

VIDHYA RANGARAJU, PhD

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Jupiter, Florida 33458

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[Lab Webpage](#)

CURRENT POSITIONS

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|----------------------------------------------------------------------------------------|--------------|
| Research Group Leader | From 01/2020 |
| Max Planck Florida Institute for Neuroscience (MPFI), Florida, USA | |
| Affiliate Faculty | From 10/2020 |
| Charles E. Schmidt College of Science, Florida Atlantic University (FAU), Florida, USA | |

MATERNITY BREAKS

07/2020, 02/2023, 10/2025

EDUCATION AND TRAINING

| | |
|------------------------------------------------------------------------------------|-------------------|
| Postdoctoral Fellow, Erin Schuman Lab | 02/2014 – 12/2019 |
| Max Planck Institute for Brain Research (MPIBR), Germany | |
| Ph.D. Tri-Institutional Ph.D. Program in Chemical Biology (TPCB), Timothy Ryan Lab | 07/2008 – 01/2014 |
| Weill Cornell Medicine (WCM), New York | |
| Cornell University, Ithaca, USA | 07/2007 – 06/2008 |
| B.Tech. Bachelor of Technology, Industrial Biotechnology | |
| Anna University, India | 07/2002 – 05/2006 |

GRANTS, FELLOWSHIPS, HONORS, AND AWARDS

| | |
|---------------------------------------------------------------------------------|-------------------|
| McKnight Scholars Program Finalist | 05/2025 |
| Chan Zuckerberg Neuroscience Collaboration Supplement | 12/2024 – 12/2025 |
| NIH Director's New Innovator Award (DP2) | 09/2024 – 08/2029 |
| Society for Neuroscience Janett Rosenberg Trubatch Career Development Award | 09/2024 |
| CZI Ben Barres Early Career Acceleration Award | 12/2023 – 11/2027 |
| HHMI Freeman Hrabowski Scholars Program Finalist | 03/2023 |
| F.O.R.E Foundation Grant | 07/2022 – 12/2024 |
| Louis D. Strybnik Foundation Grant | 07/2021 – 12/2024 |
| Society for Neuroscience Peter and Patricia Gruber International Research Award | 10/2020 |
| Scientific discovery of the year, MPIBR | 12/2019 |
| GRADE Brain travel grant | 09/2019 |
| MacGillavry Fellowship, University of Amsterdam (declined) | 04/2019 |
| Lindau Nobel Laureate Meeting Award | 06/2018 |
| GlaxoSmithKline Stiftung travel grant | 09/2015 |
| EMBO Workshop travel grant | 09/2015 |
| Humboldt Research Fellowship for Postdoctoral Researchers (declined) | 03/2015 |
| Marie Curie Actions Individual Fellowship | 01/2016 – 12/2017 |
| EMBO Long-Term Postdoctoral Fellowship | 01/2015 – 12/2015 |
| Vincent du Vigneaud Award of Excellence, Vincent du Vigneaud symposium, WCM | 04/2012 |
| Best Poster Prize, Chemical Biology Student Symposium, Cornell University, USA | 11/2007 |
| Tri-Institutional Ph.D. Program in Chemical Biology Fellowship, WCM, USA | 07/2007 – 05/2012 |
| Junior Research Fellowship, National Centre for Biological Sciences, India | 06/2006 – 06/2007 |
| CSIR Program for Youth on Leadership in Science fellowship, CSIR, India | 06/2001 – 06/2004 |
| Chennai District Topper, State Board Examination, India | 06/2000 |

ACTIVE FUNDING

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|----------------------------------------------------------|-------------------|
| Chan Zuckerberg Neuroscience Collaboration Supplement | 12/2024 – 12/2025 |
| NIH Director's New Innovator Award (DP2 MH140148) | 09/2024 – 08/2029 |
| Carl Angus DeSantis Award | 07/2024 – 12/2027 |
| Chan Zuckerberg Initiative Ben Barres Early Career Award | 12/2023 – 11/2027 |
| Strybnik and F.O.R.E. Foundation Grant | 07/2021 – 12/2025 |
| MPFI Annual General Operating Budget | 01/2020 – present |
| Dr. Vidhya Rangaraju, Curriculum Vitae January 2026 | 1 of 7 |

