

ARNAB BANERJEE

Associate Professor
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CURRENT POSITION:

Associate Professor; Department of Zoology, Banaras Hindu University. (January, 2025-continuing)

Associate Professor; Department of Biological Sciences, BITS-Pilani, K. K. Birla Goa Campus. (June, 21-December, 2024)

Assistant Professor; Department of Biological Sciences, BITS-Pilani, K. K. Birla Goa Campus. (March, 2013-June, 2021)

EDUCATIONAL QUALIFICATION:

- ✧ Post doctoral Fellow: CRRRA (Animal Reproduction Research Centre) of the Faculty of Veterinary Medicine, University of Montreal, Canada. January 2012- February 2013)
- ✧ Ph. D. (Zoology): Thesis entitled 'Mechanism(s) of Embryonic Diapause in the Indian fruit bat, *Cynopterus sphinx*'; Banaras Hindu University, Varanasi-221005, UP. (2004-2010)
- ✧ Master of Science in Zoology, Banaras Hindu University, Varanasi, U.P. (2002-2004)
- ✧ Bachelor of Sciences in Zoology, Maulana Azad College, University of Calcutta, Kolkata (1999-2002).

RESEARCH EXPERIENCE:

- ✧ Investigating the role of polyamines in regulation of the hypothalamic-ovarian physiology of adult cyclic female rats.
- ✧ Looking into the cellular aspects of obesity, diabetes type II and associated metabolic disorders.
- ✧ Investigating regulation of steroidogenesis/ StAR protein in the brain and gonads.
- ✧ Also looking into the anti cancerous property of some dibenzodioxins and metal complexes on cancerous cell lines.
- ✧ Worked as a post doctoral student with Prof. Bruce D Murphy, Reproductive Physiology Département de biomédecine vétérinaire Faculté de médecine vétérinaire Université de Montréal, investigating the role of polyamines in blastocyst development and inner cell mass proliferation.. Have been selected in the prestigious REDIH Fellowship, Canada, 2012.
- ✧ Worked as a post doctoral student {CSIR-SRF (Ext.)} since April 2011, under the supervision of Prof. Amitabh Krishna, Department of Zoology, BHU, U.P.; investigating

on 'Proteome profile changes during normal and delayed embryonic development in the short nosed Indian fruit bat, *Cynopterus sphinx*'.

- ☆ During PhD worked on the topic "Mechanism(s) of Embryonic Diapause in the Indian fruit bat, *Cynopterus sphinx*" under the supervision of Prof. Amitabh Krishna, at Department of Zoology, Banaras Hindu University, Varanasi, U.P., India, September 2004 to July 2010.

TEACHING EXPERIENCE

Teaching/ taught courses like general biology, integrated biology, laboratory techniques, developmental biology, reproductive physiology, molecular evolution, Gene Toxicology and instrumentation method and analysis to the undergraduate, MSc students at BITS-Pilani, Goa campus.

Volunteer work

Along with my thesis work I have also carried out some side project works. With the guidance of my mentor I had supervised trainees at masters and bachelors level in the department of Zoology, Banaras Hindu University, in the following projects:

- ☆ The role of energy in reproductive senescence in male and female mice (pertaining correlation between glucose and glucose transporters with testicular steroidogenesis).
- ☆ The involvement of the endocannabinoid system in the reproductive system. We have found the effect of bhang (cannabis) in the reproductive system of both male and female mice. In this context we have published a paper. here Our immunohistochemistry result came in the cover page of the journal in which we published this work.
- ☆ The role of estrogen in male reproductive senescence, showing how estrogen signaling through the nitric oxide pathway maintains proper steroidogenesis in adult male and the same in elevated levels is responsible for andropause in male mice.
- ☆ The role of androgen in adult female ovary.

