGER); Cytophotometric measurements of DNA; Stereomicroscopy.

**Biochemical & Biophysical:** Agarose and polyacrylamide gel electrophoresis, Isozymes, Southern Hybridization.

**Plant Biotechnology & Bioinformatics:** Tissue culture, Callus culture, Suspension culture, Somatic Embryogenesis, Micropropagation of economically important plants, *Agrobacterium*-mediated transformation.

Basic computational skills, Photoshop, NTSYS, SPSS, BLAST multiple alignments etc.

### **AWARDS AND FELLOWSHIPS:**

1. Received National Scholarship award in 1997-1999 from Govt. of India
2. Qualified CSIR-UGC National Eligibility Test (NET) for Lectureship in 2001(July)
3. Received Junior Research fellowship from Dept. of Biotechnology (DBT, Govt. of India) from 2002-2003
4. Received Senior Research fellowship from Dept. of Biotechnology (DBT, Govt. of India) from 2003-2006.

### **SELECTED PUBLICATIONS:**

1. **Tui Ray**, Prasenjit Saha, SC Roy (2005) *In vitro* plant regeneration from young capitulum explants of *Gerbera jamesonii*. *Plant Cell Biotechnology and Molecular Biology* 6: 35-40 (With cover page)
2. **Tui Ray**, Indrajit Dutta, Prasenjit Saha, Sampa Das, SC Roy (2006) Genetic Stability of three economically important micropropagated banana cultivars of lower Gangetic plain, as assessed by RAPD and ISSR markers. *Plant Cell Tissue and Organ Culture* 85: 11-21
3. **Tui Ray**, Prasenjit Saha, SC Roy (2006) Commercial production of *Cordyline terminalis* (L) Kunth. from shoot apex meristem and assessment for genetic stability of somaclones by isozyme markers. *Scientia Horticulturae* 108: 289-294

4. Prasenjit Saha, Pralay Majumder, Indrajit Dutta, **Tui Ray**, SC Roy, Sampa Das (2006) Transgenic rice expressing *Allium sativum* leaf lectin with enhanced resistance against sap-sucking insect pests. *Planta* 223: 1329-1343
5. **Tui Ray**, SC Roy (2007) Phylogenetic relationships between members of Amaranthaceae and Chenopodiaceae of lower Indo-Gangetic plains using RAPD and ISSR markers. *Bangladesh Journal of Botany* 36(1): 21-28
6. GenBank Submission: **DQ191177 [gi: 76097025]** Identification of ecotype specific PCR-based SCAR marker (RAPD) from West Bengal in *Amaranthus gangeticus*. **NCBI**, 2005