Vaibhav Tiwary

Curriculum Vitae

Rostock, Germany
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Nationality: Indian | ORCID: 0000-0002-5337-5565

Research Interests

Epigenetics and Inheritance, aging biology, mitochondria and metabolism, stress resilience, and epigenetic rejuvenation.

Education and Training

Sept 2021 – Aug 2025 **Ph.D. in Metabolism and Aging**, *University of Rostock / Leibniz Institute of Farm Animal Biology (FBN)*, Germany
University Website | FBN Lab Website

July 2018 – June 2020 **M.Sc. Biotechnology**, *Vellore Institute of Technology*, India
CGPA: 8.6 | https://vit.ac.in/

July 2015 – June 2018 **B.Sc. Biotechnology (Hons.)**, *St. Xavier's College, Ranchi*, India
CGPA: 7.92 | https://sxcran.ac.in/

Work Experience

Sept 2021 – Aug 2025 **Ph.D. Researcher**, *Leibniz Institute of Farm Animal Biology / University of Rostock*, Germany
Focus: Characterization of light-activated proton pump in *Drosophila melanogaster* and its implications on aging.

Decemeber 2019 – Mar 2021 **Project Trainee + Master thesis**, *CSIR–Centre for Cellular and Molecular Biology (CCMB)*, Hyderabad, India
Focus: Transgenerational epigenetic inheritance via male germ line in *Drosophila melanogaster* induced by heat-stress.

May 2019 – June 2019 **Intern**, *ICMR–National Institute for Cancer Prevention and Research (NICPR)*, Noida, India
Focus: Screening of cervical samples for HPV detection in the context of cervical cancer prevention.

Publications

1. **Tiwary, V.**, Kovvali, B., Umair, M.B., Peleg, S. (2025). *Human Longevity: Bringing Radical Disruptive Ideas into Light.* In: Betz, U.A.K. (ed.) *Science for a Better Tomorrow.* Springer, Cham. DOI: 10.1007/978-3-031-93623-4_7. Published 19 Aug 2025. ISBN: 978-3-031-93623-4.
2. **Tiwary,** V., Trakooljul, N., Peleg, S. (2025). *Reserpine prolongs lifespan but compromises heat-stress resilience in Drosophila melanogaster.* bioRxiv 2025.08.20.671049.
3. **Tiwary,** V., Galow, A.M., Wojtovich, A.P., Peleg, S. (2023). *Using light to drive energy transduction in metazoan aging.* Trends in Biochemical Sciences.
4. Kumarasamy, C., **Tiwary, V.**, et al. (2021). *Prognostic Utility of Platelet-Lymphocyte Ratio, Neutrophil-Lymphocyte Ratio and Monocyte-Lymphocyte Ratio in Head and Neck Cancers: A PRISMA Systematic Review and Meta-Analysis.* Cancers, 13(16), 4166.
5. Kharat, P., Sarkar, P., Mouliganesh, S., **Tiwary, V**., et al. (2020). *Ellagic acid prolongs the lifespan of Drosophila melanogaster.* GeroScience, 42(1), 271–285.
6. **Tiwary,** V., Sarkar, P., & Thirumurugan, K. (2020). *Naringenin and ellagic acid reduce tetrazolium salt in the absence of cells.* The Natural Products Journal, 10.

Conferences and Seminars

2024 Gordon Research Conference (GRC) – Systems Aging, Barcelona (02–07 June). Focus: Systems Modeling, Aging Biomarkers, and Longevity Interventions. Link

2024 Gordon Research Seminar (GRS) – Systems Aging, Barcelona (01–02 June). Focus: Integrative Omic Methods to Measure Stochastic and Programmed Aspects of Aging. Link

2019 43rd Annual EMSI Conference, VIT, India. Poster: Effect of ellagic acid on HeLa & HEK 293 cells.

Projects

Master Thesis	**Role of Polycomb (PcG) and Trithorax (TrxG) proteins in transgenerational inheritance of epigenetic memory induced by heat-stress. (Dec 2019 – June 2020)** | Guide: Dr. Rakesh Mishra, CSIR-CCMB.
Master Project	**Cytotoxic effect of bioaccessible fraction of combined phytochemicals (*Piper nigrum*, *Zingiber officinale*, etc.) against MCF-7 cells. (2019)** | Guide: Dr. Gothandam K.M., VIT.
Master Project	**Gene expression in lifespan extension of Drosophila treated with ellagic acid. (2019)** | Guide: Dr. Kavitha Thirumurugan, VIT.
Master Project	**Effect of Cobalt Chloride on development of zebrafish embryos. (2018)** | Guide: Dr. Everette Remington N., VIT.
Bachelor Project	**XRCC1 Arg399Gln polymorphism in Chronic Kidney Disease. (2017)** | Guide: Dr. Sabitha Kotra, NTHRYS Lab, Hyderabad.

Workshops and Training

Workshops on molecular biology and bioinformatics during M.Sc. at VIT.

Training in advanced Drosophila genetics and behavior assays during Ph.D.

Technical Skills

Molecular Biology	PCR, qPCR, Western blotting, DNA/RNA extraction, gene expression analysis, ATP assay from isolated mitochondria and fly heads.
Cell Biology	Cell culture, viability assays, fluorescence microscopy.
Model Systems	*Drosophila melanogaster*, Zebrafish embryos, mammalian cell lines.
Bioinformatics	RNA-seq sample prep, RNA-seq data analysis, KEGG pathway analysis, Gene Ontology (GO) enrichment, R, GraphPad Prism.
Visualization	BioRender, figure generation for publications.
Optogenetics	Light-activated proton pumps, confocal imaging.
Writing	Peer-reviewed publications, grant proposals, scientific reviews.
Clinical Screening	Cervical cancer detection assays, HPV detection methods.

Languages

Hindi	Mother tongue
English	C2 – Listening, Reading, Speaking, Writing
German	A1 – Beginner

Management and Leadership

Organizer – 8th International Bio Summit, 2019, VIT, Vellore

Coordinator – 43rd Annual EMSI Conference, 2019, VIT, Vellore

Coordinator – 7th International Bio Summit, 2018, VIT, Vellore

References

Dr. Shahaf Peleg
Group Leader, Epigenetics, Metabolism, and Longevity
Forschungsinstitut für Nutztierbiologie (FBN), Dummerstorf, Germany
peleg@fbn-dummerstorf.de

Dr. Kavitha Thirumurugan
Professor and Group Leader, School of Biosciences and Technology
Vellore Institute of Technology (VIT), Vellore, Tamil Nadu, India
m.kavitha@vit.ac.in