ACADEMIC ACHIEVEMENT AND AWARDS:

- ☆ Awarded the **CIHR Training Program in Reproduction, Early Development, and the Impact on Health (REDIH)** post doctoral fellowship award to work as a post doctoral researcher in Montreal, Canada, January, 2012.
- ☆ Awarded CSIR SRF (extended) from 1st April, 2011.
- ☆ Qualified **GATE** examination conducted by Indian Institute of Technology, India, 2004.
- ☆ Awarded **the UGC-Merged Scheme JRF/ SRF** in February, 2007.
- ☆ Awarded the second position for talk on "Biodiversity-Indian /hotspots and its conservation' in the M.Sc. Seminar series 2003-2004, Dept. of Zoology, BHU, Varanasi.

- ☆ Awarded the **first oral presentation** in the 25th conference conducted by the Symposium on Reproductive Biology and Comparative Endocrinology (SRBCE), India.
- ☆ Received **the one of the four best presentation** award in the **International Conference and Humboldt-Kolleg** on the Structural characterization and spectroscopy of materials relevant to nanotechnology, biomedical and geobiology, 2008.
- ☆ Received a **gold medal** for the best poster presentation at the National Symposium on Comparative Endocrinology and Reproductive Physiology, Mumbai, 17-19th December, 2009.
- ☆ Visited the laboratory of Prof. R Sridaran, Morehouse School of Medicine, Atlanta, USA, for a period of two and a half months, 2007.
- ☆ Presented a poster in the 4th Indo Australian Conference in Biotechnology, Brisbane, Australia, 2007.
- ☆ Received invitation to review manuscript from the journals Reproduction, Steroid Biochemistry and Molecular Biology and Andrology.
- ☆ Selected for the ISCA Young Scientist Presentation, 2012, in the field of Animal and Veterinary Sciences.
- ☆ Received The Membership in Reproduction and Endocrinology (MRE) Award given by the Society of Reproductive Biology and Comparative Endocrinology (SRBCE), 2019.
- ☆ Received The Prof. G P Talwar Gold Medal Award given by the Indian Society for the Study of Reproduction and Fertility (ISSRF), 2021.
- ☆ Received The Prof. M A Akbarsha and Prof. M Michael Aruldhass Gold Medal Award given by the Society of Reproductive Biology and Comparative Endocrinology (SRBCE), 2021.
- ☆ Recipient of the membership of The National Academy of Sciences, NASI, India, 2023.

RESEARCH SKILLS:

Well versed with Immunological and molecular techniques like

- *in vitro* blastocyst culture,
- cell and tissue culture,
- 2-dimensional gel electrophoresis,
- Western blotting,
- various metabolic enzyme assays as well as
- RIA, ELISA
- immunohistochemistry and histology.
- Maintenance of mice/rat colonies.

PUBLICATIONS (BEST FIVE ARE PROVIDED WITH CITATION AND IMPACT FACTOR DETAILS:

Papers published:-41.