INVITED SCIENTIFIC TALKS AND CONFERENCES

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| Vanderbilt University – MPFI Symposium, Jupiter, USA | 08/2025 |
| Simons Collaborations on Brain Energetics Discussion Series, USA | 05/2025 |
| MITOTalks Seminar Series, USA and Europe | 05/2025 |
| Rutgers Robert Wood Johnson Medical School, Dept. of Neuroscience and Cell Bio., NJ, USA | 03/2021, 05/2025 |
| American Physiology Summit, Do we know how neurons work? Baltimore, USA | 04/2025 |
| Johns Hopkins University, Department of Cell Biology, Baltimore, USA | 04/2025 |
| Gordon Research Conference, Dendritic Mechanisms, Lucca, Italy, Ventura, USA | 03/2017, 03/2025 |
| Univ. of Texas Health McGovern Medical School, Dept. of Neurobiology and Anatomy, Houston, USA | 01/2025 |
| University of Miami Miller School of Medicine, Neuroscience Center Seminar Series, Miami, USA | 12/2024 |
| Max Planck Neuro Retreat, Frankfurt, Germany & Jupiter, USA | 10/2022, 10/2024 |
| Max Planck Biomedical Section Symposium, Harnack Haus, Berlin, Germany | 10/2024 |
| International Conference on Brain Energy Metabolism, Ljubljana, Slovenia | 09/2024 |
| Stony Brook University, Department of Neurobiology and Behavior, Stony Brook, USA | 08/2024 |
| Memorial Sloan Kettering Cancer Center, Mol. Pharm. & Chem. Bio. Seminar Series, New York, USA | 08/2024 |
| CZI Neuroscience 2024 Meeting, Monterey, USA | 07/2024 |
| EMBO Workshop, Principles of Dendritic Function and Computation, Chania, Greece | 05/2024 |
| CZI Neuroscience Program Kick Off, Redwood City, USA | 03/2024 |
| Advanced Neuroimaging Techniques, MPFI, Jupiter, USA | 02/2024 |
| CZI Neuroscience Early Career Acceleration Retreat, Redwood City, USA | 02/2024 |
| Friday Afternoon Reese Seminar Series, NIH, Maryland, USA | 01/2024 |
| Scientific Advisory Board Meeting, MPFI, Jupiter, USA | 09/2021, 01/2024 |
| CZI Ben Barres Early Career Acceleration Award Selection Symposium, Redwood City, USA | 08/2023 |
| Cytoskeleton of Neurons and Glia webinar, NIH, Maryland, USA | 04/2023 |
| HHMI Freeman Hrabowski Scholars Program Selection Symposium, Chevy Chase, USA | 02/2023 |
| Gordon Research Conference, Cell Biology of the Neuron, Waterville Valley, USA | 06/2012, 06/2016, 06/2022 |
| Indiana University, Gill Center for Biomolecular Science, Bloomington, USA | 04/2022 |
| Weill Cornell Medicine, Department of Psychiatry, New York, USA | 05/2021 |
| NeuroNex2, National Science Foundation Grant, Mitochondria Series Workshops, USA | 02/2021 |
| Johns Hopkins University, Department of Biological Chemistry, Baltimore, USA | 12/2020 |
| Dartmouth College, Department of Biological Sciences, Hanover, USA | 11/2020 |
| University of Colorado Boulder, Department of Biochemistry, Boulder, USA | 11/2020 |
| Johns Hopkins University, Watanabe Lab, Baltimore, USA | 05/2020 |
| Scripps Research, SYNAPSE 2020, Tri-Institutional Neuroscience Retreat, Jupiter, USA | 01/2020 |
| Society for Neuroscience, Chicago, Washington D.C., USA | 10/2011, 11/2019 |
| Bordeaux Neurocampus – Universite de Bordeaux, Bordeaux, France | 07/2019 |
| Institut Pasteur, Paris, France | 06/2019 |
| Max Planck Florida Institute for Neuroscience, Jupiter, USA | 06/2019 |
| Cell dynamics: Organelle-Cytoskeleton Interface, Lisbon, Portugal | 05/2019 |
| Universiteit van Amsterdam, Amsterdam, Netherlands | 03/2019 |
| University of Arizona, Department of Molecular and Cellular Biology, Tucson, USA | 02/2019 |
| Columbia University, Zuckerman Institute, New York, USA | 02/2019 |
| St. Jude Children's Research Hospital, Department of Developmental Neurobiology, USA | 02/2019 |
| Max Planck Research Group Leader Selection Symposium, Berlin, Germany | 02/2019 |
| The Francis Crick Institute, London, UK | 02/2019 |
| MRC Laboratory of Molecular Biology, Cambridge, UK | 01/2019 |
| University of Texas Southwestern Medical Center, Dept. of Neuroscience, Dallas, USA | 12/2018 |
| Max Planck Institute for Brain Research retreat, Frankfurt, Germany | 09/2015, 09/2018 |
| University of Lausanne, Dept. of Fundamental Neuroscience, Lausanne, Switzerland | 06/2018 |
| Young Investigators' Colloquium, Frankfurt, Germany | 01/2018 |
| EMBO Fellows' meeting, European Molecular Biology Laboratory, Heidelberg, Germany | 06/2017 |
| Gordon Research Conference, Dendrites: Molecules, Structure & Function, Lucca, Italy | 03/2017 |
| EMBO Workshop, Mitochondrial DNA and Neurodegeneration, Sitges, Spain | 09/2015 |
| EMBO Conference, RNA localization and local translation, Crete, Greece | 06/2015 |
| Daimler und Benz Stiftung, Ladenburg, Germany | 01/2015 |
| University of Cambridge, Dept. of Physiology, Development and Neuroscience, UK | 10/2014 |
| Genentech, Department of Neuroscience, South San Francisco, USA | 08/2013 |
| Max Planck Institute for Brain Research, Frankfurt, Germany | 07/2013 |

