

Dr. MANISH K

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EDUCATION

- **2021 February: Postdoctoral fellow**, Inter-university centre for Evolutionary and Integrative Biology iCEIB, University of Kerala
- **2015 September: Ph.D. in Zoology (Faculty of Science), Date of Registration:** 20, April 2009, **Open defense:** 9, September 2015, **Awarded:** 26, September 2015 – University of Kerala. **Thesis:** *Role of serotonin, tryptophan and α -tocopherol in ion transport during stress response in mice.*
- **2007 June: M.Sc. in Zoology, 68%** – University of Kerala
- **2005 April: B.Sc. in Zoology, 79%** – University of Kerala
- **2002 March: Secondary– 67%** Board of higher secondary examination, Government of Kerala
- **2000 March: SSLC– 83.5%** General education department, Government of Kerala

APPOINTMENTS

- 04.09.2023 to 27.03.2024: Guest Lecturer in Zoology, at VTM NSS College, Dhanuvachapuram
- 28.10.2022 to 31.03.2023: Guest Lecturer in Zoology, at VTM NSS College, Dhanuvachapuram
- 15.11.2021 to 31.03.2022: Guest Lecturer in Zoology, at VTM NSS College, Dhanuvachapuram
- 18.09.2017 to 09.02.2021: Post doctoral fellow: University of Kerala, Inter-University Centre for Evolutionary and Integrative Biology.

AREA OF RESEARCH WORK

- **Postdoctoral research**

Focus on behavioral physiology in mammals and fishes. Conducts rodent-based behavioral tests and models to understand the mechanisms by which stress triggers anxiety-related behaviors in mammals. Investigate the neurobiological basis of anxiety disorders by combining anxiety tests with neurotransmitter administration. Study the integrative and regulatory physiology and, in particular, the ion-transport associated with stress in Zebrafish.

- **Doctoral research**

Studied the mammalian physiological response of ion transporters to supplemental α -tocopherol and tryptophan as well as serotonin perfusion, which is critical for combating various psychosocial stress conditions.

- **Postgraduate research**

A comparative study of the cocoon biology of the four species of Earthworms of Kerala

PUBLICATIONS

- **K Manish**, M C Subhash Peter. "Short term effect of L-tryptophan feeding on blood analytes and cellular Na⁺/K⁺ ATPase activity in stressed mice. Research Journal of Pharmaceutical, Biological and Chemical Sciences (RJPBCS) 7(2). 752-757, April-March 2016. <https://doi.org/10.33887/rjpbcs>
- S. Simi, **K. Manish**, M. C. Subhash Peter, Volume 23, Issue 1, June 2019. Rapid action of Triiodothyronine on Mitochondrial H⁺, Ca²⁺ and Mg²⁺-Dependent ion Transporters in Cortex, Hippocampus and Cerebellum of Restraint Mice. Journal of Endocrinology and Reproduction (JER). <https://doi.org/10.18311/jer/2019/26221>
- Ajith M. Thomas, Lija L. Raju, **K. Manish**, M. C. Subhash Peter. Regulation of Na⁺/K⁺-ATPase and Plasma Membrane Calcium ATPase in Brain-Gut Axis during Restraint Stress in Ageing Male Mice. Journal of Endocrinology and Reproduction (JER). Volume 23, Issue 1, June 2019 <https://doi.org/10.18311/jer/2019/26218>
- Lija L. Raju, Ajith M. Thomas, **K. Manish**, Valsa S. Peter, M. C. Subhash Peter. Impact of restraint stress on mitochondrial ion transporter activity in mice brain-gut regions and gender response to aging. Journal of Endocrinology and Reproduction (JER). Volume 23, Issue 2, December 2019
- S. Sreelekshmi, **K. Manish**, M.C. Subhash Peter, R. Moses Inbaraj. Analysis of neuroendocrine factors in response to conditional stress in zebra fish *Danio rerio* (Cypriniformes: Cyprinidae). Comparative Biochemistry and Physiology, Part C (CBP) 252 (2022)109242.
- Indu B Nair, **K. Manish**, M. C. Subhash Peter. Intermittent Restraint Stress and Recovery on GPCR Expression in Brain/Gut Axis of Mice: Activation of Adrenergic, Dopamine, Serotonin and Melatonin Receptors During Stress and Ease Response. Proc Zool Soc <https://doi.org/10.1007/s12595-023-00508-y>
- **Manish, K**, Sajeeb Khan, A, Praveen Kumar P.P, Nandini N.J and Ayana Gayathri R.V. Effect of *in situ* Action of Serotonin in Transmembrane Ion Transport in Mice Exposed to Restraint Stress. *Biological Forum – An International Journal* 15(3): 839-850(2023)
- **Manish, K**, Sajeeb Khan, A, Praveen Kumar P.P, Jaya Chithra, S, K and Ayana Gayathri R.V. Vitamin C ameliorates the malformed tissue integrity of kidney and liver in Swiss Albino mice (*Mus musculus*) exposed to restraint stress and dietary salt. *Biological Forum – An International Journal* 15(4): 951-956 (2023).

