



ENLIGHTENMENT TO PERFECTION

UNIVERSITY OF NORTH BENGAL

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

## Department of Tea Science

Print



## Dr. Sonali Ray

B.Sc., M.Sc., B.Ed., Ph.D.

Assistant Professor

Life member: Indian Science Congress Association.

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**Subject Specialization:** Phytochemistry and Pharmacognosy.

## Area of Research Interest:

- Natural Product Chemistry, Metabolomics. Development, optimization and validation of analytical methods for selective detection, quantitation and monitoring of biologically important compounds using mostly chromatographic, electrophoretic and flow techniques.

**Number of Ph.D. students:** a) Supervised: Nil b) Ongoing: Nil

**Number of M. Phil. students:** a) Supervised: Nil b) Ongoing: Nil

**No. of B.Pharm students:** a) Supervised: 10 b) Ongoing: Nil

**No. of M.Sc students:** a) Supervised: Nil b) Ongoing: 01

**Number of Publications:** 13

## Achievements and awards:

- UGC-Award of Research Fellowship in Science for meritorious Students.
- Best oral presentation at the International Seminar on Current Avenues in Microbial & Plant Sciences CAMPS - 2019, Department of Botany, University of Gour Banga, Malda, West Bengal, INDIA Date: 23 - 25 February, 2019.

## Area of Research:

- Isolation and characterization of Natural products from the medicinal plants available in Darjeeling hill and Terai region of West Bengal.
- Transformative reactions on steroids and triterpenoids following Green Chemistry Protocol to synthesize a library of biologically active compounds.
- Development of new Synthetic Methodology for the synthesis of bioactive heterocyclic compounds.
- Synthesis, Characterization and Performance Evaluation of Chemical additives used in lubricating oils.

## Professional experiences: 13 years

- Assistant Professor:** Dept. of Pharmacy, Dept. of Biotechnology/Microbiology/Genetics at Guru Nanak Institute of Pharmaceutical Science & Technology, Kolkata (2006-2010).
- Assistant Professor (Cont.):** Dept. of Botany, North Eastern Hill University, Shillong (2016-2018). (Courses: M.Sc. Botany & M.Sc. Plant Molecular Biology).
- Assistant Professor:** Dept. of Tea Science, University of north Bengal (Sept. 2019-Till date).
- Administrative experiences:** Member, Board of Research studies in Tea Sciences. Paper setter, scrutiniar, Examiner of NBU and W.B.U.T.
- Ongoing Research:** "Development of nanoliposome coated tea and phytochemicals for enhanced brain targeting ability towards successful treatment of Alzheimer's disease." (NBU Research Grant)

**Selective List of Publications (2017-2019):**

1. **Sonali Ray**, Bratati De. "Acetylcholinesterase inhibitory properties of black tea and its polyphenolic components ". International journal of Pharmacy and Pharmaceutical Sciences, Volume 4, Issue SUPPL.3, 2012, Pages 334-337.
2. **Sonali Ray**, Tanmoy Samanta, Adinpunya Mitra, Bratati De. "Effect of Extracts and Components of Black Tea on the Activity of -Glucuronidase, Lipase, -Amylase, -Glucosidase: An in vitro Study". Current Nutrition & Food Science, Volume 10, 4 Issues, 2014, Pages 181-186.
3. Satabdee Mohapatra, Alisha Prasad, Farhan Haque, **Sonali Ray**, Bratati De, Sirsendu Sekhar Ray. "In silico investigation of black tea components on -amylase -glucosidase and lipase". Journal of Applied Pharmaceutical Science, 5(12), 042-047, 2015.
4. **Sonali Ray**, Maina kDutta, Koel Chaudhury and Bratati De. GC-MS based metabolite profiling and Angiotensin Converting Enzyme inhibitory property of black tea. Revista Brasileira de Farmacognosia, Volume 27, Issue 5, September–October 2017, Pages 580-586.
5. Satabdee Mohapatra, Alisha Prasad, Somya asthana, **Sonali Ray**, Bratati De, Sirsendu Sekhar Ray. In silico investigation of black tea components on glucuronidase. Pharmaceutical Biology (Under review).

**Technical Presentations:**

1. **Sonali Ray**, Bratati De. "Antidiabetic property of *Momordica charantia* leaf extract " 3rd Indian national seminar of ANRAP on prevention & management of diabetes: prospects & challenges (14th Sept.-16th Sept. 2012, R. G. Kar medical college, Kolkata).
2. **Sonali Ray**, Krishan Kumar, Bratati De, Sirsendu Sekhar Ray. "Cryopreservation of human adipose tissue using black tea", the SLTB-2012 Conference, London, UK.
3. **Sonali Ray** and Bratati De. "Lipoxygenase and trypsin inhibition of black tea." National symposium on Plant Diversity: Structure, Function, Utilization and Conservation (Dec. 4-6, 2014), University of Calcutta, Kolkata, India.
4. **Sonali Ray**, Mainak Dutta, Koel Chaudhury and Bratati De. "GC-MS based metabolite profiling and angiotensin Converting Enzyme inhibitory property of black tea." International Conference on "The Green Planet- Past, Present and Future", Department of Botany, University of Calcutta, (21Dec.-23Dec. 2016).
5. **Sonali Ray** and Bratati De. Enzyme inhibitory properties of Black tea and its components. National Symposium on Current Trends in Research in Biotic Systems, 29-30th June, 2017. Department of Botany, North Eastern Hill University, Umshing, Mawkyntroh, Shillong.
6. **Sonali Ray**, Mainak Dutta, Koel Chaudhury And Bratati De. GC-MS based metabolite profiling of black tea extracts. International Seminar on Current Avenues in Microbial & Plant Sciences CAMPS - 2019, Department of Botany, University of Gour Banga, Malda, West Bengal, INDIA (23 - 25 February, 2019).
7. Arindam Ghosh, Susmita Das, **Sonali Ray**. GC-MS based metabolite profiling of shaded and unshaded first flush of *Camellia sinensis* L. National seminar on Vistas in Life Science Research, University of North Bengal. 29th March, 2019.
8. Satabdee Mahapatra, Somya Asthana, Alisha Prasad, **Sonali Ray**, Bratati De, Sirsendu Sekhar Ray. In silico investigation of black tea components on  $\beta$ -Glucuronidase. National seminar on Vistas in Life Science Research, University of North Bengal. 29th March, 2019.

**Workshops participated:**

1. "Advance techniques in Molecular Biology" at University of Calcutta, 2005.
2. "Bioinformatics in Genomic and Proteomics" at I.I.T Kharagpur, 2008.
3. "Approaches to the screening of bioactive molecules from natural resources" at I.I.T Guwahati, 2009.
4. "Advances in drug discovery" at I.I.T Guwahati, 2009.
5. "Advance of Data Mining Techniques in Bioinformatics" at N.I.T. Rourkela, 2009.
6. Workshop on "Flow Cytometry & Cell sorting" at N.I.T. Rourkela, 2011.
7. Workshop on "COMSOL", at Bangalore, 2011.
8. Science Communication workshop (SciComm101), Organized by State level Biotech Hub, North Eastern Hill University, Shillong & Wellcome Trust/DBT India Alliance, June, 2017.
9. DMRX Workshop at SAIF-Nehu, Shillong, March, 2018.
10. LCMS Workshop at SAIF-NEHU, Shillong, April, 2018.