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| Massachusetts Institute of Technology, Department of Chemistry, Boston, USA | 12/2012 |
| Keck Biomembrane retreat, Cornell University, Ithaca, USA | 05/2012 |
| Vesicle Trafficking Club, Weill Cornell Medicine, New York, USA | 05/2013, 05/2011 |
| Annual Vincent du Vigneaud Research Symposium, Weill Cornell Medicine, NY, USA | 04/2012, 04/2011 |
| Tri-Institutional PhD Program in Chemical Biology Retreat, Pennsylvania, USA | 07/2011, 08/2010 |

GRANTS REVIEWED

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|----------------------------------------------------------------------------------|------------------|
| Human Frontier Science Program (HFSP) Postdoctoral Fellowships, France | 10/2025 |
| Motor Neurone Disease Association, UK | 09/2025 |
| NIH, F03A Study Section, Center for Scientific Review, USA | From 01/2025 |
| The Minerva Foundation GmbH, Germany | 09/2024 |
| NIH Early Career Reviewer, NDPR Study Section, Center for Scientific Review, USA | From 12/2023 |
| Israeli Ministry of Innovation, Science, and Technology, Israel | 08/2022, 09/2023 |
| Israel Science Foundation, Isreal | 01/2023 |
| Human Frontier Science Program (HFSP) Research Grants, France | 10/2022 |
| Chan Zuckerberg Initiative Collaborative Pairs Program, USA | 04/2022 |

PEER-REVIEWED SCIENTIFIC JOURNALS

Science, PNAS, Nature Biotechnology, Nature Neuroscience, Nature Communications, Nature Microbiology, Cell Reports, EMBO Reports, Current Opinion in Cell Biology, Cell Calcium, iScience, Frontiers in Cell and Developmental Biology, PLOS Biology, Seminars in Cell and Developmental Biology, BMC Biology, Neurophotonics, Journal of Cellular Physiology, Biochemical Society transactions, Histology and Histopathology.

