

CURRICULUM VITAE

SOUVIK DEY

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CAREER GOAL

To stand independently and work in collaboration to leverage my abilities, experience, and technical skills in the area of life science research and teaching with a creative and translational approach.

RESEARCH INTERESTS

My current research interest lies in reproductive biomedicine, and a better understanding of the biochemistry of gamete functions in mammalian systems and exploration of its translational aspects for the treatment of infertility issues in humans.

During my post-doctoral research tenure, I worked on the biochemistry of mammalian sperm function, specifically delineation of the interrelation between Glycogen synthase kinase 3 (GSK3) and Calcineurin in the regulation of sperm motility and fertility. Earlier, I worked on the elucidation of signal transduction mechanisms regulating sperm GSK3 activities under the influence of the cAMP-PKA axis. It also included the identification of substrates of Protein Kinase A and GSK3 using the *Chemical-genetics* and *Proteomics* approach. During my doctoral research, I was involved in the purification, characterization, and elucidation of the signal transduction mechanism of a glycoprotein from mammalian blood serum.

My future interest as an independent researcher is to develop early diagnostic tools and biopharmaceuticals for their use in pathophysiological profiling and regulation of cell signaling mechanisms involved in human diseases, including male infertility, neurodegenerative disorders, and cancer.

EDUCATION

Ph.D.	November 2015. Department of Life Science & Biotechnology, Jadavpur University, Kolkata, WB, India.
M.Sc.	August 2008. Department of Microbiology, University of Kalyani, Kalyani, WB, India
B.Sc.	August 2006. Department of Physiology, Vidyasagar College, University of Calcutta, Kolkata, WB, India.

RESEARCH & TEACHING EXPERIENCE

Senior Assistant Professor (August 2025 - present):

I am working as an Assistant Professor – Senior Scale on *molecular and biochemical aspects of male infertility* in the Department of Biotherapeutics Research (DBR), Manipal Academy of Higher Education (MAHE), Manipal, KA, India.

- Strengthened the research activities of our '*Molecular Signal Transduction Group*' as the PI with ongoing one DBT, one ANRF and two ICMR projects, and Co-PI in two more ICMR projects including one with fund allocations – total sanctioned funds **Rs. 3.275 crore**
- Currently guiding 7 PhD students and co-guiding 3 more students; mentor for 4 MSc students
- Developed of reversible male contraceptives targeting PP2B and GSK3 α (patent filing process ongoing).
- Generated floxed *Fto* and *Stra8-Cre* transgenic mouse lines in collaboration with MGEF, NCBS, Bangalore
- Developed a novel m6A methylation quantification kit for RNA molecules (patent published).
- PhD students of our '*Molecular Signal Transduction Group*' won four awards at international conferences in the last one year
- Established international collaboration with the *Broad Institute of MIT (Massachusetts Institute of Technology) and Harvard*, Cambridge, MA 02142, United States
- Serving as the departmental PhD Coordinator for the last 3.5 years
- Became the top teaching faculty (jointly) as per students' feedback for the last year at DBR.

Teaching responsibility: protein biochemistry and fundamentals of biophysical instrumentation to MSc students

Assistant Professor (November 2021 – August 2025):

I worked as a DBT-Ramalingaswami Fellow (Assistant Professor - Research grade) on *molecular and biochemical aspects of male infertility* in the Manipal Center for Biotherapeutics Research (MCBR), Manipal Academy of Higher Education (MAHE), Manipal, KA, India.

- Successfully completed 5-year DBT-Ramalingaswami Fellowship tenure with 10 publications and 3 patent applications
- Established independent research activities under the '*Molecular Signal Transduction Group*'.
- Guided PhD scholars (currently 6) and MSc students (total 5) for research work.
- Explored the interrelation between GSK3 and m6A-RNA demethylases, FTO & ALKBH5 in the regulation of mammalian spermatogenesis and fertility.
- Generated *Gsk3 α* knockout mouse line in collaboration with MGEF, NCBS, Bangalore.
- Awarded three extramural grants by DBT-GOI and ICMR (research), and DST (conference).
- Supervised the construction and development of 6+ research laboratories at MCBR.
- Arranged multiple national-level workshops
- Collaborated with labs in MSLS and KMC, MAHE, in the submission of grant proposals and joint publications.
- Served as the PhD Coordinator for more than two years.

- Consistently remained among the top two teaching faculty as per students' feedback for the last three years at MCBR.
- Served for two years as the Chief Editor for the MCBR quarterly newsletter.
- Faculty in charge of the Bio-LC core facility.
Teaching responsibility: protein biochemistry and fundamentals of biophysical instrumentation to MSc students

Assistant Professor (August 2020 – October 2021):

I worked as an Assistant Professor (DBT-Ramalingaswami Fellow) on *molecular and biochemical aspects of male infertility* in the Department of Pharmaceutical Technology, Jadavpur University, Kolkata, WB, India.

