

BIONE

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Dr. Bulbuli Khanikor

Born in Sivasagar, Assam, Dr. Bulbuli Khanikor is currently working as an Assistant Professor (Level -12) in the Department of Zoology, Gauhati University, Guwahati- 781014, Assam, India. She completed her early education in Sivasagar and did her M.Sc. in Life Science from Dibrugarh University and thereafter earned her PhD. From the same university in the year 2012.

She has been an efficient teacher and researcher in the field of life science and to date, she has earned an h-index of 13, and an i10 index of 15 with a total Google Scholar citations of 528. She received three patent grants on insecticidal formulations against vector mosquitoes *Aedes aegypti* and *Culex quinquefasciatus*, and silkworm parasitoid uzi fly (*Exorista sorbillans*). She has so far published 30 numbers of research papers in national and international journals as first or corresponding authors, three papers as coauthors, nine book chapters as corresponding authors, one book, and one workshop manual. A total of five students guided by her have been awarded Ph.D. degrees, so far, and 53 students completed their master's degree dissertations under her mentorship. She established the comparative efficacy of organophosphate temephos and essential oil-based compound “eugenol” over multiple generations on the continuous challenge against *Aedes aegypti* mosquito in terms of dose, resistance-related enzymatic reactions, and *in silico* mode of action (Adhikari and Khanikor, 2021; Adhikari *et al.*, 2022a; 2022b).

Research Objectives

- To contribute to the prevention of vector-borne disease transmission by developing innovative integrated strategies to manage vector mosquitoes mainly *Aedes* and *Culex* species.
- To create awareness related to the overuse of chemical insecticides and to develop eco-friendly products from the compounds of plant origin.
- To establish the mode of actions/ site of interactions of chemical insecticides and bioactive plant compounds/compositions on insect and vertebrate models using imaging, biochemical (enzymatic), molecular (target specific gene expression studies), and Insilco techniques.
- To develop essential oil-based products from indigenous aromatic plants of Assam against commonly emerged pests in Assam.
- To assess the diversity of parasitoid-infesting mug silkworm *Antheraea assama* and develop a plant-based formulation to check parasitoid infestation.

- To assess the diversity of ant and ant-mimicking fauna in wildlife sanctuaries and different habitats of Assam.
- To explore potential alternative host plants of *eri* silkworm for continuing uninterrupted culture and also to offer eco-friendly solutions to check parasitoid infestation in *muga* silkworm.

Major Research Contributions:

- Established the comparative efficacy of organophosphate temephos and essential oil-based compound “eugenol” over multiple generations on the continuous challenge against *Aedes aegypti* mosquito in terms of dose, resistance-related enzymatic reactions, and *in silico* mode of action (Adhikari and Khanikor, 2021; Adhikari *et al.*, 2022a; 2022b).
- Extracted and assessed the insecticidal potential of more than thirty indigenous plant essential oils of Assam on different developmental stages of vector mosquitoes, viz., *Aedes aegypti* and *Culex quinquefasciatus*.
- Analyzed the chemical profile of more than 15 plant essential oils mainly of different *Citrus* spp., and *Ocimum* spp. *Aegle marmelos*, *Lippia alba*, *Allium sativum* along with different indigenous spices and worked on bioactivity tests of the major compounds against different pests (Khanikor and Bora Sarma *et al.*, 2017a; Mahanta *et al.*, 2017; Sarma *et al.*, 2017b; Khanikor *et al.*, 2018; Sarma *et al.*, 2019a; Sarma *et al.*, 2020; Sarma *et al.*, 2022).
- Developed synergized combinations of compounds/plant essential oils/synthetic organophosphates effective for controlling different stages of *Aedes aegypti* and *Culex quinquefasciatus* (Sarma *et al.*, 2019b; Mahanta *et al.*, 2020; Mahanta and Khanikor, 2021).
- Documented ant fauna in and around Laokhowa Wildlife Sanctuary, Kholahat Reserve Forest as well as in the campus of Gauhati University and published a book on ant fauna of Assam taking the case study of Gauhati University campus. The first chapter includes an introduction to ants, taxonomic keys up to genus level (based on Bolton, 1994), checklists of ants, and descriptions of about 41 ant species with microscopic photographs. Chapter II discusses ant-mimicking spiders with an introduction and list of ant-mimicking spiders in the globe and India, their association with model ants, and lastly discuss of the 10 ant-mimicking spiders we recorded on the campus of Gauhati University with microscopic photographs. The third or the last chapters discussed the contradictory roles of ants in flower pollination. Whether they are pollinator or pollinator deterrents or simply flower visitor are discussed based on published literature. A list of flower-visiting ants of their findings with photographs is also included (Khanikor *et al.*, 2023)