TEACHING EXPERIENCE

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|------------------------------------------------------------------------------------------|-------------------|
| Advanced Neuroimaging Techniques, MPFI imaging course, USA | 02/2024 |
| Neuroscience Lecturer, IMPRS graduate program, MPIBR, Germany | 11/2016 – 10/2017 |
| Chemistry and Physics Tutor, International General Certificate of Secondary Education | 04/2016 – 06/2017 |
| Teaching Assistant, Max Planck Institute for Brain Research Teaching Lab, MPIBR, Germany | 05/2014 |
| Chemistry for Kids, WCM, USA | 04/2013 – 05/2013 |

MENTORING EXPERIENCE (within brackets are current positions of alum)

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| MPFI, USA | From 01/2020 |
| Postdoctoral Fellows – Nitheyaa Shree, Nimmy Varghese, Debalina Acharyya, Ilika Ghosh, Ruolin Fan, Sen Yang (Postdoc at Brown U) | |
| Staff Scientist – Ruolin Fan | |
| Ph.D. students – Ojasee Bapat, Monil Shah | |
| Rotation students – Suhas Sunke (PhD at MPFI), Aidan McDonald (PhD at FAU) | |
| Master's student – Rasya Bhat | |
| Postbaccalaureates – Riya Sivakumar (PhD at Harvard), Danyu Luo (PhD at Northwestern), Ojasee Bapat (PhD at MPFI), Jacob LaMar (MS at FAU) | |
| Research technicians – Juan Patarroyo, Devahuti Bhuyan (PhD at U Alabama), Sabrina Perez (Northrop Grumman), Shaun Foutch (MS at MPFI) | |
| Undergraduates – Jean-Manuel Mena (BS at Cornell), Tejas Purimetla (MD at Dartmouth), Nicholas Moy (BS at FAU), Neha Anand (BE at IIT), Mohan Peddada (BS at Johns Hopkins), Kevin Pena | |
| High school students – Luca Pishos (BE at U Florida), Gayatri Sathyaranarayanan (BE at Cornell), Jake Zur (BE at U Michigan) | |
| Visiting Scientists – Sen Yang (Postdoc at Brown U), Jenna Wingfield (Postdoc at UF Scripps), Ken Kunugitani (MD PhD at Kyoto University) | |

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| Schuman lab, Department of Synaptic plasticity, MPIBR, Germany | 02/2015 – 12/2019 |
| Master's students – Sarah Kruessel (Postdoc at U Heidelberg), Ana Alupei (Fintiba GmbH) | |
| Research Technician – Christina Thum (Tech. at MPIBR) | |
| High school students – Anna Sawyer, Rauf Gunsay, Johanna Möller (MS at Heidelberg U), Jessica Patzelt, Shreya Srinivasa, Rebeca Tenney | |

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| Ryan lab, Department of Biochemistry, WCM, USA | 01/2011 – 12/2013 |
| Postdoctoral Fellows – PingYue Pan (PI at Rutgers U), Jaime de Juan-Sanz (PI at Paris Brain Institute) | |
| Ph.D. student – Kate Gao (Pi Health) | |