- Setting up of independent facilities for my '*Sperm Biology Lab*'.

Teaching responsibility: Biology classes for B. Pharm. Students: Pathophysiology, Remedial Biology.

Postdoctoral Research (December 2015 – June 2020):

I worked as a Post-doctoral Research Associate on *Reproductive physiology* in the Department of Biological Sciences, Kent State University, Ohio, USA (2015-2017 under a joint program with the Cleveland Clinic, Cleveland, OH, USA).

- Delineating the interrelation between GSK3 and Calcineurin in the regulation of mammalian sperm motility and fertility. Based on my preliminary work, we got one RO3 grant in 2018 entitled "Regulation of sperm metabolism and fertility by calcineurin and GSK3" (ref: R03HD096176-01).
- Elucidation of signal transduction mechanism regulating mammalian sperm GSK3 activity under the influence of cAMP-PKA axis.
- Investigation of binding partners of a sperm phosphokinase, viz. GSK3 uses a chemical-genetics-based proteomics approach and conventional biochemical methods, such as pull-down and co-immunoprecipitation techniques using wild-type and knock-out mice.
- Identification of the isoform-specific functions of the GSK3 α enzyme in relation to the fertilization potential of mouse spermatozoa.
- Development of reversible male contraceptives targeting PP2B (International patent Application No.: PCT/US20/36899; Confirmation No.: 9132).

Additional responsibilities:

- Guided and planned research work for undergraduate and graduate students in the lab.
- Managed everyday lab work and maintained track of research supplies.
- Based on our data obtained, we submitted three NIH grant proposals in 2020-21: a RO1, an exploratory R21/RO3, and a R15 in collaboration with Dr. S. Abeyirigunawardena, Department of Chemistry & Biochemistry, Kent State University.

Doctoral Research (November 2010 –November 2015):

I did doctoral research work in *reproductive physiology* under the supervision of Prof. Gopal C. Majumder and Dr. Debdas Bhattacharyya in the Division of Cryobiology, Centre for Rural & Cryogenic Technologies (CRCT), Jadavpur University, Kolkata.

PhD thesis title: “*Biochemical Characteristics and Physiological Significance of a Novel Forward Motility Stimulating Protein and Its Potential for Application*”

- Purification of a sperm motility regulatory glycoprotein from mammalian blood serum and its proteomic characterization, including its peptide analysis.
- Biochemical investigation for detection, expression, and physiological significance of the receptor of the aforesaid motility regulatory glycoprotein in goat spermatozoa.
- Elucidation of the intracellular signaling pathway of the forward motility stimulating factor in the caprine caudal sperm model with special reference to cAMP and Ca²⁺ signaling.
- *In vivo* and *in vitro* study on the hormonal regulation of secretion of the above-stated motility-activating glycoprotein
- Study on the occurrence of the previously mentioned glycoprotein factor in the human and ruminant species and determination of its physiological and clinical significance
- Investigation of the role of epididymal plasma-derived protein in the regulation of the mammalian capacitation process.

Pre-doctoral (January 2009 –November 2010):

Experience of research as a Junior Research Fellow in the Department of Immunoregulation & Immunodiagnostics (IRID) at Chittaranjan National Cancer Institute (CNCI), Kolkata, WB, India.

- Study on the fundamental immunological parameters leading to cancerous growth
- *In vivo* study of mouse tumor models and *in vitro* culture of different mammalian cancer cell lines.
- Investigation of the prophylactic and therapeutic role of certain phytochemicals on the development and control of certain tumors in mice and cell culture models.

M.Sc. level:

2007 (May- June):

Hands on experience of working in NACO recommended HIV-AIDS laboratory in National Institute of Cholera and Enteric Diseases (NICED), Kolkata, as a summer training fellow on the topic, ‘*Immunoassays for Detection of HIV Antigen/Antibody*’.

PATENT APPLICATION

1. Vijayaraghavan Srinivasan, **Dey Souvik**, Eisa Alaa. *Compositions targeting sperm calcineurin*. Application Number: 62859225; EFS ID: 36245446. Application received April 24, 2019. International Patent Details: Received June 10, 2020. International Application No.: PCT/US20/36899; Confirmation No.: 9132. Publication No. WO/2020/251964 dated 17-12-2020.

