DETAILED BIODATA OF FACULTY

1. Name: **Dr. Surekha Kundu**, Assistant Professor

2. Mailing address : Dept. of Botany, University of Calcutta, 35 Ballygunge Circular Road, Kolkata -700019. Phone: (33) 2461-4699 (ext. 298)
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3. Gender (M/F): F SC/ST : No (Gen)

4. Educational Qualifications (Graduation onwards):

Sl No.	Degree Awarded	Institution/university	Year	Field of Study	Percentage
1.	BSc	Presidency college	1991	Botany	68% (Ranked 4th)
2.	MSc	University of Calcutta	1993	Botany (Mycology and Pathology optional course)	72% (Ranked 1st, Gold Medalist)
3.	PhD	Bose Institute, Kolkata	2002	Plant molecular biology and biotechnology	-
4.	Post doctoral fellow	Univ. of California, Los Angeles, USA	2002-2006	Molecular, Cell and developmental Biology	-

5. A Details of Professional training and Research Experience:

Sl No.	Institution/University	Position	From (Date)	To (date)
1.	Bose Institute, Kolkata	PhD scholar	1994	2002
2.	Univ. of California, Los Angeles, USA.	Post Doctoral Fellow	23.9.02	23.11.06
3.	Univ. of California, Los Angeles, USA.	Visiting Scientist	1.7.08	12.1.09

B Details of Employment (past and present)

Sl No.	Institution Place	Position	From (Date)	To (date)
1.	University of Calcutta, Dept of Botany	Assistant Professor	26.12.06	present
2.	Univ. of California, Los Angeles, USA.	Visiting Scientist	1.7.08	12.1.09
3.	Univ. of California, Los Angeles, USA.	Post Doctoral Fellow	23.9.02	23.11.06

C. Publications (42) and **Patents (10)**

- **PUBLICATIONS:**

1. S. Mandal (Kundu), Pallob Kundu, B. Roy, and R.K. Mandal. Precursor of the inactive 2S seed storage protein from the Indian mustard *Brassica juncea* is a novel trypsin inhibitor: characterization, post-translational processing studies and transgenic expression to develop insect resistant plants. **J. Biol. Chem**., 277: 37161- 68, **2002** **IF: 5.6**

2. S. Mandal (Kundu) and R. K. Mandal . Seed storage proteins and approaches for improvement of their nutritional quality by genetic engineering.
Curr. Sci., Vol. 79, 576-589 **2000** **IF: 0.91**

3. M. Ghose, **S. Mandal (Kundu),** D. Roy, R.K. Mandal, and G. Basu. Dielectric relaxation in a single tryptophan protein.
FEBS Lett. 509, 337-340. **2001** **IF: 3.341**

4. S. Mandal (Kundu), B. Roy and R. K. Mandal. Transgenic approach to improve protein content of seed crops using a seed storage protein gene.
Perspectives in Cytology and Genetics. 10, 1-9. **2001** **IF: 4.2**

5. S. Mandal (Kundu) and R. K. Mandal. Effects of different food plants and temperature on growth and life cycle of the tobacco caterpillar Spodoptera litura Fab.
Env. Ecol., 18, 177-180. **(2000)**.

6. S. Mandal (Kundu) and R. K. Mandal. Plant biotechnology and tissue culture : Application of improvement of agricultural productivity. **Sci. Cult**., 65, 53-56. (**1999**).

7. S. Mandal (Kundu) and R. K. Mandal. A note on the laboratory rearing of Spodoptera litura Fab. with natural food in a small scale for bioassay of insecticides and insect resistant plants. **Sci. Cult**. 65, 169-171. 1999.

8. Protein Data Base: PDB ID no. 1 KWL, (Homology modeling of *B.juncea* 2S). Authors: G. Basu, M. Ghosh, **S. Mandal (Kundu)** and R.K. Mandal. 2002.

9. R. Mukhopadhyay, N. Singh, **S. Kundu** and N. Samajpati, Studies on some aspects of the release and regeneration of protoplast of Pleurotus sajor-caju. **J. Botan. Soc. Beng**, 63 (1): 57-60, 2009.

10. S. Chowdhury, T. Roychoudhuri and **S. Kundu**. Tomato R-genes against Fusarium wilt: Present status and future prospect. **J. Mycopathol Res** Vol 47 (1), **2009**.