MENTEE AWARDS AND HONORS

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| Minisymposia Speaker, Travel Grant Awardee, Elevator Pitch Awardee, ASCB 2025 – Ilika Ghosh | 12/2025 |
| Poster Presenter, CZI Imaging the Future – Monil Shah | 09/2025 |
| Invited Speaker, ThermoFisher Beyond the Beam Seminar Ser. on Electron Tomography – Monil Shah | 10/2024 |
| Selected Speaker, Japan-MPFI Multi-D Analysis of Memory Mechanisms Retreat – Monil Shah | 09/2024 |
| Janelia Visiting Scientists, Lippincott-Schwarz Lab – Ojasee Bapat and Monil Shah | 09/2024 |
| Carl Angus DeSantis Award – Ilika Ghosh | 07/2024 – 12/2027 |
| Selected for EMBO Intensive Course in Electron Microscopy for Cell Biology – Monil Shah | 06/2024 |
| Invited Speaker, CHINTA, TCG Crest – Ilika Ghosh | 05/2024 |
| Teaching Assistants, MPFI imaging course – Ilika Ghosh, Monil Shah | 02/2024 |
| Best Poster Award, MPFI retreat – Monil Shah | 10/2023 |
| Invited Speaker & Best Oral Presentation Award, UF Scripps Research Fest – Ilika Ghosh | 05/2023 |
| Travel Grant, NeuroNex Workshop – Monil Shah | 05/2023 |
| Best Poster Award, Zeiss Imaging Applications for Neuroscience Summit – Monil Shah | 05/2023 |
| Invited Speaker & Best Question Award, Florida Consortium on the Neurobio. of Cognition – Ruolin Fan | 05/2023 |
| Outstanding OWL Award and Outstanding Thesis Award – Tejas Purimeta | 05/2023 |
| Society for Neuroscience Trainee Professional Development Award – Ilika Ghosh | 11/2022 |
| Society for Neuroscience Invited Nanosymposium Speaker – Ilika Ghosh | 11/2022 |
| Nambu Memorial Summer Research Experience Program – Tejas Purimeta | 05/2022 – 08/2022 |

THESIS COMMITTEE MEMBER/EXAMINER

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| Michael Maibach, Lohmann Lab, Netherlands Institute for Neuroscience, Netherlands | From 01/2025 |
| Brittni R Walker, Moraes Lab, University of Miami Miller School of Medicine, USA | 07/2024 – 08/2024 |
| Yiwei Hua, Tian Lab, MPFI, USA | From 04/2024 |
| Carlos C. Ramos, Morais Lab, Universidade de Lisboa, Portugal | 01/2024 – 04/2024 |
| Yibo Zhao (cosponsor on her F31), Puthanveettil Lab, UF Scripps, USA | From 07/2023 |

RECRUITMENT

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|----------------------------------------------------------------------------------|-------------------|
| Okinawa Science and Technology, Faculty Candidate Review, Okinawa, Japan | 02/2025 – 03/2025 |
| UF Scripps Neuroscience Faculty Recruitment Committee, Florida, USA | 06/2022 – 2023 |
| International Max Planck Research School (IMPRS) – MPFI graduate program | From 02/2020 |
| International Max Planck Research School (IMPRS) – MPIBR graduate program | 02/2018 |
| Princeton Graduate and Professional School Fair, Princeton, USA | 10/2011 |
| Annual Biomedical Research Conference for Minority Students, North Carolina, USA | 11/2010 |

INVITED PANELS AND WORKSHOPS

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|---------------------------------------------------------------------------------------|--------------|
| iJOBS career seminar speaker, Rutgers Robert Wood Johnson Medical School, USA | 05/2025 |
| Celebration of Women in Neuroscience, Society for Neuroscience, USA | 10/2024 |
| Session Chair, Organelle Biology and Metabolism, CZI Neuroscience 2024 Meeting, USA | 07/2024 |
| Panel Member, Future of Dendritic Research, EMBO Workshop, Greece | 05/2024 |
| Alum speaker and panelist, TPCB retreat, USA | 09/2023 |
| Work-Life Balance Panel Member, Network for Women in Science, MPFI, USA | 04/2022 |
| Neuroscience Career Skills Panel Member, Johns Hopkins School of Medicine, USA | 02/2022 |
| Research Career Panel Member, MPFI Postbaccalaureate Program, USA | 02/2021 |
| External Advisory Committee Member, NeuroNex2, National Science Foundation grant, USA | From 01/2021 |

ORGANIZATION OF MEETINGS

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| Max Planck NeuroMEETS – Neuroscience Meetings for Extramural Emerging Talents, MPFI, USA | From 06/2022 |
| Max Planck Career Day, MPIBR, Germany | 06/2019 |
| Trafficking Club, Department of Biochemistry, WCM, USA | 08/2011 – 05/2012 |

