Kai Zhang

Department of Biochemistry
School of Molecular and Cellular Biology
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Urbana, Illinois 61801

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APPOINTMENT

Assistant Professor, University of Illinois at Urbana-Champaign **2014-present**
Assistant Professor, Department of Biochemistry
http://mcb.illinois.edu/faculty/profile/kaizkaiz/
Affiliated Faculty, Neuroscience Program
http://neuroscience.illinois.edu/people/faculty
Affiliated Faculty, Center for Biophysical and Computational Biology
http://biophysics.illinois.edu/people/faculty
Affiliated Faculty, Chemistry-Biology Interface Training Program
https://www.cbitrainingprogramuiuc.com/faculty

PROFESSIONAL PREPARATION

Stanford University, Stanford, California **2009-2014**
Postdoctoral Scholar
Single-molecule imaging of axonal transport nerve growth factor in living neuronal cells
Optogenetic activation of growth factor-mediated signaling in live cells
Research Advisor: Dr. Bianxiao Cui (Chemistry)

University of California, Berkeley, Berkeley, California **2002-2008**
Ph.D. Chemistry
Research Advisor: Dr. Haw Yang (Chemistry)
Dissertation title: Methodology Development for Single Molecule/Particle Optical Study of Biological System

University of Science and Technology of China (USTC) **1997-2002**
B.S. Chemical Physics

HONORS AND AWARDS

Innovative Teaching and Learning Grant	*UIUC*	**2016**
American Cancer Society Postdoctoral Fellowship	*American Cancer Society*	**2013**
Biophysical Society Education Travel Award	*Biophysical Society*	**2013**
American Society for Cell Biology (ASCB) Travel Award	*ASCB*	**2012**
Irving Fatt/Samuel Ruben Award	*UC Berkeley*	**2004**

Guo Moruo Fellowship, Top Fellowship	*USTC*	**2001**
Award for Best Undergraduate Research	*USTC*	**2001**
Asian Spectra Physics Corporation Fellowship	*USTC*	**2000**
Legend (now Lenovo) Fellowship	*USTC*	**1999**
He Duohui Academician Fellowship	*USTC*	**1998**
Outstanding Undergraduate Award	*USTC*	**1997**

PUBLICATIONS (*CORRESPONDING AUTHOR)

Peer-reviewed journal publications – independent career (UIUC)

1. S. K. Misra, I. Srivastava, J.S. Khamo, V. V. Krishnamurthy, D. Sar, A. S. Schwartz-Duval, J. A. N. T. Soares, **K. Zhang*** and D. Pan* **"**Carbon Dots with Induced Surface Oxidation Permits Imaging at Single-Particle Level for Intracellular Studies", *Nanoscale*, 2018, 10, 18510-18519. [Link]

   Highlight in the school of MCB at UIUC: http://mcb.illinois.edu/news/article/496/
2. V. V. Krishnamurthy, **K. Zhang*** "Chemical physics in living cells – using light to visualize and control intracellular signal transduction" *Chinese Journal of Chemical Physics*, 2018 31(4), 375-392. [Link]
3. K. Sung, L. F. Ferrari, W. Yang, C. Chung, X. Zhao, Y. Gu, S. Lin, **K. Zhang**, B. Cui, M. L. Pearn, M. T. Maloney, W. C. Mobley, J. D. Levine and C. Wu " Swedish Nerve Growth Factor Mutation (NGFR100W) Defines a role for TrkA and p75NTR in Nociception", *Journal of Neuroscience*, 2018, 38(14), 3394-3413. [Link]
4. J.S. Khamo, V. V. Krishnamurthy, P. Mondal, S. R. Sharum, and **K. Zhang*** "Applications of optobiology in intact cells and multi-cellular organisms", *Journal of Molecular Biology*, 2017, 429, 2999-3017. [Link]
5. V. V. Krishnamurthy, A. J. Turgeon, J. S. Khamo, W. Mei, P. Mondal, S. R. Sharum, J. Yang*, and **K. Zhang* "**Light-mediated, reversible modulation of protein localization and kinase activity during cell differentiation and *Xenopus* embryonic development" *Journal of Visualized Experiments (JoVE)*, 2017, 124, e55823. [Link]
6. Y. Osakada, **K. Zhang** "Single particle tracking reveals a dynamic role of actin filaments in assisting long-range axonal transport in neurons" *Bulletin of the Chemical Society of Japan (BCSJ)*, 2017, 90, 714-719. [Link]
7. P. Mondal, J. S. Khamo, V. V. Krishnamurthy, Q. Cai, and **K. Zhang*** "Drive the car(go)s—new modalities to control cargo trafficking in live cells" *Frontiers in Molecular Neurosciences*, 2017, 10, 4. doi: 10.3389/fnmol.2017.00004. [Link]
8. V. V. Krishnamurthy, J.S. Khamo, W. Mei, A. J. Turgeon, H. M. Ashraf, P. Mondal, D. B. Patel, N. Risner, E. E. Cho, J. Yang*, and **K. Zhang*** "Reversible optogenetic control of kinase activity during differentiation and embryonic development" *Development*, 2016, 143, 4085-4094. [Link]

