



ENLIGHTENMENT TO PERFECTION

# UNIVERSITY OF NORTH BENGAL

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Raja Rammohunpur, Dist- Darjeeling, West Bengal, Pin-734013, India.



## Department of Bio-Technology



DR. DIPANWITA SAHA

### Dr. Dipanwita Saha

M.Sc., Ph.D., Post Doctoral

Sr. Assistant Professor



#### Contact Addresses:

<b>Phone</b>	+91- 9434429800 (M)
<b>Mailing Address</b>	Department of Bio-Technology, University of North Bengal, Raja Rammohanpur, P.O.- NBU, Dist- Darjeeling, West Bengal, Pin -734013, India.
<b>e-Mail</b>	<a href="mailto:dsahanbu@yahoo.com">dsahanbu@yahoo.com</a>

**Subject specialization:** Biochemistry

**Areas of Research Interest:** Plant Pathology and Biotechnology

**No. of Ph.D. students:** (a) Supervised: 09 (b) Ongoing: 08.

**No. of M.Phil. students:** (a) Supervised: Nil (b) Ongoing: Nil.

**No. of Publications:** (a) Journal(s) : 34 (b) Book Chapters: 07

#### Achievement & Awards:

- **Best poster presentation award:** Received third prize for the paper: Control of foliar diseases of tea by *Clausena excavata* leaf extract authored by Dipanwita Saha, Ramashish Kumar and Aniruddha Saha and presented by **Dipanwita Saha** in the **6th International Conference** "Plant, Pathogens and People", Feb. 23-27, 2016, NASC Complex, New Delhi, India.
- **Prof. K.S. Bilgrami award for best poster presentation 2009:** Purkayastha G. D., Saha A. and **Saha D.** 2009. Characterization of antagonistic bacteria isolated from tea rhizosphere in Sub-Himalayan West Bengal as potential biocontrol agents in tea. 31st Annual Conference of ISMPP and Symposium on Microbial Wealth-Plant Health, October 23-25, 2009 University of North Bengal.
- **Best poster presentation award:** B. Saha, **D. Saha** and A. Saha at 32 nd Annual conference of Indian Society of Mycology and Plant Pathology, 2010 held at Junagarh Agricultural University, Junagarh, Gujarat during 24th -27th November, 2010.
- Received **DST international travel grant award** for presenting paper entitled "Screening of tea varieties for susceptibility to *Lasiodiplodia theobromae* by ELISA and induction of resistance by *Acalypha indica* leaf extract" at the 9th International Plant Molecular Biology Congress, 2009 at St. Louis, University of Missouri, USA during October 25-30, 2009.
- **Best poster presentation award:** S. Dasgupta, A. Saha, P. Mondal and **D. Saha** at National Conference on Medicinal and Aromatic plants organized by Gulbarga University, Karnataka, 2007.
- Received **International travel grant award from DST and DBT** for presenting paper entitled "Screening of commercially cultivated varieties of tea for resistance to *L. theobromae* by indirect ELISA" at the XV th Congress of the Federation of European societies of Plant Biology during July 17-21, 2006, in Lyon, France.

#### Professional experiences:

- 10.09.2004 – till date, Assistant Professor of Biotechnology, University of North Bengal

#### Administrative Experiences:

- Nil

#### Selective List of Publications:

##### Book Chapters:

1. **Saha D**, Dhar Purkayastha G. and Saha A. 2012. Biological control of plant diseases by *Serratia* species: a review or a case study. In: *Frontiers on Recent Developments in Plant Science*. (eds. Priti Maheswari and Akash Goyal), Bentham e-Books. Vol 1 pp. 99-115.
2. Saha A., Saha B. and Saha D. (2012) Important begomoviruses of some economically important horticultural crops and associated crops of sub-Himalayan West Bengal and Brahmaputra valley of Assam. In *Biology of Plants and Microbes* Ed. S. Roy & D. Bose. Sarat Impression Limited, Kolkata. Levant Books, Kolkata. ISBN 978-93-80663-63-0
3. Ghosh A., Saha A. and **Saha D.** (2013) Dominant rhizosphere bacteria as source of antifungal agents and PGPR. In "Microbial Resources for crop improvement" Eds. B. N. Chakraborty & U. Chakraborty. Satish serial publishing house, Delhi. pp. 119-128.
4. Saha B., Saha D. and **Saha A.** (2013) Detection of *Tomato leaf curl virus* in cultivated varieties of tomato and other plants of sub-Himalayan West Bengal. (2013) In "Microbial Resources for crop improvement" Eds. B. N. Chakraborty & U. Chakraborty. Satish serial publishing house, Delhi. pp. 263-275.