- Started working on insecticidal and repellent tests of eco-friendly compounds of plant origin to develop products for household nuisance ant species (Hazarika and Khanikor, 2022; communicated).
- Made studies on antennal sensilla of endemic ants of Assam using stereo zoom and SEM imaging.
- Integrated morphological and molecular taxonomic characters for identifying ants like *Odontoponera denticulata*, *Crematogaster* spp. etc., and nucleotide sequences have been submitted to NCBI databases (Hazarika and Khanikor, 2021; communicated).
- Identified parasitoids of muga silkworm, and for the first time, the biology of *Cotesia dictyoplocae* that uses muga silkworm as a host has been reported from India (Das *et al.*, 2016).
- Reported for the first time, a species of ant-mimicking spiders from NE India (Sarma *et al.*, 2023)
- Identified effective compounds of plant origin against uzi fly *Exorista sorbillans* and developed combinations for controlling the same (Khanikor and Bora, 2022).
- Initiated work on forensic insects in Kamrup Assam
- Started working on exploring insects as alternative poultry feed.
- Evaluated efficiency of alternative host plants of eri silkworm by assessing nutritional, growth and developmental, physiological parameters for maintaining uninterrupted/continuous culture.

Professional Experience

- **Teaching Experience at postgraduate level:** 13 years 4 months
- **Total Research Experience:** 16 years (including UGC Project Fellow- 03 years; Trainee-DBT BIF Project -06 months; PhD guideship -9 years)

Ph.D. students guided:

1. Dr. Hridisha Nandana Hazarika (SLET/ JRF -under DBT Foldscope Project)
Currently working as Assistant Professor, Dept. of Zoology, Tezpur College, Tezpur-784001 (Sonitpur-Assam).
Title of thesis- “Studies on diversity and abundance of ants (Hymenoptera: Formicidae) in Kholahat Reserve Forest, Nagaon (Assam)”
Awarded-2022
2. Dr. Kamal Adhikari (NET)
Currently working as Assistant Professor, Dept. of Zoology, Tihu College, Tihu-781371 (Nalbari-Assam).
Title of thesis- “Effect of eugenol and temephos on successive generations of *Aedes aegypti* (Diptera: Culicidae)

Awarded-2022

3. Dr. Sudarshana Mahanta (UGC -BSR Fellow)
Currently working as – District Vector Borne Disease Consultant (NVBDCP), Office of the Joint Director of Health Service, Darrang - Assam.
Title of thesis- “Study on the efficacy of essential oil combinations against *Culex quinquefasciatus* Say (Diptera: Culicidae)”
Awarded-2022

4. Dr. Riju Sarma (UGC -BSR Fellow, SLET)
Currently working as Assistant Professor, Dept. of Zoology, Madhab Choudhury College, Barpeta-781301 (Barpeta, Assam).
Title of thesis- “Study on the efficacy of certain terpene compounds against *Aedes aegypti* Linn. (Diptera: Culicidae)”
Awarded-2021

5. Dr. Arpan Kumar Das
Currently working as Health Educator, Dept. of Community Medicine, Jorhat Medical College, Jorhat-785001 (Jorhat-Assam).
Title of thesis- “A study on the biology of *Apanteles* parasitizing muga silkworm”
Awarded-2018

Students Currently Pursuing Ph.D.:

Five students currently pursuing Ph.D. under her guidance on different aspects of vector mosquitoes (*Aedes albopictus* and *Culex quinquefasciatus*, their biological control agents, development of integrated management tactics, resistance-related enzymes, and their expression patterns) and household ants of Kamrup districts of Assam and their control aspects.