9. V. V. Krishnamurthy, J. S. Khamo, E. Cho, C. Schornak, and **K. Zhang*** "Multiplex gene removal by two-step polymerase chain reactions", *Analytical Biochemistry*, 2015, 481, 7-9. [Link]
10. V. V. Krishnamurthy, J. S. Khamo, E. Cho, C. Schornak, and **K. Zhang*** "Polymerase chain reaction-based gene removal from plasmids", *Data in Brief*, 2015, 4, 75-82. [Link]
11. Q. Ong, S. Guo, L. Duan, **K. Zhang**, E. A. Collier, and B. Cui "The Timing of Raf/ERK and AKT Activation in Protecting PC12 Cells against Oxidative Stress", *PLOS ONE*, 2016, e0153487. [Link]
12. **K. Zhang*** and B. Cui* "Optogenetic control of intracellular signaling pathways", *Trends in Biotechnology*, 2015, 33, 92-100. (*corresponding author) [Link]
13. **K. Zhang**, P.D. Chowdary, and B. Cui "Visualizing directional Rab7 and TrkA cotrafficking in axons by pTIRF microscopy" *Methods Mol Biol.*, 2015, 1298:319-29. [Link]
14. P.D. Chowdary, D. Che, **K. Zhang**, B. Cui "Retrograde NGF axonal transport – coordination of opposite polarity motors near unidirectional motility regime" *Biophysical Journal*, 2015, 108, 2691-2703. [Link]
15. D. L. Che, L. Duan, **K. Zhang**, B. Cui, The dual characteristics of light-induced cryptochrome 2 homo-oligomerization and hetero-dimerization for optogenetic manipulation in mammalian cells, *ACS Synthetic Biology*, 2015, accepted. [Link]
16. L. Duan, D. Che, **K. Zhang**, Q. Ong, S. Guo, and B. Cui, Optogenetic control of molecular motors and organelle distributions in cells, *Chemistry & Biology*, 2015, 22, 671-682. [Link]
17. Q. Ong, S. Guo, **K. Zhang**, and B. Cui "U0126 Protects Cells against Oxidative Stress Independent of Its Function as a MEK Inhibitor", *ACS Chem. Neurosci.*,2015, 6,130–137. [Link]

Contributed book chapter – independent career (UIUC)

18. V. V. Krishnamurthy, **K. Zhang*** "Simultaneous removal of multiple DNA segments by polymerase chain reactions" *Methods Mol Biol.*, Synthetic DNA, Ed R. Hughes. (Springer New York) 2017, 1472, 193-203. [Link]

