

# Kyle E. Miller

<http://millerlab.zoology.msu.edu/>  
[kmiller@msu.edu](mailto:kmiller@msu.edu)  
917-509-0227

Michigan State University  
Department of Integrative Biology  
288 Farm Lane, Room 336  
East Lansing, MI 48824

---

## Curriculum Vitae

### Positions

Associate Professor in the Department of Integrative Biology at Michigan State University 2013-  
Assistant Professor in the Department of Zoology at Michigan State University, 2005-2013.

### Education

Ph.D., 1996 Neuroscience, Emory University  
B.Sc., 1991 Psychology, Kansas State University

### Research experience

- 2003-2005 Post-doctoral fellow with David Van Vactor, Dept. of Cell Biology, Harvard University - Developed a novel method for visualizing axonal transport *in vivo* in transgenic animals (*Drosophila melanogaster*). Funding provided through an award to DVV from the National Institute of Neurological Disorders and Stroke.
- 1997-2003 Post-doctoral fellow with Michael Sheetz, Dept. of Biology, Columbia University and Dept. of Cell Biology, Duke University Investigation of the relationship between axonal elongation and axonal transport to answer the question of "How do axons grow?" Funding provided through a NIH F32 Post-doctoral training grant to KM and an NIH RO1 award to MS.
- Fall 1999 Visiting Research Fellow with Carlos Dotti, European Molecular Biology Laboratories (EMBL) Heidelberg, Germany Examination of the regulation of axonal transport in cultured hippocampal neurons. Funding provided by the EMBL.
- 1992-1996 Graduate Student with Harish Joshi, Dept. of Anatomy and Cell Biology, Emory University. Investigation of the mechanism of tubulin transport in neurons. Funding provided by an NIH RO1 to HJ.
- 1988-1991 Undergraduate research with Richard Harris, Dept. of Psychology, Kansas State University. Conducted research as an undergraduate to determine the factors that influence decisions regarding organ donation

## Peer Reviewed Publications

1. Swarnkar, S. , Y. Avchalumov, I. Espadas, E. Grinman, X. Liu, B. L. Raveendra, A. Zuca, S. Mediouni, S. Valente, D. Page, K. E. Miller, S. V. Puthanveetil. *The Molecular Motor Protein Kif5C Mediates Structural Plasticity and Long-Term Memory by Constraining Local Translation*. Cell Reports, 2021. Under review.
2. McElmurry, K., J.E. Stone, D. Ma, P. Lamoureux, Y. Zhang, M. Steidemann, L. Fix, F. Huang, K.E. Miller, and D.M. Suter. *Dynein-mediated microtubule translocation powering neurite outgrowth requires microtubule assembly*. J. Cell Sci., 2020, **133**(8).
3. Badal, K.K., K. Akhmedov, P. Lamoureux, X.A. Liu, A. Reich, M. Fallahi-Sichani, S. Swarnkar, K.E. Miller, and S.V. Puthanveetil. 2019. Synapse Formation Activates a Transcriptional Program for Persistent Enhancement in the Bi-directional Transport of Mitochondria. *Cell reports*. 26:507-517 e503.
4. Miller, K.E. and D.M. Suter, *An Integrated Cytoskeletal Model of Neurite Outgrowth*. Front Cell Neurosci, 2018. **12**: p. 447.
5. de Rooij, R., E. Kuhl, and K.E. Miller, *Modeling the Axon as an Active Partner with the Growth Cone in Axonal Elongation*. Biophys J, 2018. **115**(9): p. 1783-1795.
6. de Rooij, R., K.E. Miller, and E. Kuhl, *Modeling molecular mechanisms in the axon*. Comput Mech, 2017. **59**(3): p. 523-537.
7. Athamneh, A.I.M., et al., *Neurite elongation is highly correlated with bulk forward translocation of microtubules*. Sci Rep, 2017. **7**(1): p. 7292.
8. Halievski, K., et al., *Non-Cell-Autonomous Regulation of Retrograde Motoneuronal Axonal Transport in an SBMA Mouse Model*. eNeuro, 2016. **3**(4): p. ENEURO. 0062-16.2016.
9. Roossien, D.H., K.E. Miller, and G. Gallo, *Ciliobrevins as tools for studying dynein motor function*. Front Cell Neurosci, 2015. **9**: p. 252.
10. O'Toole, M., P. Lamoureux, and K.E. Miller, *Measurement of subcellular force generation in neurons*. Biophys J, 2015. **108**(5): p. 1027-37.
11. Miller, K.E., X.A. Liu, and S.V. Puthanveetil, *Automated measurement of fast mitochondrial transport in neurons*. Front Cell Neurosci, 2015. **9**: p. 435.
12. Holland, M.A., K.E. Miller, and E. Kuhl, *Emerging Brain Morphologies from Axonal Elongation*. Ann Biomed Eng, 2015. **43**(7): p. 1640-53.
13. Roossien, D.H., P. Lamoureux, and K.E. Miller, *Cytoplasmic dynein pushes the cytoskeletal meshwork forward during axonal elongation*. J Cell Sci, 2014. **127**(Pt 16): p. 3593-602.
14. Baqri, R.M., et al., *Mitochondrial chaperone TRAP1 activates the mitochondrial UPR and extends healthspan in Drosophila*. Mech Ageing Dev, 2014. **141-142**(1): p. 35-45.
15. Roossien, D.H., et al., *Drosophila growth cones advance by forward translocation of the neuronal cytoskeletal meshwork in vivo*. PLoS One, 2013. **8**(11): p. e80136.
16. Suter, D.M. and K.E. Miller, *The emerging role of forces in axonal elongation*. Prog Neurobiol, 2011. **94**(2): p. 91-101.

