

# DR. SANDIPAN RAY

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## PROFESSIONAL SUMMARY

My inquisitiveness always kept me alive to pave the path of unknowing things, by trying to understand Nature through field studies and unraveling the magic within through various usage of instruments and apparatus. As a consequence, the potentiality of a high-through put machine always enticed me to consider it as a basic partner for my career in long run.

My alma mater gave me my life time opportunity to work **with the group of Late Professor Ratan Lal Brahmachary and professor Mousumi Poddar Sarkar** that shaped my research career and interest in biochemistry mainly in volatile chemistry and pheromones that's includes the chemistry behind different aroma molecule and specially **2 acetyl 1 pyrroline the fragrant molecule of Indian Basmati rice in the Marking Fluid (MF) of Bengal tiger**. My association with **Dr. Debal Deb** and his team grew interest of Rice research and conservation of natural resources, in me. It seeded in me the importance of food security, development and sustainable use of natural resources and conservation of traditional heirloom.

My research career, association with companies like **Agilent India Pvt. Ltd. and Wipro Ltd.** since 2013 gave me the golden opportunity to expand my-self and nurture my skills in larger scale instrument-oriented research job to develop further and to attain higher level of expertise by operating different instruments like **GCMS-QQQ, GC-MS/FID/ECD-HS, HPLC, LCMS, FTIR**.

"Nature nurturing" have paved the path to acquire knowledge and to make nature my laboratory. I never feel tired in field studies rather it's a fresh air to my mind, body and soul. My field study educates me the art of rice cultivation, study of leopard, tiger behaviors and communication, essence of oranges cultivation in foot hills of Himalaya and magic of entomophagy of Arunachal Pradesh.

Thus, my research interest got it shaped in field of

- **Aroma chemistry of natural products**
- **Elucidating different chemical structure by use of chromatographic technique**
- **Lipidomics and metabolomic studies**
- **Conservational aspect of natural resources**

<b>WORK HISTORY</b>	<ul style="list-style-type: none"> <li>● <b>Scientist</b> <span style="float: right;"><b>2019 - 2021</b></span>  <b>Wipro Ltd., Bengaluru, Karnataka</b> <ul style="list-style-type: none"> <li>• Worked as SCIENTIST (SENIOR ENGINEER) for chromatography under industrial and engineering service (Pharmaceuticals and FMCG) for analysis of API, intermediate products and finished product</li> </ul> </li> </ul>
	<ul style="list-style-type: none"> <li>● <b>Operator</b> <span style="float: right;"><b>07/2018 – 12/2018</b></span>  <b>Agilent Technologies India Pvt. Ltd., Itanagar, Arunachal Pradesh</b> <ul style="list-style-type: none"> <li>• Worked as Chromatography operator for GCMS and HPLC in Agilent technologies India pvt ltd, posted in Dept. of Zoology, Rajiv Gandhi University, Itanagar, India</li> </ul> </li> </ul>
<b>EDUCATION</b>	<ul style="list-style-type: none"> <li>● <b>Ph.D</b> <span style="float: right;"><b>2022</b></span>  <b>University of Calcutta, Kolkata</b></li> <li>● <b>Scientific Researcher</b> <span style="float: right;"><b>2018</b></span>  <b>Rajiv Gandhi University, Itanagar</b> <ul style="list-style-type: none"> <li>• Worked as research fellow under DBT (NER) project in Dept. of Zoology, Rajiv Gandhi University, Itanagar, India.</li> </ul> </li> <li>● <b>Master of Science, Botany</b> <span style="float: right;"><b>2011</b></span>  <b>University of Calcutta, Kolkata</b></li> <li>● <b>Bachelor of Science, Botany (H), Zoology, Chemistry</b> <span style="float: right;"><b>2009</b></span>  <b>University of Calcutta, Kolkata</b></li> </ul>
<b>ACCOMPLISHMENTS</b>	<ul style="list-style-type: none"> <li>● Qualifying National eligibility Test (NET) Junior Research Fellowship in Joint CSIR-UGC Test, Govt. of India on Dec. 2012</li> <li>● Qualifying Graduate Aptitude Test in Engineering (GATE) (Life Science) on Jan. 2013</li> <li>● My work “THE DIVERSITY OF VOLATILES IN RICE GENETIC DIVERSITY: AN EXPLORATORY STUDY” has been selected and appreciated in an International forum in 1st FOOD CHEMISTRY CONFERENCE held at AMSTERDAM, THE NETHERLANDS, 2016.</li> <li>● Presented work on ASSESSMENT OF NUTRITIONAL POTENTIALITY OF INDIGENOUS RICE LANDRACES FROM THE PERSPECTIVE OF GERMPLASM PRESERVATION. Poster presentation in Frontiers in Chemical Science 2014 in IIT Guwahati, held on December 04-06, 2014.</li> </ul>

**TECHNICAL  
RESOURCE PERSON**

- Poster on EXPLORATION ON BIO-FLAVOUR FROM ORANGES OF DARJEELING HILL, EASTERN HIMALAYA presented in 1st FOOD CHEMISTRY CONFERENCE- Shaping the Future of Food Quality, Health and Safety in AMSTERDAM, THE NETHERLANDS, held on 30 October-1 November 2016.
- Poster on PUTATIVE PHEROMONE OF SNOW LEOPARD, PANTHERA UNCIA (SCHREBER, 1775) presented in chemical signaling in vertebrate (CSiV) XIV in Cardiff Wales, UK, held on 29 August- 1 September 2017.

