Balan Ramesh

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Academic Position

2024–Present **Assistant Professor**, *Mahindra University*, Hyderabad.
Center for Life Sciences

2021–2024 **Postdoctoral Fellow**, *The University of Idaho (UI)*, Moscow.
Jones Lab @ UI and Cresko Lab @ University of Oregon
Grant: NSF 2015419 and NSF 1953170
Topic:
1. Genomics of Sexual Selection in Pipefishes and Seahorses
2. RoL: The evo-devo of male pregnancy and its effects on the brood pouch microbiome

Education

2016–2021 **B.S to Ph.D. in Quantitative Biology**, *The University of Texas*, Arlington, *GPA – 4.0/4.0*.
Specialized in Computational Biology
Thesis:Evolution of Dosage Compensation in *Tribolium* Beetles
Advisor: Dr. Jeff Demuth

2012–2016 **Bachelor of Technology**, *Anna University*, Kumaraguru College of Technology, *GPA – 8.66/10*, First Class with Distinction.
Specialized in Biotechnology
Advisor: Dr. Sathishkumar Thiyagarajan

Peer Reviewed Publications

In Progress

2024 **Balan R**., Small C., Healey H., Johnson B., Barker E., Bassham S., Currey M., Myers M., Cresko W., and Jones A. Leveraging PacBio HiFi sequencing and Hi-C scaffolding for the rapid production of chromosome-level genome assemblies for 10 syngnathiform fishes
Target: Molecular Ecology Resources (Under Revision)

Published

2024 Robben, M.,# **Ramesh, B**#., Pau, S., Meletis, D., Luber, J., and Demuth, J. P. scRNA-seq reveals novel genetic pathways and sex chromosome regulation in *Tribolium* spermatogenesis
Genome Biology and Evolution. - # Co-First Author

2023 **Balan R**., Small C., Healey H., Johnson B., Barker E., Bassham S., Currey M., Myers M., Cresko W., and Jones A. Improvements to the Gulf Pipefish, *Syngnathus scovelli* Genome
GigaByte

2022 Thomas J.F. Jr. **Balan R**., Alison H. E., Corey E.R., Matthew K.F., Transcriptomic analysis reveals potential candidate pathways and genes involved in toxin biosynthesis in true toads (Anura: Bufonidae)
Journal of Heredity

2021 **Balan R**., Thomas J.F. Jr., Jeffrey P. D., Divergence time estimation of genus *Tribolium* by extensive sampling of highly conserved orthologs
Molecular Phylogenetics and Evolution: https://doi.org/10.1016/j.ympev.2021.107084

2019 Drew R. Schield, Daren C. Card, Nicole R. Hales,Blair W. Perry, Giulia M. Pasquesi, Heath Blackmon,Richard H. Adams, Andrew B. Corbin,Cara F. Smith, **Balan R.**, Jeffery P. Demuth,Esther Betran, Marc Tollis, Jesse M. Meik, Stephen P. Mackessy, and Todd A. Castoe. The origins and evolution of chromosomes, dosage compensation, and mechanisms underlying venom regulation in snakes.
Genome Research. 29 (4): pp 590-601

2017 Muthukumaran P., Aravind J., Thirumurugan A., Sridhar S., **Balan R**., and Indumathi P. Screening, Isolation and Development of Fungal Consortia with Textile Reactive Dyes Decolorizing Capability.
Bioremediation and Sustainable Technologies for Cleaner Environment (pp. 295-303). Springer International Publishing

Muthukumaran P., Yuvapriya S., **Balan R**., Gokhul V., Indumathi P., and Saraswathy N. *In vitro* phytochemical screening, evaluation, antioxidant potential and antibacterial activity of *Amorphophallus paeonifolius* (Dennst. Nicolson).
Journal of Chemical and Pharmaceutical Sciences 10(3): pp. 1090 - 1097

2016 Kumaresan, K., **Balan R** ., Sridhar, A., Aravind, J., and Kanmani, P. An integrated approach of composting methodologies for solid waste management.
Global Journal of Environmental Science and Management 2(2): pp. 157-162.