17. O'Toole, M. and K.E. Miller, *The role of stretching in slow axonal transport*. Biophys J, 2011. **100**(2): p. 351-60.
18. Lamoureux, P., S. Heidemann, and K.E. Miller, *Mechanical manipulation of neurons to control axonal development*. J Vis Exp, 2011(50).
19. Kemp, M.Q., et al., *Impaired motoneuronal retrograde transport in two models of SBMA implicates two sites of androgen action*. Hum Mol Genet, 2011. **20**(22): p. 4475-90.
20. Lamoureux, P.L., et al., *Slowing of axonal regeneration is correlated with increased axonal viscosity during aging*. BMC Neurosci, 2010. **11**: p. 140.
21. Lamoureux, P., et al., *Growth and elongation within and along the axon*. Dev Neurobiol, 2010. **70**(3): p. 135-49.
22. Baqri, R.M., et al., *Disruption of mitochondrial DNA replication in Drosophila increases mitochondrial fast axonal transport in vivo*. PLoS One, 2009. **4**(11): p. e7874.
23. O'Toole, M., et al., *Modeling mitochondrial dynamics during in vivo axonal elongation*. J Theor Biol, 2008. **255**(4): p. 369-77.
24. O'Toole, M., P. Lamoureux, and K.E. Miller, *A physical model of axonal elongation: force, viscosity, and adhesions govern the mode of outgrowth*. Biophys J, 2008. **94**(7): p. 2610-20.
25. Miller, K.E. and S.R. Heidemann, *What is slow axonal transport?* Exp Cell Res, 2008. **314**(10): p. 1981-90.
26. Miller, K.E. and M.P. Sheetz, *Direct evidence for coherent low velocity axonal transport of mitochondria*. J Cell Biol, 2006. **173**(3): p. 373-81.
27. Miller, K.E., et al., *Direct observation demonstrates that Liprin-alpha is required for trafficking of synaptic vesicles*. Curr Biol, 2005. **15**(7): p. 684-9.
28. Miller, K.E. and M.P. Sheetz, *Axonal mitochondrial transport and potential are correlated*. J Cell Sci, 2004. **117**(Pt 13): p. 2791-804.
29. De Vos, K.J., et al., *Expression of phosphatidylinositol (4,5) bisphosphate-specific pleckstrin homology domains alters direction but not the level of axonal transport of mitochondria*. Mol Biol Cell, 2003. **14**(9): p. 3636-49.
30. Miller, K.E. and M.P. Sheetz, *Characterization of myosin V binding to brain vesicles*. J Biol Chem, 2000. **275**(4): p. 2598-606.
31. Miller, K.E. and D.C. Samuels, *The axon as a metabolic compartment: protein degradation, transport, and maximum length of an axon*. J Theor Biol, 1997. **186**(3): p. 373-9.
32. Miller, K.E. and H.C. Joshi, *Tubulin transport in neurons*. J Cell Biol, 1996. **133**(6): p. 1355-66.
33. Jasper, J.D., et al., *Organ donation terminology: are we communicating life or death?* Health Psychol, 1991. **10**(1): p. 34-41.
34. Harris, R.J., et al., *Consenting to donate organs: whose wishes carry the most weight?* J Appl Soc Psychol, 1991. **21**(1): p. 3-14.