Peer-reviewed journal publications – prior to UIUC

19. **K. Zhang** and B. Cui "Lighting up FGFR signaling", *Chemistry & Biology*, 2014, 21, 806-808. [Link]
20. **K. Zhang**, L. Duan, Q. Ong, Z. Lin, P. Varman, K. Sung, and B. Cui "Light-mediated kinetic control reveals the temporal effect of the Raf/Mek/ERK pathway in PC12 cell neurite outgrowth", *PLOS ONE*, 2014, 9, e92917. [Link]
21. **K. Zhang**, R. F. B. Kenan, Y. Osakada, W. Xu, R. S. Sinit, , L. Chen, X. Zhao, J-Y. Chen, B. Cui, and C. Wu "Defective Axonal Transport of Rab7 GTPase Results in Dysregulated Trophic Signaling", *J. Neuroscience* 2013, 33, 7451-7462. [Link]
22. W. J. Xie, **K. Zhang**, B. Cui "Functional characterization and axonal transport of quantum dot labeled BDNF", *Integrative Biology*, 2012, 4, 953-960. [Link]

23. **K. Zhang**, Y. Osakada, W. J. Xie, and B. Cui "Automated image analysis for tracking cargo transport in axons", *Microscopy Research and Technique* 2011, 74, 605-613. [Link]
24. K. A. Vossel, **K. Zhang**, X. Wang, G. Q. Yu, K. Ho, B. Cui, and L. Mucke "Tau reduction ameliorates A*β*-induced impairments in axonal transport", *Science* 2010, 330 198. [Link]
25. **K. Zhang**, H. V. Mudrakola, L. Chen, M. Vrljic, and B. Cui "Single molecule imaging of NGF axonal transport in a microfluidic device ", *Lab Chip* 2010, 10, 2566-2573. [Link]
26. H. V. Mudrakola*, **K. Zhang***, and B. Cui "Optically resolving individual microtubules in live axons using dynamic object tracking", *Structure* 2009, 17, 1433-1441. [Link]
27. **K. Zhang**, W. K. Zhang, C. Y. Yang, and H. Yang "Bipolar Cellular Morphology of Malignant Melanoma in Unstained Human Melanoma Skin Tissue", *J. Biomed. Opt.*2009, 14, 024042. [Link]
28. S. Li, **K. Zhang**, J. M. Yang, L. W. Lin, and H. Yang "Single Quantum Dots as Local Temperature Markers", *Nano Lett.* 2007, 7, 3102-3105. [Link]
29. N. Ji, **K. Zhang**, H. Yang, and Y. R. Shen "Three-Dimensional Chiral Imaging by Sum Frequency Generation", *J. Am. Chem. Soc.* 2006, 128, 3482-3483. [Link]
30. **K. Zhang**, H. Chang, A. H. Fu, A. P. Alivisatos, and H. Yang "Continuous Distribution of Emission States from Single CdSe/ZnS quantum dots", *Nano Lett.*2006, 6, 843-847. [Link]
31. **K. Zhang** and H. Yang "Photon-by-Photon Determination of Emission Burst from Diffusion Single Chromophores", *J. Phys. Chem. B.* 2005, 109, 21930-21937. [Link]
32. **K. Zhang**, Z. J. Liu, and K. Y. Wang "Formation and Applications of Laser-Excited Surface Plasma Waves", *Chinese J. Nature* 2002, 24, 44-47.

Contributed book chapter – prior to UIUC

33. H. V. Mudrakola, C. Wu, **K. Zhang**, and B. Cui, "Single Molecule Imaging of Axonal Transport in Live Neurons", in Laser Science XXV, OSA Technical Digest (CD) (Optical Society of America, 2009), LSThB3. [Link]
34. S. Li, **K. Zhang**, J-M Yang, L.W. Lin, and H. Yang "MEMS Temperature Characterization by CdSe Quantum Dots", *The 14th International Conference on Solid-State Sensors, Actuators and Microsystems*, 2007, 1369-1372. [Link]
35. **K. Zhang**, N. Ji, Y. R. Shen, and H. Yang "Optically Active Sum Frequency Generation Microscopy for Cellular Imaging", *Ultrafast Phenomena XV* Eds. P. Corkum, D. Jonas, D. Miller, A. M. Weiner, (Springer-Verlag, Berlin Heidelberg, 2007) 825. [Link]