1. Miss Dipamani Sarma (NET/SLET/GATE)
2. Sri Jitumoni Das (SLET/GATE)
3. Miss Barnali Saikia (SLET)
4. Sri Dipjyoti Roy (CSIR -UGC NET JRF/ SLET)
5. Miss Mondira Taropi (CSIR-UGC NET JRF/GATE)

M.Sc. Dissertations: A total of 53 students completed M.Sc. dissertation

Guided 53 students to date to complete their master’s dissertation on different topics. In brief, it includes solvent and oil extractions of different medicinal and aromatic plants and assesses their insecticidal efficacy in a wide group of pests including mealy bugs, rice weevils, termites, cockroaches, house flies, mosquitoes mainly *Aedes* and *Culex* species. Studied effects of synthetic insecticides and medicinal plants on nutritional parameters of silkworm *Antheraea assama* as well

as *Samia ricini*. Studied the efficiency of alternative host plants of eri silkworm in terms of growth, development, nutritional, economic, and other physiological parameters. Assessed diversity of ants in hills of Guwahati, hospitals of Kamrup districts, etc. Studied bacterial fauna in the gut of carpenter ants, and reviewed chemoreceptors of ants. Surveyed edible insects in the Dimasa community of Karbi Anglong district and experimented on the antioxidant activity of edible insects, assessed prospects of edible insects as the supplement of poultry feed. Surveyed forensic insects and conducted biological study on flesh fly *Sarcophaga ruficornis* using carcass (chick) in controlled condition.

Education

- PhD. from Department of Life Sciences, Dibrugarh University, Dibrugarh, Assam -India (6th Mar, 2012) on topic ““Evaluation of extracts and essential oils of *Ocimum* and *Ageratum* against uzi fly, *Exorista sorbillans* (Wiedemann), a parasitoid of *Antheraea assama* Westwood.”
- M.Sc. in Life Sciences-Zoology (Special Paper-Entomology) from Department of Life Sciences, Dibrugarh University, Dibrugarh, Assam -India
- B.Sc. in Zoology (Major) from Department of Zoology, Sibsagar College (now Sibsagar University), affiliated under Dibrugarh University, Dibrugarh, Assam -India
- HS from Sibsagar Govt H.S. & M.P. School, Sibsagar, Assam
- HSLC from Sachidhar Phukon Girls’ High School, Charing, Sibsagar, Assam.
- Primary and senior basic school from Na-Khana Prathamik Vidhyalaya, Sibsagar and Kachugoan Senior Basic School, Golaghat.

Certifications

- Certificate on “Malaria X: Defeating Malaria from the Genes to the Globe” (Harvard X - an online learning initiative of Harvard University) in 2020
- Certificate in Food & Nutrition (IGNOU) in 2011
- Diploma in Computer Application and Maintenance (Epite) in 2006

Paper in Refereed Journal: Total paper published -Thirty-three (33). Of them fifteen papers are given below:

1. **Khanikor, B.** and Bora, D.S. (2022): *Ocimum gratissimum* Linn. (Lamiaceae) essential oil for the management of *Exorista sorbillans* Wiedemann (Diptera: Tachinidae) menace of silkworm in sericoculture. Journal of Asia-Pacific Entomology. 25. 101960 (IF= 1.58, Elsevier Publication; Online publication Date- 16. 07.2022) (ISSN-1226-8615)
2. Sarma, R., Adhikari, K., Mahanta, S. and **Khanikor, B.** (2019): Combinations of plant essential oil Based terpene Compounds as Larvicidal and Adulticidal Agent against *Aedes aegypti* (Diptera: Culicidae). Scientific Reports. 9:9471. <https://doi.org/10.1038/s41598-019-45908-3>. (Nature Research Publisher, IF- 4). (ISSN- 2045-2322)

