

Curriculum Vitae

Dr. Debarshi Sarkar

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Education:-

| Qualification | Organization | Year | Discipline |
|---------------|---|-----------|--------------------------------------|
| Ph. D. | Department of Zoology, Institute of Science, Banaras Hindu University, Varanasi, India | 2012-2018 | Zoology |
| M. Sc. | Department of Zoology, University of North Bengal, WB, India | 2007-2009 | Zoology |
| B.Sc. | Ananda Chandra College (University of North Bengal), WB, India | 2004-2007 | Zoology (Hons), Botany, Chemistry |

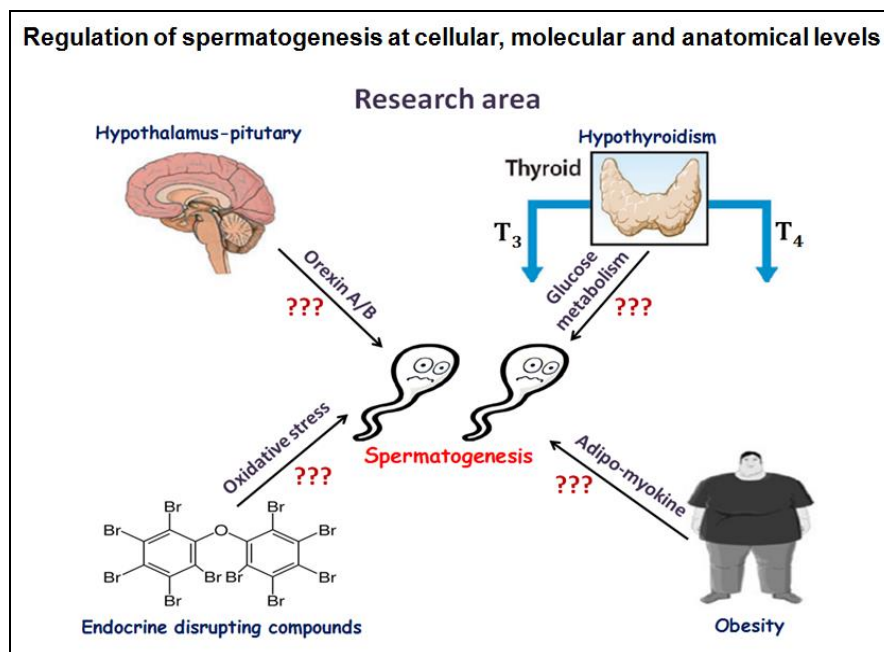
Teaching and Research Experience:-

1. Assistant Professor, Department of Zoology, Siksha Bhavana, Visva-Bharati University, Santiniketan-731235, West Bengal, India (September, 2023-present).
2. Assistant Professor, Department of Zoology, School of Basic Sciences, Central University of Punjab, Bathinda, India (January, 2020-August, 2023).
3. SRF at Department of Zoology, Institute of Science, Banaras Hindu University, Varanasi, India (2019-2020).

Research Interests:-

- **Spermatogenesis and its regulation at anatomical, cellular and molecular level** using mouse as animal model.
- **Reproductive toxicity** of emerging environmental contaminants like brominated flame retardants (BFRs) using a combination of *in vivo*, *in silico* and molecular approaches to investigate as to how the male progeny responds to these contaminants after maternal exposure during lactation.

- Effect of **neonatal hypothyroidism** on male reproductive health especially in terms of glucose homeostasis in mouse testis and these experimental models illustrate the thyroid control of testicular differentiation and metabolism during development.
- Role of certain **neuropeptides and cytokines** in regulation of spermatogenesis.