## **Book Chapters and Conference Proceedings**

1. Miller KE, Chou VT., Van Vactor D. (2016) Liprin-alpha and Assembly of the Synaptic Cytomatrix. Encyclopedia of Neuroscience.
2. **Miller KE.** (2016) Axons. Encyclopedia of Neuroscience.
4. **Miller KE.** Axons. Encyclopedia of Neuroscience. 2012.
5. Abu-Nimeh FT, Miller KE, Salem FM. On-chip Autonomous Axonal Elongation. Nano Imaging and Manipulation, IEEE International Solid-State Circuits. 2011;Conference Proceedings, 2011.
6. Miller KE, Van Vactor D. Liprin-alpha and Assembly of the Synaptic Cytomatrix. Encyclopedia of Neuroscience. 2007;4(1).

## **Grants, Scholarships, Awards**

### ***Research Grants***

Title: Bidirectional transport of lysosome related organelles during synapse maintenance and plasticity

PI: Sathya Puthanveettil

Co-PI: Miller, Kyle

Direct Grantor: NSF

Project Dates: 2/2021 - 2/2024

Awarded to candidate: \$109,000

Title: Dynein-dynactin complex mediated retrograde transport during long term memory storage

PI: Sathya Puthanveettil

Co-PI: Miller, Kyle

Direct Grantor: NIH

Project Dates: 1/9/2018 - 10/31/2023

Awarded to candidate: \$139,000

Title: Regulation of kinesin mediated transport during long-term memory storage

PI: Sathya Puthanveettil

Co-PI: Miller, Kyle

Direct Grantor: NIH

Project Dates: 1/9/2014 - 11/30/2018

Awarded to candidate: \$287,812

Title: The Role of Forces in Axonal Elongation

PI: Miller, Kyle

Direct Grantor: Natl. Science Foundation

Project Dates: 7/1/2010 - 6/30/2015

Project Amount Requested: \$967,918

Awarded to candidate: \$967,918.00

Title: Mitochondrial Regulation of Health and Disease  
 PI: Kaguni, Laurie  
 CoPIs: Miller, Kyle; Gallo, Kathy; LaPres, John; Ferguson-Miller, Shelagh  
 Direct Grantor: Michigan State Univ. - Strategic Partnership Grant Program  
 Project Dates: 6/1/2008 - 6/1/2011  
 Project Amount Requested: \$400,000  
 Awarded to candidate: \$80,000

Title: Quantitative Biology Graduate Fellowship for Mathew O'Toole  
 PIs: Miller, Kyle and Chang Yi Wang  
 Direct Grantor: Mich. State Univ. Quantitative Biology Program  
 Project Dates: 8/20/2006 - 8/20/2007  
 Project Amount Requested: \$27,000  
 Awarded to candidate: \$27,000