11. S. Sarkar, S. Chaudhury, A. Basu, S. Ray, T. Ray Chaudhuri, N. Samajpati and **S. Kundu.** Effect of culture condition on the sporulation and virulence of Magnaporthe oryzae isolated from rice field of Hoogly, West Bengal. **J. Mycopathol Res**, vol 48 (2), 11-15, **2010**.

12. R.,Mukhopadhyay, **S. Kundu**, and N. Samajpati, Studies on the sexuality of Pleurotus sajor-caju (Fr.) Singer. **J. Botan. Soc. Beng.** 64(2):131-135. **2010**.

13. C., Bhattacharya, S., Ray, N., Singh, **S. Kundu** and N. Samajpati. Antibiotic activity of some higher fungi used by tribal people of Tripura. **J. of Bot Soc of Bengal** 65 (1): 75-78, **2011**.

14. S. Ray, S. Sarkar, and **S**. **Kundu,** Extracellular biosynthesis of silver nanoparticles using the mycorrhizal mushroom Tricholoma crassum (berk.) SACC.: its antimicrobial activity against pathogenic bacteria and fungus, including multidrug resistant plant and human bacteria. Volume 6, Number 3, p.1289-1299,
Digest Journal of Nanomaterials and Biostructures, **2011** **IF: 2.039**

15. S. Kundu. Genetically modified crops: no longer an option but a necessity.
J. Botan. Soc. Beng., Vol 68, **2012**.

16. S. Kundu. Status of research on gene regulation in response to salinity stress and salt stress signaling in plants. **J. Mycopathol Res.** Vol 52, p 15-22, **2012**.

17. S. Ghosh and **S. Kundu**. Biochemical assay of physiological response of salt-stressed rice plants in response to fungal pathogen Curvularia sp. **J. Mycopathol Res.** 52, no.1, **2013**.

18. S. Ray, K. Das, S. Chatterjee and **S. Kundu**. Physiological and Biochemical studies against Early Blight Pathogen. **J. Mycopathol Res.** 0971-3719.IMS/JMR, **2013**.

19. GenBank number: BankIt1588324 Solanum **KC292261** Authors: **S. Kundu** and S. Choudhury, (Mar, 2013).

20. S. Chowdhury, A. Basu, T. Ray Chaudhuri and **S. Kundu**. In-vitro characterization of the behavior of *Macrophomina phaseolina* (Tassi) Goid at the rhizosphere and during early infection of resistant and susceptible host roots of sesame. Vol 138, Is. 2, p 361-375
European J. of Pl. Pathol., **2014** **IF: 1.933**

21. A. Basu, S.Ray , S.Sarkar, and **S. Kundu.** Agrobacterium mediated genetic transformation of popular Indian rice Ratna (IET1411) Vol. 13, 3187-3197,
African J. of Biotechnology **2014** **IF: 0.8**

22. Chowdhury S., Basu A. and **Kundu S.** Green synthesis of protein capped silver nanoparticles from phytopathogenic fungus Macrophomina phaseolina (Tassi) Goid with antimicrobial properties against multi-drug resistant bacteria. 26;9(1):365
Nanoscale Research Letters, **2014**. **IF: 2.8**

23. S.Chowdhury, A. Basu and **S. Kundu.** A new high-frequency Agrobacterium-mediated transformation technique for Sesamum indicum L. using de-embryonated cotyledon as explants. Volume 251, Issue 5, pp 1175-1190
Protoplasma, **2014** **IF: 3.2**

24. S. Chowdhury, A. Basu and **S. Kundu.** Cloning, characterization and bacterial over-expression of an osmotin-like protein gene from Solanum nigrum L. with antifungal activity against three necrotrophic fungi. 57:371–381, doi 10.1007/s12033-014-9831-4
Mol. Biotech. **2015** **IF: 2.3**

25. S.Ray, S.Mondal, S.Chowdhury, **S. Kundu**. Differential responses of resistant and susceptible tomato varieties in response to inoculation with *Alternaria solani*.
Volume 90, April 2015, Pages 78–88
Physiological Molecular Pl. Pathol **2015** **IF 2.02**