INVITED TALKS AND PLATFORM IN CONFERENCE

1. Payel Mondal, Vishnu Krishnamurthy, John Khamo, Jing Yang, **Kai Zhang** "Temporal control of growth factor-mediated signaling pathways during cell differentiation and *Xenopus* embryonic development", American Society for Biochemistry and Molecular Biology Society Meeting, San Diego, California, April, 2018. (**Travel Award**)

2. **K. Zhang** "Using light to control the timing of kinase activity during cell differentiation and *Xenopus* embryonic development" Xenopus Resource and Emerging Technologies Meeting, Woods Hole Institute, Marine Biology Lab, Massachusetts, August 2017.
3. **K. Zhang** "Reversible optogenetic activation of neurotrophin-mediated signal transduction", Houston Methodist Research Institute, Houston, Texas, March 2017.
4. **K. Zhang**, "Reversible modulation of kinase activity during embryonic development", Midwest Society of Developmental Biology Regional Meeting, Ann Arbor, Michigan, October 2016.
5. **K. Zhang** "Steering growth factor-mediated signal transduction by light", East Lake Young Scholar Symposium, Huazhong University of Science and Technology, Wuhan, China, December 2014.
6. **K. Zhang**, B. Cui, and C. Wu "Defective Axonal Transport of Rab7 GTPase Results in Dysregulated Trophic Signaling", Bay Area Trafficking Symposium, UC Berkeley, California, September 2013.
7. **K. Zhang**, Y. Osakada, L. Chen, H. Liang, B. Cui, and C. Wu "Impact of Charcot-Marie-Tooth type 2B disease-associated Rab7 mutations on signaling and axonal trafficking of NGF/TrkA", 56th Biophysical Society Annual Meeting, San Diego, California, February 2012. [Link]

INVITED TALKS IN UNIVERSITY AND RESEARCH INSTITUTION

8. **K. Zhang** "Developing an optogenetic toolbox for cell signaling control in mammalian cells and multicellular organisms" Center for Physics of Living Cells (CPLC), University of Illinois at Urbana-Champaign, Urbana, Illinois, July 2017.
9. **K. Zhang** "Dissection of growth factor signal transduction during cell differentiation and Xenopus embryonic development" Harvard Medical School, Boston, Massachusetts, June 2017.
10. **K. Zhang** "Dissection of growth factor signal transduction during cell differentiation and Xenopus embryonic development" Brown University, Providence, Rhode Island, June 2017.
11. **K. Zhang**, "Delineating growth factor-regulated signaling pathways by light", Department of Pathobiology of the College of Veterinary Medicine, University of Illinois at Urbana-Champaign, March 2017.
12. **K. Zhang**, "Control the timing of the mitogen-activated protein kinase pathway during cell differentiation and *Xenopus* embryonic development", School of Molecular Sciences, Arizona State University, Tempe, March 2017.
13. **K. Zhang,** "Light-controlled growth factor signal transduction during cell differentiation and Xenopus embryonic development", Department of Physiological and Molecular Plant Biology, University of Illinois at Urbana-Champaign, Urbana, Illinois, January 2017.
14. **K. Zhang** "Study signal transduction in live cells by light", School of Molecular and Cellular Biology, University of Illinois at Urbana-Champaign, Urbana, Illinois, August 2015.
15. **K. Zhang** "Control cell fate determination by light", Center for Biophysics and Computational Biology, University of Illinois at Urbana-Champaign, Urbana, Illinois, August 2015.

16. **K. Zhang** "Control PC12 cell differentiation by light", Neuroscience program, University of Illinois at Urbana-Champaign, Urbana, Illinois February 2015.
17. **K. Zhang** "Steering growth factor-mediated signal transduction by light", Fudan University, Shanghai, China, December 2014.
18. **K. Zhang** "Steering growth factor-mediated signal transduction by light", Huazhong University of Science and Technology, Wuhan, China, December 2014.
19. **K. Zhang** "Light-controlled activation of the mitogen-activated protein kinase pathway", Center for Biophysics and Computational Biology, University of Illinois at Urbana-Champaign, Urbana, Illinois, July 2014
20. **K. Zhang** "Observation and modulation of signal transduction in live cells using light", California Institute of Technology, California, January 2013.
21. **K. Zhang** "Dysregulated axonal transport of NGF/TrkA in Charcot-Marie-Tooth type 2B disease" Biophysics Talks, Stanford University, Stanford, California, January 2012.
22. **K. Zhang** "Observing quantum dot one at a time: optical characterization and applications in live cell imaging", Peking University, P. R. China, November 2011.
23. **K. Zhang** and H. Yang, "Single Chromophore Experiments and Quantitative Analysis", November 23, 2006, Zhengzhou University, Zhengzhou, Henan, P. R. China. (Invited Presentation).