Title: Developmental funding for research in basic neuroscience  
 PI: Galligan, James  
 CoPIs: Symonds, Laura; Miller, Kyle; Yuan, Yukun; Lonstein, Joe; Xu, Hui  
 Direct Grantor: Michigan State University, HBRI-II (Health and Biomedical Research Initiative)  
 Project Dates: 6/30/2006 - 6/30/2009  
 Project Amount Requested: \$325,000  
 Awarded to candidate: \$75,000  
 Does not includes indirect costs

Title: Purification of Novel Kinesin Receptors, F32 Postdoctoral Training Award  
 PI: Michael Sheetz  
 Direct Grantor: NATL INST OF HEALTH - NIH/PHS  
 Project Dates: 6/1/1998 - 6/1/2001  
 Project Amount Requested: \$80,000  
 Awarded to candidate: \$80,000

### ***Awards and Honors***

2001-2002	President of the "Postdoc Club" at Columbia University
1995	American Society for Cell Biology / Worthington Biochemical Pre-doctoral Student Travel Award
1991	President of the Kansas State University Chapter of Psi Chi, the National Honor Society in Psychology
1990	Eli Lilly undergraduate scholar

### **Teaching**

2019-2021	BS 161 Cells and Molecules, Instructor, MSU
2019-2020	NEU 801 Molecular, Cellular, and Developmental Neuroscience I, Co-Instructor
2020	NEU 803 Molecular, Cellular, and Developmental Neuroscience II, Co-Instructor

2018	NEU 804 Molecular and Developmental Neurobiology, Co-Instructor
2018	BS 161 Cells and Molecules, Co-Instructor, MSU
2008-2018	MMG 409 Eukaryotic Cell Biology, Co-Instructor, MSU
2006-2018	PHM 827 Physiology and Pharmacology of Excitable Cells, Co-Instructor, MSU
2016	ZOL 101 Preview of Zoology, Co-Instructor, MSU
2015	NEU 804 Molecular and Developmental Neurobiology, Co-Instructor
2012	NEU 992 Women in Science graduate seminar, guest lecture on work life balance.
2011	NEU 800 Neuroscience Research Forum, guest lecture on finding a post-doctoral position & your next mentor
2009	NEU 992 Axonal Transport and Disease
2009	ZOL 801, Issues in Professional Development, Guest Lecturer, MSU
2009	NEU 800 Neuroscience Research Forum, guest lecture on tips for improving public speaking
2007-2011	PHM 810 Synaptic Transmission, Co-Instructor, MSU
2007	ZOL 101 Preview of Zoology, Co-Instructor, MSU
2007	MTH 994 Biological Modeling and Computation II, Guest Lecture, MSU
2007	ZOL 494 Independent Undergraduate Study, MSU
2004	Neurobiology of Drosophila - assistant for a 3 week summer course at Cold Spring Harbor Laboratory
2002-2003	Confocal Microscopy – Provided training at the core facility in the Biology Dept. at Columbia University
1993	IBS 526 NS II: Neuroanatomy & Systems Neuroscience, teaching and lab assistant, Emory University
1990	BIOL 340 Human Body, Cadaver Dissection Team
1988	PSYCH 110 Introductory Psychology, Teaching Assistant

## Conference Papers and Presentations

Bold designates me as the corresponding author.

### **Invited Conferences:**

**Miller KE.** The Role of Forces in Axonal Elongation. Wilhelm und Else Heraeus-Stiftung Seminar. Physikzentrum Bad Honnef; August 17-19; Bad Honnef, Germany 2016.

Roossien, D.H., P. Lamoureux, and **K.E. Miller**, Cytoplasmic dynein pushes the cytoskeletal meshwork forward during axonal elongation. Chicago Cytoskeleton Meeting; Northwestern University; September 23; Chicago, IL 2014.