SERVICE

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|-----------------------------------------------------------------------------|-------------------|
| External Advisory Editorial Board Member, EMBO Reports, Germany | From 06/2025 |
| IACUC Scientific Member, MPFI, USA | 11/2023 – 01/2025 |
| Selection Committee Member, Peter Gruss Young Investigator Award, MPFI, USA | From 05/2022 |
| Founder and Selection Committee Member, Max Planck NeuroMEETS, MPFI, USA | From 06/2022 |
| Founder and Postdoctoral Association Representative, MPIBR, Germany | 10/2017 – 06/2019 |
| Academic team member, DNO, German Neuroscience Competition, Germany | 09/2016 – 04/2018 |

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| Vice President, Weill Cornell Consulting Club, Weill Cornell Medical College, USA Student Buddy, Expanding Your Horizons, Cornell University, Ithaca, USA | 01/2012 – 07/2012 04/2008 |
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SCIENCE OUTREACH

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| South Florida PBS (Public Broadcasting Service) Feature on 'Resilience of the Brain', USA | 12/2025 |
| FAU Media Relations, Rangaraju Lab IMPRS graduate students, MPFI, USA | 07/2025 |
| Music and Mind with opera legend Renée Fleming, Panel Member, Kravis Center, USA | 01/2025 |
| Science Meets Music, Public Speaker, The Benjamin School, USA | 02/2024 |
| Board of Trustees Meeting Public speaker, MPFI, USA | 05/2023 |
| MPFI Institute Breakfast Public Speaker, USA | 12/2022 |
| Science Career Day, Rangaraju Lab, MPFI, USA | 09/2022 |
| Brain Exploration Day, Rangaraju Lab, MPFI, USA | 08/2022 |
| Brain Bee Winners – day at the Rangaraju Lab, MPFI, USA | 06/2022 |
| Board of Trustees Meeting Public speaker, MPIBR, Germany | 12/2019 |
| Neuroscience Study Guide Author/Editor, DNO-German Neuroscience Competition | 09/2016 – 04/2018 |
| Night of Science Public speaker, Goethe University, Germany | 06/2018 |
| 'Bar of Science' Public speaker, MPIBR, Germany | 05/2017 |
| Neuroscience Graduates' Colloquium speaker, Mainz, Germany | 05/2017 |
| Ivy Circle and Cornell Alumni Club, Host and Public Speaker, Frankfurt, Germany | 04/2015, 04/2016 |
| Cornell Student Outreach, WCM, USA | 03/2012 |

ADDITIONAL TRAINING

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|---------------------------------------------------------------------------------|-------------------|
| Institutional Animal Care and Use Committee (IACUC) online training, MPFI, USA | 02/2020 |
| EMBO Training Course on Negotiation for Scientists, Germany | 10/2019 |
| Optical Imaging and Electrophysiological Recording in Neuroscience, France | 05/2018 |
| EMBO Laboratory Management course for Postdoctoral Fellows, Germany | 10/2016 |
| Targeted Drug Discovery Workshop, National Hellenic Research Foundation, Greece | 10/2016 |
| FELASA course on laboratory animals, Germany | 06/2016 – 07/2016 |

OTHER POSITIONS

| | |
|------------------------------------------------------------------------|-------------------|
| Project Assistant, Baird Lab, Cornell University, USA | 01/2008 – 05/2008 |
| Junior Research Fellow, National Centre for Biological Sciences, India | 06/2006 – 05/2007 |
| Research Assistant, National Centre for Biological Sciences, India | 05/2005 – 04/2006 |
| CPYLS Fellow, Central Leather Research Institute, India | 05/2004 – 06/2004 |

IN THE MEDIA

- PreLights: Synapses drive local mitochondrial ATP synthesis to fuel plasticity ([link](#))
- SfN 2024 Celebration of Women in Neuroscience ([link](#))
- Stories of WiN, Podcast and Interview ([link](#)).
- How Mitochondria Stay Still in Neurons, article in 'The Scientist' ([link](#)).
- ALS-linked Protein VAP Stabilizes Mitochondria to Support Memory Formation ([link](#)).
- A Molecular Anchor: Scientists Identify ALS-linked Protein VAP as Key Stabilizer of Mitochondria ([link](#))
- PreLights: VAP spatially stabilizes dendritic mitochondria to locally fuel synaptic plasticity ([link](#))
- Celebrating Women Making History at MPFI ([link](#))
- Water Cooler Neuroscience Podcast, How Neurons Use Energy with Dr. Vidhya Rangaraju ([link](#))
- MPFI News, Meet the Scientist: Vidhya Rangaraju ([link](#))

