

NAME: **Nilanjan Chakraborty**

DESIGNATION: Assistant Professor

QUALIFICATIONS: M.Sc. Ph.D

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TEACHING AREAS: Mycology, Plant Pathology, Microbiology, Plant Anatomy, Plant Morphology, Genetics

TEACHING EXPERIENCE: 7 years

RESEARCH AREA: Plant microbe interaction, Macro-fungal diversity study.

PUBLICATIONS

RESEARCH PAPERS: 27 Publications (18 International and 9 National)

- Mushroom Polysaccharides: a Potent Immune-Modulator. **Nilanjan Chakraborty**, Anuron Banerjee, Anik Sarkar, Sandipta Ghosh and Krishnendu Acharya. *Biointerface research in Applied Chemistry* (2020), 11(2): 8915-8930; <https://doi.org/10.33263/BRIAC112.89158930>. ISSN 2069-5837. IF: 0.89.
- Green Synthesized Copper Oxide Nanoparticles Ameliorate Defence and Antioxidant Enzymes in *Lens culinaris*. Joy Sarkar, **Nilanjan Chakraborty**, Arindam Chatterjee, Avisek Bhattacharjee, Disha Dasgupta and Krishnendu Acharya. *Nanomaterials*. (2020), 10: 312; doi:10.3390/nano10020312. ISSN 2079-4991. IF: 4.324.
- Interaction between Bean and *Colletotrichum gloeosporioides*: Understanding Through a Biochemical Approach. **Nilanjan Chakraborty**, Kabita Mukherjee, Anik Sarkar, Krishnendu Acharya. *Plants*. (2019), 8(9):345. DOI: <https://doi.org/10.3390/plants8090345>. ISSN: 2223-7747. IF: 2.762.
- Biochemical basis of improvement of defense in tomato plant against *Fusarium* wilt by CaCl₂. **Nilanjan Chakraborty**, Swarnendu Chandra, Krishnendu Acharya. *Physiol. Mol. Biol. Plants*. (2017), 23(3):581–596. DOI 10.1007/s12298-017-0450-y. ISSN: 0971-5894 (Print) 0974-0430 (Online). IF: 2.005.
- “NO way”! Says the plant to abiotic stress. **Nilanjan Chakraborty** and Krishnendu Acharya. *Plant Gene*. (2017), 11, 99-105. DOI: <https://doi.org/10.1016/j.plgene.2017.05.001>. ISSN: 2352-4073, IF: 0.654.
- Chitosan-induced immunity in *Camellia sinensis* (L.) O. Kuntze against blister blight disease is mediated by nitric-oxide. Chandra S, **Chakraborty N**, Panda K, Acharya K,. *Plant Physiology and Biochemistry* (2017), 115, 298–307. ISSN: 0981-9428, IF: 3.404.
- Contribution to the Macromycetes of West Bengal, India: 13–17. Entaj Tarafder, Arun Kumar Dutta, Prakash Pradhan, Bidisha Mondal, **Nilanjan Chakraborty**,

Soumitra Paloi, Anirban Roy, Krishnendu Acharya. *Research J. Pharm. and Tech.* (2017), 10(4): 1123-1130. IF: 0.19.