26. S. Ray, S. Lahiri, M. Halder, M. Mondal, T. Ray Choudhuri, **S. Kundu.** An Efficient Method of Isolation and Transformation of Protoplasts from Tomato Leaf Mesophyll Tissue using the Binary vector pCambia 1302. Vol. 2, Issue 6, IARJSET**, 2015**

27. A. Mondal, , D. Sarkar, , **S. Kundu,** P.Kundu. Mechanism of regulation of tomato TRN1 gene expression in late infection with tomato leaf curl New Delhi virus (ToLCNDV). PSL-D-15-00572R1Volume 241, 2015, Pages 221–237. doi.org/10.1016/j.plantsci.2015.10.008
Plant Science 2015 IF: 4.0

28. A. Basu, S. Chowdhury, T. Ray Chaudhuri and **S. Kundu.** Differential behaviour of sheath blight pathogen *Rhizoctonia solani* in tolerant and susceptible rice varieties before and during infection. Accepted manuscript online: Jan DOI: 10.1111/ppa.12502.
Plant Pathology 2016 IF: 2.5

29. S. Mondal and **S. Kundu.** Transgenesis of tomato: relevance in molecular research today. VOL.4 Issue 7 IJSAR **2017.** .

30. M. Mondal., and **S. Kundu.** An efficient regeneration system for the genetic transformation of nicotiana tabacum L. cv. petit havana sr1 without auxine and optimization of hygromycin concentration for selection, VOL.4 Issue.8 IJSAR **2017.**

31. S. Mondal, M.Hadar, , A.Saha, , and **S. Kundu.** Differential behavior of *Magnaporthe oryzae* in the vicinity and on the host surface of tolerant and susceptible rice variety,
J of Myco Pathol Res. **2017.**

32. N. Mondal, and **S**. **Kundu**, Inhibitory effect of mycosynthesized gold nanoparticles on hyphal branching of the phytopathogen *rhizoctonia solani*. IJSAR **2017.**

33. S. Kundu. Gold nanoparticles: their application as antimicrobial agents and vehicles of gene delivery **4 (5), Adv in Biotech. Microbio 2017. IF: 0.73**

34. M. Halder, , S. Mondal, and **S. Kundu**, Genetic engineering of economically important fungi. **J. Bol Soc Bengal.** 71 (1): 1-8. **2017**.

35. M. Das, , S.Brahmachari, A. Saha and **S. Kundu.** Effect of culture parameters of light intensity and nutrients on germination of Alternaria solani conidia. **IJESE**, 5(10): 22-27, **2018.**

36. M.Das, , S.Brahmachari, P.Koley, A,Saha, and **S. Kundu**. Isolation and characterization of chitin from Alternaria solani and assay of its antibacterial property. IJASRM, (11):204-9, **2018**.

37. M. Das, S. Brahmachari, S. Mondal, A. Saha, P. Koley and **S. Kundu**. Isolation and characterization of chitosan from Alternaria solani and assay of its antibiotic property. RJLBPCS**,** 4(6): 629-638, **2018**.

38. M. Das, P Koley, M Mondal, **S. Kundu**. Priming Induces Stressful Memories in Plants. IJASRM, 3(12): 90-93, **2018**.

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39. M,Halder, S, Mondal, S,Ray and **S. Kundu**. Myco-synthesized silver nanoparticles from Curvularia affinis showing inhibitory activity against phyto-pathogenic fungus Alternaria solani. J Mycopathol Res, 56 (1): 1-4, **2018**.

40. S Chowdhury, A Basu and **S**.**Kundu** Overexpression of a new osmotin-like protein gene (SindOLP) confers tolerance against biotic and abiotic stresses in sesame.**8**:410. doi: 10.3389/fpls.2017.00410

Front. Plant Sci. 2017 IF: 4.5

41. Chowdhury,S, Basu A. and **Kundu, S.** Biotrophy-necrotrophy switch in pathogen evoke differential response in resistant and susceptible sesame involving multiple signaling pathways at different phases. volume 7, Article number: 17251 doi:10.1038/s41598-017-17248-7,

Scientific Reports 2017 IF: 4.85

42. A.Basu, , S.Ray, S. Chowdhury, , A.Mandal, , D.P.Mandal, S., Bhattachrjee, and **S. Kundu** Antimicrobial, apoptotic and cancer cell gene delivery properties of protein capped gold nanoparticles mycosynthsized from the edible mycorrhizal fungus Tricholoma crassum.

