Medha M. Pathak, Ph.D.
Assistant Professor,
Dept. of Physiology & Biophysics,
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EDUCATION

University of California, Berkeley - Berkeley, California — May 2006
Ph.D., Biophysics

National Centre for Biological Sciences - Bangalore, India — December 2000
M.Sc., Life Sciences (Neuroscience)

St. Xavier's College - Ahmedabad, India — July 1996
B.Sc. Biochemistry & Chemistry

RESEARCH POSITIONS

University of California, Irvine - Irvine, California
Assistant Professor, Department of Physiology & Biophysics — June 2016 – present
Joint appointment in the Department of Biomedical Engineering — April 2019 onwards
Research area: Mechanical forces in development and repair at the molecular, cellular and organismal level

University of California, Irvine - Irvine, California
Assistant Researcher — April 2015 – May 2016
Research area: Piezo1 in human neural stem cell mechano-regulation

University of California, Irvine - Irvine, California
Associate Specialist — January 2011 – March 2015
Mentors: Francesco Tombola and Lisa Flanagan
Project: Physiology and biophysics of mechanically-gated and voltage-gated ion channels

Harvard Medical School - Boston, Massachusetts — December 2006 – December 2010
Postdoctoral Fellow
Mentor: David P. Corey.
Project: Mapping components of the inner ear hair cell transduction machinery

University of California, Berkeley - Berkeley, California
Postdoctoral Fellow — June 2006 – September 2006
Graduate student — August 2000 – May 2006
Advisor: Ehud Y. Isacoff
Thesis: Watching an ion channel at work: fluorescence measurements of ion channel dynamics

National Centre for Biological Sciences - Bangalore, India — August 1996 – July 2000
Advisor: Upinder S. Bhalla
Master's thesis: Development of a fiber-optic technique for fluorescence recordings

Madurai Kamraj University - Madurai, India — May – June 1996
Advisor: K. Veluthambi
Summer research project: Restriction mapping and subcloning of DNA B of Vigna mungo yellow mosaic virus

St. Xavier's College, Ahmedabad, India — June 1995 – May 1996
Advisor: Fr. Vincent J. Braganza
Undergraduate research project: Protoplast fusion and somatic embryogenesis of rice

HONORS

HHMI Gilliam Fellowship for Advanced Study, Howard Hughes Medical Institute — 2019
Chancellor's Award for Excellence in Undergraduate Research Mentoring, UCI — 2018

ADVANCE Faculty Career Development Award, UCI 2018
Junior Faculty Networking Cohort, Journal of General Physiology 2017
Outstanding Paper of the year for Pathak *et al.* J.Gen.Physiol. (Cranefield award to senior author) 2016
GSK Neuroscience Discovery Award, FASEB Ion Channel Regulation Conference 2015
Travel award: Force-Gated Ion Channels, Janelia Farms Research Campus 2015
The "Cahalan Buck" Research Accomplishments Award, UCI Dept. of Physiology & Biophysics 2014
Helen Hay Whitney Postdoctoral Fellowship 2008 – 2011
Travel award: Force-Gated Ion Channels, Janelia Farms Research Campus 2008
Travel award: Young Investigator Meeting, Poovar, India 2009
Travel award: Biology of the Inner Ear, MBL, Woods Hole, Massachusetts 2007
Travel award: Gordon Conference on Mechanotransduction & Gravity Signaling 2005
Junior Research Fellowship, National Centre for Biological Sciences, India (4 of 6000 applicants chosen) 1996 – 2000
National Summer Research Fellowship, JNCASR, India 1996
Siddharth Bhatt Prize: all-round performance, St. Xavier's College, Ahmedabad, India 1996
LUMC Clinical Laboratories Research Fellowship, St. Xavier's College, Ahmedabad, India 1995 – 1996

FUNDING

Active

NIH New Innovator Award (DP2AT010376) 9/30/2018 – 6/30/2023
Building the brain: How mechanical forces shape human neural development $1,500,000 total direct costs
Role: Principal Investigator.
Impact score: 10 (1st percentile)

NIH R01 grant (R01NS109810) 9/30/2018 – 6/30/2023
Piezo1 in neural stem cell mechano-regulation $223,598 annual direct costs
Role: Principal Investigator

HHMI Gilliam Fellowship for Advanced Studies (GT11549) 9/1/2019 – 7/30/2022
Functional dynamics of Piezo1 and Traction Forces in Tissue Repair $150,000 total direct costs
Role: Principal Investigator

UCI NIAMS P30 Skin Biology Resource-based Center seed grant 1/1/2021 – 12/31/2021
Piezo1 dynamics in keratinocyte migration during skin wound healing
Major goals: The goal of this project is to examine a role for Piezo1 in keratinocyte migration during skin wound healing. $35,000 direct costs
Role: MPI with PI Lowengrub
Overlap: None