Publications:-

1. Raman, R., Kaur, R., Kulkarni, S., Joshi, D., Parkash, J., Thareja, S., **Sarkar, D.**, Singh, S.K., 2025. Anti-androgenic and anti-proliferative properties of methanolic leaf extract of *Allamanda cathartica* Linn. in adult mouse testis: Evidences from *in vivo* and *in silico* studies. *Journal of Steroid Biochemistry and Molecular Biology*. 253, 106798.
2. **Sarkar, D.**, Mandal, S., Bandyopadhyay, S., Bose, S., Parkash, J., Singh, S.K., 2025. Use of serotonin reuptake inhibitors (SSRIs) and serotonin and norepinephrine reuptake inhibitors (SNRIs) during pregnancy: Effect on fetal growth and long-term reproductive outcomes. *Reproductive Toxicology*. 136, 108960.
3. Sahoo, P., **Sarkar, D.**, Sharma, S., Verma, A., Naik, S.K., Pashar, V., Parkash, J., Singh, S.K., 2024. Knockdown of type 2 orexin receptor in adult mouse testis potentiates testosterone production and germ cell proliferation. *Molecular and Cellular Endocrinology*. 592, 112312.
4. **Sarkar, D.**, Midha, P., Shanti, S.S., Singh, S.K., 2023. A comprehensive review on the decabromodiphenyl ether (BDE-209)-induced male reproductive toxicity: Evidences from rodent studies. *Science of the Total Environment*. 901, 165938.
5. Yadav, A., Singh, S.K., **Sarkar, D.**, 2023. Localization and expression of Orexin B (OXB) and its type 2 receptor (OX2R) in mouse testis during postnatal development. *Peptides*. 164, 170979.

6. **Sarkar, D.**, Jaiswal, A., Singh, S.K., 2022. Ontogeny of TR α 1 expression in the mouse testis and epididymis during postnatal development. *Andrologia*. 54, e14507.
7. Singh, A[#], **Sarkar, D[#]**, Singh, S. K., 2022. Effect of *Trigonella foenum-graecum* L. seed extract on the reproductive system of male mice and possible mechanism of its action on spermatogenesis. *Andrologia*. 54, 1643-1659. (# equal contribution)
8. **Sarkar, D.**, Singh, S.K., 2021. Decabromodiphenyl ether (BDE-209) exposure to lactating mice perturbs steroidogenesis and spermatogenesis in adult male offspring. *Ecotoxicology and Environmental Safety*. 209, 111783.
9. **Sarkar, D.**, Joshi, D., Singh, S.K., 2019. Maternal BDE-209 exposure during lactation causes testicular and epididymal toxicity through increased oxidative stress in peripubertal mice offspring. *Toxicology Letters*. 311, 66-79.
10. **Sarkar, D.**, Singh, V.K., Singh, S.K., 2018. Maternal BDE-209 exposure during lactation perturbs steroidogenesis, germ cell kinetics and THR α 1 expression in testes of prepubertal mice offspring. *Food and Chemical Toxicology*. 122, 104-119.
11. Joshi, D., **Sarkar, D.**, Singh, S.K., 2018. The hypothalamic neuropeptide orexin A- a possible regulator in glucose homeostasis and germ cell kinetics in adult mice testes. *Biochimie*. 152, 94-109.
12. **Sarkar, D.**, Singh, S.K., 2018. Inhibition of testicular steroidogenesis and impaired differentiation of Sertoli cells in peripubertal mice offspring following maternal exposure to BDE-209 during lactation suppress germ cell proliferation. *Toxicology Letters*. 290, 83-96.
13. Joshi, D., **Sarkar, D.**, Singh, S.K., 2017. Decreased expression of orexin 1 receptor in adult mice testes during alloxan-induced diabetes mellitus perturbs testicular steroidogenesis and glucose homeostasis. *Biochemical and Biophysical Research Communications*. 490, 1346-1354.
14. **Sarkar, D.**, Singh, S.K., 2017. Maternal exposure to polybrominated diphenyl ether (BDE-209) during lactation affects germ cell survival with altered testicular glucose homeostasis and oxidative status through down-regulation of Cx43 and p27Kip1 in prepubertal mice offspring. *Toxicology*. 386, 103-119.
15. **Sarkar, D.**, Singh, S.K., 2017. Neonatal hypothyroidism affects testicular glucose homeostasis through increased oxidative stress in prepubertal mice: effects on GLUT3, GLUT8 and Cx43. *Andrology*. 5, 749-762.
16. **Sarkar, D.**, Singh, S.K., 2017. Effect of neonatal hypothyroidism on prepubertal mouse testis in relation to thyroid hormone receptor alpha 1 (THR α 1). *General and Comparative Endocrinology*. 251, 109-120.
17. **Sarkar, D.**, Chowdhury, J.P., Singh, S.K., 2016. Effect of polybrominated diphenyl ether (BDE-209) on testicular steroidogenesis and spermatogenesis through altered thyroid status in adult mice. *General and Comparative Endocrinology*. 239, 50-61.
18. **Sarkar, D.**, Singh, S.K., 2016. Polybrominated diphenyl ethers: effect on male reproductive health as thyroid hormone disruptors. *ISSRF Newsletter*. 18, 19-23.

