FACULTY ACADEMIC PROFILE / CV

1. **Full name of the faculty member**:……Dr SUDIPTA RAY
2. **Designation** PROFESSOR
3. **Specialisation**: FUNCTIONAL GENOMICS, MOLECULAR BIOLOGY AND PLANT BIOTECHNOLOGY
4. **Contact information**:

Dr.SudiptaRay; Department of Botany,University of Calcutta,
35,BallygungeCircular Road, Kolkata 700019
Email: srbot@caluniv.ac.in

6. **Academic qualifications**:

College/university from which the degree was obtained	Abbreviation of the degree
UniversityofCalcutta	B.Sc
UniversityofCalcutta	M.Sc
JadavpurUniversity/BoseInstitute	PhD

7. **Positionsheld/holding:** ASSISTANT PROFESSOR (01/07/2009-30/06/2021)
ASSOCIATE PROFESSOR (01/07/2021-30/06/2024)
PROFESSOR (01/07/2024- Till date)

8. **Research interests**:
   - PLANT STRESS BIOLOGY……
   - HOMOLOGOUS RECOMBINATION…….
   - ANTIMICROBIAL PEPTIDE…….

9. **Research guidance**:
   Number of researchers awarded M.Phil/Ph.Ddegrees:… 6
   Number of researchers pursuing M.Phil/ Ph.D : ……6

10. **Projects:**

Completedprojects :

- DST Project "Identification of novel drought tolerant gene(s) by comparative analysis between rice and Sorghum: Isolation and validation through bacterial and inplanta expression"
- DBT Project "Identification cloning and characterization of novel gene(s) and protein(s) involved in homologous recombination in moss Physcomitrella patens"
- CSIR Project "Identification, cloning and characterization of glycine proline rich protein from Sorghum bicolor: Potentiality as an antimicrobial protein"

- WBDBT Project *"In planta* validation for co-expressing dehydrin gene(s) along withgene(s)involvedinRFObiosynthesisforimprovingdroughtandsalinitystress tolerance"

Current projects:

- DBT Project: Deciphering the regulatory mechanism operative in dihydroflavonol 4-reductase (DFR) gene: a late anthocyanin biosynthesis pathway gene in black rice variety

11. **Selectlist of publications**:
    a) ***Journals:***

Sl. No.	Author(s)	Title	Name of theJournal	Volume	Page	Year
1.	Arup Das, **Sudipta Ray**	Overexpression of MRE11 from the moss *Physcomitrium patens* enhances resistance to genotoxic DNA strand breaks by stimulating homologous recombination	*Plant Stress*	15	100786	2025
2.	Arup Das, Tanmoy Halder, Kajal Singh, **Sudipta Ray**	NBS1 from *Physcomitrium patens* confers resistance against oxidative stress through the BRCA1 C-terminus (BRCT) domain, independent of the MRE11 interaction	*Plant Physiology and Biochemistry*	224	109927	2025
3.	Sanghamitra Adak, Tanushree Agarwal, Priyanka Das, **Sudipta Ray**, Arun Lahiri Majumder	Characterization of myo-inositol oxygenase from rice (OsMIOX): influence of salinity stress in different indica rice cultivars	*Physiology and Molecular biology of Plants*	29	927-945	2023
4.	Tundra Samanta, Timir Jha, **Sudipta Ray**, Sumita Jha	Comparative Cytogenetics and Fluorescent Chromosome Banding in Five Indian Species of DipcadiMedik	*Plants*	12	2534	2023
5.	Sayantani Nath, Sayantika Sarkar, Syali D. Patil, Partha Sarathi Saha, Manoj M. Lekhak, **Sudipta Ray**, Satyawada Rama Rao, S.R. Yadav, R.C. Verma, Manoj K. Dhar, S.N. Raina, Sumita Jha	Cytogenetic Diversity in Scilloideae (Asparagaceae): a Comprehensive Recollection and Exploration of Karyo-Evolutionary Trends	*The Botanical Review*	89	158-200	2023
6.	Shuddhanjali Roy, Tanushree Agarwal, Arup Das, Tanmoy Halder, Gouranga Upadhyaya, Binay Chaubey, **Sudipta Ray**	The C-terminal stretch of glycine-rich proline-rich protein (SbGPRP1) from Sorghum bicolor serves as an antimicrobial peptide by targeting the bacterial outer membrane protein	*Plant Molecular Biology*	111	131-151	2023