Administrative Supplement to NIH DP2 grant 9/1/2020 – 6/30/2023
This administrative supplement aims to use novel molecular and bioengineering tools to examine the neuromechanobiology of Alzheimer's Disease. $250,000 total direct costs
Role: Principle Investigator

Administrative Supplement to NIH DP2 grant 9/1/2020 – 6/30/2023
This administrative supplement supports the development of a novel molecular tool to identify mechanoresponsive cells in human brain organoids. $100,000 total direct costs
Role: Principle Investigator

Administrative Supplement to NIH R01 grant 7/1/2020 – 6/20/2021
This administrative supplement explores the role of Piezo1 in Alzheimer's Disease pathology.
Role: Principle Investigator $250,000 total direct costs

Diversity supplement to NIH R01 grant 4/1/2020 – 6/30/2022
This diversity supplement is for the mentoring and support of graduate student Alan Ly.
Role: Principle Investigator $79,399 total direct costs

NSF Conference grant 7/1/2018 – 6/30/2021
MechBio 2018: The Mechanome in Action. $37,663 total direct costs

Role: Principal Investigator

NIH R01 grant 9/1/2020 – 8/31/2024
Biophysical regulation of macrophage function $2,062,810 total direct costs
Role: Co-Investigator

NIH R21 grant 7/1/2020 – 6/30/2022
Mechanical regulation of skin repair and regeneration $275,000 total direct costs
Role: Co-Investigator

NIH R21 grant 7/1/2020 – 6/30/2022
Effects of stiffness caused by amyloid beta deposition on microglia function during Alzheimer's disease progression
Role: Co-Investigator $275,000 total direct costs

Completed

NIH R13 Conference grant 7/25/2018 - 7/24/2020
MechBio 2018: The Mechanome in Action. $23,320 direct costs
Role: Principal Investigator

UCI Schools of Medicine and Biological Sciences Pilot Funding 8/1/2017 – 1/31/2019
Molecular and imaging approaches to visualize mechanotransduction in human neural development $50,000
Role: Principal Investigator.

Sue and Bill Gross Stem Cell Research Center Seed Grant, UCI 2/1/2017 – 7/31/2018
Piezo1 in human neural stem cells $25,000
Role: Principal Investigator.

Committee on Research Grant, School of Medicine Seed Grant, UCI 7/1/2017 – 6/30/2018
Molecular Tools for Imaging Mechanics of Human Neural Development $10,000
Role: Principal Investigator.

National Institutes of Health R21 Tombola (PI) 2/1/2015 – 1/31/2018
Stretch-activated ion channels in human neural stem cell mechanotransduction $275,000
Role: Co-Investigator.

UCI Center for Autism Research and Treatment Flanagan & Tombola (co-PIs) 7/2013 – 2/2015
Membrane biophysical properties and Ca^{2+} dynamics in stem cells and neurons from autism spectrum disorders.
Role: Senior key personnel $60,000

Benefunder 2015
Using Stem Cells to Repair the Damaged Brain $4,010
Community Outreach Funding
Role: Principal Investigator

SOM Faculty Research Grant Tombola (PI) 7/1/2011 – 5/31/2012
UCI Academic Senate Council on Research, Computing and Libraries $7,500
Biophysical and functional studies on novel mammalian mechanotransduction channels
Role: Co-Investigator

Helen Hay Whitney Fellowship Pathak (PI) 4/1/2008 – 3/31/2011
Mapping components of the hair cell transduction machinery $138,000
Role: Principal Investigator

PUBLICATIONS (1873 citations from Google Scholar as of 02/2021)

Profile: http://scholar.google.com/citations?user=xY16hvgAAAAJ&hl=en

* denotes Equal Contribution.

Submitted manuscripts and pre-prints

Holt JR*, Zeng WZ*, Evans EL*, Woo SH*, Ma S, Abuwarda H, Loud M, Patapoutian A†, **Pathak MM†**

Spatiotemporal dynamics of PIEZO1 localization controls keratinocyte migration during wound healing
https://www.biorxiv.org/content/10.1101/2020.10.18.344598v1
Under revision
† Corresponding authors.