CONFERENCE PRESENTATIONS

- **2019.** Manish K, Jemma P, Arathy S, Sreelekshmy, Inbaraj M Peter V S, Peter M C S. "Hyperosmotic stress and air exposure modify ion transporter expression pattern in gastrointestinal tract of wild zebrafish *Danio Rerio*". *Humboldt Kolleg on Comparative Endocrinology and Physiology, RTM Nagpur University, Nagpur, Maharashtra.*
- **2017.** Manish K, Simi S, M C Subhash Peter. "Thyroid and Stress, Pre-satellite symposium on Trends in Thyroid endocrinology". Chennai
- **2013.** Manish K, M C Subhash Peter. "Influence of α -tocopherol on ion transport activity in mice treated with excess dietary salt". International conference on integrative and comparative physiology (SEIB), Department of Zoology, University of Kerala, Kariavattom
- **2012.** Manish K, Valsa S Peter, C Subhash Peter. "Melatonin attenuates the salt-induced blood acidosis and hyperglycemia in swiss albino mice". International symposium on Comparative Endocrinology and Stress physiology (CESP). Mascot Hotel, Thiruvananthapuram
- **2011.** Manish K, Kiran P, Valsa S Peter, C Subhash Peter. "Corticosterone-driven physiologic response of male mice to chronic intermittent stress". 29th Annual meeting of the society for reproductive biology and comparative endocrinology (SRBCE), Department of Zoology, University of Mysore

RESEARCH INTERESTS AND EXPERIENCE

More than five year experience on Stress physiology and Behavioral physiology

PARTICIPATION

- **2018,** "National workshop on Integrative Biology: Innovative teaching in Biology", University of Kerala.
- **2016,** "National seminar on Emerging trends in Life science", Department of Zoology, University of Kerala.
- **2017,** International symposium on Recent trends in Comparative Endocrinology, Indian society for Comparative Endocrinology, Madras Christian college, Chennai
- **2013,** National seminar on challenges in biodiversity conservation in the context of climate change, Department of Zoology, University of Kerala
- **2013,** National workshop on Integrative Biology, Department of Zoology, University of Kerala
- **2013,** 25th Kerala Science. Technopark, Thiruvananthapuram
- **2018,** One day seminar on Integrative Biology, ICEIB, university of Kerala
- **2009,** One day seminar on Recent advances in Biology, Department of Zoology, University of Kerala
- **2017,** Post-Satellite symposium on Integrative Stress/Ease physiology and endocrinology, STRESS Kerala Science Congress, Technopark, Thiruvananthapuram

- **2015**, National seminar on Biological sciences for sustainable development, Department of Zoology, University college, Thiruvananthapuram
- **2018**, Global initiative of Academic networks (GIAN) Department of Animal sciences, Bharathidasan University, Thirichirappalli, Tamilnadu
- **2019**, “Conference on Integrative Biology and Thyroid physiology”, University of Kerala.

HONORS / AWARDS

- DST-PURSE scheme for research fellowship, 2012
- A grade -A recent trend in life sciences research with special reference to molecular imaging, proteomics and metabolomics. Global initiative of academic networks (GIAN), 2018
- Appreciation: Resource Person for Chairing Technical Session II in the Two-Day National Seminar on Biodiversity Matters: Preserving Our National Heritage” on 13.10.2023,

RESERCH GUIDANCE

Joint supervision:

- 2010, Manish K, Kiran P, M C Subhash Peter, **Master of Philosophy**, University of Kerala. Physiologic Response of Swiss albino mice *Mus musculus* to chronic stress
- 2017, Manish K, Surya Suresh, M C Subhash Peter, **Master of Philosophy**, University of Kerala. Behavioral response of swiss albino mice (*Mus musculus*) to house cat.

ADMINISTRATIVE EXPERIENCE

- Involved in the administration of project funded by Higher Education Department of Government of Kerala for two years
- Attended training on “**e tendering**” organized by SICC (University of Kerala) & Kerala IT mission (Government of Kerala)

MEMBERSHIPS / AFFILIATIONS

- Member, Indian Society for Comparative Endocrinology (ISCE)