- O'Toole, M., P. Lamoureux, and **K.E. Miller**, Measurement of subcellular force generation in neurons. *Mathematical Biosciences Institute Workshop "Axonal Transport and Neuronal Mechanics"*, Ohio State University; November 3 - 7; Columbus, OH 2014.
- Miller KE**. The Emerging Role of Forces in Axonal Elongation. *Mathematical Biosciences Institute Workshop "Cellular and Subcellular"*, Ohio State University; April 8; Columbus, OH 2013.
- Roossien DH, Lamoureux P, George AN, David Van Vactor D, **Miller KE**. Growth Cones Advance by Bulk Translocation In Vivo. Forces in Biology, *Exciting Biologies*; October 4 - 6; Dublin, Ireland 2012.
- Roossien DH, Lamoureux P, George AN, David Van Vactor D, **Miller KE**. Growth Cones Advance by Bulk Translocation In Vivo. Cell Biology of the Neuron, *Gordon Research Conference*; June 24 - June 29; Waterville Valley Resort, N.H. 2012.
- Miller KE**. A paradoxical increase in mitochondrial axonal transport following disruption of mitochondrial DNA replication. Mitochondria and Chloroplasts, *Gordon Research Conference*; July 11-16; Lucca (Barga), Italy 2010.
- Miller KE**. Biophysical Modeling of Axonal Elongation. *Mathematical Biosciences Institute workshop "Morphogenesis, Limb Growth, Gastrulation, Somatogenesis, Neural Tube Formation"*, Ohio State University; November 18; Columbus, OH 2008.
- O'Toole M, Lamoureux P, **Miller KE**. A Physical Model of Axonal Elongation: Force, Viscosity, and Adhesions Govern the Mode of Outgrowth. *Hillsdale College Mathematics Colloquium*; April 17; Hillsdale, MI 2008.

### Invited Departmental Talks / Seminars:

- Miller KE**. The Role of Forces in Neurite Outgrowth., Dept. of Engineering. *Oxford University*; March 9; Oxford, UK 2021.
- Miller KE**. Forces in Axonal Elongation., Dept. of Engineering. *Stanford University*; June 4; Palo Alto, CA 2018.
- Miller KE**. The Role of Forces in Axonal Elongation., Dept. of Neuroscience. *Scripps Institute*; March 24; Jupiter, FL 2017.
- Miller KE**. The Emerging Role of Forces in Axonal Elongation., Dept. of Engineering. *Stanford University*; November 11; Palo Alto, CA 2015.
- Miller KE**. The Emerging Role of Forces in Axonal Elongation. Mad Scientist's Club. Dept. of Zoology, *Michigan State University*; February 18; East Lansing, MI 2014.
- Miller KE**. Using the Fly to Make Superman Walk: The Emerging Role of Forces in Axonal Elongation. Dept. of Zoology, *Michigan State University*; December 4; East Lansing, MI 2012.
- Miller KE**. The Emerging Role of Forces in Axonal Elongation. Red Table Talk, *Harvard Medical School*; June 29; Boston, MA 2012.
- Miller KE**. The Emerging Role of Forces in Axonal Elongation. Dept of Mechanical Science and Engineering, *Univ. of Il.l Urbana-Champaign* February 27; Urbana-Champaign, IL 2012.