Atcha H, Jairaman A, Holt JR, Meli VS, Nagalla RR, Veerasubramanian PK, Brumm KT, Lim HE, Cahalan MD, **Pathak MM,** and Liu WF.
Mechanically-activated ion channel Piezo1 modulates macrophage polarization and stiffness sensing.
Under revision

Jairaman A*, Othy S*, Dynes JL, Yeromin AV, Zavala A, Greenberg ML, Nourse JL, Holt JR, Cahalan SM, Parker I, **Pathak MM,** and Cahalan MD.
Piezo1 channels restrain regulatory T cell polarization but are dispensable for effector CD4+ T cell responses.
Submitted

Accepted manuscripts

18. Abuwarda, H., **Pathak, M. M**. (2020). Mechanobiology of neural development. *66, 104-111*. doi: https://doi.org/10.1016/j.ceb.2020.05.012. *Current Opinion in Cell Biology*. Special issue on Cell Dynamics.
    - *Invited review article*
17. Ellefsen KL*, Holt JR*, Chang A*, Nourse JL*, Arulmoli J, Mekhdjian A, Abuwarda H, Tombola F, Flanagan LA, Dunn AR, Parker I, **Pathak MM.** (2019). Myosin-II mediated traction forces evoke localized Piezo1 Ca^{2+} flickers. *Communications Biology*. 2, Article number: 298. A previous version of the article is available on the *bioRxiv* server https://doi.org/10.1038/s42003-019-0514-3.
    - *Discussed in:* https://f1000research.com/articles/8-1486
    - *Included in the Communications Biology 2 Year Anniversary Collection*
16. Zhao C, Sun Q, Cao Y, **Pathak MM**, Lu X, Yang Q. (2019). Mechanosensitive Ion Channel Piezo1 Regulates Adipose Inflammation and Systemic Insulin Resistance. Frontiers in Endocrinology. Jun 13;10:373.
15. Nourse JL and **Pathak MM.** (2017). How Cells Channel Their Stress: Interplay Between Piezo1 and the Cytoskeleton. *Seminars in Cell and Developmental Biology*. 2017 Nov; 71:3-12.
    - *Invited review article*
14. **Pathak MM*,** Tran T*, Hong L, Morris CE, Tombola F. (2016). The Hv1 proton channel responds to mechanical stimuli. *Journal of General Physiology.* 148(5):405-418.
    - *Recognized as the outstanding paper of the year by the Society of General Physiologists, through a Cranefield award to senior author, Francesco Tombola.*
13. Arulmoli J, Wright HJ, Phan D, Sheth U, Botten GA, **Pathak MM,** Zarembinski TI, Yanni DS, Razorenova OV, Hughes CCW, Flanagan LA. (2016). Combination scaffolds of salmon fibrin, hyaluronic acid, and laminin for human neural stem cell tissue engineering. *Acta Biomaterialia,* 1;43:122-38.
12. Phan L*, Kautz R*, Arulmoli J, Kim I, Le DT, Shenk MA, **Pathak MM†**, Flanagan LA†, Tombola F†, Gorodetsky AA† (2016). Reflectin as a Material for Neural Stem Cell Growth. *ACS Applied Materials & Interfaces.* 13;8(1):278-84
    † Corresponding authors.
11. Arulmoli J, **Pathak MM,** McDonnell LP, Nourse JL, Tombola F, Earthman JC, Flanagan LA. (2015) Static stretch affects neural stem cell differentiation in an extracellular matrix-dependent manner. *Scientific Reports*. 5: 8499.
10. **Pathak MM**†, Nourse JL, Tran T, Hwe J, Arulmoli J, Le DTT, Bernardis E, Flanagan LA, Tombola F†. (2014) Stretch-activated ion channel Piezo1 directs lineage choice in human neural stem cells. *Proceedings of the National Academy of Sciences*. 111(45):16148-53.
    † Corresponding authors.

9. Kim IH, Hevezi P, Varga C, **Pathak MM**, Hong L, Ta D, Tran CT, Zlotnik A, Soltesz I, Tombola F. (2014). Evidence for functional diversity between the voltage-gated proton channel Hv1 and its closest related protein HVRP1. *PLoS One*. 9(8):e105926.
8. Nourse JL*, Prieto JL*, Dickson AR, Lu J, **Pathak MM**, Tombola F, Demetriou M, Lee AP, Flanagan LA. (2014). Membrane biophysics define neuron and astrocyte progenitors in the neural lineage. *Stem Cells.* 32(3):706-16.
    - *Featured Publication, Neural Cell News, September 18, 2013*
7. Hong L, **Pathak MM**, Kim IH, Ta D, Tombola F. (2013). Voltage-sensing domain of voltage-gated proton channel Hv1 shares mechanism of block with pore domains. *Neuron.* 77(2):274-87.
    - *Commentary: Kalia & Schwartz (2013). Common principles of voltage-dependent gating for Hv and Kv channels. Neuron. 77(2):214-6.*
6. **Pathak MM*,** Yarov-Yarovoy V*, Roux B, Agarwal G, Kohout S, Barth P, Tombola F, Isacoff EY. (2007). Closing in on the resting state of the Shaker K^+ channel. *Neuron*. 56(1):124-40.
    - *Selected as the "Featured article" on Neuron website.*
5. Tombola F, **Pathak MM**, Gorostiza P, Isacoff EY. (2007). The twisted ion-permeation pathway of a resting voltage-sensing domain. *Nature*. 445(7127):546-9.
    - *Faculty of 1000 recommendation, Exceptional (F1000 factor 3).*
4. Tombola F, **Pathak MM**, Isacoff EY. (2006). How does voltage open an ion channel? *Annual Review of Cell and Developmental Biology*. 22:23-52.
3. Tombola F, **Pathak MM**, Isacoff EY. (2005). How far will you go to sense voltage? *Neuron*. 48:719-25.
2. Tombola F, **Pathak MM**, Isacoff EY. (2005). Voltage-sensing arginines in a potassium channel permeate and occlude cation-selective pores. *Neuron*. 45:379-88.
1. **Pathak MM**, Kurtz L, Tombola F, Isacoff EY. (2005). The cooperative voltage sensor motion that gates a potassium channel. *Journal of General Physiology*.125:57-69.
    - *Cover article*