POSTER PRESENTATIONS IN CONFERENCE

24. Payel Mondal, Vishnu Krishnamurthy, John Khamo, Jing Yang, **Kai Zhang** "Temporal control of growth factor-mediated signaling pathways during cell differentiation and *Xenopus* embryonic development", American Society for Biochemistry and Molecular Biology Society Meeting, San Diego, California, April, 2018. (**Travel Award**)
25. **K. Zhang** "Control neurotrophin signaling using light during PC12 cell differentiation and Xenopus embryonic development", Biophysical Society Meeting, San Francisco, California, February, 2018. [Link]
26. **K. Zhang** "Dissection of growth factor-regulated signaling pathways by light", Society for Developmental biology annual meeting, Minneapolis, Minnesota, July, 2017.
27. **K. Zhang** "Control neurotrophin signaling using light during cell differentiation and Xenopus embryonic development", Gordon Research Conference, Salve Regina University, Newport, Rhode Island, June, 2017.
28. **K. Zhang** "Developing an optogenetic toolbox for cell signaling control", Center for Physics of Living Cells, University of Illinois at Urbana-Champaign, Urbana, Illinois, July, 2016
29. **K. Zhang** "Resolving intracellular mechanisms of neurotrophin-mediated signal transduction via optogenetics" 16th International symposium on neural regeneration (ISNR), Pacific Grove, California, December, 2015.
30. Q. Ong, A. McGuire, S. Guo, F Santoro, **K. Zhang**, and B. Cui "Optogenetic spatial control of TrkA-mediated pathways reveals a potential role for Raf/ERK pathway in inducing polarity

in PC12 cell differentiation model" American Society for Cell Biology ASCB, San Diego, California, December, 2015.

31. **K. Zhang** "Light-controlled growth factor-mediated signal transduction", 59th Biophysical Society Annual Meeting, Baltimore, Maryland, February, 2015.
32. Q. Ong, **K. Zhang**, S. Guo, L. Duan, and B. Cui "Optogenetic modulation of the Raf/ERK pathway in PC12 cells", ASCB local meeting, Quantitative Imaging in Cell Biology, Santa Clara University, California, May, 2014 ***(Best poster award).***
33. **K. Zhang**, L. Duan, Q. Ong, Z. Lin, P. Varman, K. Sung, and B. Cui "Light-controlled MAPK signaling pathway reveals a memory effect in PC12 cell neurite outgrowth", Single Cell Analysis Symposium, Stanford University, California, September, 2013.
34. **K. Zhang**, L. Duan, Z. Lin, K. Sung, Y. Osakada, and B. Cui "Control the mitogen-activated protein kinase signaling pathway by light", Synthetic Biology Gordon Research Conference, Mount Snow Resort, Vermont, June, 2013.
35. **K. Zhang**, L. Duan, Z. Lin, K. Sung, Y. Osakada, and B. Cui "Light-controlled mitogen - activated protein kinase (MAPK) signaling pathway in live cells", 57th Biophysical Society Annual Meeting, Philadelphia, Philadelphia, February, 2013.
36. **K. Zhang**, L. Duan, Z. Lin, K. Sung, Y. Osakada, and B. Cui "Precise control of signal transduction in living cells by light", 2012 American Society for Cell Biology Annual Meeting, San Francisco, California, December, 2012.
37. **K. Zhang**, Y. Osakada, M. Vrljic, L. Chen, H. Mudrakola, and B. Cui "Single-molecule imaging of nerve growth factor axonal transport in microfluidic devices", 55th Biophysical Society Annual Meeting, Baltimore, Maryland, March, 2011. [Link]
38. **K. Zhang**, C. Wu, H. Mudrakola, Y. Osakada, and B. Cui "Real time visualization of axonal transport of GTPase Rab7 in rat embryonic dorsal root ganglia", 54th Biophysical Society Annual Meeting, San Francisco, California, February, 2010. [Link]
39. Y. Osakada, H. Mudrakola, **K. Zhang** and B. Cui "Effects of actin filaments on NGF retrograde transport", 54th Biophysical Society Annual Meeting, San Francisco, California, February, 2010. [Link]
40. **K. Zhang**, W. K. Zhang, C. Y. Yang, and H. Yang "Nonlinear optical imaging of melanocytes in collagen matrix", 234th American Chemical Society National Meeting & Exposition, Boston, Massachusetts, August, 2007.
41. **K. Zhang** and H. Yang "Photon-by-photon determination of emission bursts from diffusing single chromophores", American Physical Society Meeting, Baltimore, Maryland, March, 2006.
42. **K. Zhang** and H. Yang "Photon-by-photon determination of emission bursts from diffusing single chromophores", 231st American Chemical Society Meeting & Exposition, Atlanta, Georgia, March, 2006.
43. N. Ji, **K. Zhang**, H. Yang, and Y. R. Shen "Sum frequency generation microscopy for imaging chirality", 50th Biophysical Society Annual Meeting, Salt Lake City, Utah, February, 2006.