- Miller KE.** A New Model for Axonal Elongation. Dept of Biological Sciences, Purdue University; November 4; West Lafayette, IN 2011.
- Miller KE.** The Emerging Role of Forces in Axonal Elongation. Cell and Molecular Biology seminar series, Michigan State University; April 13; East Lansing, MI 2011.
- Miller KE.** The Emerging Role of Forces in Axonal Elongation. Dept of Biological Science, Wayne State Univ; November 28; Detroit, MI 2011.
- Miller KE, Heidemann SR.** Mechanical Forces in Axonal Development. Physiology Dept, Michigan State University; November 28; East Lansing, MI 2011.
- Miller KE.** *Drosophila melanogaster*: a model system for the studies of axons and Parkinson's disease. Department of Entomology, Michigan State University; January 13; East Lansing, MI 2008.
- Miller KE.** How do Axons Grow? Dept of Physiology, Departmental Seminar Series, Michigan State University; January 17; East Lansing, MI 2007.
- Miller KE.** In Vivo Time Lapse Imaging of Axonal Elongation and Transport in *Drosophila*. Fly Club, Michigan State University; February 21; East Lansing, MI 2006.
- Miller KE.** *Drosophila* Liprin-alpha is Required for Trafficking of Synaptic Vesicles. Dept of Cell Biology Departmental Seminar Series 'Pizza Talk', Harvard Medical School; Boston, MA 2004.

### Posters and Talks:

- McElmurry, K., J. E. Stone, D. Ma, P. Lamoureux, Y. Zhang, F. Huang, **K. E. Miller**, D. M. Suter. "Microtubule assembly is required for dynein-mediated microtubule translocation and neurite elongation" Society for Neuroscience; October 19-23; Chicago, IL, 2019.
- O'Toole, M., P. Lamoureux, and **K.E. Miller**, Measurement of subcellular force generation in neurons. Mathematical Biosciences Institute Workshop "Axonal Transport and Neuronal Mechanics", Ohio State University; November 3 - 7; Columbus, OH 2014.
- Roossien DH, Lamoureux P, George AN, David Van Vactor D, **Miller KE.** Disruption of Myosin II Increases Axonal Elongation in *Drosophila* by Accelerating Bulk Advance of the Growth Cone. Biophysical Society Meeting; February 2 - 6; Philadelphia, PA 2013.
- O'Toole M, **Miller KE.** The Role of Stretching in Slow Axonal Transport. Biophysical Society Meeting; March 5 - 9; Baltimore, MD 2011.
- Koslowsky D, Patterson R, Haudek K, Miller J, Miller K, Osteryoung K, Stolzhus J, Trail F. Inquiry-Based Problem Set Development for Molecular Cell Biology. Spring Institute on College Teaching and Learning; May 18; East Lansing, MI 2011.
- Baqri RM, Turner BA, Rheuben MB, Hammond BD, Kaguni LS, **Miller KE.** Disruption of Mitochondrial DNA Replication Increases Mitochondrial Fast Axonal Transport In Vivo. Society for Neuroscience; October 17 - 21; Chicago, IL 2009.
- Miller KE, Lamoureux P, O'Toole M.** Differences in Biophysical Properties



- Underlie the Limited Regenerative Ability of Adult as Compared to Embryonic Peripheral Neurons. *American Society For Cell Biology*; December 5 - 9; San Diego, CA 2009.
- Kemp M, Poort JE, Baqri RM, Breedlove SM, Miller KE, Jordan CL. Live imaging of endosomal trafficking deficits in sciatic nerves of a myogenic mouse model of SBMA *Society for Neuroscience Meeting*; October 17 - 21; Chicago, IL 2009.
- Baqri RM, Turner BA, Kaguni LS, **Miller KE**. Impaired Mitochondrial DNA Replication Disrupts Axonal Transport of Mitochondria, but Not of Synaptic Vesicles. *Annual Drosophila Research Conference of the Genetics Society of America*; April 2 - 6; San Diego, CA 2008.
- Lamoureux P, Heidemann SR, **Miller KE**. Growth and Elongation Within and Along the Axon. *American Society For Cell Biology*; December 13-17; San Francisco, CA 2008.
- O'Toole M, Lamoureux P, **Miller KE**. Modeling Mitochondrial Biogenesis, Transport & Destruction in Neurons. *MSU - U of M Math-Bio Day*; December 2; Ann Arbor, MI 2007.
- O'Toole M, Lamoureux P, **Miller KE**. Modeling Mitochondrial Biogenesis, Transport & Destruction in Neurons. *Midwest Quantitative Biology Conference*; September 29 – October 1; Mission Point Resort, Mackinac Island, MI 2006.
- Miller KE. Drosophila Liprin-alpha is Required for Trafficking of Synaptic Vesicles. *Northeast Regional Developmental Biology meeting*, Marine Biological Laboratory; April 23; Woods Hole, MA 2005.
- Miller KE, Sheetz MP. Actin-linked Bulk Transport in the Distal Axon Alters Growth Cone Size. *American Society For Cell Biology Meeting*; December 13 - 17; San Francisco, CA 2003.
- Miller KE**, Samuels D. The Axon as a Metabolic Compartment: Protein Degradation, Transport, and Maximum Length of an Axon. *Society for Neuroscience Meeting*; November 4 - 9; New Orleans, LA 1997.
- Miller KE, Joshi HC. Microtubules do not move by slow axonal transport, but tubulin does. *American Society For Cell Biology Meeting*; December 9 - 13; Washington, D. C. 1995.