Publication gap from 2008 to 2012 due to health problems that have since been resolved through medical and surgical treatment. Details available on request.

INVITED TALKS

Upcoming

1. Invited talk, European Calcium Society Meeting, Cork, Ireland. *Planned for August 2020; postponed to August 2022 due to the COVID-19 pandemic*
2. Department seminar, Physiology Department at McGill University, Montreal, Canada, *Planned for May 2022.*
3. NIH National Heart Lung and Blood Institute (NHLBI) Seminar Series, Bethesda, MA. *Planned for April 2020, postponed due to the COVID -19 pandemic*
4. Invited talk, Biophysical Society Conference on Molecular Biophysics of Membranes, Lake Tahoe. *Planned for June 2020, postponed due to the COVID -19 pandemic; postponed to June 2022 due to the COVID-19 pandemic*
5. Yonsei-Institute for Basic Science (IBS) Forum for physical modalities for neuroscience, Seoul, South Korea. *Planned for November 2021*
6. Invited talk, International Society of Mechanobiology, Sydney, Australia. *Planned for November 2020; postponed to October 2021 due to the COVID-19 pandemic*
7. Department seminar, Pharmacology & Regenerative Medicine at the University of Illinois College of Medicine in Chicago, *Planned for May 2021*.
8. Annual Symposium of the UCI Stem Cell Research Center, UC Irvine, Irvine, CA. *Planned for April 2020*
9. Invited talk, American Society for Biochemistry and Molecular Biology (ASBMB), San Diego, CA. *April 2021*
10. Bioengineering Department Colloquium Series, University of California, Riverside. *March 2021*

Completed

11. Department seminar at Brandeis University's Biology and Neuro Seminar Series, Waltham, MA. Student invitation. *February 2021*
12. Department of Biomedical Engineering seminar series, Purdue University, Lafayette, IN. November 2020

