

Dr. MADHUMITA SENGUPTA

PHD (APPLIED ENTOMOLOGY AND RADIATION BIOLOGY)



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EDUCATION

Ph.D.	University of Delhi, Delhi Department of Zoology Area of research - Radiation Entomology	Nov, 2017-Jan, 2023
M.Sc.	Kota University, Kota, Rajasthan Zoology Spec.-Entomology Score - 74%	2014-2016
B.Sc.	Janki Devi Bajaj Govt. Girls College, Kota, Rajasthan Biology Subjects- Zoology, Botany, Chemistry Score - 70%	2011-2014

SCHOLARSHIPS AND AWARDS

Best Poster Award Poster presenter. Awarded First place for poster presentation competition in National Conference on Chemistry for Human Health and Environment (CHHE) organised by Green chemistry network centre, University of Delhi and Royal Society of Chemistry (RSC) London North India Section, in collaboration with National Environmental Science Academy, Delhi.	2018
CSIR-NET JRF AIR 62 in the field of Life Sciences	2016
GATE JRF AIR 61 in the field of Life Sciences	2016

Journal Publications

- i. Sidhant Jain, Neha Vimal, Nilza Angmo, Madhumita Sengupta & Suraj Thangaraj. (2023). Dengue Vaccination: Towards a New Dawn of Curbing Dengue Infection. *Immunological Investigations*, 52(8), 1096-1149.
[Journal impact factor – 3, No. of citations – 0, Indices – Scopus, Google Scholar, UGC Care]
- ii. Nilza Angmo, **Madhumita Sengupta**, Neha Vimal & R. K. Seth. (2023). Receptivity and Remating Propensity in Female *Spodoptera litura* (Fabr.) after Mating with an Irradiated Male or Its F1 Male Progeny. *Insects*, 14(7), 651.
[Journal impact factor – 3.1, No. of citations – 0, Indices – Scopus, Google Scholar, UGC Care]
- iii. Neha Vimal, Nilza Angmo, **Madhumita Sengupta** & R. K. Seth. (2022). Radiation Hormesis to Improve the Quality of Adult *Spodoptera litura* (Fabr.). *Insects*, 13(10), 933.
[Journal impact factor – 3.1, No. of citations – 6, Indices – Scopus, Google Scholar, UGC Care]
- iv. **Madhumita Sengupta**, Neha Vimal, Nilza Angmo & R. K. Seth. (2022). Effect of irradiation on reproduction of female *Spodoptera litura* (Fabr.) (Lepidoptera: Noctuidae) in relation to the Inherited Sterility technique. *Insects*, 13(10), 898.
[Journal impact factor – 3.1, No. of citations – 5, Indices – Scopus, Google Scholar, UGC Care]
- v. **Madhumita Sengupta**, Nilza Angmo, Neha Vimal, & R. K. Seth. (2022). Effect of Ionizing Radiation on Pheromone Biosynthesis Activating Neuropeptide (*PBAN*) Gene Expression and its Photosensitive Rhythm in Female *Spodoptera litura* (F.). *Indian Journal of Entomology*, 85(1), 109.
[Journal NAAS rating – 5.58, No. of citations – 2, Indices – Scopus, Google Scholar, UGC Care]
- vi. Neha Vimal, **Madhumita Sengupta**, Nilza Angmo, & R K Seth. (2022). Assessing the Radiation Hormesis on the Reproductive Behaviour of Male *Spodoptera litura* (F.) Treated with Low Dose Ionizing Radiation in the Pre-imaginal Stages. *Indian Journal of Entomology*, 85(1), 103.
[Journal NAAS rating – 5.58, No. of citations – 1, Indices – Scopus, Google Scholar, UGC Care]
- vii. Nilza Angmo, Neha Vimal, **Madhumita Sengupta**, & R K Seth. (2022). Effect of Male Irradiation and its Mating Status on the Remating Propensity, Insemination Quality and Reproductive Behaviour of Male *Spodoptera litura* (F.). *Indian Journal of Entomology*, 85(1), 95.

[Journal NAAS rating – 5.58, No. of citations – 1, Indices – Scopus, Google Scholar, UGC Care]

- viii. Jain, S., **Sengupta, M.**, & Jain, P. (2019). Non-Viral Parasites Associated with Carcinogenesis. *Cancer Investigation*, 37(9), 453-462.
[Journal impact factor – 2.4, No. of citations – 11, Indices – Scopus, Google Scholar, UGC Care]
- ix. RK, S., Vimal, N., **Sengupta, M.**, Angmo, N., Dhal, M. K., & Seth, R. (2018). Coupling Biorational Tactics with Radio-Genetic F1 Sterility Technique for an Effective Integrated Pest Management against Lepidopteran Insects. *International Journal of Zoology and Animal Biology*, 1(4), 000120.
[Journal impact factor – 1.2, No. of citations – 0, Indices – CrossRef, Google Scholar, UGC Care]

PRESENTATIONS AND CONFERENCES

Poster Presentation

- a. **Sengupta, M.**; Angmo, N.; Seth, RK. 2021. Irradiation impact on sexual behavior of female moth, *Spodoptera litura* (Fabr.) and its potential role in operating 'Inherited Sterility Technique' for pest suppression. In: International Colloquium on Regulatory mechanisms underlying behavior, physiology and development, Dept. of Zoology, University of Delhi. (Mar. 24-26, 2021).
- b. RK, S.; Vimal, N.; **Sengupta, M.**; Angmo, N.; Dhal, M. K. & Seth, R. Coupling Biorational Tactics with Radio-Genetic F1 Sterility Technique for an Effective Integrated Pest Management against Lepidopteran Insects. In: National conference on Chemistry for Human Health and Environment (CHHE), organized by Green Chemistry Network Centre (GCNC), University of Delhi & Royal society of chemistry (RSC), London North India section in collaboration with National Environmental Science Academy, Delhi (15-16 December, 2018).

SEMINAR OR WORKSHOP

One-week online training program on statistical data analysis using “R” software, organized by Science Tech Institute, Lucknow, UP. (Dec. 21-27, 2021)

SKILLS

Culture Practices- Establishment and maintenance of various organismic cultures of - insects like *Spodoptera*, *Callosobruchus*, *Phenococcus*, *Galleria*, *Corcyra*, *Dysdercus*; cell line like SF9; bacteria culture and nematode culture like *Steinernema* sp.

Molecular Techniques- Total cell RNA extraction, cDNA synthesis, Primer design, Quantitative real-time PCR, Gas Chromatography – Mass Spectrometry of volatile compounds,

standard PCR, Western Blotting, Bradford's quantification, Protein gel electrophoresis (SDS-PAGE), Nucleic acid gel electrophoresis (Agarose gel electrophoresis) etc.

General Lab Practices- Colorimetry, Microscopy, Centrifugation, UV spectrophotometry, Autoclave, Microtomy, Dissections, Titration etc.

Work EXPERIENCE

Guest lecturer (M.Sc. Zoology) in Dept. of Zoology at Janki Devi Bajaj Govt. Girls College, Kota (Raj.) for the academic session 2022-2023.

Guest lecturer (B.Sc. Zoology) in Dept. of Zoology at University of Kota for the academic semester II, IV, VI (session 2022-2023).

Subjects – Biochemistry, Immunology, Genetics, Evolution, Ecology, Animal behavior, Cytology, Reproductive endocrinology, Forestry and Wildlife Management.