- (1) **Banerjee, A**; Meenakumari KJ and Krishna, A. 2007. Relationship of delayed embryonic development with the metabolic factors and fat deposition in fruit bat, *Cynopterus sphinx*. *Reproduction Fertility and Development*. 19 (5) 626–633. Cited by 7; Impact factor (IF)-2.8
- (2) Meenakumari, KJ, **Banerjee, A** and Krishna A. 2009. Luteal cell steroidogenesis in relation to delayed embryonic development in the Indian short-nosed fruit bat, *Cynopterus sphinx*. *Zoology (Jena)*. 112: 151-159.
- (3) **Banerjee A**, Meenakumari KJ, Udin S and Krishna A. 2009. Melatonin regulates delayed embryonic development in the short-nosed fruit bat, *Cynopterus sphinx*. *Reproduction*. 138: 935-944. Cited by 10; IF-3.0
- (4) **Banerjee, A**, Meenakumari KJ and Krishna, A. 2010. Role of leptin in delayed embryonic development in the Indian short nosed fruit bat, *Cynopterus sphinx*. *General and Comparative Endocrinology*. 168: 36–45.
- (5) **Banerjee, A**, Udin, S and Krishna, A. 2010. Regulation of leptin synthesis in white adipose tissue of female fruit bat, *Cynopterus sphinx*: Role of melatonin with or without insulin. *Experimental Physiology*. 96:216-25. Cited by 11; IF-3.4
- (6) **Banerjee A** and Krishna A. 2010. Altered glucose transport to utero-embryonic unit in relation to delayed embryonic development in the Indian short-nosed fruit bat, *Cynopterus sphinx*. *Molecular and Cellular Endocrinology*. 333: 28-36. IF-4.0
- (7) **Banerjee A**, Singh A, Srivastava P, Turner H and Krishna A. 2011. Effects of chronic bhang (cannabis) administration on the reproductive system of male mice. *Birth Defects Reproductive and Developmental toxicology*. 92(3): 185-205. Cited by 16, IF-2.2
- (8) **Banerjee A**, Anjum S, Verma R, Krishna A. 2012. Alteration in expression of estrogen receptor isoforms alpha and beta, and aromatase in the testis and its relation with changes in nitric oxide during aging in mice. *Steroid*. 77(6):609-20. Cited by 12, IF-2.8
- (9) **Banerjee Arnab**, Anuradha, Mukherjee Kaustab, and Krishna Amitabh. 2014. Testicular glucose and its transporter GLUT 8 as a marker of Age-dependent variation and its role in steroidogenesis in mice. *J Exp Zool*. 321(9):490-502.
- (10) Jane Fenelon, **Arnab Banerjee**, Bruce D Murphy. 2014. Embryonic diapause: development on hold. *Int J Develop Biol*. 58(2-4):163-74.
- (11) Subhadeep Banerjee, Anjan Chattopadhyay, **Arnab Banerjee**, Meera Haridas, Praveen Saini, Moitreyi Das, Mahesh S. Majik, Yogesh Kr. Maurya 2014. Synthesis and photophysical characterization of quasi push–pull dicyanodibenzodioxins and their anti-tumor activity against glioma cell line C6. *Bioorganic & medicinal chemistry letters*: 25(4):753-7.
- (12) Arnab Banerjee and J. Fernandes. 2015. Reproductive Senescence. *ISSRF NewsLetter Special Issue 16*; 35-37.
- (13) Fenelon JC, **Banerjee A**, Lefèvre P, Gratin F, Murphy BD. 2016. Polyamine-Mediated Effects of Prolactin Dictate Emergence from Mink Obligate Embryonic Diapause. *Biol Reprod*. 2016 95(1):1-13. IF-3.47
- (14) Arnab Banerjee and J. Fernandes. 2016. Obesity and Infertility. *ISSRF NewsLetter Special Issue 19*; 56-58.
- (15) Manjuri K. Koley, Om Prakash Chouhan, Sumit Biswas, Joseph Fernandes, **Arnab Banerjee**, Anjan Chattopadhyay, Babu Varghese, Periakaruppan T. Manoharan, Aditya P. Koley. 2016. Spectroscopic, electrochemical and DNA binding studies of some monomeric copper(II) complexes containing N2S(thiolate)Cu core and N4S(disulfide)Cu core.. *Inorganica Chimica Acta* 8 Volume 456, 24 February 2017, Pages 179-198