**Calcutta-University-Institute-Industry-Partnership-Programme**

- Technical resource personal as a machine instructor in Hands-on training programme on “CHROMATOGRAPHY”- An era from Tswett to 21st Century organized by Department of Botany (Center of advanced study), University of Calcutta. Training programme on HPTLC, HPLC, GC, GCMS and SPME-GC-MS held on SEPTEMER 08-11, 2017 at Department of Botany, University of Calcutta
- Technical resource personal as a machine instructor in Hands-on training programme on “WORKSHOP ON CHROMATOGRAPHY” organized by Department of Botany (Center of advanced study), University of Calcutta. Training programme on HPTLC, HPLC, GC, GCMS and SPME-GC-MS held on JANUARY 05-08, 2016 at Department of Botany, University of Calcutta
- Technical resource personal as a machine instructor in Hands-on training programme on “CHROMATOGRAPHY”- THE CATAPULT FOR UNRAVELING THE FACT OF NATURE, WORKSHOP-III, organized by Department of Botany (Center of advanced study), University of Calcutta. Training programme on HPTLC, HPLC, GC, GCMS held on December 26-27, 2013 at Department of Botany, University of Calcutta

**CERTIFICATIONS**

- Participated in “One Day workshop on Analysis of NDMA & NDEA in Sartan Drugs using GC-QQQ” held at Agilent Bangalore Centre of excellence on 25 March 2019
- Training on uncertainty measurement
- Participated in National Workshop on "Electron Microscopy and Its Applications in Materials And Biological Science" on January 29-30, 2018, organized by Department of Instrumentation Science, Jadavpur University
- Attended and participated in the training programme on WORKSHOP ON R PROGRAMING FOR STUDENT AND RESEARCHS at INDIAN STATISTICS INSTITUTE, KOLKATA from 25-29 MAY 2015.
- Attended and participated in the training programme on WORKSHOP ON R PROGRAMING FOR STUDENT AND RESEARCHS at INDIAN STATISTICS INSTITUTE, KOLKATA from 16-17 SEPTEMBER 2014.
- Attended and participated in the training programme on “SENSORY ANALYSIS OF AROMA AND FLAVOUR OF FOOD INGREDIENTS AND PACKAGED FOODS” held at CSIR-CENTRAL FOOD TECHNOLOGY RESEARCH INSTITUTE (CFTRI), MYSORE, from Februrary 03-05, 2014.

## PUBLICATIONS

- **SANDIPAN RAY**, Debal Deb, Amarnath Nandy, Debopriya Basu, Agnideep Aich, Sudipta Tripathi, Sugata Sen Roy, Mousumi Poddar Sarkar. Rare and neglected rice landraces as a source of fatty acids for undernourished infants. *Current Science* (2021). 121 (5), 660-666
- **SANDIPAN RAY**, Debal Deb, Mousumi Poddar Sarkar. Colour based nutraceutical potentiality of some traditional rice (*Oryza sativa* ssp. *indica* L.) varieties of India. *Indian Journal of Natural Products and Resources* (2021). 12 (1), 153-157
- Subhadeep Das, Sourav Manna, **SANDIPAN RAY**, Payel Das, Upashna Rai, Biswatosh Ghosh, Mousumi Poddar Sarkar. (2019). Do Urinary Volatiles Carry Communicative Messages in Himalayan Snow Leopards [*Panthera uncia*, (Schreber, 1775)]?. In *Chemical Signals in Vertebrates 14*. Buesching, C. D. (Ed). Springer Nature Switzerland. pp. 27–37.
- Priyankar Dey, **SANDIPAN RAY**, Mousumi Poddar Sarkar, Tapas Kumar Chaudhuri. Chemical characterization and assessment of antioxidant potentiality of *Streptocaulon sylvestre* Wight, an endangered plant of sub-Himalayan plains of West Bengal and Sikkim. *BMC Complementary and Alternative Medicine* (2015). 15 (107). DOI 10.1186/s12906-015-0629-0.
- Priyankar Dey, **SANDIPAN RAY**, Tapas Kumar Chaudhuri. Standardized extract of *Dioscorea alata* areal tuber modulates murine immune response and exerts anti-inflammatory effects on splenic lymphocytes. *Journal of Functional Foods* (2016). 23, 315-318.
- Joy Sarkar, **SANDIPAN RAY**, Dipankar Chattopadhyay, Aparna Laskar, Krishnendu Acharya. Mycogenesis of Gold Nano-particles using a Phytopathogen *Alternaria alternata*. *Bioprocess and Biosystems Engineering* (2012). 35, 637-643.