2. **Souvik Dey**, Neha Choudhari. *A Method and a Kit for Detection and Measurement of RNA Modification*; Indian Full Patent Application No. 202441095672, dated 25-09-2025, publication date: 31-10-2025.
3. **Souvik Dey**, Aditi Khamamkar, Rounak Roy, Abhayraj S. Joshi. *Compositions and Processes for Targeted Drug Delivery in Reproductive and Neurological Disorders*; Indian Provisional Patent Application No. 202541084307 dated: 04-09-2025
4. **Souvik Dey** and H. S. Anirudh Srinivas. *System and Method for N6-methyladenosine Modification Sites in Nucleic Acid(s)*. Indian complete Patent Application No. 202541116970 dated 25-11-2025, publication date: 02-01-2026

RESEARCH PUBLICATIONS AND COMMUNICATIONS

1. Neha Choudhari, Budheswar Dehury, Rounak Roy, Radhakrishnan Periyasamy, Indrashis Bhattacharya, Mahesh Sahare, Srinivasan Vijayaraghavan, and **Souvik Dey***. (2026). GSK3 α -mediated regulation of Fat Mass and Obesity-Associated protein (FTO), a RNA demethylase in murine spermatogenesis. *FEBS Journal*. PMID: 42576609; DOI:10.1111/febs.70681 (Impact factor: 4.2) ***Corresponding author**.
2. Khamamkar Aditi[†], Roy, Rounak, A. S., Dhanu, Choudhari, Neha, Dutta, Rahul, Weiwer, Michel, Satish K Adiga, Srinivasan Vijayaraghavan and **Souvik Dey***. (2026). Physiological basis of contraceptive function of a GSK3 α -selective inhibitor, manifested during epididymal sperm maturation. *Molecular Human Reproduction*. PMID: 42596579; DOI: 10.1093/molehr/gaag049 (Impact factor: 4.2). Selected as **Editor's Choice Article** under the **"Original Research – early career series"**. [†]Equal contribution; ***Corresponding author**.
3. Neha Choudhari, Anirudh Srinivas H S, Praneeth Sai Tadepalli, Rounak Roy and **Souvik Dey***. (2026). A Novel Method for the Identification and Quantification of N6-methyladenosine Motifs in RNA Transcripts. *Molecular Biology Reports*. 52 (1119). doi.org/10.1007/s11033-026-12270 (Impact factor: 3.2) ***Corresponding author**.
4. Deshpande Samruddhi, Barik Roja, Hande Atharvaraj, Patel Richa, **Dey Souvik**, Parida Amrita, Shah Swar, & Dutta Rahul. (2026). Behavioral attenuation of marble burying and digging mirrors evoked and non-evoked phenotypes in the endometriosis mouse model. *Scientific Reports*. 16(1), 10007. <https://doi.org/10.1038/s41598-026-40662-9> (Impact factor: 4.9)
5. Cheryl Rhea Lewis, Vasudha Devi, Dinesh Upadhyay, Dhandapani Kuppuswamy, Rajshekhar Chinta, Shiny Jasphin, **Souvik Dey**, Neha Choudhari, E M Anandan. (2026). Geroprotection through modulation of heart rate variability, oxidative enzymes, tissue integrity, and gene expression by an Ayurvedic herbal formulation, Amalaki Rasayana. *Journal of Ayurveda and Integrative Medicine*. <https://doi.org/10.1016/j.jaim.2026.101338> (Impact factor: 2.1)
- 6.

7. Indrashis Bhattacharya*, Lakshmi K Nalanan, Anusree KV, Ahmed Saleel, Aditi Khamamkar, and **Souvik Dey***. (2025). Evolving Lessons on Metazoan Primordial Germ Cells in Diversity and Development. *Molecular Reproduction & Development*. 92(5):e70027. doi: 10.1002/mrd.70027. (Impact factor: 2.7). ***Co-corresponding authors**.
8. Rounak Roy and **Souvik Dey***. “The curious case of sperm RNAs: Significance in male fertility”. Special Issue on: Epigenetic Mechanisms In Reproductive Biology. 2025. DOI: 10.13140/RG.2.2.32385.7; Issue: 33, Page No. 41-48. *Indian Society for the Study of Reproduction and Fertility* (ISSN 2395-2806). ***Corresponding author**.
9. Kabi, Mustfa, Khamamkar, Aditi, Kyei-Baffour, Kwaku, Weiwer, Michel, Vijayaraghavan, Srinivasan*, & **Dey, Souvik***. (2025). A non-hormonal reversible contraceptive targeting GSK3 α , a protein kinase, essential for epididymal sperm maturation. *Andrology*. 13(8):2273-2281. <https://doi.org/10.1111/andr.13838>. (Impact factor: 3.2). ***Co-corresponding authors**.
10. **Dey, Souvik***#, Nofal, W., Brothag, C., Kabi, M., Khamamkar, A., Choudhari, N., & Vijayaraghavan, S. (2025). PP1 γ 1 is unable to substitute for the mammal-specific PP1 γ 2 isoform to support male fertility and sperm function. *Reproduction* (Cambridge, England). 169(2), e240256. <https://doi.org/10.1530/REP-24-0256>. (Impact factor: 3.7). ***Co-corresponding authors. #Joint first authors**.
11. Alok Ghosh Chaudhuri, Saptadip Samanta, Monalisha Dey, Raviraja N S, **Souvik Dey***. Role of Alpha-fetoprotein in Pathogenesis of Cancer. *Journal of Environmental Pathology, Toxicology and Oncology*. 2024. 43(2):57–76 (2024) (Impact factor: 2.4). ***Corresponding author**. doi: 10.1615/JEnvironPatholToxicolOncol.2023049145
12. Bhattacharya Indrashis*, **Dey Souvik*** and Banerjee Arnab. Revisiting the Gonadotropic Regulation of Mammalian Spermatogenesis: Evolving Lessons During the Past Decade. *Frontiers in Endocrinology*. 2023. (doi: 10.3389/fendo.2023.1110572). (Impact factor: 6.055). ***Equal contribution**.
13. Bhattacharya Indrashis* and **Dey Souvik***. Emerging concepts on Leydig cell development in fetal and adult testis. *Frontiers in Endocrinology*. 2022. 13(1086276) (doi: 10.3389/fendo.2022.1086276). (Impact factor: 6.055). ***Corresponding author; equal contribution**.
14. Mukherjee Soumyadeep, Kar Arpita, Paul Paramita, **Dey Souvik**, Biswas Avik and Barik Subhasis. *In Silico* Integration of Transcriptome and Interactome Predicts an ETP-ALL-Specific Transcriptional Footprint that Decodes its Developmental Propensity. *Frontiers in Cell and Developmental Biology*. 2022. 10(899752) (Impact factor: 6.081). (doi: 10.3389/fcell.2022.899752).
15. Eisa Alaa, **Dey Souvik**, Ignatious Alex, Nofal Wesam, Hess Roy, Kline Douglas, Vijayaraghavan Srinivasan. The protein YWHAE (14-3-3 epsilon) in sperm is essential for male fertility. *Andrology*. 2021. 9(1):312-328 (doi: 10.1111/andr.12865). (Impact factor: 4.456).