- (16) Fenelon JC, Lefèvre P, **Banerjee A**, Murphy BD. 2016. Regulation of diapause in carnivores. *Reproduction in Domestic Animals*. 52: 12-17.
- (17) Joseph RD Fernandes, Sammit Jain and **Arnab Banerjee**. 2017. Expression of ODC1, SPD, SPM and AZIN1 in the hypothalamus, ovary and uterus during rat estrous cycle. *General and Comparative Endocrinology*. 246:9-22.
- (18) Naha N, Desai R, Fernandez JRD, **Banerjee A**. 2017. Globalization, obesity and polycystic ovary syndrome: What we pay? *Austin Endocrinol Diab Case Rep* 2017; 2: 1010.
- (19) Subhadeep Banerjee, Anjan Chattopadhyay, Joseph R.D.Fernandes, **Arnab Banerjee**, Apeksha Ashok Phadte, Akanksha Vinod Savardekar, Keisham Sarjit Singh. 2017. Synthesis and electronic properties of ester substituted 1,4-dicyanodibenzodioxins and evaluation of anti-proliferative activity of all isomeric 1,2-, 2,3- and 1,4-dicyanodibenzodioxins against HeLa cell line. *Bioorganic & Medicinal Chemistry Letters*. 27 (18): 4280-4284
- (20) Nayan Mate and Arnab Banerjee. 2018. Rodent Models for Polycystic Ovary Syndrome. *ISSRF News Letter Special Issue* 21; 25-27.
- (21) Subhadeep Banerjee, Apeksha Ashok Phadte, Anjan Chattopadhyay, Joseph R.D.Fernandes, Akanksha Vinod Savardekar, Arnab Banerjee, Keisham Sarjit Singh. 2018. Synthesis and photophysical characterization of heterocyclic dihydrotetracenes and their utility in the fluorescence imaging of HeLa cells. *Tetrahedron Letters* 59(42) 3787-3791
- (22) Sidhali U. Parsekar a, Joseph Fernandes b, Arnab Banerjee b, Om Prakash Chouhan b, Sumit Biswas b, Manjuri K. Koley . *J Biol Inorg Chem*. 2018 DNA binding, cleavage and cytotoxicity studies of three mononuclear Cu(II) chloro-complexes containing N–S donor Schiff base ligands. 23(9), pp 1331–1349.
- (23) Anusha Singh, Joseph RD Fernandes, Gagan Chhabra, Amitabh Krishna, Arnab Banerjee. 2019. Liraglutide modulates adipokine expression during adipogenesis, ameliorating obesity and polycystic ovary syndrome in mice. *Endocrine* 64(2):349-366.
- (24) Apeksha Ashok Phadte, a Subhadeep Banerjee, a, Nayan Anand Mate, b and Arnab Banerjee 2019. Spectroscopic and viscometric determination of DNA-binding modes of some bioactive dibenzodioxins and phenazines. *Biochem Biophys Rep*. 2019 Jul; 18: 100629.
- (25) Anuradha, Arnab Banerjee, Amitabh Krishna. 2019. Role of putrescine in ovary and embryo development in fruit bat *Cynopterus sphinx* during embryonic diapause. *Molecular Reproduction and Development*. 86(12):1963-1980
- (26) Subhadeep Banerjee, Indrani Talukdar, Arnab Banerjee, Arnav Gupta, Advait Balaji and Raviprasad Aduri. 2019. Type II diabetes mellitus and obesity: Common links, existing therapeutics and future developments. *J Biosciences*, Volume 44 Issue 6.
- (27) Koley Aditya, Parsekar Sidhali, Velankanni Priyanka, Sridhar Shruti, Haldar Paramita, Mate Nayan, Banerjee Arnab, Antharjanam Sudhadevi and Kumar Manjuri. Protein binding studies with human serum albumin, molecular docking and *in vitro* cytotoxicity studies using HeLa cervical carcinoma cells of Cu(II)/Zn(II) complexes containing carbohydrazone ligand. *Dalton Transaction* 2020. 49, 2947-2965.