Aravind, J., Kanmani, P., Sudha, G., and **Balan R**. Optimization of chromium (VI) biosorption using gooseberry seeds by response surface methodology.
Global Journal of Environmental Science and Management 2(1), 61-68.

Muthukumaran, P., Saraswathy, N., Aswitha, V., **Balan R** ., Gokhul, V. B., Indumathi, P., and Yuvapriya, S. Assessment of total phenolic, flavonoid, tannin content and phytochemical screening of leaf and flower extracts from *Peltophorum pterocarpum* (DC.) Backer ex K. Heyne: a comparative study.
Pharmacognosy Journal 8(2).

Muthukumaran, P., Saraswathy, N., Yuvapriya, S., **Balan R**., Gokhul, V. B., and Indumathi, P. In vitro phytochemical screening and antibacterial activity of *Amorphophallus paeonifolius* (Dennst. Nicolson) against some human pathogens.
Journal of Chemical and Pharmaceutical Research 8(2): pp. 388-392.

Kanmani, P., Kumaresan, K., Aravind, J., Karthikeyan, S., and **Balan R**. Enzymatic degradation of polyhydroxyalkanoate using lipase from *Bacillus subtilis*.
International Journal of Environmental Science and Technology 13(6), pp. 1541-1552.

Computer skills

Languages	PYTHON, R, GIT, SHELL, LaTeX, HTML
Workflow Management	Snakemake, Conda, Nextflow, Docker

Awards, Honors and Grants

2023	Data Access Grant from IMCI at the University of Idaho
2021	William and Martha Hughes Award from Department of Biology for graduating candidate with outstanding potential
2020	Maverick Science Graduate Research Fellowship as recognition in support of my Ph.D. dissertation research by the College of Science at UTA - $2,000/month for 3 months
	T.F. Kennerly Award for Excellence in Teaching by department of Biology at UTA
2018-2021	Phi-Sigma Large Research Grant - $3,000
2018	Phi-Sigma Travel Award for RNA-Seq Hackathon organized by NCBI - $750
2016-2021	STEM Fellowship - $24,000/year
2013-2015	Mahatma Gandhi Merit Scholarship for academic excellence
2012-2016	Prime Minister's Merit Fellowship for Undergraduate Degree

Conference Presentations

T - Talk, P - Poster

2020 Presented a virtual talk on "Using ancestral reconstruction of chromosome expression states (ARChES) to understand the evolution of dosage compensation" at TACCSTER, Austin. **(T)** http://dx.doi.org/10.26153/tsw/11486

Presented a virtual talk on "Using ancestral reconstruction of chromosome expression states (ARChES) to understand the evolution of dosage compensation" in EMBL Symposium: The Molecular Basis and Evolution of Sexual Dimorphism, Germany.**(T)**

2017 Co-Presented a poster on "Inferences of ongoing and unresolved sexually antagonistic selection from population genomic data in the flour beetle *Tribolium castaneum*" in Society of Molecular Biology and Evolution, Austin.**(P)**

2015 Co-Presented a poster on "Green synthesis of Silver Nanoparticles from *Amorphophallus paeoniifolius* and its antimicrobial activity" in a conference on Nanotoxicology at SASTRA University, Kumbakonam.**(P)** The poster was published in the proceedings of the conference.

2015 Co-Presented a poster on "A review on albumin as a carrier for the anti-cancer drug paclitaxel" in a conference on Drug Carriers in Medicine and Biology at Bannari Amman Institute of Technology, Sathyamangalam.**(P)** Best Undergraduate Poster Award

Additional Training

2019 Certified Software Carpentry Instructor. Certificate

Teaching Experience

Graduates

Fall 2017-2019 & Spring 2022 Bioinformatics Teaching Assistant (volunteer)

Undergraduates

Summer 2018 - 2021 Evolution and Ecology Lab

Summer 2017 Human Anatomy and Physiology I Lab

2016-2018 Cell and Molecular Biology Lab

University and Community Service

2017-2021 Software Carpentry Workshop - Python and R Instructor