

Aalok Varma

San Diego, CA

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CURRENT POSITION

Postdoctoral Fellow, Laboratory of Dr Loren Looger
University of California, San Diego

Sep 2023–Present

EDUCATION

PhD Neuroscience, Laboratory of Dr Vatsala Thirumalai
National Centre for Biological Sciences, Bangalore

Aug 2015–Aug 2023

Thesis: “Probing Purkinje neuron Intrinsic Dynamics using experimental and computational approaches”

(Relevant publications: See “Primary Research” publications 2, 3 and 4)

BSc Biotechnology
School of Life Sciences, Manipal University, Manipal

Aug 2012–Aug 2015

Thesis: “RNA-interference based study of the function of Neuropeptide Receptor 1 (NPR-1) in the freshwater planarian model organism Schmidtea mediterranea.”
University gold medallist

PUBLICATIONS

Primary Research

1. Jambor H, Antonietti A, ..., **Varma A**, ..., Weissgerber T. [Creating clear and informative image-based figures for scientific publications](#). *PLoS Biology* (2021)
2. **Varma A**, Udupa S, Sengupta M, Ghosh P, Thirumalai V. [A machine-learning tool to identify bistable state from calcium imaging data](#). *Journal of Physiology* (2024)
3. Narayanan S, **Varma A**, Thirumalai V. [Predictive neural computations in the cerebellum contribute to motor planning and faster behavioral responses in larval zebrafish](#). *Science Advances* (2024)
4. Agarwal V, Narayanan S, Sengupta M, **Varma A**, Sarkar S, Chinta S, Thirumalai V. [Highly synchronized inhibition from Purkinje cells entrains cerebellar output in zebrafish](#). *bioRxiv* (2024)
5. Dalmeida R, **Varma A**, Anil A, Palakodeti D, Gulyani A. [Temporal integration and active sensing of light in planarians](#). *bioRxiv* (2025)

Advocacy/Science Citizenship

1. **Varma A**. [Peer Review: Feeling like a ‘real’ scientist](#). *eLife* (2022)
2. Kent. BA, Holman C, ..., **Varma A**, ..., Weissgerber T. [Recommendations for empowering early career researchers to improve research culture and practice](#). *PLoS Biology* (2022)
3. Urban L, ... **Varma A**, ... [Point of View: eLife’s new model and its impact on science communication](#). *eLife* (2022)

HONORS AND AWARDS

Torrey Pines Training Consortium (TPTC) Postdoc PITCH <i>Second Place and People's Choice Award</i>	Oct 2025
UCSD Postdoc PITCH <i>First Place</i>	Apr 2025
Hello Bio Lab Hero Award <i>Runner Up</i>	Dec 2024
Kavli-Grass Fellowship, Marine Biological Laboratory (MBL), Woods Hole	May 2024–Aug 2024
Society for Neuroscience (SfN) Trainee Professional Development Award (TPDA)	Nov 2023
Carl Storm International Diversity Fellowship, Gordon Research Conference	Jul 2022
CTEP Travel Award, Department of Biotechnology of India (DBT)	Jul 2022
Infosys Leading Edge Travel Award	Jul 2022
International Brain Research Organization (IBRO) Travel Award	Jun 2017
Infosys Travel Award	Jun 2017
Dr TMA Pai Gold Medal, Manipal University	Nov 2015

WORKSHOPS/CONFERENCES ATTENDED

Society for Neuroscience (SfN) Annual Meeting , San Diego, CA, USA <i>Participant</i>	Nov 2025
Bridging Biomedical Breakthroughs Summit , UCSD, San Diego, CA, USA <i>Participant</i>	Nov 2025
UC San Diego Gene Therapy Initiative Symposium: Vector Optimization , UCSD, San Diego, CA, USA <i>Participant</i>	Jun 2025
Neurobiology in Changing Environments Symposium , Allen Institute, Seattle, WA, USA <i>Session Chair (invited) "Genetics and Development: Mechanisms and Adaptations"</i>	Apr 2025
Genetic Tools for New Model Organisms , HHMI Janelia Research Campus, Ashburn, VA, USA <i>Selected Talk: "Let's go viral: Developing viral transduction tools in emerging model organisms"</i>	Mar 2025
Cephalopod Neuroscience Conference and Workshop , Marine Biological Laboratory (MBL), Woods Hole, MA, USA	Apr 2024
American Society for Cell Biology (ASCB) Annual Meeting , Boston, MA, USA <i>Participant</i>	Dec 2023
Society for Neuroscience (SfN) Annual Meeting , Washington DC, USA <i>Poster: "CaMSort - a machine-learning tool to identify bistable states from calcium imaging data"</i> <ul style="list-style-type: none">• <u>Trainee Professional Development Awardee (see "Honors and Awards" above)</u>	Nov 2023