3. Mahanta, S. and **Khanikor B.** (2021): Mosquitocidal activity of twenty-eight plant essential oils and their binary mixtures against *Culex quinquefasciatus*, (Diptera: Culicidae). *Heliyon*. 7. e06128. (IF-3.90; Cell Press) (ISSN **2405-8440**)
4. Adhikari, K., **Khanikor B** and Sarma, R. (2022): Persistent susceptibility of *Aedes aegypti* to eugenol. *Scientific Reports*. 12:2277. <https://doi.org/10.1038/s41598-022-06302-8>. (IF-4.1; Nature Research). ISSN: 2045-2322
5. Hazarika, H.N. and **Khanikor B.** (2021): Integration of morphological and molecular taxonomic characters for identification of *Odontoponera denticulata* (Hymenoptera: Formicidae: Ponerinae) with the description of the antennal sensilla. *Zoologischer Anzeiger*. 293: 89-100. (Q1; IF-1.52; ELSEVIER PUBLICATION). (ISSN- **0044-5231**)
6. Adhikari, K and **Khanikor B.** (2021): Gradual reduction of susceptibility and enhanced detoxifying enzyme activities of laboratory-reared *Aedes aegypti* under exposure of temephos for 28 generations. *Toxicology Reports*. 8: 1883–1891. <https://doi.org/10.1016/j.toxrep.2021.11.013>. (IF-4.8; ELSEVIER PUBLICATION). (ISSN- **22147500**)
7. Das, J and **Khanikor B.** (2024). First report of *Dilobocondyla gasteroreticulata* (Formicidae: Myrmicinae) from Assam, India. *International Journal of Tropical Insect Science*. 44: 2039–2053. (Springer Nature Publication, IF 1.1).
8. Sarma, D, Das, J and **Khanikor B** (2024): New records of ant-mimicking spiders from North-East India. *International Journal of Tropical Insect Science* 44(2):983-988 (Springer Nature Publication, IF 1.1).
9. Hazarika, H.N. and **Khanikor B.** (2022): Insecticidal and Repellent Activities of Four Essential Oils Against *Camponotus compressus* and *Dolichoderus affinis*. *National Academy Science Letters*. <https://doi.org/10.1007/s40009-022-01127-5>. (IF-0.78; SPRINGER NATURE PUBLICATION). (Publication Date: 25.05.2022) . ELECTRONIC ISSN- 2250-1754. 45(4):297-300
10. Adhikari, K., Sarma, R., Rabha, B. and **Khanikor B.** (2022). Repellent Activity of Citrus Essential Oils and Two Constituent Compounds Against *Aedes aegypti*. *Proceedings of the National Academy of Sciences, India, Section B: Biological Sciences*. <https://doi.org/10.1007/s40011-022-01347-1>. (SPRINGER NATURE PUBLICATION). (ELECTRONIC ISSN: 2250-1746). (Publication date: 12.04.2022)
11. Hazarika, H.N. and **Khanikor B.** (2022): Morphology, Distribution and Abundance of antennal sensilla in four ant species (Hymenoptera: Formicidae) having mutualistic relationship with aphids. *International Journal of Tropical Insect Science*. <https://doi.org/10.1007/s42690-021-00711-4>. 42(2): 1837–1850 (IF-0.82 ; SPRINGER NATURE PUBLICATION). (Date of publication 16.01.2022). (electronic ISSN: 1742-7592)
12. Adhikari, K., Sarma, R. and **Khanikor B.** (2022): In-silico interactions of eugenol and temephos with metabolic detoxifying enzymes of *Aedes aegypti* (Diptera: Culicidae). *International Journal of Tropical Insect Science*. <https://doi.org/10.1007/s42690-021-00727-w>. 42(2): 1987-1996 (IF-0.82; SPRINGER NATURE PUBLICATION). (ELECTRONIC ISSN- **1742-7592**). [10.1007/s42690-021-00727-w](https://doi.org/10.1007/s42690-021-00727-w)

13. Sarma, R., Adhikari, K., Mahanta, S. and **Khanikor, B.** (2020): Twenty Essential Oils as Ovicidal Agent Against *Aedes aegypti* (Diptera: Culicidae). National Academy Science Letters. (IF-0.79; Springer publication). **43**, 497–500. DOI 10.1007/s40009-020-00923-1. (ISSN- **0250541X**)
14. Sarma, R., Adhikari, K., Mahanta, S. and **Khanikor, B.** (2019): Insecticidal activities of *Citrus aurantifolia* essential oil against *Aedes aegypti* (Diptera: Culicidae). Toxicology Reports. **6**: 1091–1096. <https://doi.org/10.1016/j.toxrep.2019.10.009>. (ELSEVIER Publication, Scopus, Science Direct index, IF-4.8). Published on 14th Oct, 2019).
15. Mahanta, S., **Khanikor, B.** and Sarma, R. (2020): *Allium sativum* (Liliales : Asparagales) essential oil - based combinations – A potential larvicide for *Culex quinquefasciatus* (Diptera:Culicidae). International Journal of Tropical Insect Science. **40**, 837–844. DOI10.1007/s42690-020-00139-2. (IF-0.82; SPRINGER NATURE PUBLICATION).