Nanoscale Res. Letts, 13:154, **2018 IF: 3.12**

- **PATENTS: 10**

1. Patent: National Research and Development Corporation (NRDC), Ministry of Science and Technology, Government of India, New Delhi, INDIA.NRDC: No. IPR/FA/12061-L/**2012**. Principal Inventor: **S.Kundu.**
2. Patent: Intellectual property of India, Govt. Of India, No: E/2/1610/**2012**- KOL, Principal Inventor: **S.Kundu**
3. Patent: Intellectual property of India, Govt. Of India, No: E-2/1607/**2012**-KOL, Principal Inventor: **S.Kundu**
4. Patent: Intellectual property of India, Govt. Of India, No: E-2/1608/**2012**-KOL, Principal Inventor: **S.Kundu**
5. Patent: Intellectual property of India, Govt. Of India, No: E-12/77/**2012**/KOL, Principal Inventor: **S.Kundu**
6. Patent: Intellectual property of India, Govt. Of India, No: E-2/1609/**2012**-KOL, Principal Inventor: **S.Kundu**
7. Patent Intellectual property of India, Govt. Of India, No: E-2/793/**2015**-KOL, Principal Inventor: **S.Kundu**
8. Patent National Research and Development Corp., **2018**, NRDC Ref No- 201831011880 Principal Inventor: **S . Kundu**
9. Patent National Research and Development Corp., **2018**, NRDC REF No- 201831011881 Principal Inventor: **S. Kundu.**
10. Patent National Research and Development Corp., **2018**, NRDC REF No- 201831011882 Principal Inventor: **S. Kundu.**

Conferences attended (Selected):

1. Gordon Research Conference (GRC), USA, California, Presentation of research data, 2006.
2. Lake Arrowhead Science Conference, Molecular Cell and Developmental Biology, California, USA, Presentation of research data, 2003, 2004, 2005, 2006.
3. 2009, Dec 3-5: National Symposium on microorganism and their role in plant and human health.
4. 2010, Feb, Workshop on Crop Biotechnology. (19 -26 February 2010): organized and conducted.
5. 2011, Feb 2-4: National symposium on frontline of microbiological research: concepts and applications.
6. 2011, Nov 9-11: 8th Probir Chaterjee memorial lecture and national seminar and workshop on: Present scenario and future prospect of cryptogamic Botany.
7. 2011, Dec 20-22: National symposium: Platinum jubilee celebration ,national symposium and birth centenary celebration of Prof. A.K. ghosh.
8. 2012, Feb. National Symposium held by Indian Mycological Society.
9. 2014, Feb, National Symposium, Indian Mycological Society.
10. 2014, Nov, National Symposium on Evolving Plant Biology from Chromosomes to Genomics, WAST, BI and CU.
11. 2016, Probir Chatterjee international conference: Poster presentation (2) and organizer.

Invited Lectures/ Posters

Sl No	Title of the Paper Presented	Title of Conference/Seminar	Organized by	Level
1.	Invited lecture **:** "Use of trypsin inhibitor gene from *Brassica sp.*, to produce insect resistant plants."	Faculty interactive seminar, 2004	Bose Institute Kolkata	Institute level
2.	Invited Lecture: "Biotechnology of Crop Plants"**.**	Work shop on Crop Biotechnology	Department of Botany, University of Calcutta	Regional/ State level
3.	Invited Lecture: "Isolation of genomic DNA from pathogens"	The national seminar cum workshop on cryptogams- lass room Teaching to Field Application" 2009	Probir Chatterjee Research Foundation	National
4.	Invited Lecture: "Techniques for isolation of pathogens from diseased plants"	The national seminar cum workshop on present scenario and future Prospects of Cryptogamic Botany, 2011	Probir Chatterjee Research Foundation	National
4.	Invited Lecture: "Submit online grant proposal under DBT: EPromis."	Mentorship workshops for women Scientists "How to write an effective scientific grant proposal"	DBT, India	National
5.	Invited Lecture: Understanding circadian rhythms: molecular mechanism and prospects	Present scenario and future prospects of Microbiology and plant Biotechnology	UGC, Bose Institute, Ashutosh College	National