13. Biological Physics seminar at Arizona State University, Tempe, AZ. October 2020
14. Chemistry department Colloquium at Rutgers University, Piscataway, NJ. September 2020
15. Ion Channels Supergroup Zoominar series, UT Austin, Austin, TX. May 2020
16. Bridges to Stem Cell Research Annual Symposium, California State University, Fullerton, CA. March 2020
17. Invited Symposium talk at Materials Research Society Fall Meeting, Boston, MA. December 2019
18. Didactic Workshop on Mechanobiology at Materials Research Society Fall Meeting, Boston, MA. December 2019
19. UCI Department of Developmental and Cell Biology Seminar Series, Irvine, CA. October 2019
20. NIH NCCIH 20th Anniversary Symposium, NIH, Bethesda, MD. September 2019
21. NIH workshop on "Neurocircuitry of Force-Based Manipulations", NIH, Bethesda, MD. September 2019
22. Universidad Nacional Autonoma de Mexico, Queretaro, Mexico. September 2019
23. Nature Conference on Engineering Biology for Medicine, Duke University, Raleigh, NC. May 2019
24. UCI Department of Biological Chemistry Seminar Series, Irvine, CA. May 2019
25. Institute of Neuroscience, University of Tennessee Health Science Center, Memphis, TN. May 2019
26. UCI Campus-wide Cancer Symposium, UC Irvine, Irvine, CA. May 2019
27. Western University Departmental Seminar Series, Pomona, CA. April 2019.
28. Annual Meeting of the Biophysical Society Meeting, Mechanobiology subgroup, Baltimore, MD. March 2019.
29. UCSD Quantitative Biology Seminar Series, San Diego, CA. February 2019.
30. Advanced Imaging Methods Workshop, UC Berkeley, Berkeley, CA. January 2019.
31. Force-gated Ion Channels Conference at Max Delbruck Center, Berlin, Germany. October 2018.
32. Department of Genetics, Cell Biology, and Development Seminar Series, University of Minnesota, Minneapolis, MN. September 2018.
33. UCI 3rd Annual Joint Faculty Retreat, UCI School of Medicine and School of Biological Sciences, UC Irvine, Costa Mesa, CA. April 2018.
34. NSF-funded seminar series for graduate students "Oh! The places you will go…with a PhD in science", Department of University of Tennessee, Knoxville, TN. April 2018.
35. UCI Center for Complex Systems Biology Annual Retreat, Los Angeles, CA. March 2018.
36. FASEB Ion Channel Regulation conference, Steamboat Springs, CO. July 2017.
37. UCI 2nd Annual Joint Faculty Retreat, UCI School of Medicine and School of Biological Sciences, UC Irvine, Silverado, CA. May 2017.
38. Biomechanics and Mechanobiology seminars series, Dept. of Mechanical and Aerospace Engineering, University of California at San Diego, San Diego, CA. May 2017.
39. MechBio Symposium: Putting Together the Cell Mechanome. University of California at San Diego, San Diego, CA. August 2016.
40. Department of Cell & Molecular Physiology Seminar Series, Loyola University Medical School, Chicago, IL. May 2016.
41. Institute of Molecular and Cell Biology, Singapore. February 2016.
42. Mechanobiology Institute, Singapore. February 2016.
43. FASEB Ion Channel Regulation conference, Big Sky, MO. July 2015.
44. Force-gated Ion Channels Meeting. HHMI Janelia Research Campus, Ashburn VA. March 2015.
45. Center for Autism Research and Treatment Monthly Seminar Series, UC Irvine, CA. January 2015.
46. Sue & Bill Gross Stem Cell Research Center Seminar series, UC Irvine, CA. Spring 2014 Seminar Series. May 2014.
47. Harold Lecar Memorial Symposium. UC Berkeley, CA. May 2014.
48. Tata Institute of Fundamental research (TIFR), Mumbai, India. October 2010.
49. National Centre for Biological Sciences, Bangalore, India, November 2006.
50. National Centre for Biological Sciences, Bangalore, India, September 2004.
51. St. Xavier's College, Ahmedabad, India, September 2004.

PROFESSIONAL MEMBERSHIPS

Biophysical Society	2001 – present
Harvard Women in Neuroscience	2007 – 2010
Association for Research in Otolaryngology	2007 – 2016
American Association for the Advancement of Science	2007 – present

International Society for Stem Cell Research 2013 – present
Biomedical Engineering Society 2014 – present
American Society for Cell Biology 2014 – present

TEACHING EXPERIENCE

University of California, Irvine - Irvine, California
Guest lecturer, *Cardiac Mechanobiology,* Biomedical Engineering Graduate Course 2019, 2020

University of California, Irvine - Irvine, California
Instructor, *Medical Physiology,* Medical Students Curriculum 2017 - Present

University of California, Irvine - Irvine, California
Instructor, *Scientific Writing* Graduate Course 2018

University of California, Irvine - Irvine, California
Instructor, *Physiology of Ion Channels* Graduate Course 2012 – Present

Marine Biological Laboratory - Woods Hole, Massachusetts
Teaching Assistant, *Biology of the Inner Ear* Summer Course 2009

Harvard Medical School - Boston, Massachusetts
Teaching Assistant, *Neuroscience* course for Graduate and Medical students 2008

University of California, Berkeley - Berkeley, California
Graduate Student Instructor, *Introduction to Neuroscience* 2003
Graduate Student Assistant, *Biophysical Neurobiology* 2001 – 2003

National Centre for Biological Sciences - Bangalore, India
Teaching Assistant, *Basic Neurobiology* 1999
Teaching Assistant, *Hands-on Workshop on Emerging Trends in Neurophysiology* 1999

COLLEAGUES MENTORED

Postdoctoral fellows

- Elizabeth Evans Jan 2020 – Present

Medical Students

- Truc Tran, Pennsylvania State University, Hershey, PA Summer 2017
- Dai Trang Thi Le, University of Central Florida Summer 2016
  - Recipient of a UCF research grant for work done in the lab