Book Chapters- A total of nine book chapters published, six of them are mentioned below -

1. Saikia B and Khanikor B (2024). Edible insects of Northeast India with special reference to the nutritional value of *Oecophylla smaragdina* – a review. Proceeding of International Conference on Challenges and Prospects of Biodiversity Conservation in Eastern Himalaya (ICCPBC-2023). (Edited by M.K. Saikia, B. Khanikor, M.K. Bharali and K. Sarma). 27: 13. ISBN- 978-93-5860-793-2.
2. Sarma D and **Khanikor B** (2023): Eri silkworm (*Samia ricini*) of North East India: Its multifaceted applications and advantages. 2:25-41
3. **Khanikor B**, Hazarika HN, Rabha B, Mahanta S, Sarma R, Adhikari K, Bay K (2022): Prospects of foldscope in studying insects. In: Foldscope and its applications (Volume-2). Edited by: A. Dev Sharma. 63-70. (ISBN 978-93-90863-51-8). National Press Associates, New Delhi.
4. **Khanikor, B.**, Adhikari, K. and Rabha, B. (2021): Citrus Essential Oils: A Suite of Insecticidal Compounds. Citrus- Research, Development and Biotechnology. In Tech-Open Access Publisher, Croatia, Europe. DOI: <http://dx.doi.org/10.5772/intechopen.95887> (ISBN978-1-83968-724-2, PRINT ISBN978-1-83968-723-5, EBOOK (PDF) ISBN978-1-83968-725-9).
5. Bora, D.S., **Khanikor, B.** and Gogoi, H. (2012): Plant-based pesticides: Green environment with special reference to silkworms. Pesticides - Advances in Chemical and Botanical Pesticides. Edited by: R.P. Soundararajan. 8-171-206. (ISBN 978-953-51-0680-7). In Tech-Open Access Publisher, Croatia, Europe.
6. Bora, D.S., **Khanikor, B.** and Konwar, M. (2010): Plant extracts for management of Uzi fly *Exorista sorbillans* Wiedemann (Diptera: Tachiniidae). Bioresources for Rural Livelihood – Genetics Biochemistry and Toxicology. Edited by G.K. Kulkarni, B.N. Pandey and B.D. Joshi. I: 217-224. Narendra Publishing House, New Delhi. (ISBN 978-93-80428-06-2).

Book Published:

1. Khanikor, B., Hazarika H.N., Das, J. and Sarma D. (2023): Ant Fauna of Assam: A Case Study at Gauhati University Campus, Guwahati, Kamrup, Assam. B P International. 153. (ISBN 978-81-19761-88-3).

Book Edition:

1. Editor of the Proceeding of International Conference on Challenges and Prospects of Biodiversity Conservation in Eastern Himalaya (ICCPBC-2023). (Edited by M.K. Saikia, B. Khanikor, M.K. Bharali and K. Sarma). ISBN- 978-93-5860-793-2.

Patent Granted: A total of three patents granted-

1. **Bulbuli Khanikor** and Dipsikha Bora : *Ocimum gratissimum* Essential oil based Biopesticide Formulation for the control of uzi fly *Exorista sorbillans* Wiedemann (Diptera:Tachinidae) . Patent No. 406107. Date of Grant. 08.09.2022.
2. **Bulbuli Khanikor** and Sudarsana Mahanta: Essential oil-based composition against larval and adult stages of *Culex quinquefasciatus*. Patent No. 550506. Date of Grant 19.09.2024.
3. **Bulbuli Khanikor** and Riju Sarma: Insecticidal compositions containing plant essential oil based terpene compounds against *Aedes aegypti* (Diptera: Culicidae). Patent No. 551122. Date of Grant. 26.09.2024.