7.	Chandrima Chakraborty, Arup Das, Chandra basak, Shuddhanjali Roy, Tanushree Agarwal, **Sudipta Ray**	Chloroplastic RecA protein from Physcomitrium patens is able to repair chloroplastic DNA damage by homologous recombination but unable to repair nuclear DNA damage	*Physiology and Molecular Biology of Plants*	28	2057-2067	2022
8.	Arup Das, Shuddhanjali Roy, Gouranga Upadhyaya, Tanushree Agarwal, **Sudipta Ray**	NBS1 protein from *Physcomitrium patens* confers protection against oxidative damage by limiting the accumulation of cellular reactive oxygen species	*Plant Physiology and biochemistry*	180	81-90	2022
9.	Gouranga Upadhyaya, Arup Das, **Sudipta Ray**	A rice R2R3-MYB (OsC1) transcriptional regulator improves oxidative stress tolerance by modulating anthocyanin biosynthesis	*Physiologia Plantarum*	173	2334-2349	2021
10.	Gouranga Upadhyaya, Arup Das, Chandradeep Basu, Tanushree Agarwal, Chandra Basak, Chandrima Chakraborty, Tanmoy Halder, Gautam Basu, **Sudipta Ray**	Multiple copies of a novel amphipathic a-helix forming segment in *Physcomitrella* patens dehydrin play a key role in abiotic stress mitigation	*Journal of Biological Chemistry*	296	100596	2021
11.	NirmalenduBiswas,Sachinath Bera, NayimSepay, Amrita Pal,Tanmoy Halder, **SudiptaRay**, SwarnaliAcharyya,Anup Kumar Biswas,MichelG. B. Drew andTapasGhosh	Simultaneous formation ofnon-oxidovanadium(IV)and oxidovanadium (V)complexes incorporatingphenol-based hydrazoneligands in aerobicconditions	*New JournalofChemistry(RSC)*	44	3700-3716	2020
12.	Tanmoy Halder, GourangaUpadhyaya, ShuddhanaliRoy, Ria Biswas, ArupDas, Angshuman Bagchi,Tanushree Agarwal,**SudiptaRay**	Glycine rich proline richprotein from *Sorghumbicolor* serves as anantimicrobial proteinimplicated in plant defenseresponse	*PlantMolecularBiology*	101	95-112	2019
13.	RajeswariMukherjee,AbhishekMukherjee,SubhenduBandyopadhyay, SritamaMukherjee, SonaliSengupta, **Sudipta Ray**,andArunLahiriMajumder	Selective manipulation ofthe inositol metabolicpathway for induction ofsalt-tolerance in indica ricevariety.	*ScientificReports*	9	5358	2019
14.	Tanmoy Halder, GourangaUpadhyaya, ChandraBasak, Arup Das,ChandrimaChakraborty, **SudiptaRay**	Dehydrins ImpartProtection againstOxidative Stress inTransgenicTobaccoPlants	*Frontiers inplantscience*	9	136	2018