Book chapter

1. Bose, S., Bandyopadhyay, S., Mandal, S., Parkash, J., **Sarkar, D.** (2025). Tiny Warriors Against Ovarian Cancer: The Promise of Microbial Nanoparticles for Diagnosis and Treatment. In: Srivastava, N., Kumar, M. (eds) Biomedical Applications of Microbial Nanomaterials. Materials Horizons: From Nature to Nanomaterials. Springer, Singapore. https://doi.org/10.1007/978-981-96-8923-1_8

Project Undertaken as PI/Co-PI:-

1. Defining the role of Orexin B, a novel hypothalamic neuropeptide, in regulation of spermatogenesis in mouse model (2020-2023). Funded by: **DST-SERB, Govt. of India** (Rs. 29,26000/-)- Completed.
2. Chemical profiling and evaluation of antifertility potential of aqueous leaf extract of *Allamanda cathartica* L. in male laboratory mice (2021-2023). Funded by: **RSM grant, Central University of Punjab** (Rs. 3,00000/-)-Completed.

Research Guidance/Supervision:-

M.Sc. dissertation-20; Ph. D.- 01(ongoing)

Professional Recognition/ Awards/Honours/Fellowships:-

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| 2019 | Prof. N. R. Moudgal Young Scientist Award by Indian Society for the Study of Reproduction and Fertility (ISSRF) for outstanding contribution in Reproductive Biology. |
| 2017 | Senior Research Fellowship from DST-PURSE, BHU, India |
| 2016 | International Travel Grant Award from DST-PURSE, BHU, India for oral presentation at 19th European Testis Workshop , Saint Malo, France. |
| 2016 | Prof. N. J. Chinoy Award from Society for Reproductive Biology and Comparative Endocrinology (SRBCE), India at ICIPCE-2016 , BHU, Varanasi, India. |
| 2015 | Travel Grant Award from Society for Experimental Biology (SEB), London, UK for oral presentation at CEIP 2015 , Trivandrum, Kerala. |
| 2015 | Best Poster Presentation Award at 25th Annual Meeting of the Indian Society for the Study of Reproduction and Fertility (ISSRF) and International Conference on Reproductive Health, NIRRH, Mumbai, India . |
| 2015 | Best Poster Presentation Award at International Symposium on Reproductive Biology and Comparative Endocrinology, Banaras Hindu University, Varanasi, India. |
| 2011 | Qualified CSIR-UGC National Eligibility Test in June, 2011. |

Peer Recognition:-

1. **Reviewer of Journal:** Andrologia (Wiley), The Journal of Steroid Biochemistry and Molecular Biology (Elsevier), Toxicology (Elsevier), Ecotoxicology and Environmental Safety (Elsevier), Food and Chemical Toxicology (Elsevier), Food and Function (Royal Society of Chemistry), The Nucleus (Springer), Acta Pharmacologica Sinica (Nature), Molecular and Cellular Endocrinology (Elsevier), Environmental Research (Elsevier), Neuropeptides (Elsevier), Journal of Molecular Histology (Springer), Cell Biology and Toxicology (Springer), BMC Medical Genomics (Springer), Reproductive Biology and Endocrinology (Springer Nature), Scientific Reports (Nature), Cell Biochemistry and Function (Wiley), etc.
2. **Academic Editor of Journal:** Andrologia (Wiley)

Professional Membership:-

1. **Life Member** of the Indian Society for the Study of Reproduction and Fertility.