16. **Dey Souvik***, Eisa Alaa, Kline Douglas, Wagner Florence, Abeysirigunawardena Sanjaya, Vijayaraghavan Srinivasan. Roles of glycogen synthase kinase 3 alpha (GSK3α) and calcineurin in regulating the ability of sperms to fertilize eggs. *FASEB Journal*. 2020. 34:1247-1269 (doi: 10.1096/fj.201902163R) (Impact factor: 5.834). ***Corresponding author**.
17. Eisa Alaa A., Bang Scott, Crawford Katherine J., Murphy Emily M., Feng William W., **Dey Souvik**, Wells Wendy, Kon Ning, Gu Wei, Mehlmann Lisa M., Vijayaraghavan Srinivasan, and Kurokawa Manabu. X-Linked Huwe1 Is Essential for Oocyte Maturation and Preimplantation Embryo Development. *iScience*. 2020. 23(9):101523 (Impact factor: **6.107**). (doi: 10.1016/j.isci.2020.101523).
18. **Dey Souvik**, Brothag Cameron, Vijayaraghavan Srinivasan. Signaling enzymes involved in sperm maturation and fertilization in mammals. *Frontiers in Cell & Developmental Biology*. 2019. 7(341). (doi: 10.3389/fcell.2019.00341). (Impact factor: 6.081).
19. **Dey Souvik**, Goswami Suranjana, Eisa Alaa, Bhattacharjee Rahul, Brothag Cameron, Kline Douglas, Vijayaraghavan Srinivasan. Cyclic AMP and glycogen synthase kinase 3 form a regulatory loop in spermatozoa. *Journal of Cellular Physiology*. (Impact factor: 6.513), 2018. 233(9):7239-7252. (doi: 10.1002/jcp.26557).
20. Bhattacharjee Rahul, Goswami Suranjana, **Dey Souvik**, Brothag Cameron, Woodgett James, Phiel Christopher, Douglas Kline, Vijayaraghavan Srinivasan. Isoform-specific requirement for sperm GSK3α in male fertility. *Biology of Reproduction*. (Impact factor: 4.161), 2018. 99(2), 384–394. (doi: 10.1093/biolre/iy020).
21. Andrei Spencer R, Ghosh Monica, Sinharoy Pritam, **Dey Souvik**, Bratz Ian N, Damron Derek. TRPA1 Ion Channel Stimulation Enhances Cardiomyocyte Contractile Function via a CaMKII-dependent Pathway. *Channels (Austin)*. (Impact factor: 3.493), 2017. 11(6):587-603. (doi: 10.1080/19336950.2017.1365206).
22. Roy Debarun, Das Koushik, Mondol Subhasis, Bhowmick Debajit, **Dey Souvik**, Mukherjee Biswajit, Majumder Gopal C., Bhattacharyya Debdas. Epididymal protein ASF is a D-galactose-specific lectin with apoptotic effect on human breast cancer cell line MCF7. *International Journal of Biological Macromolecules*. (Impact factor: 8.025), 2016. 84 208–220. <https://doi.org/10.1016/j.ijbiomac.2015.12.021>
23. **Dey Souvik**, Roy Debarun, Majumder Gopal C., Mukherjee Biswajit, Bhattacharyya Debdas. Role of forward-motility-stimulating factor as an extracellular activator of soluble adenylyl cyclase. *Molecular Reproduction & Development*. (Impact factor: 2.812), 2015. 82(12): 1001-1014. (doi: 10.1002/mrd.22586).
24. Roy Debarun, **Dey Souvik**, Majumder Gopal C., Bhattacharyya Debdas. Role of epididymal anti sticking factor in sperm capacitation. *Biochem Biophys Res Commun*. 2015. 463(4):948-53. (Impact factor: 3.322) doi: 10.1016/j.bbrc.2015.06.040.
25. **Dey Souvik**, Roy Debarun, Majumder Gopal C., Bhattacharyya Debdas. Extracellular regulation of sperm transmembrane adenylyl cyclase by a forward motility stimulating

