Name: Dr Vijay Paramanik, PhD, MNASc
Designation: Associate Professor
Department: Zoology
Institution: Indira Gandhi National Tribal University
Amarkantak, MP-484887
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Educational Qualifications

Degree	Institution	Specialization	Year
PhD (Zoology)	BHU Varanasi	Neuroscience	2010
MSc (Zoology)	BHU Varanasi	Biochemistry and Molecular Biology	2004

Professional Experiences

- Total Teaching Experience: 13 years (UG and PG teaching)
- Total Research Experience: 21 Years (6 years doctoral and 2 years postdoctoral, and 13 years as an Independent Researcher)
- Postdoctoral Research Associate: West Virginia University, Morgantown, WV, USA and BHU, Varanasi

Areas of Specialization / Research Interests

- **Theme I: Neuroprotection through Phytoestrogens**
  We focus on understanding the role of Genistein, a well-established phytoestrogen, in the memory learning of mice through ERK1/2, BDNF, and TrkB and their interacting proteins. Currently, we have been working to study the neuromodulatory effects of Daidzein through autophagy in chronically unpredictable mild stress (CUMS) mice.

- **Theme II: Neuroprotection through Probiotics**
  Probiotics may help improve depression and are involved in several brain functions. However, the precise mechanism of probiotics-dependent gut microbiota involvement in CUMS is elusive. So, our lab focuses on understanding the roles of probiotics in CUMS mice that may help in dysregulation of the HPA-axis, and over-activation of the IDO1, a rate-limiting enzyme involved in the dysregulated TRP/KYN pathway, for the improvement of depression.
- **Theme III: Folic acid-dependent expression and regulation of FOXP2 in F1 progeny of folic acid-fed pregnant mouse**
  FOXP2 encodes a forkhead-winged helix family transcription factor, highly expressed in the developing and mature neocortex, and the mutation disrupts the forkhead DNA binding domain. Human-specific FOXP2 targets branchial arch formation and craniofacial development necessary for spoken language. Mice carrying humanized FOXP2 showed accelerated learning, qualitatively different ultrasonic vocalizations, high dendrite length

and synaptic plasticity in the neurons of the striatum, suggesting cortico-striatal circuitry mediates speech and language in humans. So, our laboratory focuses on understanding the roles of folic acid in F1 progeny of folic acid-fed mice in the expression and regulation of FOXP2, vocalization, FOXP2 interacting partners, learning and memory, and in primary neuronal culture from F1 fetus.

Teaching Area: Molecular Biology, Molecular Techniques, Developmental Biology, Biochemistry, Bioinformatics, and Neurobiology

- **Total PhD supervision**:01 awarded, 02 thesis submitted, 01 ongoing,
- **Total Postdoctoral supervision**: 02
- **Total PG/ MPhil supervision**:23 awarded

Publications: Total no of papers:43, Total no of Books and Book Chapters: 02 books/ 04 book chapters, Total no of conferences: 54

Best Publications (5)

- Paramanik V and Thakur MK (2012) Estrogen receptor β and its domains interact with casein kinase 2, phosphokinase C and N-myristoylation sites of mitochondrial and nuclear proteins in mouse brain. J Biol Chem. 22;287(26):22305-22316.
- Kurrey K and Paramanik **V** (2021) Genistein enhances expression of extracellular regulated kinases (ERK) 1/2, and learning and memory of mouse. IBRO Neurosci Rep 10; 90-95.
- Paramanik V, Kurrey K, Singh P, Tiwari S, Nisha. Roles of genistein in learning and memory during aging and neurological disorders. Biogerontology. 2023;24(3):329-346. doi: 10.1007/s10522-023-10020-7.
- Nisha, Paramanik V (2024) Neuroprotective Roles of Daidzein Through Extracellular Signal-Regulated Kinases Dependent Pathway In Chronic Unpredictable Mild Stress Mouse Model. Mol Neurobiol. doi: 10.1007/s12035-024-04567-w. Epub ahead of print. PMID: 39495229.
- T Sneha and Paramanik V (2025) Lactobacillus fermentum ATCC 9338 supplementation alleviates depressive-like behaviour through glucocorticoid receptor and N-methyl-D-aspartate2b in chronic unpredictable mild stressed mouse. Molecular Neurobiology https://doi.org/10.1007/s12035-025-04738-3

The recent five years:

- Paramanik V, Kurrey K, Singh P, Tiwari S, Nisha. Roles of genistein in learning and memory during aging and neurological disorders. Biogerontology. 2023;24(3):329-346. doi: 10.1007/s10522-023-10020-7.
- Mourya VK, Tiwari S, Nisha, Paramanik V. Effect of folic acid diet on the behavior of female mice and ultrasonic vocalization of their F1 offspring. IBRO Neurosci Rep. 2025;28; 18:520-527. doi: 10.1016/j.ibneur.2025.03.007.
- Singh P, Paramanik V. DNA methylation, histone acetylation in the regulation of memory and its modulation during aging. Frontiers Aging 5-2024. https://doi.org/10.3389/fragi.2024.1480932

- Singh P, Nisha, Tiwari S, Paramanik V. Role of polyphenols on adult neurogenesis and cognition during aging. J Transl Med Transplant Res, 3(1): 1-15 https://doi:10.47363/JTMTR/2025(4)114
- T Sneha, Paramanik V**.** Role of probiotics in depression: Connecting dots of gut-brain-axis through hypothalamic-pituitary adrenal axis and tryptophan/kynurenic pathway involving indoleamine-2,3-dioxygenase. Mol Neurobiol. 2025;62(6):7230-7241. doi: 10.1007/s12035-025-04708-9.
- T Sneha, Paramanik V. *Lactobacillus fermentum* ATCC 9338 supplementation alleviates depressive-like behaviour through glucocorticoid receptor and N-methyl-D-aspartate2b in chronic unpredictable mild stressed mouse. Mol Neurobiol. 2025;62(6):7927-7944. doi: 10.1007/s12035-025-04738-3.
- Praveen M, Paramanik V. Molecular docking, dynamics, and drug-likeness studies of alprazolam derivatives as a potent anxiolytic drug against GABAA receptors. Brazilian Journal of Science, 4(1), 34–45. https://doi.org/10.14295/bjs.v4i1.681.
- Nisha, Paramanik V. Neuroprotective roles of daidzein through extracellular signal-regulated kinases dependent pathway in chronic unpredictable mild stress mouse model. Mol Neurobiol. 2025 ;62(4):4899-4921. doi: 10.1007/s12035-024-04567-w.
- Singh R, Kisku A, Paramanik V, Haripriya J.K, Patel D, Kumar S, Kunjbihari Sulakhiya K. Recent updates on modifiable risk factors involved in the pathogenesis of autism spectrum sisorders. J Biol Regulat Homeostatic Agents. 2024;38(5): 3605-3620 DOI: 10.23812/j.biol.regul.homeost.agents.20243805.286.
- Nisha, Paramanik V. In-silico prediction and analysis of autophagy related gene 5 interacting proteins and their regulatory features. J Biotechnol Bioinforma Res, 6(1): 1-21. DOI: doi.org/10.47363/JBBR/2024(6)172
- T Sneha, Paramanik V. In silico study of protein-protein interaction, secondary structure analysis and annotation of functional domains of Indoleamine 2,3-dioxygenase 1. J Transl Med Transplant Res, 3(1): 1-15. DOI: doi.org/10.47363/JTMTR/2024(3)110
- Paramanik V, Kurrey K, Singh P, Tiwari S, Nisha. Roles of genistein in learning and memory during aging and neurological disorders. Biogerontology. 2023;24(3):329-346. doi: 10.1007/s10522-023-10020-7.
- Kurrey K, Paramanik V, Mizui T, Kojima M. Genistein activates ERK1/2 signaling through BDNF-TrkB in culture primary neurons. Jpn Phar Ther 51(7):991-1000.
- Singh P, Paramanik V. Neuromodulating roles of estrogens and phytoestrogens in cognitive therapeutics through epigenetic modifications during aging. Fron Aging Neurosci. https://doi.org/10.3389/fnagi.2022.945076
- Kurrey K, Paramanik V. Genistein enhances expression of extracellular regulated kinases (ERK) 1/2, and learning and memory of mouse. IBRO Neurosci Rep. 2021;29;10:90-95. doi: 10.1016/j.ibneur.2021.01.005.
- Kurrey K, Paramanik V. Identification of secondary structure of extracellular signal regulated kinase (ERK) interacting proteins and their domain: an in-silico study. WJNS;11;67-89. DOI: 10.4236/wjns.2021.111007.
- Paramanik V, Basumatary MJ, Nagesh G, Kushwaha JK and Kurrey K (2019) Ethanolic extracts of candidate Indian Traditional Medicines *Acorus calamus*, *Terminalia chebula* and *Achyranthes aspera* are neuroprotective in Zebrafish. IBRO Neurosci Rep 6 S54-S345
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Research Projects (if any)