44. **K. Zhang** and H. Yang "Field and fluorescence modification by colloidal gold nanoparticles", Materials Research Society Spring Meeting, San Francisco, California, March, 2005.
45. **K. Zhang**, H. Chang, A. H. Fu, L. P. Watkins, A. P. Alivisatos, and H. Yang "Photon by photon analysis of single quantum dot emission dynamics", Materials Research Society Spring Meeting, San Francisco, California, March, 2005.

TEACHING EXPERIENCE

Lecturer

University of Illinois at Urbana-Champaign

Physical Biochemistry (MCB/BIOC 446, CHEM 472)	2016-present
Neuroscience Program (NEUR598, Organizer: Justin Rhodes)	2016-present
Center for Physics of Living Cells, Summer Workshop	2016-present
Tutorial (BIOP 586)	2015-present

Students: Chang-Ting Lin (Ha), Kai Wen Teng (Selvin), Zhiyu Zhao (Tajkhorshid), Chaoyi Jin (Selvin)

Part-time Lecturer

Biomedical, Chemical and Materials Engineering Department
San Jose State University

Graduate-division Chemical Engineering Thermodynamics	2012

Teaching Assistant

Department of Chemistry, UC Berkeley

Graduate-division Chemical Kinetics	2005
Undergraduate General Chemistry	2004
Undergraduate General Chemistry	2003

PROFESSIONAL ACTIVITIES

Mentoring

Current mentees

PhD students (4)

John S. Khamo, Full-year Westcott Fellow, Biochemistry, 2014-
Vishnu V. Krishnamurthy, Robert L. Switzer Award for Teaching, Biochemistry, 2014-
Payel Mondal, Travel Award, Biochemistry, 2015-
Savanna R. Sharum, Westcott Fellow, Biochemistry, 2016-

Undergraduate students (2)

Neeka Haack, Biochemistry, 2015-
Kelly Cho, Biochemistry Summer Research Scholarship, Campus Honor

Program Summer Research Fellowship (declined), Biochemistry, 2017-

Previous mentees

Undergraduate students (8)

Jennifer Cheng, Highest Distinction, Outstanding Student, William T. and Lynn Jackson Senior Merit Award, will attend Northwestern University for Graduate school, Biochemistry, 2017-2018

Rachel Benedeck, MCB, 2018-2018

Adam Barm, Biochemistry, 2017-2017

Dil Patel, MCB, 2015-2017

Noah Risner, MCB, 2015-2017

Humza Ashraf, Distinction, Biochemistry Summer Research Scholarship Award, Biochemistry, 2015-2017