- (28) Joseph R. D. Fernandes, Abhishek Moitra, Kazuyoshi Tsutsui, Arnab Banerjee. Regulation of the hypothalamic GnRH–GnIH system by putrescine in adult female rats and GT1-7 neuronal cell line. J Exp Zool. 2020 333(4):214-229
- (29) Kamal Ajit, Bruce D. Murphy and Arnab Banerjee. 2021. Elucidating evolutionarily conserved mechanisms of diapause regulation using an *in silico* approach. <https://doi.org/10.1002/1873-3468.14064> IF-3.2 595(9):1350-1374
- (30) Das, M., Ajit, K., Mate, N., Roy, R., Haldar, C., Gupta, L., & **Banerjee, A.** (2022). Lactate-Dependent Cross-Talk Between Astrocyte and GnRH-I Neurons in Hypothalamus of Aged Brain: Decreased GnRH-I Transcription. Reproductive Sciences, 1-19.
- (31) Mate, N., Shaji, R., Das, M., Jain, S., & Banerjee, A. (2022). Expression of polyamines and its association with GnRH-I in the hypothalamus during aging in rodent model. Amino Acids, 54(8):1135-1154.
- (32) Moitreyi Das 1, Arnab Banerjee 2, Ramaballav Roy 3. 2022. A novel in vitro approach to test the effectiveness of fish oil in ameliorating type 1 diabetes. Mol Cell Biochem;477(8):2121-2132. doi: 10.1007/s11010-022-04424-1. Epub 2022 May 11.
- (33) BHATTACHARYA, I., Sharma, P., Purohit, S., Das, M., Kothiyal, S., & Banerjee, A. Recent Update on Retinoic Acid driven initiation of Spermatogonial Differentiation. Frontiers in Cell and Developmental Biology, 208.
- (34) Ananya Ajith, Kavya Chandra, Nayan Mate and Arnab Banerjee 2022. The Role of Polyamines in Metabolic Syndrome. J Endocrinol Reprod. Vol 26(2), 45-53, June 2022, DOI: 10.18311/jer/2022/28962
- (35) Pooja Gautam, Kamal Ajit, Moitreyi Das, Rajeev Taliyan, Ramaballav Roy, Arnab Banerjee. 2022. Age-related changes in gonadotropin-releasing hormone (GnRH) splice variants in mouse brain. J Exp Zool A Ecol Integr Physiol. 339(2):193-209
- (36) Indrashis Bhattacharya, Souvik Dey and Arnab Banerjee. 2023. Revisiting the Gonadotropic Regulation of Mammalian Spermatogenesis: Evolving Lessons During the Past Decade. Frontiers in Endocrinology. DOI 10.3389/fendo.2023.1110572
- (37) Sachin Sharma♦, Kavya Chandrab♦, Aliva Naikc, Anamika Sharmac, Ram Sharmaa, Amandeep Thakura, Ajmer Singh Grewald, Ashwani K. Dhimrad, Arnab Banerjeeb, Jing Ping Lioua,e, Santosh Kumar Guruc and Kunal Nepali. 2023. Flavone-based dual PARP-Tubulin inhibitor manifesting efficacy against endometrial cancer. JOURNAL OF ENZYME INHIBITION AND MEDICINAL CHEMISTRY 2023, VOL. 38, NO. 1, 2276665
- (38) Mane, Nikhil S., et al. "Separation of motile human sperms in a T-shaped sealed microchannel." Biomedical Engineering Letters 12.3 (2022): 331-342.
- (39) Puri, Dhiraj, et al. "Exploring Sperm Cell Rheotaxis in Microfluidic Channel: The Role of Flow and Viscosity." Physical Biology (2024).
- (40) Mate, N. A., Wadhwa, G., Taliyan, R., & Banerjee, A. (2024). Impact of polyamine supplementation on GnRH expression, folliculogenesis, and puberty onset in young mice. Theriogenology, 229, 202-213.

- (41) Savardekar, A., Fernandes, E., Padhye-Pendse, A., Gupta, T., Pol, J., Phadke, M., ... & Banerjee, A. (2024). Adipocytes Promote Endometrial Cancer Progression Through Activation of the SIRT1-HMMR Signaling Axis. *Molecular Carcinogenesis*.
- (42) Ankita Sinha, Subhadeep Banerjee, Arka Bagchi, Sumiran Kasturi, Arnab Banerjee. 2025. Amino-Terephthalonitrile Based Single Benzene Fluorophores Bearing Amino Esters and Lipids for Selective Biothiol Sensing and Bioimaging. *Asian Journal of Organic Chemistry*.
- (43) Pooja Gautam, Vijigisha Srivastava, Sridhar Bammidi, Sayan Ghosh, Vishnu Suresh Babu, Arnab Banerjee. 2025. Putrescine modulates alternative splicing of gonadotropin hormone-releasing hormone (GnRH) through differential regulation of splicing factors. *Biochemical and Biophysical Research Communications*. Volume 763.