protein. *PLoS One*. 2014. 9(10):e110669. doi 10.1371/journal.pone.0110669. (Impact factor: 3.752).

26. **Dey Souvik**, Roy Debarun, Majumder Gopal C., Bhattacharyya Debidas. Receptor expression is essential for forward motility in the course of sperm cell maturation. *Biochemistry and Cell Biology* (Impact factor: 3.730), 2014. 92(1): 43-52. (doi: 10.1139/bcb-2013-0080).
27. Roy Debarun, **Dey Souvik**, Majumder Gopal C, Bhattacharyya D. Occurrence of novel Cu²⁺-dependent sialic acid-specific lectin, on the outer surface of mature caprine spermatozoa. *Glycoconjugate Journal*. 2014. 31(4):281-288. (Impact factor: 3.009). (doi: 10.1007/s10719-014-9524-z).
28. Roy Debarun, **Dey Souvik**, Majumder Gopal C., Bhattacharyya Debidas. Copper: a biphasic regulator of caprine sperm forward progression. *Syst Biol Reprod Med*. (Impact factor: 2.958) 2014 Feb; 60(1):52-57. (doi:10.3109/ 19396368.2013.848243).

Book Chapter publications

1. Sounak Sadhukhan & **Souvik Dey**. Biology, Chemistry, and Physics of Cancer Cell Motility and Metastasis. In Cancer Diagnostics and Therapeutics: Current Trends, Challenges and Future Perspectives. Edited by S.K. Basu, C.K. Panda, S. Goswami. *Springer Nature, Singapore*. 2021. eBook ISBN: 978-981-16-4752-9. Hardcover ISBN: 978-981-16-4751-2. Pages 91-109. (https://doi.org/10.1007/978-981-16-4752-9_5)
2. Majumder, G.C., Saha, S., Das, K., Nath, D., Maiti, A., **Dey, S.**, Roy, D., Chakrabarty, J., Dungdung, S. R., *et al.* (2015). Role of Sperm Surface Molecules in Motility Regulation. In Mammalian Endocrinology & Mammalian Reproductive Biology, S.K. Singh, ed. (**CRC Press, Taylor & Francis Group, USA**). eBook ISBN: 9780429068829. pp.197-244. DOI: 10.1201/b18900-9.
3. Majumder, G. C., Das, K., Saha, S., Nath, D., Maiti, A., Das, **Dey, S.**, N., Banerjee, S., Barua, M., Mandal, M., Jaiswal, B. S, Biswas, R., Bhoumik, A., Roy, D., Dey, S., Som, J., Bhattacharyya, D., and Dungdung, S. R. (2012). Purification and Characterization of Novel Sperm Motility-Related Proteins. In Protein Purification, M. Benitez and V. Aguirre, ed. (**Nova Publishers, USA**) pp 1-90. ISBN: 978-1-61470-098-2.

Proceedings publications

1. Roy, R., **Dey, S.** (2025). P-072 The Essential Role of GSK3 α in Spermatogenesis: Implications for Sperm Differentiation and Male Fertility. *Human Reproduction* 40 (Supplement_1), doi.org/10.1093/humrep/deaf097.381
2. Khamamkar, A., Vijayaraghavan, S., Dutta, R., **Dey, S.** (2025) P-044 Disrupting sperm maturation: a non-hormonal contraceptive approach, targeting GSK3 α in the epididymal spermatozoa. *Human Reproduction* 40 (Supplement_1), doi.org/10.1093/humrep/deaf097.353

