



Name: Dr. Snigdha Gupta
Designation: Assistant Professor
Department: Biotechnology
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Educational Qualification:

<i>Degree</i>	<i>University</i>	<i>Year</i>
PhD	CSIR-Indian Institute of Toxicology Research	2022
M.Tech	Cochin University of Science and Technology	2013
B.Tech	Jaypee Institute of Information Technology (Noida)	2010

Experience

- Assistant Professor at the Department of Biotechnology, Trident Academy of Technology, Bhubaneswar (2025- Present)
- Postdoctoral Fellow at National Heart, Lung, and Blood Institute (NHLBI/NIH), Bethesda, Maryland, USA (2022-2025)
- Project fellow at Centre for Cell and Molecular Biology (CCMB), Hyderabad (2015-2016)
- Research Intern at DS Genomics, through Biotech Consortium India Ltd. (BCIL), Hyderabad (2014-2015)

Research Focus

- Understanding mitochondrial-nuclear crosstalk responsible for tissue homeostasis and maintenance, and investigating mitochondrial fitness and intercellular signaling in complex tissues during the ageing process and pathological conditions
- Define the mechanisms that cells, tissues, and organisms use to respond to physiological and environmental stimuli, toxicants, and stressors for implications in metabolic disorders/diseases
- Identify targets of environmental agents (mainly toxicants) with detrimental effects on reproduction and development

Honour & Reward:

- Early Career Leadership Program 2025 (Policy and Advocacy): **Genetics Society of America (GSA)**
- Presidential Member 2025: **Genetics Society of America (GSA)**
- Association of Scientists of Indian Origin SIG Toxikon, A Preclinical Toxicology Organization; and Dr. Dharm Singh Association of Scientists of Indian Origin (ASIO) **International Travel Award (2020): Society of Toxicology, USA**
- Fellowship from Department of Science Technology-**INSPIRE Fellowship JRF and SRF (Awarded to Gold Medalists in master program)**, New Delhi, India, for pursuing my Ph.D program (2016)
- Fellowship from Biotech Consortium of India Limited to pursue my Industrial training from 2014- 2015
- **FIRST RANK (Gold Medalist)** in M.Tech Program 2013
- Fellowship from JNU-Department of Biotechnology (JGEEBILS) for my Master's program (July 2011-July 2013)
- Best paper presentation award on biofuels during B.Tech program in 2009

Academic/ Research Related Achievement (Includes FDP, Workshop, Seminar, Conference & Etc.:

- **Gupta S**, Zhang Fan, Xu Hong. Interrogating mitochondria-nuclear crosstalk through single-nuclei RNA sequencing. Poster in TAGC Meeting, March 6-10, 2023, Washington DC.
- **Gupta S**, Zhang Fan, Xu Hong. Interrogating mitochondria-nuclear crosstalk: A novel perspective to single-nuclei RNA sequencing. Poster in ASCB Meeting, Dec 2-6, 2023, Boston, Massachusetts. **(Abstract Published: Mol Biol Cell 2024 Jan 1;35(1):ar12. doi: 10.1091/mbc. E23-10-0402.)**
- **Gupta S**, Zhang Fan, Xu Hong. Single Nuclear RNA Sequencing to Interrogate Pathophysiological Candidates/Pathways Associated with Mitochondrial DNA Depletion. Poster in NHLBI Retreat, March 30, 2023, Bethesda, Maryland.
- **Gupta S**, K Ravi Ram. Estrogen-related receptor is a critical player in Di-butyl phthalate-mediated male reproductive toxicity. Poster in the 59th Annual meeting of the Society of Toxicology, March 15-19, 2020, at the Anaheim Convention Center, Anaheim, California. **(Abstract published in Toxicological Sciences), Received a travel award to attend the meeting**
- **Gupta S**, K Ravi Ram. Estrogen-Related Receptor-mediated modulation of mitochondrial homeostasis in Drosophila: Implications for male fertility. Poster in 5th Asia Pacific Drosophila Research Conference January 6th to 10th (2020) at Pune, India
- **Gupta S**, Pandey AK, K Ravi Ram. Drosophila ecdysone receptor-based *ex vivo* assays for the evaluation of endocrine disruption in insect pollinators. Presented a poster at the international conference on Bio-Innovation, Environmental Health and Sustainable Developments, BEHSD, from 27 to 28th November 2018 at the Indian Institute of Toxicology Research, Lucknow, India.
- **Gupta S**, K Ravi Ram. Estrogen-related receptor modulates mitochondrial homeostasis in testes and hence is critical for male fertility. Presented a poster at the 7th Annual Conference of the Society for Mitochondrial Research and Medicine, SMRM, from 28th – 30th November 2018 at CSIR-Central Drug Research Institute (CDRI), Lucknow, India.
- **Gupta S**, K Ravi Ram. Estrogen-related receptor plays a critical role in chemical-mediated male reproductive toxicity: A Drosophila-based study. Presented a poster at the 4th International Toxicology Conclave, ITC, from 2nd - 3rd November 2018 at the Indian Institute of Toxicology Research, Lucknow, India

Publication:

- Zhang F, Lee A, Freitas A, Herb J, Wang Z, **Gupta S**, Chen Z, Xu H (2024). A transcription network underlies the dual genomic coordination of mitochondrial biogenesis. *eLife*13:RP9653

- **Gupta S**, Sachan A, Ravi Ram K (2022). Estrogen related receptor is critical for testicular mitochondrial homeostasis and sperm motility: A Drosophila based study. Fertility and Sterility Science
 - Misra, S., Pandey, A. K., **Gupta, S.**, Kumar, A., Khanna, P., & Ravi Ram K. (2017). Estrogen-related receptor is required for testicular development and for the normal sperm axoneme/mitochondrial derivatives in Drosophila males. Scientific reports, 7, 40372.
 - Sharma, V., Pandey, A. K., Kumar, A., Misra, S., Gupta, H. P., **Gupta, S.** & Ravi Ram K. (2017). Functional male accessory glands and fertility in Drosophila require novel ecdysone receptor. PLoS genetics, 13(5), e1006788.
 - Vimal, D., Kumar, S., Pandey, A., Sharma, D., Saini, S., **Gupta, S.**, Ravi Ram K & Chowdhuri, D. K. (2018). Mlh1 is required for female fertility in Drosophila melanogaster: An outcome of effects on meiotic crossing over, ovarian follicles and egg activation. European journal of cell biology
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