Training course/ workshop attended:-

1. Participated in **Two Weeks Refresher Course** on “Research Methodology & Data Analytics” organized by the UGC-Malaviya Mission Teacher Training Centre (MMTTC), University of Hyderabad from 1st to 13th July, 2024.
2. Participated in **One Week Workshop** on “Curriculum Design and Development” organized by the Department of Education & IQAC of Central University of Punjab, Bathinda from 6th to 10th February, 2023.
3. Participated in “**Faculty Induction Programme- VIII**” organized by the UGC-Human Resource Development Centre, Jawaharlal Nehru University, New Delhi from 31st January to 26th February, 2022.
4. Participated in **Two Weeks Workshop** on “Basic and Advanced Proteomics Approaches” organized by IIT Mumbai from 15th to 26th February, 2021, sponsored by Department of Science and Technology, Govt. of India.
5. Participated (**as a resource person**) in **One Week Workshop** on “Advances and Applications of Proteomics in Endocrinology” organized by Department of Zoology, Banaras Hindu University, Varanasi, India, from 17th to 23rd November, 2018.
6. Participated in **One Week Workshop** on “Sequence Analysis, Molecular Modeling and Docking (SAMMD) 2016” organized by Department of Biotechnology, Banaras Hindu University, Varanasi, India, from 9th to 15th March, 2016.
7. Participated in **Two Weeks Training Course** on “Application of Research Techniques in Reproductive Biomedicine” organized by National Institute of Health and Family Welfare, New Delhi, India, from 29th October to 9th November, 2012.

Abstract in conferences:-

Oral presentations

1. International Conference on Frontiers in Comparative Endocrinology and Neurobiology, University of Hyderabad, Hyderabad, India (25th -28th November, 2014).
2. International Symposium on Comparative Endocrinology and Integrative Physiology, Central University of Kerala, Trivandrum, India (4th - 7th August, 2015).
3. 34th Annual Meeting of the Society for Reproductive Biology and Comparative Endocrinology (SRBCE) and International Symposium on Integrative Physiology and Comparative Endocrinology (ISIPCE-2016), Banaras Hindu University, Varanasi, India (12th - 14th February, 2016).
4. 26th Annual Meeting of the Indian Society for the Study of Reproduction and Fertility (ISSRF) and International Conference on Reproductive Health with Emphasis on Occupational, Environmental and Lifestyle factors. NIOH, Ahmedabad, India (18th - 20th February, 2016).
5. 19th European Testis Workshop. Saint Malo, France (11th - 15th June, 2016).

Poster presentations

1. National Symposium on Recent Advances in Reproductive Health, Banaras Hindu University, Varanasi, India (28th - 30th November, 2013).
2. 24th Annual Meeting of the Indian Society for the Study of Reproduction and Fertility (ISSRF) and International Conference on Reproductive Health: Issues and Strategies under Changing Climate Scenario, IVRI, Izatnagar, UP, India (6th - 8th February, 2014).
3. 25th Annual Meeting of the Indian Society for the Study of Reproduction and Fertility (ISSRF) and International Conference on Reproductive Health, NIRRH, Mumbai, India (14th-17th February, 2015).
4. International Symposium on Reproductive Biology and Comparative Endocrinology, Banaras Hindu University, Varanasi, India (25th - 27th February, 2015).
5. 27th Annual Meeting of the Indian Society for the Study of Reproduction and Fertility (ISSRF) and International Conference on Reproductive Health with Emphasis on Strategies for Infertility, Assisted Reproduction and Family Planning, AIIMS, New Delhi, India (23rd - 25th January, 2017).
