

# Dr. Shwetosmita Nath

**Assistant Professor**

Department of Botany

Cachar College, Silchar-788001



**Qualification** : M.Sc., SLET, Ph.D., GIAN

**Area of Interest** : Plant Biochemistry; Physiology; Molecular Biology of Plant Abiotic Stress, Oxidative Stress, Antioxidants.

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## Dr. Shwetosmita Nath

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## Educational Qualification :

Sl. No.	Degree	Subject	Specialization	Department/ Institute	Year
1	B. Sc.	Botany (Honours)	---	Cachar College, Silchar	2003
2	M. Sc.	Life Science (Botany)	Plant Biochemistry	Assam University, Silchar	2006
3	NE SLET	Life Science (Botany)	---	SLET Commission, Assam	2009
4	Ph. D.	Life Science (Botany)	Plant Biochemistry, Stress Physiology, Molecular Biology	Assam University, Silchar	2013
5.	GIAN	Functional Genomics for Plant Abiotic Stress Tolerance	---	AUS and MHRD Govt. of India	2016

## Other Qualification

- (i) Diploma in Computer Application (**DCA**), 2002.
- (ii) Certificate Course in FOXPRO, 2004.

## Abstracts published

- 1) **Nath, S.**, and Panda, S.K. Effect of Arsenic ( $As^{+5}$ ) stress on growth and antioxidant metabolism in seedlings of rice (*Oryza sativa* L.). **International Symposium on “A Journey from Plant Physiology to Plant Biology”, in Bose Institute, Kolkata**, November 24-28, 2008.
- 2) **Nath, S.**, Dey, M., and Panda, S.K. Response of enzymic antioxidants in wheat (*Triticum aestivum* L.) seedlings under arsenic (As) toxicity. **International Symposium on A Journey from Plant Physiology to Plant Biology, in Bose Institute, Kolkata**, November 24-28, 2008.
- 3) **Nath, S.**, Panda, P., Dey, M. and Panda, S.K. Biochemical changes in developing seedlings of wheat (*Triticum aestivum*) under arsenate ( $As^{+5}$ ) toxicity. **96<sup>th</sup> Indian Science Congress, held at North Eastern Hill University, Shillong**, January 3-7, 2009.
- 4) **Nath, S.** and Panda, S.K. Induction of enzymic (CAT and SOD) and non-enzymic antioxidants in rice (*Oryza sativa* L.) roots due to arsenic (As) exposure. National Conference on “**Recent Trends in Biodiversity Researches**”, Department of Life Science, A.U., Silchar, March 16-18, 2009.
- 5) **Nath S.** and Sharma, Indu. “Arsenic resistance in bacteria” in National Conferene “**Micron 2016-Mirobe of North East**” held at Department of Microbiology, Assam University, Silchar.
- 6) **Nath**, Shwetosmita and Panda, Sanjib Kumar. “Iron regulates arsenic induced stress in rice (*Oryza sativa* L.) in International Conference on Functional Plant Biology, on 23<sup>rd</sup> January, 2017, Assam University, Silchar.
- 7) **Nath**, Shwetosmita and Panda, Sanjib Kumar. “Arseni – Iron interation regulates the Arsenic induced oxidative damage in developing roots of *Pisum sativum* L. 2020. **North East Green Summit (NEGS)-05/20/VII:30**.

## **Conference / Symposium / Workshop Participated**

1. **Oral presentation** of a research paper in “**North East Green Summit Fifth Edition**”, 16<sup>th</sup> -18<sup>th</sup> **November, 2020 at Indian Institute of Guwahati** organised by VIBGYOR North East Foundation.
2. Actively attended and participated in the Workshop on “**Application of Statistical Packages in Social Science Research**” in the **Department of Business Administration**, Assam University, Silchar, on July 4-6, 2009.
3. Actively participated in the “**Workshop on Techniques in Biological Sciences**” under **UGC-Special Assistance Programme held in the Department of Life Science**, Assam University, Silchar, 2008.
4. Attended the Symposium Biofuture-2008, **CURRENT AND FUTURE RESEARCH THRUST IN LIFE SCIENCE IN NORTH EAST INDIA** in the Department of Life Science, Assam University, Silchar, 2008.
5. Actively participated in the symposium on “**BIOFUTURE**”, Department of Life Science, Assam University, Silchar, 2006.
6. Actively participated in the “**Workshop of Foundation Course of Applied Zoological Science**” in **Cachar College**, Silchar-788001 (Assam), 2002.

### **National Level Seminar**

7. Actively participated in the “**National Workshop on Principles of GC-MS and Atomic Absorption Spectrometry**” organized by Assam University, Silchar, on 6-9 September, 2010.
8. Actively participated in the “**National Workshop on DNA Barcode of Life**” organized by the **Department of Biotechnology**, Assam University, Silchar, on April 7, 2009.
9. **Oral presentation** of a research paper - “Induction of enzymic (CAT and SOD) and non-enzymic antioxidants in rice (*Oryza sativa* L.) roots due to arsenic (As) exposure” in **National Conference on “Recent Trends in Biodiversity Researches**”, organized by the **Department of Life Science**, A.U., Silchar, on March 16-18, 2009.
10. **Presentation (poster)** of paper “Biochemical changes in developing seedlings of wheat (*Triticum aestivum*) under arsenate (As<sup>+5</sup>) toxicity” in the **96<sup>th</sup> Indian Science Congress**, held at **North Eastern Hill University, Shillong**, from January 3-7, 2009.
11. **Poster presentation** on “Arsenic resistance in bacteria” in National Conference “**Micron 2016 – Microbe of North East**” held at **Department of Microbiology**, Assam University, Silchar.