15.	Tanmoy Halder,Gouranga Upadhyaya, and **SudiptaRay**	YSK2 type Dehydrin(SbDhn1)fromSorghum bicolorshowedimproved protection under hightemperatureandosmoticstresscondition.	*Frontiers inplantscience*	8	918	2017
16.	Tanushree Agarwal,Gouranga Upadhyaya,Tanmoy Halder, AbhishekMukherjee, Arun LahiriMajumder, and **SudiptaRay**	Different dehydrinsperform separate functionsin*Physcomitrella patens*	*Planta*	245	101-118	2017
17.	Tanmoy Halder,Tanushree Agarwal and**SudiptaRay**	Isolation, cloning, andcharacterization of a novelSorghum dehydrin(SbDhn2)protein.	*Protoplasma*	253	1475-1488	2016
18.	ParthaSarathiSaha, Sudipta Ray, MainakSengupta,andSumitaJha	Molecular phylogeneticstudies based on rDNAITS, cpDNAtrnL intronsequence and cladodecharacteristics in nineProtasparagustaxa	*Protoplasma*	252	1121-1134	2015
19.	LilyGoswami, SonaliSengupta, SritamaMukherjee, **Sudipta Ray**,Rajeswari Mukherjee, andArunLahiri Majumder	Targeted expression of L-myo-inositol 1-phosphatesynthase fromPorteresiacoarctata (Roxb.)Tateoka confers multiplestress tolerance intransgeniccrop plants	*Journal ofplantbiochemistryandbiotechnology*	23	316-330	2014
20.	JollyChatterjee, BarunavaPatra, RajeswariMukherjee, PapriBasak,Sritama Mukherjee,**Sudipta Ray**, SanghamitraBhattacharyyaetal.	Cloning, characterizationand expression of achloroplastic fructose-1, 6-bisphosphatase fromPorteresiacoarctataconferring salt-tolerance intransgenictobacco	*Plant Cell,Tissue andOrganCulture (PCTOC)*	114	395-409	2013
21.	BarunavaPatra, **SudiptaRay**, Andreas Richter, andArunLahiri Majumder	Enhancedsalttoleranceoftransgenic tobacco plantsby co-expression ofPcINO1 and McIMT1 isaccompanied by increasedlevel of myo-inositol andmethylatedinositol	*Protoplasma*	245	143-152	2010
22.	**SudiptaRay**,Barunava Patra, Aparajita Das-Chatterjee,ArnabGanguli andArunLahiriMajumder	Identificationand organization ofchloroplasticandcytosolic L-myo-inositol 1-phosphate synthase codinggene (s) in Oryza sativa:comparison with the wildhalophytic rice,Porteresiacoarctata.	*Planta*	231	1211-1227	2010
23.	Sonali Sengupta, BarunavaPatra, **Sudipta Ray**, andArunLahiri Majumder	Inositol methyl tranferasefromahalophyticwildrice,*Porteresiacoarctata*Roxb.(Tateoka): regulation ofpinitol synthesis underabioticstress.	*Plant, cell &environment*	31	1442-1459	2008

24.	Biswajit Das, LilyGoswami, **Sudipta Ray**,ShilpiGhosh,SanghamitraBhattacharyya,SampaDas, and Arun LahiriMajumder	*Agrobacterium*-mediatedtransformation of Brassicajuncea with acyanobacterial(Synechocystis PCC6803)delta-6 desaturase geneleads to production ofgamma-linolenicacid	*Plant cell,tissue andorganculture*	86	219-231	2006
25.	Aparajita Das-Chatterjee, Lily Goswami, SusmitaMaitra, Krishnarup GhoshDastidar, **Sudipta Ray**,andArunLahiriMajumder	Introgression of a novelsalt-tolerantL-myo-inositol 1-phosphate synthase fromPorteresiacoarctata (Roxb.)Tateoka (PcINO1) conferssalt tolerance toevolutionary diverseorganisms	*FEBSletters*	580	3980-3988	2006

b) ***Book Chapters:***

Sl. No.	Author(s)	Title	Nameof theBook	Page	Chapter	Year
1.	TanmoyHalderand **SudiptaRay**	PrecisionFarming :TheFutureOfAgriculture	Precision Agriculture andSustainableCrop Production	543-551	31	2020
2.	TanushreeAgarwaland **SudiptaRay**	CaseinKinase2and Its Dynamism in AbioticStress Management	ProteinKinaseand StressSignalingin Plants: Functional GenomicPerspective	310-346	13	2020
3.	Tanushree Agarwal and **Sudipta Ray**	Role of phytohormones in plant response to drought and salinity stress	Plant hormones in crop improvement	109-128	6	2023

12. **Awards:**

CSIRNET 2002
GATE 2002
DST BOYSCAST FELLOWSHIP 2010-11