SN	Project Investigator/ CoPI	Title	Year/ Funding Agency	Amount (lakhs/dollar)
1	Dr Vijay Paramanik	Identification of Indian Traditional Medicine from Amarkantak region, their biochemical characterization and preparation of Ayurinfoirmatics data	2013-2015 UGC, Govt of India	6.0lakhs
2	Dr Vijay Paramanik	Roles of Genistein in Learning and Memory-A molecular approach	2014-2017 SERB, Govt of India	21.56lakhs
3	Dr Vijay Paramanik (CoPI)	Mode of action and physiological functions of Arginine-Phenylalanine (RF) amide related peptide 3 in mice	2017-2020 DBT, Govt of India	38.42lakhs
4	Dr Vijay Paramanik	A training program of vermicomposting for scheduled Tribes of Amarkantak region: Ana initiative towards enhancing economy	2018-2020 NASI-DBT	3.0lakhs
5	Dr Vijay Paramanik	IBRO–APRC Associate school on Advances in Molecular Neurobiology, March 3-9, 2019 at Amarkantak (MP), India	IBRO-APRC	20000USD
6	Dr Vijay Paramanik	IBRO–APRC Associate school on Biophysical to Molecular Techniques: An interface in Neurobiology Research, August 23-27, 2021	IBRO-APRC	11000USD
7	Dr Vijay Paramanik	IBRO–APRC Associate school on Animal Models of Neurobiology Research: Models to Molecules, September 20-24, 2021	IBRO-APRC	10000USD
8	Dr Vijay Paramanik	IBRO–APRC BAW program	IBRO-APRC	1200EURO
9	Dr Vijay Paramanik	Roles of folic acid on the expression and regulation of FOXP2 in F1 progeny of perinatal folic acid fed pregnant mouse”	2023-2026 ICMR	37lakhs
10	Dr Vijay Paramanik	DST-STUTI training program	DST, Govt of India	6.25lakhs
11	Dr Vijay Paramanik	To study roles of phytoestrogen (s) mediated learning and memory by behavioral analysis	ICMR, Govt of India SRF-Ms Khuleshwari Kurrey	14.20lakhs

12	Dr Vijay Paramanik	Estrogen mediated metabolic regulation of histone acetylation and memory in mouse	DBT-RA Dr Padmanabh Singh	13.18lakhs

Awards and Recognitions (Best Five)

Vice President, Association of Gerontology (AGI) Biogerontology 2021onward----
Visiting IBRO researcher to BRIMS, Monash University, Sunway, **Malaysia,** 2018
President Young Scientist Award, IGNTU, Amarkantak, **INDIA**, 2018
Jyotsnamoyee Raghunath Bhattacharya (JRB) prize for best published paper from Indian Academy of Neurosciences, INDIA (2013)
Member, The National Academy of Sciences, India (NASI), INDIA (2012)
The National Academy of Sciences, India (NASI) Swarnajayanti Puraskar, INDIA (2012)

Membership in Professional Bodies (Five only)

National Academy of Sciences, India (NASI)
International Brain Research Organization (IBRO)
International Society of Neurochemistry (ISN)
Japanese Neuroscience Society (JNS), Japan
Indian Academy of Neurosciences (IAN), India
Association of Gerontology (AGI), India
Society of Neurochemistry (SNCI), India

Workshops / FDPs Attended or Conducted (Five only)

Conveners of

IBRO-APRC Associate School of Neuroscience, IGNTU Amarkantak (MP), March 3-9, 2019.
IBRO -APRC Associate School of Neuroscience, IGNTU Amarkantak (MP), August 23-27, 2021
IBRO -APRC Associate School of Neuroscience, IGNTU Amarkantak (MP) Sep 20-24, 2021
IBRO- APRC Brain Awareness week, March 29-30, 2022
DST- STUTI, IGNTU February 6-12, 2023

Other Contributions

Member and Chairperson, BoS, Department of Zoology
Member and Chairperson, DRC, Department of Zoology
Member, IAEC, IGNTU Amarkantak
Member, IEC, IGNTU, Amarkantak
Member, IBC, IGNTU Amarkantak
Member, International Affairs and MoU, IGNTU Amarkantak