## **International Level Seminar**

12. **Presentation (poster)** of paper “Effect of Arsenic (As<sup>+5</sup>) stress on growth and antioxidant metabolism in seedlings of rice (*Oryza sativa* L.)” in the **International Symposium on A Journey from Plant Physiology to Plant Biology, in Bose Institute, Kolkata, on November 24-28, 2008.**
12. **Presentation (poster)** of paper “Iron regulates arsenic induced stress in rice (*Oryza sativa* L.)” in **International Conference on Functional Plant Biology, on 23<sup>rd</sup> January, 2017, Department of Life Science Assam University, Silchar.**

## **PUBLICATIONS :**

1. SK Panda, RK Upadhyay, **S Nath**. 2010. Arsenic Stress in Plants. *Journal of Agronomy and Crop Sciences*. **Wiley**. ISSN 0931-2250. **IF -3.473**
2. Piyalee Panda, **Shwetosmita Nath**, Th. Thorny Chanu, Gauri Dutta Sharma and Sanjib Kumar Panda. 2011. Cadmium stress induced oxidative stress and role of nitric oxide in rice (*Oryza sativa* L.) *Acta Physiologiae Plantarum* [33\(5\)](#) : 1737-1747. ISSN 1861-1664. **Springer. Acta Physiologiae Plantarum. IF-2.354**
3. **Shwetosmita Nath** and Sanjib Kumar Panda. Induction Of (CAT and SOD) and non-enzymatic antioxidants in rice (*Oryza sativa* L.) roots due to Arsenic (As) Exposure. ISBN-978-93-81084-10-6. **Swastic publication. Status and Conservation of Bio-Diversity in North East India.**
4. **Shwetosmita Nath**, Piyalee Panda, Sagarika Mishra, Mohotosh Dey, Shuvashish Choudhury, Lingaraj Sahoo and Sanjib Kumar Panda. Arsenic stress in rice: Redox consequences and regulation by iron. 2014. *Plant Physiology and Biochemistry*. **Elsevier. IF-4.27**
5. **Shwetosmita Nath**, Hrishikesh Upadhyay, Mohitosh Dey and Sanjib Kumar Panda. 2014. Regulation of oxidative stress and antioxidants in developing wheat (*Triticum aestivum*) seedlings under arsenate toxicity. ISSN 0972-6446. **Ecobios. BEES.**

## **Webinars :**

1. Participated in one day webinar “The Challenges and Scientific Advances of SARS-COV2” organised by Department of Microbiology, Assam University, Silchar in collaboration with SPRINGER NATURE and SOCIETY FOR ENVIRONMENTAL SUSTAINABILITY; 27-08-2020.
2. Participated in one day International Webinar on “Anti-viral Drug Discovery; Creation of an Armoury for The Present and Future Pandemics.” Organised by Department of Chemistry, Assam University, Silchar; 08-08-2020.

3. Participated in two day Web Symposium on “Creating A Better Workplace for Woman”, organised by ICC, Assam University, Silchar during 28-07-2020 and 29-07-2020.

### **Other Experiences :**

1. Member of Biocontainment Committee , Department of Microbiology, Assam University, Silchar, December/2017- August/2021.

2. Invited as Resource Person in two days Workshop on “Basic Techniques in Microbiology”, Department of Microbiology, Assam University, Silchar, 06/10/2015 - 07/10/2015.

3. Performed duty as in-charge of the Departmental Library, Department of Microbiology, Assam University, Silchar, since March/2011 - August/2021.

4. Performed invigilator’s duty in Post Graduation Entrance Test of Microbiology on 10/07/2017 in the Department of Life Science, Assam University, Silchar.

5. Performed invigilator’s duty in Post Graduation Entrance Test of Microbiology on 14/07/2018 in the department of Ecology and Environmental Science, Assam University, Silchar.

6. Performed invigilator’s duty in Post Graduation Entrance Test of Microbiology on 16/07/2019 in the department of Ecology and Environmental Science, Assam University, Silchar.

7. Performed invigilator’s duty in Post Graduation End Semester Examination of Microbiology Department, AUS, in 2013, 2015, 2016, 2017, 2018, 2019.

### **Previous/Recent Employment and Administrative/Research/Technical Experiences:**

<b>Sl. No.</b>	<b>Post Held</b>	<b>Department</b>	<b>Institute</b>	<b>Sector</b>	<b>Period of Service</b>	<b>Reason of Leaving</b>
1.	Part Time Lecturer	Botany	Cachar College, Silchar	State	July,2007 to October, 2007	Full time enrolment in Ph. D. (AUS)
2.	Technical Assistant	Microbiology	Assam University, Silchar	Central	June, 2010 to August, 2021	Appointed as Assistant Professor
3.	Assistant Professor	Botany	Cachar College, Silchar	State	August, 2021	Continuing (till date)

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