Graduate Students

- Cherie Lepe, UCI Inter-departmental Program in Neurosciences Rotation Student Fall 2020
- Jacob Deyell, UCI Medical Scientist Training Program Graduate Student Summer 2020
- Gabriella Bertaccini, UCI Cellular & Molecular Biosciences Graduate Student Winter 2020 – Present
  - UCI SOM Individual Fellowship Incentive Award
- Mulatwa Haile, UCI Inter-departmental Program in Neurosciences Rotation Student Winter 2020
- Alan Ly, UCI Cellular & Molecular Biosciences Graduate Student 2019 – Present
  - Recipient of NIH Diversity Supplement
- Isabel Rivera, UCI Inter-departmental Program in Neurosciences Rotation Student Winter 2019
- Nihal Eltom, UCI Inter-departmental Program in Neurosciences Rotation Student Fall 2018
- Jesse Holt, UCI, Physiology & Biophysics 2017 – Present
  - HHMI Gilliam Diversity Fellow
  - Eugene Cota Robles Diversity Fellow
  - Recipient of a $10,000 opportunity award from the Center for Multiscale Cell Fate at UCI, for a new collaborative project with Dr. Wei-Zheng Zeng (Dr. Ardem Patapoutian's lab) in The Scripps Research Institute.
  - Recipient of a $2,500 travel award for a new collaborative project with Dr. Rizal Hariadi's lab at Arizona State University

- Chloe Saras Thangavelu, Cellular & Molecular Biosciences Rotation Student 2018 - 2018
- Haley Masters, UCI, Cellular & Molecular Biosciences Rotation Student 2017 - 2017
- David Au, UCI, Cellular & Molecular Biosciences Rotation Student 2017 - 2017
- Chang Zhao, UCI Masters in Biotechnology 2015 - 2016
- Rylan Katz, UCI, Chem. Engg. & Material Sci. (Primary Mentor: Alon Gorodetsky) 2014 - 2016
- Janahan Arulmoli, UCI, Biomedical Engineering (Primary Mentor: Lisa Flanagan) 2013 – 2016
- Iris Kim, UCI, Physiology & Biophysics (Primary Mentor: Francesco Tombola) 2011 – 2014
- Graduate student mentor for 4 Ph.D. rotation students, UC Berkeley 2002 - 2006

Post-baccalaureate students

- Esmeralda Izqueirdo, UC Riverside 2017 - 2018
- Nhu Nguyen, UCI 2015 - 2016
- Dai Trang Thi Le, UCI (currently medical student at University of Central Florida) 2014 – 2015
- Jennifer Hwe, UCI (currently post-bac. pre-medical student at Charles Drew Univ.) 2013 – 2015

Undergraduate students

- Michale Vu, UCI undergraduate research student Winter 2021- present
- Elaine Lai, California State University undergraduate research student Jan – Dec 2021
  - CIRM Bridges Scholar
- Kaitlyn Manh, California State University undergraduate research student Jan – Dec 2020
  - CIRM Bridges Scholar
- Shayan Fini, UCI undergraduate research student Winter 2020- present
  - UCI Summer Undergraduate Research Program grant awardee (2020)
- Abhishek Kulkarni, UCI undergraduate research student Fall 2019 – Spring 2020
- Samantha Smith, UCI undergraduate research student 2018 – Spring 2020
  - UCI Undergraduate Research Opportunities Program grant awardee (2020)
  - UCI Undergraduate Research Opportunities Program grant awardee (2019)
- Harsh Bhavsar, UCI undergraduate research student 2018 – Spring 2020
  - UCI Undergraduate Research Opportunities Program grant awardee (2020)
  - UCI Undergraduate Research Opportunities Program grant awardee (2019)
- Brian Nguyen, UCI undergraduate research student 2017 – 2018
- Ladelyn Boonlua, UCI undergraduate research student 2017 – 2018
  - UCI Undergraduate Research Opportunities Program grant awardee (2017)
- Nguyen Minh Truong, UCI undergraduate research student 2017 – 2018
  - UCI Undergraduate Research Opportunities Program grant awardee (2020)
  - UCI Undergraduate Research Opportunities Program grant awardee (2019)
  - UCI Undergraduate Research Opportunities Program grant awardee (2018)
- Huixun Du, UCI undergraduate research student 2017 – Spring 2019
  - UCI Summer Undergraduate Research Program grant awardee (2018)
  - UCI Undergraduate Research Opportunities Program grant awardee (2018)
- Klara Zakery, UCI undergraduate research student 2017 – 2018
- Adrija Chakrabarty, UCLA undergraduate research student Summer 2017
- Juhi Gopal, UCI undergraduate research student 2016 – 2018
- Hamid Abuwarda, UCI undergraduate research student 2016 – 2018
  - Co-author on a research article
  - Robert Ernst Prize for Excellence in Research in the Biological Sciences (2018)
  - UCI Excellence in Research awardee (2018)
  - UCI Summer Undergraduate Research Program grant awardee (2017)
  - UCI Undergraduate Research Opportunities Program grant awardee (2017)
- Colleen Chau, UCI undergraduate research student 2015 – 2016
  - UCI Undergraduate Research Opportunities Program grant awardee (2016)
  - UCI Summer Undergraduate Research Program grant awardee (2018)
- Christina Le, UCI undergraduate research student 2014 – 2016
  - UCI Undergraduate Research Opportunities Program grant awardee (2015, 2016)
  - UCI Summer Undergraduate Research Program grant awardee (2015)