Project completed/ sanctioned/ ongoing: Two as PI

1. “To study the diversity and abundance of ants in Laokhowa Wildlife Sanctuary, Assam, India”. Sanction Order No. DBT/IN/INDO-US/FoLDSCOPE/39/2015 dated 20.03.2018.
2. “Development of Synergistic combination of compounds from synergistic essential oil mixture against *Culex quinquefasciatus* (Diptera: Culicidae). Sanction Order No. 99/341/DRV/ Micro Grants/ 2022-23/ Microgrants/5041-49 dated 31.10.22. Micro grant under the “DBT-ALSBT Hub Micro-grants to Young Scientists of NER for Innovative Research”

Presented paper abroad in Conference/ Symposium: Presented paper at-

- Entomological Collection Network Annual Conference in National Harbor, Maryland, USA held on November 4-5, 2023.
- XXV-International Congress of Entomology (ICE-2016) & 64th Annual Meeting of the Entomological Society of America. Orlando, Florida, USA. September 25-30, 2016.

- International Symposium On Insects -“Insect, Human & Environment”. Organized by Entomological Society of Malaysia, Kuala Lumpur, Malaysia. December 3 to 5, 2012

Presented paper in India at International Conferences:

- International Conference on “Challenges and Prospects of Bioresource Conservation in Eastern Himalaya with special reference to UN Sustainable Development Goals” held on 3-4 May, 2023 at Department of Zoology, Gauhati University organized by Department of Zoology, Gauhati University in collaboration with Pollution Control Board Assam, Assam Science Technology & Environment Council, Aaranyak and Zoological Society of Assam
- Two Day International Seminar on Climate Change: Impact and Resilience organized by the Department of Zoology, Assam Don Bosco University in collaboration with Zoological Society of Assam held at Assam Don Bosco University on 27-28 February, 2023
- International Conference on “Harnessing the Sub-Himalayan Plant Diversity for Human Welfare”. Organized by Dibrugarh University, Assam, India. 11th March-13th March, 2015
- International Conference on Entomology. Organized by Department of Zoology and Environmental Sciences, Punjabi University, Patiala, India. 21st Feb-23rd Feb, 2014.
- 18thInternational Conference(Post: ISCBC-2012) Perspective and Challenges in Chemical & Biological Sciences Innovation Cross Road. Organized by IASST, Guwahati & ISCB, Lucknow, India. January 28 to 30, 2012.
- International Seminar on “Bioresources and Human Sustenance”. Organized by Department of Zoology, Cotton College & Zoological Society of Assam (ZSA). India. October 20 to 22, 2011

Presented paper/ attended National/ Regional Conferences:

- Northeastern Regional Conference and Exhibition on Promotion and Protection of Traditional Health Care Remedy (Translational Approaches for Novel Drugs and Drug Intermediates). Organized by Institutional Biotech Hub, Department of Biotechnology, Gauhati University (IBH-GU) In Association With IASST, USTM, NEBA and IITG. 24th-26th March, 2017.
- National Conference Zoo Con 2017: Animal Sciences in 21st Century. Organized by Department of Zoology, University of North Bengal. February 11-12, 2017
- National Seminar on Integrated Approach in Zoological Research & Biennial Conference of Zoological Society of Assam. Organized by Department of Zoology, Gauhati University, Assam India in Association with Zoological Society of Assam. 30th & 31st March, 2017.
- Regional Seminar of Assam Science Society, 56th Annual Technical Session. Organized by Dibrugarh Branch at Dibrugarh University, India. 26th March, 2011.

- National Seminar on “Recent Advances in Synthesis and Catalysis RASC-2011”. Organized by Department of Chemistry, Dibrugarh University, India. February 10 to 12, 2011.
- National Seminar on “Climate Change and Sustainable Development”. Organized by Department of Environmental Science, Tezpur University, India. April 1 to 3, 2010.
- UGC sponsored National Seminar on “Global Climate Change : Frontier Research in Biological Sciences”. Organized by Department of Life Sciences, Dibrugarh University, Assam, India. 12th February, 2010.
- 97th Indian Science Congress, conducted by University of Kerala, Thiruvananthapuram, India. 3-7 January, 2010.
- 96th Indian Science Congress, conducted by NEHU, Shillong , India. 3-7 January, 2009.