PATENT CONTRIBUTION

Quantitative genetically encoded optical reporter construct. U.S. 9487819 B2; Addgene 51819 (>50 requests)

PREPRINTS (lab members; #high school students, undergraduates, post-baccalaureates, master's students)

4. Mitochondria structurally remodel near synapses to fuel the sustained energy demands of plasticity
Monil Shah, Ilika Ghosh, Luca Pishos[#], Valentina Villani, Tristano Pancani, Ryohei Yasuda, Chao Sun, Naomi Kamasawa, **Vidhya Rangaraju***
bioRxiv doi: 10.1101/2025.08.27.672715 (2025), *in review, Nature Cell Biology*. *corresponding author.
PMID: 40909516. PMCID: PMC12407993

3. Activity-regulated circSamm50 modulates mitochondrial dynamics and spine structural plasticity

Kaushik Chanda, Ojasee Bapat, Jenna Wingfield, Yosef Avchalumov, Melissa Kazantzis, Jackson Carter, Neelam Sharma, Ronald L. Davis, Jason X-J Yuan, **Vidhya Rangaraju***, Sathyanarayanan Puthanveettil
SSRN [Preprint] doi: 10.2139/ssrn.5396301 (2025), *in revision, Cell Reports*. *senior author

2. Synapses drive local mitochondrial ATP synthesis to fuel plasticity
Ilika Ghosh, Ruolin Fan, Monil Shah, Ojasee Bapat, **Vidhya Rangaraju***
bioRxiv doi: 10.1101/2025.04.09.648032 (2025), *in revision, Nature Neuroscience*. Number of citations: 3.
Prelights doi: 10.1242/prelights.40383. *corresponding author

1. An expanded palette of bright and photostable organellar Ca²⁺ sensors
Agathe Moret, Helen Farrants, Ruolin Fan, Kelsey G. Zingg, Bryon Silva, Camilla Roselli, Thomas G. Oertner, Christine E. Gee, Dafni Hadjieconomou, **Vidhya Rangaraju***, Eric R. Schreiter, Jaime de Juan-Sanz
bioRxiv doi: 10.1101/2025.01.10.632364 (2025). Number of citations: 2.
eLife 14:RP107845 doi: 10.7554/eLife.107845.1 (2025), *in revision*. *senior author.

PUBLICATIONS ([NIH My Bibliography](#)) (lab members; #undergraduates, post-baccalaureates, master's students)

11. Mitochondrial Ca²⁺ efflux controls neuronal metabolism and long-term memory across species
Anjali Amrapali Vishwanath, Typhaine Comyn, Chaitanya Chintaluri, Carla Ramon-Duaso, Ruolin Fan, Riya Sivakumar[#], Mario Lopez-Manzaneda, Thomas Preat, Tim P. Vogels, **Vidhya Rangaraju***, Arnaud Busquets-Garcia, Pierre-Yves Placais, Alice Pavlovsky, Jaime de Juan-Sanz
bioRxiv doi: 10.1101/2024.02.01.578153 (2024), Number of citations: 4.
Nature Metabolism, *in press*. *senior author.

10. Periodic ER-plasma membrane junctions support long-range Ca²⁺ signal integration in dendrites
Lorena Benedetti, Ruolin Fan, Aubrey V. Weigel, Andrew S. Moore, Patrick R. Houlihan, Mark Kittisopkul, Grace Park, Alyson Petruccio, Philip M. Hubbard, Song Pang, C. Shan Xu, Harald F. Hess, Stephan Saalfeld, **Vidhya Rangaraju***, David E. Clapham, Pietro De Camilli, Timothy A. Ryan, Jennifer Lippincott-Schwartz
bioRxiv doi: 10.1101/2024.05.27.596121 (2024).
Cell 188, 484 (2025). Number of citations: 33, *senior author. PMID: 39708809.