6.	Steering committee and organization	National symposium and birth centenary celebration of Prof. A.K. Ghosh, 2011	Botanical Soc. Of Bengal.	National
7.	Host pathogen interaction in necrotrophic diseases of dicot crop plants; development of necrotroph resistant transgenic crops	Evolving Plant Biology: From Chromosomes to Genomics, 2014	WAST, Bose Institute, University of Calcutta, Ramakrishna Mission Institute of culture	National **Won Second Prize**
8.	Invited lecture: "Bisafety while working in the laboratory".	Workshop on Essential techniques in molecular biology, 2016	West Bengal State University	Regional/ State level
9.	Invited lecture: "Molecular techniques utilizing PCR"	PhD course work,2017	West Bengal State University	Regional/ University level
10.	Paper : Behavior of Rhizoctonia solani under different culture conditions, its transformation with gfp gene and interaction with susceptible and tolerant tomato plants	International Seminar on Current Avenues in Microbial & Plant Sciences | CAMPS – 2019, February 2019	Department of Botany, University of Gour Banga, Malda, West Bengal	Internatio nal **Won First Prize**

6. Awards/Fellowships

- Gold medallist, 1993.M.Sc. Rank: First in First Class (Botany), University College of Science, University of Calcutta.
- Awarded Hiralal Chakraborty award by Botanical Society of West Bengal, 1993.
- Nominated for president of India Sankar Dayal Sharma gold medal 1993 for all round achievements (Academic and extracurricular).
- Qualified for the NET (CSIR/UGC) fellowship for PhD, 1993.
- PhD (Science), Bose Institute, Calcutta, Title of thesis: "The study of a trypsin inhibitor from *Brassica* species and use of its gene to produce insect-resistant transgenic plants", 2002.
- NIH (National Institute of Health, USA) Grant, Post doctoral fellowship, (for 5 years) University of California, Los Angeles, USA.

7. Membership of Learned Societies:

- Invited scientist member of ISPI (International Society for Pest Information), Eulerweg 364347, Griesheim, Germany.
- Member of Plant Physiology Forum, Kolkata , India.
- Member of Indian Science Congress Association (ISC).
- Executive Council Member, Indian Mycological Society, Kolkata, India. www.imskolkata.org
- Member of Botanical Society of India.

C. Research

Research Guidance:

- Ph.D.s: **7** (1 thesis submitted).
- PhD Scholars at present: 4
- Post Doctoral Scholar guidance: 1

Research Projects (Ongoing and completed):

Sl No.	Title of Project	Funding Agency	Amount	Date of sanction and Duration
1.	Modern Biology, Plant-Pathogen Interaction. UGC-UPE II. (Co-PI)	UGC UPE, India	24 Lakhs	2017-2019 Ongoing
2.	Elucidation of signalling components of defence response against necrotrophs using RNAi tomato lines and generation of necrotrophic pathogen resistant transgenic tomato.	DBT (PI)	65.8 Lakhs	2012-2015 3 years
3.	Regulation of five immediate early genes in response to blast pathogen stress in rice.	DBT (PI)	23.8 Lakhs	2011-2014 3 years
4.	Salt tolerance in indica rice from sunderbans of West Bengal	UGC (Co-PI)	1.8 Lakhs	2011-2014
5.	Molecular characterization and genetic manipulation of economically viable mushrooms of West Bengal (Post Doctoral Fellow: Dr. Nicky Singh)	UGC (PI)	27 Lakhs	2012-2017 5 years

D. Other Extra Curricular Activities:

1. Served as examiner in the final interview in Kishore Vaigyanik Protsahan Yojana (KVPY) 2017 and 2018

2. Acting as scientist at interactive sessions, school level popularization of Science, Birla Sc and Tech. 2010. 2011, 2012.

3. Serving in selection committee of staff promotion at South Calcutta Girls' College

4. Reviewed scientific papers for numerous high impact science journals including: The Plant Journal, Plant Science, Scientific Reports, Plant Cell Reports, European Journal of Pant Pathology etc.

5. Serving as Moderator, paper setter, examiner of B.Sc. Level and M.Sc. Examinations at different Universities in West Bengal for last several years.

6. Serving as External Examiner/Interviewer in Several Colleges and Universitues including Presidency University, West Bengal State University, Scottish Church College, Bethune College, etc.