3. **Dey, S.**, Nixon B, Brothag C, Freitas M, Kabi M, Vijayaraghavan S*. (2022). The enzyme GSK3 α , a male fertility kinase in mammals, is essential for sperm maturation in the epididymis. In proceedings of the Von Behring-Röntgen-Symposium, "The Epididymis" (Poster Presentation) Giessen, Germany. pp. 52. *Presenter.
4. **Dey, S.**, Eisa, A., Opoku, V., Wagner, F., Kline D., Vijayaraghavan, S. (2019). Mechanistically interrelated roles of GSK3 α and calcineurin in regulating the ability of sperm to fertilize eggs. In proceedings of the *44th Annual Conference on the American Society of Andrology (ASA-2019)*, (Poster Presentation) Chicago, Illinois, USA. pp. 53.
5. **Dey, S.**, Eisa, A., Goswami S., Bhattacharjee, R, Kline D., Vijayaraghavan S. (2018). Epididymal Sperm Maturation: Roles of Calcineurin, PP1 γ 2 and GSK3. In proceedings of the *43rd Annual Conference on the American Society of Andrology (ASA-2018)*, (**Poster as well as Oral Presentation**) Portland, Oregon, USA. pp. 37.
6. **Dey, S.**, Roy, D., Majumder G. C., and Bhattacharyya, D. (2015). Cell surface interaction and signaling mechanism of a novel sperm forward motility stimulating protein. In proceedings of the *25th International Conference on Reproductive Health (ISSRF-2015)* organized by National Institute for Research in Reproductive Health, Mumbai. pp. 179.
7. **Dey, S.**, Roy, D., Majumder G. C., and Bhattacharyya, D. (2015). Extracellular regulation of sperm progressive movement by the forward motility-stimulating factor. In the proceedings of the *International Symposium on Reproductive Biology and Comparative Endocrinology (ISRBC 2015)* organized by the Department of Zoology, Centre of Advanced Study, Banaras Hindu University, Varanasi. pp. 80.
8. **Dey, S.**, Roy, D., Majumder G. C., and Bhattacharyya, D. (2014). Extracellular regulation of sperm movement by Forward Motility Stimulating Factor. In the proceedings of the *2nd International Meet on Advanced Studies on Cell Signaling Network (CeSiN)* organized by CSIR-IICB, Kolkata. pp. 88.
9. **Dey, S.**, Roy, D., Majumder G. C., and Bhattacharyya, D. (2014). Forward Motility Stimulating Factor: A potential biomolecule to combat infertility. In proceedings of the 2nd Pharm. Tech. IAPST International Conference on *New Insights into Diseases and Recent Therapeutic Approaches*, organized by the Department of Pharmaceutical Technology, Jadavpur University, and NSHM Knowledge Campus, Kolkata. pp. 113.
10. **Dey, S.**, Roy, D., Majumder, G.C., Bhattacharyya, D. Cell surface interaction and signaling mechanism of a novel sperm forward motility stimulating protein. In proceedings of the *22nd West Bengal State Science & Technology Congress (WBSSTC-2015)* organized by Department of Science & Technology, Govt. of West Bengal and University of North Bengal (held on 28th-1st March, 2015), page no. AS-47.

GRANTS/FUNDINGS

- PI: ANRF (ECRG), GOI grant (ANRF/ECRG/2025/002584/LS), total amount: Rs. 63.96 lakh; term: 2026-2029
- PI: ICMR (SEG), GOI grant (IIRPSG-2025-01-06102), total amount: Rs. 74.95 lakh; term: 2026-2029
- Co-PI: ICMR (SEG), GOI grant (IIRPSG-2025-01-02401), total amount: Rs. 194.0 lakh; term: 2026-2029
- PI: ICMR (SEG), GOI grant (IIRPSG-2024-01-06557), total amount: Rs. 79.9 lakh; term: 2025-2028
- PI: DBT (EFB), GOI grant (BT/PR53889/BMS/85/260/2024); total amount: Rs. 64.17 lakh; term: 2025-2028

- DST (STUTI-ICT), GOI grant (conference), total amount: Rs. 8.83 lakh; term: 2023
- PI: MAHE (IMF) (MAHE/CDS/PHD/IMF/2023#0085); total amount: Rs. 14.94 lakh; term: 2023-2026
- PI: DBT (RLSF), GOI grant (BT/RLF/Re-entry/08/2019); total amount: Rs. 113.0 lakh; term: 2020-2025

AWARDS AND HONOURS

1. Awarded Ramalingaswami Re-entry Fellowship in 2020 by the Department of Biotechnology (DBT), India.
2. Received NIH Travel Awards for attending the 43rd and 44th Annual Conference of the American Society of Andrology as an oral presenter in Portland, Oregon, USA, held on April 21-24, 2018, and in Chicago, IL, held on April 6-9, 2019, respectively.
3. Awarded Post-doctoral Fellowship jointly by Kent State University and the Cleveland Clinic, Ohio, USA under the RASP scheme
4. Awarded Senior Research Fellowship (SRF) by the Indian Council of Medical Research (ICMR) in 2014.
5. Received Junior Research Fellowship (JRF) on a Project by DBT, India, in 2010.
6. CSIR-UGC NET (LS) in 2010 (all India rank-48) and 2008 by the Council for Scientific & Industrial Research-University Grant Commission, India.
7. Awarded Institutional Junior Research Fellowship (JRF) by Chittaranjan National Cancer Institute, Kolkata in 2009.
8. Qualified GATE-Life Sciences in 2009 (percentile-92.95/all India rank-905) by Human Resource Development Group, GOI.
9. Awarded National Scholarship for performance in Madhyamik (10th standard) by the Government of West Bengal, India.