9. Synaptically-targeted long non-coding RNA SLAMR promotes structural plasticity by increasing translation and CaMKII activity
Isabel Espadas, Jenna L. Wingfield, Yoshihisa Nakahata, Kaushik Chanda, Eddie Grinman, Ilika Ghosh, Karl E. Bauer, Bindu Raveendra, Michael A. Kiebler, Ryohei Yasuda, **Vidhya Rangaraju***, Sathyanarayanan Puthanveettil
Res. Sq. [Preprint] doi: 10.21203/rs.3.rs-2489387/v1 (2023). Number of citations: 3
Nature Communications 15, 2694 (2024). Number of citations: 16, *senior author. PMID: 38538603. PMCID: PMC10973417.

8. NMNAT2 supports vesicular glycolysis via NAD homeostasis to fuel fast axonal transport
Sen Yang, Zhen-Xian Niou, Andrea Enriquez, Jacob LaMar[#], Jui-Yen Huang, Karen Ling, Paymaan Jafar-Nejad, Jonathan Gilley, Michael P Coleman, Jason M Tennesen, **Vidhya Rangaraju***, Hui-Chen Lu
Res. Sq. [Preprint] doi: 10.21203/rs.3.rs-2859584/v1 (2023). Number of citations: 3
Molecular Neurodegeneration 19, 13 (2024). Number of citations: 24, *senior author. PMID: 38282024. PMCID: PMC10823734.

7. VAP spatially stabilizes dendritic mitochondria to locally support synaptic plasticity
Ojasee Bapat, Tejas Purimeta[#], Sarah Kruessel[#], Monil Shah, Ruolin Fan, Christina Thum, Fiona Rupprecht, Julian D. Langer, **Vidhya Rangaraju***
bioRxiv doi: 10.1101/2023.01.16.524245 (2023). Number of citations: 4
Prelights doi: 10.1242/prelights.33633.
Nature Communications 15, 205 (2024). Number of citations: 36, *corresponding author. PMID: 38177103. PMCID: PMC10766606.

6. The Prevalence and Specificity of Local Protein Synthesis during Neuronal Synaptic Plasticity
Chao Sun, Andreas Nold, Claudia M Fusco, **Vidhya Rangaraju***, Tatjana Tchumatchenko, Mike Heilemann, Erin M. Schuman
bioRxiv doi: 10.1101/2020.04.29.068833 (2020). Number of citations: 4

Science Advances 7, eabj0790 (2021). Number of citations: 106, *senior author. PMID: 34533986. PMCID: PMC8448450.

5. Pleiotropic mitochondria: The influence of mitochondria on neuronal development and disease
Vidhya Rangaraju, Tommy L. Lewis Jr, Yusuke Hirabayashi, Matteo Bergami, Elisa Motori, Romain Cartoni, Seok-Kyu Kwon, Julien Courchet
Journal of Neuroscience 39, 8200 (2019). Number of citations: 268. PMID: 31619488. PMCID: PMC6794931.
4. A genetically encodable cell-type-specific protein synthesis inhibitor
Maximilian Heumüller, Caspar Glock, **Vidhya Rangaraju**, Anne Biever, Erin M Schuman
Nature Methods 16, 699 (2019). Number of citations: 20. PMID: 31308551.
3. Spatially stable mitochondrial compartments fuel local translation during plasticity
Vidhya Rangaraju, Marcel Lauterbach and Erin M Schuman
Cell 176, 73 (2019). Number of citations: 393. PMID: 30612742.
Special commentary in *Neuron* 101, 204 (2019)
2. Local translation in neuronal compartments: how local is local?
Vidhya Rangaraju*, Susanne tom Dieck and Erin M Schuman
EMBO reports 18, 693 (2017), Invited review, Number of citations: 219, *corresponding author. PMID: 28404606. PMCID: PMC5412868.
1. Activity-driven local ATP synthesis is required for synaptic function
Vidhya Rangaraju, Nathaniel Calloway and Timothy A. Ryan
Cell 156, 825 (2014). Number of citations: 890. PMID: 24529383. PMCID: PMC3955179.