Book/ Chapter published:-One

- 1) Published an e-chapter entitled ‘Mammalian Ovary’ in the book on ‘**Reproduction**’ for the National Science Digital Library organized by the National Institute of Science Communication and Information Recourses, New Delhi, India.
- 2) Joseph R D Fernandes and **Arnab Banerjee**. Obesity, Spermatogenesis and Male Infertility. *Male Infertility*. Springer, 2017
- 3) J R.D.Fernandes*MoitreyiDasb*KavyaChandraaIndrashisBhattacharyacArnabBanerjeea Potential implications of gonadotropin-releasing hormone analogues in assisted reproductive technology. *Emerging Issues in Climate Smart Livestock Production Biological Tools and Techniques*. 2022, Pages 209-224. Elsevier.
- 4) Amitabh Krishna, Vikas Kumar Roy and Arnab Banerjee Hormones and reproductive cycles in bats. *Hormones and Reproduction of Vertebrates*, Volume 5: Mammals.

PROFESSIONAL TRAINING

Sl. No.	Name of Training	Organization where training was received	Year	Duration
1	Trends and advances in aquaculture	Central Institute for fisheries education, Saltlake, Kolkata	2003	Two weeks
2	In hand training for in Bio informatics, LATEX programming	Dept. of Biotechnology, BHU, Varanasi	2004	Two weeks
3	A workshop in Tools in molecular biology to do research in endocrinology and reproductive biology	Dept. of Animal Sciences, University of Hyderabad, Hyderabad	2005	Two weeks
4	DBT sponsored workshop	Dept. of Biotechnology, BHU,	2010	Three

		Varanasi		days
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CONFERENCES ATTENDED

Sl. No.	Conference/Seminar	Title of paper read (if any)	Year
1	4th Indo Australian Conference in Biotechnology, Brisbane, Australia, 2007.	Effect of bhang ingestion in male reproduction in mice	2007
2	Symposium on Reproductive Biology and Comparative Endocrinology (SRBCE), India	Metabolism and embryonic diapause in <i>Cynopterus sphinx</i>	2007
3	International Conference and Humboldt-Kolleg on the Structural characterization and spectroscopy of materials relevant to nanotechnology, biomedical and geobiology, Varanasi, India	Effect of cannabis ingestion in male mice	2008
4	National Symposium on Comparative Endocrinology and Reproductive Physiology, Mumbai, India	Role of leptin in delayed embryonic development in <i>Cynopterus sphinx</i>	2009
5	National Symposium on Reproductive Biology and Comparative Endocrinology, Varanasi, India	Glucose and its transporters role in reproductive senescence in male mice	2010
6	Universite de Montreal, Montreal, Canada	Role of estrogen and its receptor in the testicular function of ageing male mice	2012
7	45th Annual Meeting of the	Testicular steroidogenesis and its	2012

	Society for the Studies for Reproduction (SSR), USA	correlation with glucose and glucose transporters in ageing male mice	
8	International Conference on Reproductive Health and the 25th Annual Meeting of the Indian Society for the Study of Reproduction & Fertility (ISSRF-2015), National Institute for Research in Reproductive Health (NIRRH), Mumbai, India	Liraglutide, a glucagon like peptide-1 analog, regulates adipokine profile during adipogenesis and ameliorates obesity	2015
9	National Conference on Reproductive Health Challenges: Issues and Remedies (NCRHC-2015), University of Rajasthan, Jaipur, India-invited talk	Glucagon like peptide-1 analog, liraglutide, modulates adipokines expression during adipogenesis and ameliorates obesity	2015
10	International Conference on Reproductive Health with Emphasis on Occupational, Environmental & Lifestyle Factors and 25th Annual Meeting of the Indian Society for the Study of Reproduction & Fertility (ISSRF-2016), National Institute of Occupational Health (NIOH), Ahmedabad, India	Expression of ODC1, SPM, SPD and AZIN hypothalamus, ovary and uterus during rat estrous cycle	2016
11	International Conference on Reproduction, Endocrinology and Development (ICRED '19)	Liraglutide, a glucagon like peptide analogue, and its uses in management of PCOS	2019
12	National Symposium on Basic & Translational Research in cancer Biology from 11-12 September 2019	Glucagon like peptide analogues uses in cancer management	2019