MEMBERSHIP OF SCIENTIFIC SOCIETIES

- Royal Society of Biology, London (Elected Member since 2021, MRSB) (Membership #P0142853)
- European Society of Human Reproduction and Embryology (Membership #E-26-10768)
- The Society of Biological Chemists (India) (*Life membership* #4278)
- American Society of Andrology (*Associate membership* #197381, 2019-22)
- The Physiological Society of India (*Life membership* #PSI-LM869)
- Society for Reproductive Biology & Comparative Endocrinology (*Life membership* #LM-511-2021)
- Indian Society for the Study of Reproduction and Fertility (*Life membership* #1570)
- Manipal Government of Karnataka Bioincubator (*Lifetime membership* #BIL/2022/L/401)

Editorship and Reviewership

- Editorial Board Member at *Frontiers – Molecular and Cellular Reproduction: Frontiers in Cell Development Biology*.
- Active Reviewer (completed 40+ reviews of manuscripts) for *The FASEB Journal*, *Molecular Metabolism*, *Life Sciences*, *PLoS One*, *Reproduction*, *BBRC*, *Frontiers in Pharmacology/Oncology/Cell & Dev. Biology*, *Molecular Reproduction and Development*, *Reproductive Sciences*, *Molecular Biology Reports* (Springer Nature), etc.

Talks & Presentations

- i. Delivered an 'Invited Talk' at the "International Conference on Molecular Signalling (ICMS) 2026" held from February 28th to March 2nd, 2026, at the Central University of Kerala, Kasaragod, Kerala. Topic title: "***A Non-hormonal Contraceptive that Targets GSK3 α to Interfere with Maturing Spermatozoa in the Epididymis***".
- ii. Delivered an 'Invited Talk' at the "International Conference on ReproNext: Emerging Horizons in Reproductive Health Research, & 42nd Annual Meeting of the Society for Reproductive Biology and Comparative Endocrinology (SRBCE -2025)" held from December 11th to 14th, 2025, at the National Institute for Research in Reproductive and Child Health, Mumbai, Maharashtra. Topic title: "***Disruptor of GSK3 α : A Non-hormonal Contraceptive that Targets Maturing Spermatozoa in Epididymis***".
- iii. Delivered an 'Invited Talk' at the "International Conference on Advances in Endocrinology, Metabolism, and Reproductive Health: New Insights and Innovations" held from November 14th to 16th, 2025, at Benaras Hindu University, Varanasi, UP. Topic title: "***GSK3 α Disruptor: A Non-hormonal Contraceptive Targeting Maturing Spermatozoa in the Epididymis***".
- iv. Delivered an 'Invited Talk' at the "34th Annual Meeting of the Indian Society for the Study of Reproduction and Fertility (ISSRF-2024)" held from February 23rd to 25th, 2024, at ICT Auditorium, Indian Institute of Chemical Technology, Mallapur Main Road, Tarnaka, Hyderabad, Telangana. Topic title: "***Deciphering the Contribution of FTO in Mammalian Spermatogenesis***".
- v. Delivered a "Short Invited Talk" at the 9th International Conference on Molecular Signaling 2024. The conference was held from February 1st to 3rd, 2024, and will be hosted by the Department of Animal Biology, School of Life Sciences, University of Hyderabad, Hyderabad. Topic title: "***Role of FTO, an RNA-specific demethylase, in Spermatogenesis***".
- vi. Delivered an 'Invited Talk' at the 46th Annual Meeting of the Environmental Mutagen Society of India (EMSI) 2024, hosted by the Department of Zoology, School of Biological Sciences, Central University of Kerala, Periya campus, Kasaragod, on January 29 to 31, 2024. Topic title: "***Influence of Environmental Mutagens in m6A Level in Testis***".
- vii. Delivered an oral presentation titled "***Centromere Protein V (CENPV) Mediates GSK3 α Activity in Mammalian Sperm***" at the 40th Annual Meeting of the SRBCE & 'International Conference on Molecular Medicine, Reproduction and Endocrinology 2023'. The conference was held at Navarachana University, Vadodara, Gujarat, between 14th and 16th September 2023.
- viii. Delivered a Young Investigator Talk at the 39th Annual Meeting of SRBCE & National Conference on Reproductive Biology, Comparative Endocrinology and Development held between 14th-16th September 2022 at CCMB, Hyderabad, on the topic titled "***A Regulatory***".

Loop between Cyclic AMP and Glycogen Synthase Kinase 3 functions in Mammalian Spermatozoa".

- ix. Made an oral presentation at the International Conference on Reproductive Healthcare & 32nd Annual Meeting of the Indian Society for the Study of Reproduction and Fertility, 11th-13th February 2022, on the topic entitled ***PKAC α 2, PP1 γ 2, PPP3R2/CC & GSK3 α forms a Quad to regulate male fertility in mammals***.
- x. Delivered an Invited Talk at the 38th Annual Meeting of SRBCE & National Conference on Reproduction and Endocrinology held between 28th-30th December 2021 at Mysore, KA on the topic entitled as ***Relationship of GSK3 α and calcineurin in regulation of male fertility***.