Talk Delivered in India:

Invited Lecture Delivered:

1. Invited lecture in the webinar on “Forensic Biology and DNA Profiling” held on Mar, 7-11, 2022 at Central Forensic Science Laboratory, Kamrup, Assam on the topic “**Basic concepts of Refrigeration, Centrifugation, Electrophoresis and Microscopy**” on 7.3.2022.
2. Resource person at Department of Zoology, Sibsagar College, Joysagar to deliver talk on “**Aedes borne diseases with special reference to dengue and vector control**” on 19th January, 2021.
3. Resource person at Navodaya Leadership Institute (NLI), Kamrup for Content Enrichment Programme for PGT Biology held on 14th November, 2019 to 23rd Nov, 2019 on topic “**Human Reproduction and Menstrual Cycle**” and “**Generation and Conduction of Nerve Impulse**”.
4. Invited lecture on “NER Twinning Programme cum Foldscope Seminar” at CSIR-CFTRI, Mysore, on topic “**Prospects of foldscope in studying insects with special reference to ants**” 19th Feb, 2019.
5. Resource person for the symposium “Research with Foldscope” organized by Faculty of Sciences (Biochemistry) Assam Down Town University on 16th March, 2019.
6. Invited talk on “**An avenue for reducing constraints in sericulture with special reference to uzi fly, *Exorista sorbillans***” in the conference on “Exploitation of Seribiotechnology for novel product development” Organized by Unit of Excellence on Seribiotechnology, Centre for Environment (Sponsored by DBT, Govt. of India) Indian Institute of Technology Guwahati. on 29 -30th November 2014.
7. Lead speaker in an event “**Conservations on Biodiversity in the North-East**” held on 25th & 26th March, 2023 organized by Action Aid Association in collaboration with Botany Department of Gauhati University at Indian Institute of Bank Management, Khanapara-Guwahati.
8. Delivered lecture as a Resource Person in One-week Industry- Academia Workshop on Analytical Instruments and Material Characterization on topic “**Biological applications of**

nanomaterials with special reference to insect pest management” held on 18-22 March, 2024 at Gauhati University, Sponsored by DST (Govt of India) under Promotion of University Research & Scientific Excellence (PURSE) scheme.

9. Delivered lecture as a Resource Person in hands-on workshop on “Molecular Approaches to access toxicity and stress in Biological sample” on topic “**Insecticides and insecticidal toxicity in insect sample – dose determination, enzymatic assay and histological studies**” organized by Department of Botany, Department of Biotechnology and Department of Zoology, Gauhati University, sponsored under DST -PURSE, Govt. of India project held from 20-26th Feb, 2024.
10. Delivered a lecture on World Mosquito Day at the Department of Zoology, Gauhati University, Guwahati on 20th August, 2024.
11. Invited talk on “**Edible insects as food & feed**” at Biotech Park, Guwahati on 21.06.2024.

Organizing Conferences/ Symposium/ Workshop/ Lecture Series:

More than fifteen international/national/regional/institutional events were organized as coordinator/ joint convener/ Assistant Organizing Secretary/ organizing committee members.

Workshop attended/ participated:

More than fifteen workshop & training programs attended in different institutions including SAIF-IIT Bombay, ICAR-New Delhi, CMER&TI-Lahdoigarh-Jorhat, Dibrugarh University, Gauhati University, Biotech Park-Guwahati etc.

Webinar Attended/ Moderated:

Actively participated more than ten webinars over the globe especially during covid pandemic period.

Community participation:

Involve in training program/awareness program of school/college students, writing article for school/local magazines, newspaper etc. for creating awareness on scientific facts.

Group & Individual Photo:



Photo: 1st row (left to right- Arpan Das, Sudarshana Mahanta, Riju Sarma, Hridisha Nandana Hazarika); 2nd row (left to right- Kamal Adhikari, Dipjyoti Roy, Mondira Taropi, Dipamani Sarma, Barnali Saikia, Jitumoni Das), 1st row (Bulbuli Khanikor).