- Julie Self, Bates College — Summer 2015
- Truc Tran, UCI undergraduate research student — 2011 – 2014
  - Co-author on two research articles
  - UCI Excellence in Research awardee (2012)
  - UCI Undergraduate Research Opportunities Program grant awardee (2012, 2013)
  - UCI Summer Undergraduate Research Program grant awardee (2013)
- Chau Tran, UCI undergraduate research student — 2013 – 2014
  - Co-author on a research article
- Heather Newman, UC Berkeley undergraduate research student — 2004 – 2005
- Lisa Kurtz, UC Berkeley undergraduate research student — 2001 – 2004
  - Co-author on a research article

High school students

- Ria Bahadur, Seattle, WA — Jan 2021 – Present
- Kianna Maria Dominick, Sage Hill High School, Newport Coast, CA — August 2019 – Spring 2020
- Tia Desarkar, Beckman High School, Tustin, CA — June 2019 – Spring 2020
- Ally Mendelhall, Tesoro High School, Las Flores, CA — Summer 2017
- Adam Clements, El Toro High School, Lake Forest, CA — 2016 - 2017
- Jessica Parpana, Tesoro High School, Las Flores, CA — Summer 2016
- Namita Prakash, Sage Hill School, Newport Coast, CA — 2015-2016
- Adrija Chakrabarty, Troy High School, Fullerton, CA — Summer 2015
- Zac Morton, Tesoro High School, Las Flores, CA — 2014 - 2015

PROFESSIONAL ACTIVITIES

Manuscript reviewer: ACS Nano, Advanced Science, Cell, eLife, F1000 Reviews, Frontiers in Pharmacology of Ion Channels and Channelopathies, Journal of Biological Chemistry, Journal of General Physiology, Nature Communications, Plos One, PNAS, Scientific Reports.

Ad hoc grant reviewer – HHMI Gilliam Fellowship for Advanced Study, Howard Hughes Medical Institute. February 2021

Ad hoc grant reviewer – Intercellular Interactions (ICI) NIH study section, National Institutes of Health. February 2021

Ad hoc grant reviewer - NIH-funded Center of Biomedical Research Excellence (COBRE) Pilot Proposal for the University of Delaware — November 2020

Ad hoc grant reviewer - NSF Directorate of Engineering grant review panel — July 2020

Ad hoc grant reviewer – United Kingdom Research and Innovation (UKRI), Biotechnology and Biological Sciences Research Council — March 2020

Session chair, Materials Research Society Fall Meeting, Boston, MA. — Dec 2019

Panelist, Nature Conference Panel Discussion on How to Design a Scientific Project: Hypothesis Generation, Study Design, and How to Deal with Potential Failure. — May 2019

bioRxiv Affiliate — 2019 - present

***Journal of General Physiology* Editorial Advisory Board Member** — 2019 - 2021

Conference chair – The Mechanome in Action, July 26-27 2018, UC Irvine. — 2018

Ad hoc reviewer – Neurotransporters, Receptors, Channels and Calcium Signaling (NTRC) study section, National Institutes of Health. — 2018

***Ad hoc* grant reviewer –** Human Frontier Science Program — 2017

Member – Early Careers Committee of the Biophysical Society — 2013 – 2019

Organized workshops at Biophysical Society Meetings:

"Setting up your lab as an Assistant Professor" — 2016
"Grant Opportunities for Early Career Faculty" — 2015
"Moving on from your Postdoc Position: Negotiating the Transition" — 2014

Abstract Reviewer - Biomedical Engineering Society Annual Meeting, Tampa, Florida — 2015

Panelist - Grant-writing workshop organized by the UCI Postdoc Association 2015

Ad hoc consultant - Global Biological Standards Institute 2015

Judge - Poster Competition, American Society Cell Biology Annual Meeting, Philadelphia, PA 2014

Workshop Organizer - "Biosciences in India: Directions, Challenges and Opportunities" An Early Careers Committee Workshop at the Biophysical Society Meeting. San Francisco, California 2010

Workshop Organizer - "Wanted by India: A discussion meeting on academic career options in the Biosciences", UCSF, San Francisco, California 2009

Career Workshop Panelist - Careers in Bioscience and Biotechnology Workshops: 2004
St. Xavier's School, Ahmedabad, India
L.A.D College of Women, Nagpur, India

Executive Committee & Admissions Committee Member - Berkeley Biophysics Group 2001 – 2002