Current position: Graduate student in the University of Colorado, Boulder

Cara Schornak, MCB, 2014-2015

Current position: Graduate student in Vanderbilt University

Ellen Cho, Biochemistry, 2014-2016 (High Distinction)

Current position: Technician at Loyola University Chicago

Additional first-year rotation graduate student (5)

Erik Andersen (2014)

Eric Shinn (2015)

Yeoan Youn (2015)

Madhura Duttagupta (2016)

Nandan Haloi (2016)

Huaxun Fan (2018)

Bing Undergraduate Summer Research Awards, Stanford University

T. (Benz) Chaijarasphong (2009-2011)

High School student research from Uni High, Urbana, Illinois

A. *Rosu* (2017-present)

Service

Biophysics admission committee	2016-present
Biochemistry seminar committee	2016-present
Biochemistry Student Awards Committee	2018
Selection committee for Biophysics Graduate Program Coordinator	2018
Biochemistry Scholarship Committee	2018

Preliminary Exam Committee

Dan Harris (Kranz), Xiaobin Zheng (Shapiro), Matthew Starr (Fratti), Greg Miner (Fratti), Alokalanda Roy (Leckband), Amruta Bhate (Kalsotra) 2014

EZ Ellis (Fratti), Zehua Bao (Zhao), Xingyu Kong (Leckband),
Liqun Yu (Shapiro), Donald Shepard (Chen), Logan Hurst (Fratti)

Dai-Chi Liu (Tsai) 2015
Ipek Tasan (Zhao), Paula Estrada (Nair), Kai Wen Teng (Selvin) 2016
Max Baymiller (Martinis) Vinh Vu (Leckband), Chaoyi Jin (Selvin) 2017
Chayanid Ongpipattank (Nair), Kevin Gill (Procko),
Valiya Chembazh (Kalsotra), Madhura Duttagupta (Brieher, CDB) 2018

Dissertation Committee

Surbhi Jain (Zhao), Waqar Arif (Kalsotra) 2017

Vinh Vu (Leckband), Hyojeong Hwang (Yang, Comparative Biosciences),
Philip Olivares (Nair), Liqun Yu (Shapiro), Greg Minor (Fratti) 2018

Faculty mentor for undergraduate

Jennifer Cheng, Kelly Cho, Junyao Zhu, Zhouyang Zhu, Haoyuan Yan, Luis Tadeo, Tyanporn Tangpradabdul 2017

Memberships

Society of Developmental Biology 2016-present
Biophysical Society 2005-present
American Society for Cell Biology 2012
Optical Society of America 2009
American Chemical Society 2003 - 2006
Material Research Society 2003 - 2006
American Physical Society 2003 - 2006

Editorial

Review Editor - *Frontiers in Molecular Neuroscience* 2015-present
Guest Editor - Journal of Molecular Biology 2016-present
Ad Hoc reviewer – *Science, Nature Cell Biology, Nature Communications, Nature Protocols, Journal of American Chemical Society, ACS Synthetic Biology, ACS Chemical Neuroscience, Journal of Physical Chemistry B, Chemical Sciences, Scientific Reports, Journal of Biomedical Optics, Frontiers in Molecular Neuroscience, Expert Opinion on Drug Discovery, Journal of Visualized Experiments, and Journal of Micro/nanolithography, MEMS, and MOEMS (J3M), SLAS Technology (Society for Laboratory Automation and Screening)* 2009-present

Outreach

Instructor Next generation Science Technology Engineering Art Math (STEAM) studio science demonstration

	(Nano Class 3-5 grade)	2017
	Ecole Bilingue de Berkeley primary school	
	Second grade, Berkeley California	2017
Judge	Undergraduate research conference	
	East Central Illinois American Chemical Society	
	University of Illinois at Urbana-Champaign	2016
	Synopsys Championship	2009
	Santa Clara Valley Science and Engineering Fair Association	
Co-founder	Undergraduate Student Travel Award	2008 - 2011
	University of Science and Technology of China	