Invited talks upto 2024:

Delivered invited talks in last five years from BITS Pilani K K Birla Goa Campus in the following conferences:

1. International Conference on Molecular Signalling, 2024, Department of Animal Biology, School of Life Sciences, University of Hyderabad, Hyderabad, India, 1-3 feb., 2024.
2. International Conference ICRSMM-2024 and 41st meeting of SRBCE, Miranda House, situated in the North Campus of University of Delhi, 15-18th Nov., 2024.
3. "Integrated solutions for sustainability", March 2023, Dept. of Zoology, Goa University.
4. INTERNATIONAL CONFERENCE ON MOLECULAR MEDICINE, REPRODUCTION AND ENDOCRINOLOGY 2023 and the 40 ANNUAL MEETING OF THE SOCIETY FOR REPRODUCTIVE BIOLOGY AND COMPARATIVE ENDOCRINOLOGY (SRBCE 2023), Navarachna University, Vadodra, Gujrat.
5. International Conference on REPRODUCTIVE BIOLOGY, COMPARATIVE ENDOCRINOLOGY & DEVELOPMENT 39th Annual Meeting of SRBCE September 14 - 16, 2022, CSIR-CCMB, Hyderabad, INDIA.
6. International Conference on Reproductive Healthcare and 32nd Annual Meeting of the Indian Society for the Study of Reproduction and Fertility, 11th-13th February, 2022, Virtual Conference.

Completed project:

1. SERB Young Scientist project entitled "Regulation of hypothalamic gonadotropin releasing hormone expression by putrescine in female rats" sanctioned money: Rs.

"Regulation of hypothalamic gonadotropin releasing hormone expression by putrescine in female rats /-(Rs.Twenty Two Lakh Twenty Four Thousand Only) on May, 2014.

2. SERB grant approved 2018-Exploring the effects of polyamine and associated metabolic regulation of hypothalamic GnRH-GnIH synthesis and release during ageing in BALB/cJ mice.

3. **Project ongoing:**

- 1) DBT major project as PI entitled Polyamines and their involvement in GnRH I regulation and their role in Polycystic ovarian syndrome (PCOS) management (BT/ PR32910/MED/ 97/473/ 2020).
- 2) A study on molecular mechanisms of alternative splicing and its regulator SMAR1 in TNF- α induced metabolic syndrome in mammalian skeletal muscle and hypothalamic neuronal cells. As CO-PI, in DBT funded project; 2023-2026.
- 3) DBT builder project: Project: BT/INF/22/SP42543/2021; DBT Builder BITS Pilani, KK Birla Goa Campus Interdisciplinary lifesciences for advance research and education (Level III). As a Co-PI.
- 4) ICMR major project: "A target guided approach for design, synthesis, and screening of host-directed therapies for TB and associated metabolic disorder (PCOS) in women" as Co-PI.
- 5) SERB CRG: Investigating the significance of V2 and V3 variants of the gonadotropin releasing hormone (GnRH) in the hypothalamic and non-hypothalamic neurons: new insights in neuronal physiology as PI.

Membership in International/ National Society:

- Life time member of the Indian Society for the Study of Reproduction & Fertility.
- Life time member of the Indian Society for the Society for Reproductive Biology and Comparative Endocrinology.
- Life time member of the Society of the Biological Chemists, India.

Organized Conference:

I have organized the International Conference on Reproductive Physiology and Comparative Endocrinology (ICRPCE) cum 36th meeting of Society for Reproductive

Biology and Comparative Endocrinology (SRBCE) at the BITS Pilani, KK Birla Goa Campus, Goa, India, during 20 to 22 January, 2018, in collaboration with Goa University.

Convenor: Dr. Arnab Banerjee

Organizing Secretary: Prof. R Roy, Dept. of Zoology, Goa University