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Academic Qualifications:

Ph.D.–University of Delhi, India

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Specialization:

Cell & Molecular Biology; Microbiology

Research Interest:

Cell-fate decision from mitosis to meiosis

Cells undergo transformation within to achieve a specific stable phenotype through cell-fate decisions. The fundamental aspect of this is to convert momentary changes in gene expression by external signals. An important and very much coordinate cell-fate decision is the generation of haploid gametes from diploid progenitor cells by the process of gametogenesis. A fundamental aspect of gametogenesis is the specialized cell division, meiosis. This is unique to sexually reproducing organisms. The meiotic cell cycle generates the gametes that are crucial for the survival and evolution of species. The key feature of meiosis is the expression of genes that transform the mitotic cell division into the specialized meiotic divisional programme. The understanding of intrinsic and extrinsic factors responsible for changes of cell-fate decision from mitosis to meiosis is crucial to understand of the important biological process, meiosis.

List of Publications:

RESEARCH PAPERS:

Indrashis Bhattacharya, Sayon Basu, Bhola Shankar Pradhan, **Hironmoy Sarkar**, Perumal Nagarajan, Subeer S Majumdar . Testosterone augments FSH signaling by upregulating the expression and activity of FSH-Receptor in Pubertal Primate Sertoli cells. *Mol Cell Endocrinol* (2019). 482:70-80. DOI: [10.1016/j.mce.2018.12.012](https://doi.org/10.1016/j.mce.2018.12.012).

Indrashis Bhattacharya, Mukesh Gautam, **Hironmoy Sarkar**, Mansi Shukla, and Subeer S Majumdar. Advantages of pulsatile hormone treatment for assessing hormone induced gene expression by cultured rat Sertoli cells. *Cell and Tissue Research* (2017). 368(2):389-396; DOI: [10.1007/s00441-016-2410-1](https://doi.org/10.1007/s00441-016-2410-1); PMID: [27139181](https://pubmed.ncbi.nlm.nih.gov/27139181/)

Abul Usmani, Nirmalya Ganguli, Subodh Jain, Nilanjana Ganguli, Rajesh Sarkar, Mayank Choubey, Mansi Shukla, **Hironmoy Sarkar**, and Subeer Majumdar. Robust generation of transgenic mice by simple hypotonic solution mediated delivery of transgene in testicular germ cells. *Mol Ther Methods Clin Dev* (2016). 3: 16076; DOI: [10.1038/mtm.2016.76](https://doi.org/10.1038/mtm.2016.76); PMID: [27933305](https://pubmed.ncbi.nlm.nih.gov/27933305/)

Hironmoy Sarkar, Satyapal Arya, Umesh Rai, and Subeer S. Majumdar. A study of differential expression of testicular genes in various reproductive phases of *Hemidactylus flaviviridis* (wall lizard) to derive their association with onset of spermatogenesis and its relevance to mammals. *PlosOne* (2016). 11(3): e0151150. DOI: [10.1371/journal.pone.0151150](https://doi.org/10.1371/journal.pone.0151150); PMID: [26963275](https://pubmed.ncbi.nlm.nih.gov/26963275/)

Indrashis Bhattacharya, Sayon Basu, Kanchan Sarma, Mukkesh Gautam, Perumal Nagarajan, Bhola Shankar Pradhan, **Hironmoy Sarkar**, Yendrembam Sangeeta Devi, and Subeer S. Majumdar. Low Levels of Gas and Ric8b in Testicular Sertoli Cells May Underlie Restricted FSH Action During Infancy in Primates. *Endocrinology* (2015). 156(3):1143-55. DOI: [10.1210/en.2014-1746](https://doi.org/10.1210/en.2014-1746); PMID: [25549048](https://pubmed.ncbi.nlm.nih.gov/25549048/)

Abul Usmani, Nirmalya Ganguli, **Hironmoy Sarkar**, Suveera Dhup, Suryaprakash R. Batta, Manoj Vimal, Nilanjana Ganguli, Sayon Basu, P. Nagarajan, and Subeer S. Majumdar. A non-surgical approach for male germ cell mediated gene transmission through transgenesis. *Scientific Reports* (2013). 3: 3430. DOI: [10.1038/srep03430](https://doi.org/10.1038/srep03430); PMID: [24305437](https://pubmed.ncbi.nlm.nih.gov/24305437/)

BOOK CHAPTER:

Subeer S. Majumdar, Abul Usmani, Nirmalya Ganguli and **Hironmoy Sarkar**; (2016) Animal Transgenesis in the era of Omics. In: Prof. Asis Datta and V.P. Sharma (Editors), Recent advances in Communicable and Non-communicable Diseases. The National Academy of Sciences, Allahabad India (NASI). pp.385-391 Capital Publishing Company, New Delhi, India. ISBN: 978-93-81891-31-5.

Previous & Present Employment:

August, 2016 – Present : Joined as Asst. Professor in Department of Microbiology, Raiganj University

Conference/Seminar/Organization:

Hironmoy Sarkar, Neerja Wadha, Umesh Rai and Subeer S. Majumdar. A study to evaluate the role of CELF family of proteins in germ cell maturation in mice, Gordon Research Conference on Meiosis held 26/JUN/2016 - 01/JUL/2016 at Colby-Sawyer College in New London, NH, United States.

Financial Assurances from Organizations for attending International Conferences in abroad:

Department of Biotechnology (DBT), Ministry of Science and Technology, New Delhi
Centre for International Co-operation in Science (CICS), Chennai
Immunology Foundation, New Delhi