5. Saha, A., Dasgupta, S., Mandal, P. and Saha, D. 2005. Reduction of disease incidence in young tea plants against *Curvularia eragrostidis* by biotic and abiotic elicitors. *In Proceedings of the National Symposium on current Perspectives in Stress Biology* (eds. U. Chakraborty & B.N. Chakraborty) pp 238-242. Narosa Publishing House. New Delhi.
6. Saha, D. and Pal, J. 2001. Production of extracellular hemolysin from fish pathogenic bacteria isolated from EUS affected air breathing fishes. *In Recent advances in Animal Science Research*, Vol 1: 115-120. Orion Press International.
7. Saha, A.; Mazumdar, S.; RoyChowdhury, P. and Saha, D. 2002. A foliar disease of *Streptocaulon sylvestre* an endemic and endangered plant. *In Perspectives of Plant Biodiversity*. (ed. A. P. Das) pp. 537-544.

#### Journals:

8. Chakraborty P., Das S., Saha A., **Saha D.** and Saha A. (2016) First report of Soybean Mosaic Virus infecting bottle gourd plant in India. *Plant Disease*, <http://dx.doi.org/10.1094/PDIS-11-15-1330-PDN> (in press)
9. Saha Arnab, Das S., Chakraborty P., Saha B., **Saha D.** and Saha A.(2016) Two new bottle gourd fruit rot causing pathogens from Sub-Himalayan West Bengal. *Journal of Agricultural Technology*, 12 : 337-348.
10. Chakraborty P., Das S., Saha B., Sarkar P, Karmakar A, Saha Arnab, **Saha D.**, and Saha Aniruddha. (2015) Phylogeny and synonymous codon usage pattern of Papaya ringspot virus coat protein gene in sub-Himalayan region of north-east India. *Canadian Journal of Microbiology*, 61(8): 555-564.
11. Saha A., Saha B., Das S., Chakraborty P. Sarkar P. and **Saha D.** (2014) Molecular detection and diversity analysis of some potyvirus associated with mosaic diseases of papaya, common bean and potato growing in sub-himalayan west Bengal. *Vegetos* 27(2): 338-346.
12. Saha A., Saha B., and **Saha D.** (2014) Molecular detection and partial characterization of a begomovirus causing leaf curl disease of potato in sub-Himalayan West Bengal, India. *Journal of Environmental Biology* 35(3): 601-606.
13. Saha A., Das L., Saha B., and **Saha D.** (2014) Effect of nutritional and physiological features on *Rhizoctonia solani*, a seed borne pathogen of tea. *Journal of Plant Disease Sciences* 9(1): 48-54.
14. Saha B., **Saha D.**, Biswas K.K. and Saha A. 2014. Distribution and molecular characterization of begomoviruses infecting tomato in sub-Himalayan Terai region of West Bengal and Brahmaputra valley of Assam in northeast India. *Indian Phytopathology* 67(1): 92-96.
15. Das, A., **Saha, D.** and Mandal T.K. 2013. An Optimized Method for Extraction of RNA from Tea Roots for Functional Genomics Analysis. *Indian Journal of Biotechnology* 12:129-132.
16. Saha A., Saha B., Chakraborty P. and **Saha D.** 2013. Identification of begomovirus-infected mosaic diseases from uncultivated crops of sub-Himalayan plains of East India. *Journal of Agricultural Technology* 9(5): 1241-1252.
17. Saha B., Saha D. and Saha A. 2013. Begomovirus causing leaf curl disease in tomato (*Lycopersicon esculentum*) in sub-Himalayan West Bengal, India. *NBU Journal of Plant Science* 7:35-41.
18. Saha A., Mandal H. and Saha D. 2013. Isolation and identification of a virulent *Ralstonia solanacearum* by *fliC* gene amplification and induction of chitinase by 2-amino butyric acid for control of bacterial wilt in tomato plants. *NBU Journal of Plant Science* 7:95-100.
19. Mandal S., Saha A. and **Saha D.** 2013. Effect of copper on seed germination, root elongation and shoot elongation of seedlings of commercially cultivated tea varieties. *NBU Journal of Plant Science* 7:43-49.
20. Saha, D., Kumar, R., Ghosh, S., Kumari, M., Saha, A. 2012. Control of foliar diseases of tea with *Xanthium strumarium* leaf extract. *Industrial Crops and Products*. 37: 376-382.
21. Kumar, R., Saha A. and **Saha D.** 2012. A new antifungal coumarin from *Clausena excavata*. *Fitoterapia*, 83: 230-233.