- Contribution To The Macromycetes Of West Bengal, India: 1-7. Krishnendu Acharya, Soumitra Paloi, Prakash Pradhan, Arun Kumar Dutta, **Nilanjan Chakraborty**, and Anirban Roy. (2017). *RJPBCS* 8(1): 1229-1238. IF; 0.35.
- *Ex vivo* analyses of formulated bio-elicitors from a phytopathogen in the improvement of innate immunity in host. **Nilanjan Chakraborty** and Krishnendu Acharya. *Arch. Phytopathol. Plant Protect.* (2016), 49: 485-505. DOI: <http://dx.doi.org/10.1080/03235408.2016.1242196>. ISSN (printed): 0323-5408, IF: 0.27.
- Abiotic elicitors mediated elicitation of innate immunity in tomato: an ex vivo comparison. **Nilanjan Chakraborty**, Sudeepa Ghosh, Swarnendu Chandra, Sarban Sengupta, Krishnendu Acharya. *Physiol Mol Biol Plants.* (2016), July, 22(3):307–320. DOI 10.1007/s12298-016-0373-z. Print ISSN: 0971-5894, IF: 1.539.
- Chitosan nanoparticles: A positive modulator of innate immune responses in plants. Swarnendu Chandra, **Nilanjan Chakraborty**, Adhiraj Dasgupta, Joy Sarkar, Koustubh Panda and Krishnendu Acharya. *Scientific Reports* (2015), | 5:15195 | DOI: 10.1038/srep15195. ISSN 2045-2322 (online), IF: 4.609.
- Sublethal Heavy Metal Stress Stimulates Innate Immunity in Tomato. **Nilanjan Chakraborty**, Swarnendu Chandra and Krishnendu Acharya. *Scientific World J.* (2015), 2015: 1-7. ISSN: 2356-6140 (Print), IF: 1.6.
- Boosting of Innate Immunity in Chilli. **Nilanjan Chakraborty**, Swarnendu Chandra and Krishnendu Acharya. *Research J. Pharm. and Tech.* (2015), 8(7): 885-892. ISSN (PRINT): 0974-3618, IF: 0.19.
- Abiotic Elicitor-Mediated Improvement of Innate Immunity in *Camellia sinensis*. Swarnendu Chandra, **Nilanjan Chakraborty**, Amrita Chakraborty, Ripen Rai, Biswajit Bera and Krishnendu Acharya. *Journal Plant Growth Regulation*, 33: 849-859, (2014). ISSN: 1435-8107 (online), IF-1.99.
- Induction of defence response against blister blight by calcium chloride in tea. Swarnendu Chandra, **Nilanjan Chakraborty**, Amrita Chakraborty, Ripen Rai, Biswajit Bera and Krishnendu Acharya. *Arch. Phytopathol. Plant Protect.* 47(19): 2400-2409, (2014). ISSN 1477-2906 online, IF-0.27.
- Fungal Diseases of Fenugreek. Krishnendu Acharya, **Nilanjan Chakraborty**, Sayani Chatterjee and Saikat Kumar Basu. *American Journal of Social Issues and Humanities*, Fenugreek Special Issue, (2014), 171-185. ISSN: 2276 – 6928.
- *Tulostoma chudaei*: An addition to macrofungal flora of India. **Nilanjan Chakraborty**, Arun Kumar Dutta, Prakash Pradhan and Krishnendu Acharya. *Mycopathological Research*, (2013), 51(1): 185-187.
- Influence of plant growth regulators on callus mediated regeneration and secondary metabolites synthesis in *Withania somnifera* (L.) Dunal. **Nilanjan Chakraborty**, Debarupa Banerjee, Moumita Ghosh, Prakash Pradhan, Namrata Shanu Gupta, Krishnendu Acharya and Maitreyi Banerjee. *Physiology and Molecular Biology of Plants*, (2013), 19(1): 117-125. IF: 1.151.

- Footprint of Nitric oxide in induced systemic resistance. Rupa Acharya, Pinki Patra, **Nilanjan Chakraborty**, Namrata Shanu Gupta and Krishnendu Acharya. *NBU Journal of Plant Sciences*, (2013), 7(1): 55-61.
- Phallales of West Bengal, India. I. Clathraceae: *Aseroë* and *Clathrus*. Prakash Pradhan, Arun Kumar Dutta, Subrata Giri, **Nilanjan Chakraborty**, Anirban Roy and Krishnendu Acharya. *Science and Culture*. (2012), 78: 444-447.
- Phallales of West Bengal, India. II. Phallaceae: *Phallus* and *Mutinus*. Arun Kumar Dutta, **Nilanjan Chakraborty**, Prakash Pradhan and Krishnendu Acharya. *Researcher*. (2012), 4(8): 21-25.
- *Calvatia cyathiformis*: New record from West Bengal. **Nilanjan Chakraborty**, Prakash Pradhan, Arun Kumar Dutta and Krishnendu Acharya. *Science and Culture*. (2012), 78(3-4): 161-163.
- Nitric oxide functions as a signal in induced systemic resistance. Krishnendu Acharya, Swarnendu Chandra, **Nilanjan Chakraborty** and Rupa Acharya. *Archives of Phytopathology and Plant Protection*. (2011), 44(14): 1335-1342. IF: 0.27.
- Signaling role of nitric oxide in the induction of plant defense by exogenous application of abiotic inducers. Krishnendu Acharya, **Nilanjan Chakraborty**, Arun Kumar Dutta, Swadesh Sarkar and Rupa Acharya. *Archives of Phytopathology and Plant Protection*. (2011), 44(15): 1501-1511. IF: 0.27.
- Two species of *Lysurus* Fr.: addition to the macrofungi of West Bengal. Krishnendu Acharya, Prakash Pradhan, **Nilanjan Chakraborty**, Arun Kumar Dutta, Saswati Saha, Swadesh Sarkar and Subrata Giri. *Journal of Botanical society of Bengal*. (2010), 64(2): 175-178.
- *In vitro* antagonism of *pseudomonas aeruginosa* WS-1 against *Alternaria brassicicola*. Krishnendu Acharya, Swadesh Sarkar, **Nilanjan Chakraborty**, Soumya Chatterjee. *Environment & Ecology*. (2010), 28(2): 729-732.
- *Laccaria amethystina* Cooke: an addition to the macrofungi of West Bengal, India. Krishnendu Acharya, Prakash Pradhan and **Nilanjan Chakraborty**. *Journal of Botanical Society of Bengal*, (2009), 63(2): 137-139.