## **Professional Affiliations and Service**

### **Panels & Workshops**

NSF IOS – Neural Systems Funding Review Panel, October 2010  
NIH Study Section, Synaptic Transmission and Axonal Transport, October 2019

### **Organizer of:**

*Mathematical Biosciences Institute Workshop* “Axonal Transport and Neuronal Mechanics”, Ohio State University; November 3 - 7; Columbus, OH 2014.

*Wilhelm and Else Heraeus Foundation Seminar* “Neuronal Mechanics”; Physikzentrum Bad Honnef; August 17 – 19; Bad Honnef Germany, 2016.

## Ad Hoc Reviews for Scientific Journals:

*Reviewed 50+ Manuscripts for journals including:*

BBA – Molecular Cell Research (1), Biomechanics and Modeling in Mechanobiology (1); Biophysical Journal (4), BMC Genetics (1), Cellular and Molecular Bioengineering (3), Cellular and Molecular Neurobiology (1); Comparative Biochemistry and Physiology (1), Cytoskeleton (2), Developmental Neurobiology (2), Frontiers in Cellular Neuroscience (1), Int J for Num Meth in BioEng (1), Journal of Cell Science (1), Journal of Elasticity (1); Journal of Neuroscience Research (1), Journal of Neuropharmacology (3), Journal of Visual Experiments, JoVE (1), Mitochondrion (1), Molecular Biology of the Cell (1), Molecular and Cellular Neuroscience (1), Physical Biology (1), PLoS computational biology (1), Proceedings of the National Academy of Science (1), Progress in Neurobiology (1), Molecular Neurodegeneration (2), Neurotoxicology (2), PLoS one (3), PLoS Computational Biology (2), Physical Review Letters (1) and Scientific Reports (2).

## Grant reviews: 25 in total

NIH panelist (6); NSF External Reviewer (6); NSF Panelist (18); United States – Israel Bi-national Science Foundation (1)

## Societies

2013 - Biophysical Society  
1993 - American Society for Cell Biology  
1992 - Society for Neuroscience

## Committees and Service Positions

### University and Departmental Service

2019-2021 CNS FAC  
2019 Faculty Grievance Panel  
2016-2021 University Council  
2016-2021 Faculty Senate  
2011, 18-19 Zoology Department Chemical Safety Representative to ORCBS.  
2014-2019 Neuroscience Faculty Advisory Committee  
2015-2019 Integrative Biology Curriculum Committee, Chair.  
2015-2017 Integrative Biology Space Committee  
2015-2017 Integrative Biology Bylaws Committee  
2015-2016 Neuroscience RPT Advisory Committee  
2015-2016 Entomology Faculty Search Committee  
2013-2015 Chair of the Zoology Departmental Name Change Committee  
2013 Chair of the Academic Program Review (APR) Committee for the Department of Zoology  
2011-2013 University Committee on Faculty Tenure  
2007-2010 Graduate Affairs Committee for the Neuroscience Program