Workshops/Training Programs Organized

- i. Organized a Seven-day hands-on workshop as the Organizing Secretary on "Technical Approaches Involved in the Purification and Characterization of Biomolecules" under the DST-STUTI scheme in association with ICT, Mumbai, from December 4 to 10, 2023, at MCBR, MAHE, Manipal.
- ii. Organized a hands-on workshop titled "Stilla Crystal Digital PCR" in association with Eppendorf India Private Limited on July 24-26, 2023, as the Convener at MCBR, MAHE, Manipal.
- iii. Organized a four-day hands-on training program titled "FPLC & BIO-LC Workshop" on July 24-27, 2024, as the Convener at MCBR, MAHE, Manipal.
- iv. Organized a two-day conclave on "Reproductive Endocrinology" on September 19-20, 2024 at MCBR, MAHE, Manipal.

Workshop & Certificate Course attended

- Attended "Team Building and Growth Mindset training" led by Mr. Chandan Rao at Manipal Inn on March 7, 2026, organised by DBR, MAHE, Manipal
- Attended "Faculty Development Program" led by Dr. K. Ramnarayan, Pro Chancellor - Sikkim Manipal University and Emeritus Professor of Medical Education-Manipal Academy of Higher Education, on August 23, 2025, at MCBR Conference Hall, MCBR, MAHE, Manipal
- Participated as a panel member in the Indo-German workshop on *Translational Research in Andrology*, organized by the Indo-German Science & Technology Center (IGSTC) at KMC, Manipal on Feb 28 & March 1, 2025.
- Andrology Laboratory Workshop on "Modern Semen Analysis: Elevate Your Tools, Techniques and Thinking" on Saturday, April 6 to Sunday, April 7, 2019, in Chicago, IL, organized by the American Society of Andrology.

- Successfully completed an 8-week Certificate Course on Bioinformatics conducted from 1st Feb to 30th March 2022, by the Manipal School of Life Sciences, MAHE, Manipal.
- Attended the International Virtual Workshop '*Bioelectronic Medicine*', jointly organized by IIT (BHU) Varanasi and IISc Bangalore and co-hosted by the Henry Royce Institute, University of Manchester, UK on December 16, 2021.

AREAS OF EXPERTISE

Biochemical techniques

- Enzymatic assay development (*radioactive and non-radioactive*)
- Column chromatography techniques for purification of biomolecules (including Abs)
- Protein pull-down and Immuno/Co-immunoprecipitation techniques
- Phospho-protein enrichment. Proteolytic digestion and purification of peptides
- Chemical coupling of purified protein/Ab with enzyme/fluorophore and polymer matrices.
- Electrophoretic (native & SDS-PAGE, tube gel for pI estimation) and blotting techniques (including immunoblot, Western blot, and those used in clinical HIV detection labs.)

Instrument handling

- FPLC, HPLC, FACS, CASA (Computer-assisted sperm analysis), Spectrofluorometer, UV-Visible spectrophotometer, Confocal fluorescence microscope, ELISA reader, FT-IR, etc.

Animal works

- Experimental handling of animals (viz. C57BL/6 and CD1 mice; New Zealand breed rabbit)
- Isolation of reproductive tissues and cells from mouse, rat, bull, goat, and buffalo.
- *In vitro* fertilization (IVF) assay using a mouse model.
- Generation and maintenance of Knock-out mice line using Cre-lox system
- Feeding, injection of drugs/cells (subcutaneous, intravenous, peritoneal), blood/fluid collection from mice; assessment of the effect of novel biomolecules and drugs/tumor development/tumor site detection, and its analysis
- Immunization of rabbit and collection of pre-immune/anti-sera from the ear vein.

Cell biology and immunology

- Handling of human and animal blood/semen (for motility analysis) samples
- Isolation of immune cells from blood and other tissues
- Cell proliferation and cytotoxicity/genotoxicity assays: MTT assay, Annexin V/PI staining.
- Animal and microbial cell culture and assay techniques/ Cell line maintenance
- Microscopic analysis of cell/ tissue samples by fluorescent/chemical staining

Molecular biology

- Expression of mammalian recombinant proteins in the bacterial system
- Genotyping by PCR, RT-PCR, and RNA methylation study

Others

- Scientific project writing and reporting; maintenance of resources of scientific laboratory

DATE, PLACE OF BIRTH

May 20, 1984, in Kolkata, WB, India; Nationality: Indian.

Hobbies: Writing popular science articles, gardening, and hydroponics.

REFEREES

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I hereby declare that the information stated above is true to the best of my knowledge.

Place: Manipal
Date: August 2026



Souvik Dey