ICTP-ICTS Winter School On Quantitative Systems Biology: Machine Learning in Biology , online <i>Selected Spotlight Talk: "Identifying bistable state from calcium imaging data using machine learning"</i>	Dec 2022
Gordon Research Conference in Molecular and Cellular Neuroscience , Ventura, CA, USA <i>Poster: "CaMLsort - a machine-learning tool to identify bistable states from calcium imaging data"</i>	Jul 2022
ICTP-ICTS Winter School On Quantitative Systems Biology: Sensorimotor Control , online	Dec 2021
Society for Neuroscience (SfN) Annual Meeting , online <i>Poster: "Identifying Purkinje neuron state from calcium imaging data using machine learning"</i>	Nov 2021
25th Latin American Congress for Microbiology , online <i>Invited Talk: "The eLife Community Ambassadors Program"</i>	Aug 2021
No Garlands Neuroscience , Indian Institute of Science Education and Research, Pune, India <i>Selected Talk: "How the olivocerebellar circuit represents predictable stimuli"</i>	Jan 2020
Ion Channels in Synaptic and Neural Circuit Physiology Course , Cold Spring Harbor Labs (CSHL), Cold Spring Harbor, NY, USA <ul style="list-style-type: none"> • Full scholarship (see "Honors and Awards" above) • Featured as the Visitor of the Week 	Jun 2017
6th Annual Science Journalism Workshop , National Centre for Biological Sciences <i>Selected Participant</i>	Jun 2016
Lecture Series in Advanced Cell Biology 2015: Disease Biology , National Centre for Biological Sciences <i>Selected Participant</i>	Jan–Mar 2015

LEADERSHIP AND SERVICE

Ad-hoc Reviewer <i>Journal of Experimental Biology (JEB)</i> <i>Homeworld Collective Garden Grants</i>	2025
Moderator <i>Undergraduate Summer Research Program, UC San Diego</i>	Aug 2025
Postdoc Representative <i>Search Committee for Dean of Graduate Education and Postdoctoral Affairs, UC San Diego</i>	Jun 2025
Evaluator <i>Ben Barres Spotlight Award, eLife</i>	2022, 2023
Evaluator <i>Open call for Reviewing Editors from Latin America, eLife</i>	Apr–Nov 2022
Member and Co-Chair <i>Early Career Advisory Group (ECAG), eLife</i>	May 2021–Oct 2023

Documentation Team Lead <i>NCBS/inStem COVID-19 Testing Centre, Bangalore</i>	May 2020–Aug 2020
Community Ambassador <i>eLife Community Ambassador Program</i>	Apr 2019–Apr 2020
Signatory <i>San Francisco Declaration of Research Assessment (DORA)</i>	Oct 2018
Coordinator <i>Neurobiology Journal Club (NBJC), NCBS, Bangalore</i>	Aug 2016–Dec 2017

TEACHING AND MENTORSHIP

Mentor <i>Biology Undergraduate and Masters Mentorship Program (BUMMP) UC San Diego</i>	Oct 2023–Oct 2025
Project TA <i>Computational Neuroscience Summer Course, virtual Neuromatch Academy</i>	Jul 2023 Jul 2022
Coordinator and Instructor <i>Lecture Series in Advanced Biology: Feedback Systems in Biology NCBS, Bangalore</i>	July 2022
Teaching Assistant (Image Processing/Computer Vision Module) <i>Bangalore Microscopy Course NCBS, Bangalore</i>	Sep 2019
Lead Instructor <i>Coding for Biologists (informal course) NCBS, Bangalore</i>	Sep 2019–Nov 2019

SCIENCE COMMUNICATION AND OUTREACH

Taste of Science, San Diego Chapter <i>Volunteer and Event Lead</i>	2025–Present
Skype A Scientist <i>Guest lecturer</i>	Dec 2021
Lecturers without Borders <i>Guest lecturer</i>	Apr 2021
Sympotein XIII – Communication XIV – Geometry and Design: Patterns in Biology XV – The Frog Who Croaked Blue <i>Co-organizer and Presenter</i>	2015–2018