2009	Organizer for the Neuroscience retreat poster presentations
2007-2008	Neuroscience Comprehensive Exam Committee
2009	Chair of Graduate Affairs Committee for the Department of Zoology
2009	Organizer of the slides for the Zoology Departmental Data Blitz
2006-2009	Graduate Affairs Committee for the Department of Zoology
2007	Department of Zoology Chair Five-Year Review Committee
2006	Zoology Faculty Search Committee

## Graduate Committees

### Current Students:

Wiwatratana, Duanghathai	Neuroscience
Wasserman, Aaron	Cell & Molecular Biology

### Past Students:

Acharya, Pankaj	MMG
Al Temaimi, Rabeah	Genetics
Brady, Briana	Integrative Biology and Psychology
De Rooij, Rijk	Stanford, Dept. of Engineering
Gokhale, Rewatee	Biochemistry and Molecular Biol.
Harper, Emily	Cell & Molecular Biology
Handee, Witawas	Cell & Molecular Biology
Khurshid, Khawar	Dept. of Engineering
Oliveira, Marcos	Biochemistry
Poort, Jessica	Neuroscience
Rattanasinchai, Chotirat	Cell & Molecular Biology
Tiernan, Chelsea	Neuroscience
Thompson, Ryan	Cell & Molecular Biology

**Academic Advising:** ~ 20 undergraduates, 4 graduate students, and 1 post-doctoral fellow have worked in my lab

### Undergraduate:

#### *Former students:*

Elise Bonnema - Medical School, University of Toledo  
 Jack Duffield – Management Development Program, Hajoca  
 Lucas Fix –Applying to graduate school  
 Andrew George – Graduate school, Duke  
 Brad Hammond - Graduate School, Michigan State University  
 Javier Howard –PURL, applying to medical school  
 Chris Johnson - MD / PHD program, Emory University  
 Robert Latham - Vet School, Michigan State University  
 Sam Lee – Applying to medical school  
 Nathan Martzke - Dental School, U of Michigan  
 Erica Melkonian – Plans to apply to MD/ PhD program  
 Arielle Pietron –PURL, Pharmacy School U of Maryland  
 John Purakal - Medical School, Wayne State  
 Sreeker Reddy - Medical School, University of Kansas

Andy Robertson – D. O. school, Michigan State University  
Brittany Turner – College of Human Medicine, MSU  
Stephen Vorenberg – PURL, Applying to medical school.

**Graduate:**

*Former Students:*

- Rehan Baqri, Ph. D. – Post-doctoral fellow with Sam Kunes, Harvard University. Now a consultant at Simon-Kucher & Partners.
- Faisal Abu-Nimeh, Ph. D. – Joint student from the Engineering program with Fathi Salem, currently an Engineering Research Associate at the National Superconducting Research Laboratory
- Matthew O'Toole, Ph. D. - Asst. Prof., Kettering University
- Douglas Roossien –Ph. D.– Post-doctoral fellow with Dawen Cai at U of Michigan

**Post-doctoral fellow:**

- Julie Taylor – Research and Development Officer, in the School of Clinical Medicine, Cambridge University Addenbrooke's Hospital, Cambridge, UK.

**Service within the Broader Community**

- Brain Bee and Neuroscience Fair at MSU, 2010-2013
- Invited to write four articles for the Encyclopedia of the Neuroscience. This publication is written at a level suitable for university undergraduates.
- Participated in a Faculty Learning Community (FLCs), entitled "Inquiry-Based Problem Set Development for Molecular Cell Biology", 2010 - 2011.
- Frontiers in Biological Science workshop for secondary physical science teachers – discussed research and latest finding on axonal growth and regeneration, 2008
- Michigan Science Olympiad, 2007
- Judge at the Boston Latin School Science Fair, 2003