MEDIA COVERAGE

UCI researcher awarded NIH Director's New Innovator Award. 2 Oct 2018
https://www.eurekalert.org/pub_releases/2018-10/uoc--ura093018.php

Interview: Neuroscientist Medha Pathak and the "Mechanome in Action". 16 Nov 2018
https://oscillations.net/2018/11/16/neuroscientist-medha-pathak-and-the-mechanome-in-action/

New PI Slack, PI of the Month. 15 Jan 2019
https://newpislack.wordpress.com/2019/01/13/medha-pathak-ph-d/

INSTITUTIONAL SERVICE

Service to the Department

Faculty Recruitment Committee, Tissue Engineering, FHLRE Initiative with the SCRC 2018 – 2020
Faculty Recruitment Committee, Professor-in-Residence faculty position 2018 – 2019
Faculty Recruitment Committee, Vision Cluster, SOM Cluster Hiring Initiative 2017 – 2018
Faculty Recruitment Committee, Neurodevelopment Cluster, SOM Cluster Hiring Initiative, 2016 – 2018
SOM Research Computing Committee, Department representative 2017
Co-ordinated talks, workshops panel discussions 2016 –

- Writing workshop for grad students and postdocs
- Panel discussion on how to communicate with your local elected official on science policy
- Department research seminar

Service to the Sue and Bill Gross Stem Cell Center

Faculty Recruitment Committee, Tissue Engineering, FHLRE Initiative with Physiology dept, 2018 - 2019
Shared Resource Committee Member 2018-2019
CRISPR Core Committee Member for hiring Core facility manager 2018
Panel Discussion on How to Communicate With Your Local Congressperson (joint event with the Department of Physiology), Event co-ordinator 2017
Search committee member for hiring core facility manager 2017
Poster Judge, Stem Cell Awareness Day Symposium 2016
Faculty Recruitment Initiative, contributed to writing the proposal for the Faculty Hiring for Leveraged Research Excellence proposal 2016

Service to graduate programs

Cellular and Molecular Biology Graduate Program, Co-chair, Preliminary Exam Committee 2019
Cellular and Molecular Biology Graduate Program, Faculty Interviewer 2019
Center for Complex Biological Sciences, Panelist, Applying for Fellowships and Grants 2019
Medical Scientist Training Program (MSTP) Admissions Committee, Member 2018 - 2019
Behrens Graduate Fellowship Interview Committee Member 2018
Cellular and Molecular Biology Graduate Program, Prelim exam Committee Member 2018
Cellular and Molecular Biology Graduate Program, Faculty Interviewer 2017

Inter-departmental Neuroscience Program, Faculty Interviewer 2017
Cellular and Molecular Biology Graduate Program, Prelim exam Committee Member 2017
Cellular and Molecular Biology Graduate Program, Admissions Committee Member 2016 - 2017

DIVERSITY AND OUTREACH ACTIVITIES

UCI faculty contact for *Intersections Science Fellows Symposium*, symposium to showcase the research of outstanding postdocs who have significantly contributed to promoting Diversity, Equity and Inclusion within academia and/or are members of groups historically underrepresented in academia January 2021

UCI School of Medicine Graduate Academic Community Forum on Anti-BIPOC Racism, Breakout Room Leader for "Mentorship by Faculty" July 2020

Demystifying the Hidden Curriculum, organized workshops to support diversity at graduate level:

Academic Calendaring September 2020
Navigating Your Writing Path August 2020
Project Management: Hunks, Chunks & Bites July 2020
Strategies & Mindsets to Protect Your Time, Energy & Attention April 2020

Overcoming Imposter Syndrome, workshops to support diversity at graduate level February 2020

PROFESSIONAL DEVELOPMENT TRAINING

HHMI Inclusive Learning Series, Harvard Business School 11/05/2020 – 02/18/2021

HHMI Gilliam Mentorship Training, Howard Hughes Medical Institute and the University of Wisconsin's Center for the Improvement of Mentored Experiences in Research (CIMER) 10/1/2019 – 03/31/2021

EMBO Laboratory Leadership Course for Group Leaders, Stowers Institute, Kansas City, MO. 04/08/2019 to 04/13/2019

AAMC Early Career Women Faculty Leadership Development Seminar, San Diego, CA. 02/02/2019 – 02/05/2019

Faculty Success Program, National Center for Faculty Development & Diversity, Online. 08/26/2018 – 11/17/2019

Optical Microscopy and Imaging in the Biological Sciences, Marine Biological Laboratory, Woods Hole, MA. 09/07/2016 – 09/17/2016

Young Investigator meeting, Poovar, Kerala, India. 02/24/2009 – 02/28/2009

Biology of the Inner Ear – Experimental and Analytical Approaches, Marine Biological Laboratory, Woods Hole, MA. 08/19/2007 – 09/01/2007