22. **Saha D.**, Purkayastha, G.D., Ghosh A., Isha, and Saha, A. 2012. Isolation and characterization of two new *Bacillus subtilis* strains from rhizosphere of eggplant as potential biocontrol agents. *Journal of Plant Pathology* 94:109-118.
23. Mandal S., Saha A. and **Saha D.** 2012. Copper induced oxidative stress in tea (*Camellia sinensis*) leaves. *Journal of Environmental Biology* 33: 861-866.
24. Saha A., Isha, M., Dasgupta, S. and **Saha, D.** 2010. Pathogenicity of *Colletotrichum gloeosporioides* (Penz.) Sacc. Causal agent of anthracnose in different varieties of eggplant (*Solanum melongena* L.) determined by levels of cross-reactive antigens shared by host and pathogen. *Archives of Phytopathology and Plant Protection*. 43: 1781-1795.
25. Das, A., Bagchi, S., **Saha, D.** and Pal, J. 2010. Virulence Potentials and Plasmid Profiles in *Aeromonas* Bacteria Isolated from EUS Affected Fish. *Environment and Ecology* 28: 1607-1610.
26. Purkayastha, G.D., A. Saha and **D. Saha**. 2010. Characterization of Antagonistic Bacteria Isolated from Tea Rhizosphere in Sub-Himalayan West Bengal as Potential Biocontrol Agents in Tea. *J Mycology Plant Pathol* 40: 27-37.
27. Saha, A., Saha, B and **Saha, D.** 2010. Major plant viruses: an overview. *NBU Journal of Plant Sciences* 4 :5-10.
28. Das, A., **Saha, D.** and Pal, J. 2009. Antimicrobial resistance and in vitro gene transfer in bacteria isolated from the ulcers of EUS affected fish in India. *Letters in Applied Microbiology* 49: 497-502.
29. Saha A., Isha, M., Dasgupta, S. and **Saha, D.** 2009. Influence of culture media and environmental factors on growth and sporulation of *Colletotrichum gloeosporioides* (Penz.) Sacc. causing anthracnose of brinjal (*Solanum melongena* L.) *Environment and Ecology* 27: 872-879
30. Saha, A. Mandal, P. Dasgupta, S. and Saha D. 2008. Influence of culture media and environmental factors on mycelial growth and sporulation of *Lasiodiplodia theobromae* (Pat.) Griffon & Maubl. *J. Environmental Biology*, 29: 407-410.
31. Saha, D., Dharpurkayastha, G., Saha, A. 2008. Degradation of mancozeb and thiophanate-methyl by bacteria isolated from tea-garden soil. *Environment and Ecology* 26: 2231-2235
32. Saha, A., Dasgupta, S., Mandal, P. and Saha D. 2008. Influence of culture media and environmental factors on mycelial growth and spore germination behaviour of *Curvularia eragrostidis* *NBU Journal of Plant Sciences* 2: 77-85.
33. Dasgupta, S., D. Saha and A. Saha. 2007. Yield response of *Pleurotus sajarcaju* in different substrates. *Geobios* 34 : 165-168.
34. Saha A., Dasgupta, S. and D. Saha 2007. Immunotechniques: concept and application in plant pathology. *NBU Journal of Plant Sciences* 1:45-59
35. Dasgupta, S., Saha, D. and Saha, A. 2005. Levels of Common Antigens in Determining Pathogenicity of *Curvularia eragrostidis* in Different Tea Varieties. *Journal of Applied Microbiology*, 98:1084-1092.
36. Saha, D., Dasgupta, S. and Saha, A. 2005. Antifungal activity of some plant extracts against important fungal pathogens of tea (*Camellia sinensis*) *Pharmaceutical Biology* 43(1):87-91.
37. Saha, D., Dasgupta, S. and Saha, A. 2005. Control of foliar tea diseases by leaf extracts of *Polyalthia longifolia*. *Journal of Mycology and Plant Pathology*. 35(1): 132-136
38. Saha, D. and Pal, J. 2002. In vitro antibiotic susceptibility of bacteria isolated from EUS affected fishes in India. *Letters in Applied Microbiology*, 34 : 311-316.
39. Saha D. and J. Pal. 2000. Bacterial studies on fishes affected with epizootic ulcerative syndrome. *Asian Fisheries Science*. 13: 343-355.
40. Saha D. and Pal, J. 2002. Susceptibility of *Heteropneustes fossilis* to three fish pathogenic bacteria isolated from fishes with epizootic ulcerative syndrome. *Environment and Ecology*, 20 (4): 822-825.
41. Saha, A.; Dasgupta, S. and Saha, D. 2001. Discovery of *Curvularia eragrostidis* on tea (*Camellia sinensis* (L.) O. Kuntze) leaves from clonal-cutting nurseries in North Bengal. *Environment and Ecology*, 19 (4): 846-848.