BOOKS: 5 Book Chapters

- Postharvest damages of mandarin (*Citrus reticulata* Blanco) and its management. **Nilanjan Chakraborty**, Namrata Shanu Gupta, Saikat Kumar Basu and Krishnendu Acharya. In: *Biological Controls for Preventing Food Deterioration: Strategies for pre- and Postharvest Management*, 1st edition. Editor: Neeta Sharma. John Wiley and Sons, Ltd. (2014). pp 27-40. Print ISBN: 9781118533062.
- Elicitor-mediated Amelioration of Abiotic Stress in Plants. **Nilanjan Chakraborty**, Anik Sarkar and Krishnendu Acharya. In: *Molecular Plant Abiotic Stress: Biology and Biotechnology*, 1st edition. Editor: Aryadeep Roychoudhury and Durgesh Tripathi. Chapter 6. pp 105-122. John Wiley and Sons, Ltd. (2019). <https://doi.org/10.1002/9781119463665.ch6>. Online ISBN:9781119463665; Print ISBN: 9781119463696; First published:1 July 2019.

- Plant, Disease and Climate Change. Anamika Paul, Prakash Pradhan and **Nilanjan Chakraborty**. In: Precision Agriculture and Sustainable Crop Production, 1st edition. Editor: H. K. Chourasia, K. Acharya and V. K. Singh. Chapter 22. pp 353-390. Publisher: Today & Tomorrow's Printers and Publishers, New Delhi-110002 (India). ISBN: 9788170196679. First published: 23rd March, 2020.
 - Multifaceted roles of SA and JA in plants against abiotic stresses. **Nilanjan Chakraborty**, Anik Sarkar and Krishnendu Acharya. (2020). In: Protective Chemical Agents in the Amelioration of Plant Abiotic Stress: Biochemical and Molecular Perspectives'. Editor: Aryadeep Roychoudhury and Durgesh Tripathi. John Wiley and Sons, Ltd. Chapter 18. First published: 02 June 2020. Print ISBN:9781119551638, Online ISBN: 9781119552154. DOI: <https://doi.org/10.1002/9781119552154.ch18>.
 - Transgenic Rice Live Against Bacterial Blight. **Nilanjan Chakraborty**, Anik Sarkar and Krishnendu Acharya. (2020). In: Roychoudhury A. (eds) Rice Research for Quality Improvement: Genomics and Genetic Engineering. Springer, Singapore. First published: 30 July 2020. Pp 61-78, Print ISBN: 978-981-15-5336-3, Online ISBN: 978-981-15-5337-0, https://doi.org/10.1007/978-981-15-5337-0_3.
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ADMINISTRATIVE EXPERIENCE:

- Member of routine committee (01.07.2014 - 23.12.2018).
- Convenor of routine committee (01.01.2018 - till date).
- Member, Prize committee (2015, 2017).
- Member, journal sub-committee (2016 - 2018).
- Member, PG Board of Studies, Scottish Church College (2014 - 2019).
- Member, Examination management committee (2018 - till date).
- Member, Sports committee (2018 - till date).
- Member, Activity drama club (2014 - till date).
- Member, Student support and progression sub-committee in NAAC.
- Member, Transport sub-committee in State level inter college Sports (2019).
- Member of Admission committee (2020).

OTHERS:

Award received:

- 1) A paper entitled “Enhancement of innate immunity of tomato plant against vascular wilt through nitric oxide pathway” has been presented in the 3rd Regional (Southern) Science and Technology Congress, organized by Bidhannagar Govt. College and Department of science and Technology and Biotechnology, Govt. of West Bengal on 18th and 19th December, 2018 and awarded 3rd Outstanding paper award in the section of Botany.
- 2) Poster entitled “Toxin mediated enhancement of innate immunity in *Withania somnifera* against *alternaria alternata* via tissue culture” has been presented in The National Seminar on ‘Sustainable Utilization of Plants and Microbes’ on Thursday, 28th March 2019, at Visva-Bharati, Santiniketan and it was awarded as the best poster in the section “Plant and Microbe interaction”.
- 3) Poster entitled “A new species of *Trichoglossum* (Geoglossales, Ascomycota) from India” has been presented in the International Conference on “Algae, Fungi and Plants: Systematics to Applications (AFPSA-2020)”, organized by CAS, Department of Botany, University of Calcutta in collaboration with Botanical Survey of India, on 24th & 25th January, 2020 and it was awarded as the best paper in the section “Taxonomy and systematic of microbes and non-vascular plants”.

Research projects:

- 1) A major research project is sanctioned by Science and Technology and Biotechnology Department, Govt. of West Bengal (Memo No. 809(Sanc.)/ST/P/S&T/2G-50/2018). Title of the project: Elicitor-mediated augmentation of pharmacologically important secondary metabolite production in *Catharanthus roseus* L. (G.) Don. **PI: Dr. Nilanjan Chakraborty.**

Patents:

- 1) A patent entitled “A process to develop elite clone through gradual intoxication of callus with fungal toxin” has been applied to Govt. of India by **Nilanjan Chakraborty** and Krishnendu Acharya. Application number: 202031011233. Dated: 16.03.2020.