# Kimberley F. Tolias, Ph.D.

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Department of Anesthesiology, Perioperative and Pain Medicine
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## EDUCATION

Sep 1992 - May 1998 **Ph.D. in Cell and Developmental Biology**
**Harvard Medical School, Boston, MA**
Thesis advisor: Dr. Lewis Cantley

Sep 1988 - May 1992 **B.S. in Biochemistry**
**University of Minnesota, Minneapolis, MN**
Honors - *Summa Cum Laude*
Thesis advisor: Dr. David Bernlohr

## PROFESSIONAL EXPERIENCE

May 2026 – present **Professor: Stanford University School of Medicine**
Department of Anesthesiology, Perioperative and Pain Medicine

Jun 2021 – Apr 2026 **Professor: Baylor College of Medicine**
Department of Neuroscience (tenured - primary)
Department of Biochemistry and Molecular Pharmacology (tenured - secondary)

Jun 2015 – Jun 2021 **Associate Professor: Baylor College of Medicine**
Department of Neuroscience (tenured - primary)
Department of Biochemistry and Molecular Biology (tenured - secondary)

Sep 2006 – Jun 2015 **Assistant Professor: Baylor College of Medicine**
Department of Neuroscience (tenure track - primary)
Department of Biochemistry and Molecular Biology (tenure track - secondary)

Sep 1999 – Sep 2006 **Postdoctoral Fellow: Harvard Medical School**
Laboratory of Dr. Michael Greenberg
Department of Neurobiology, Division of Neuroscience, Boston Children's Hospital

May 1998 – Sep 1999 **Postdoctoral Fellow: Harvard Medical School**
Laboratory of Dr. Christopher Carpenter (finished project related to Ph.D. thesis work)
Department of Medicine, Beth Israel Deaconess Medical Center (BIDMC)

Sep 1992 – May 1998 **Ph.D Student Researcher: Harvard Medical School**
Laboratory of Dr. Lewis Cantley
Department of Cell Biology, Division of Signal Transduction, BIDMC

Sep 1990 – Jun 1992 **Undergraduate Student Researcher: University of Minnesota**
Laboratory of Dr. David Bernlohr (honors thesis)
Department of Biochemistry

Jun 1989 – Sep 1990 **Undergraduate Student Researcher: University of Minnesota**
Laboratory of Dr. Carroll Vance
Department of Plant Physiology

## ACADEMIC HONORS

| | |
|---|---|
| 2016-2019 | McKnight Memory and Cognitive Disorders Award |
| 2013-2017 | NIH EUREKA Award |
| 2008-2009 | Intellectual and Developmental Disabilities Research Center New Development Award |
| 2008-2009 | Baylor College of Medicine Junior Faculty Seed Funding Award |
| 2005-2006 | Postdoctoral Career Development Fellowship, Children's Hospital, Harvard Medical School |
| 2002-2004 | NIH Neuroscience Training Grant, Harvard Medical School |
| 1999-2002 | Damon Runyon Cancer Research Fellowship |
| 1998-1999 | NIH Hematology Training Grant, Harvard Medical School |
| 1995-1998 | Ryan Fellowship |
| 1992 | Graduated from University of Minnesota with honors – *Summa cum laude* |
| 1991-1992 | Henderson-Miller Biochemistry Scholarship |
| 1991-1992 | UMN College of Biological Sciences Alumni Scholarship for Outstanding Senior in Biology |
| 1991-1992 | University of Minnesota Presidential Senior Scholarship |
| 1991 | NSF Grant for Undergraduate Research in Molecular Biology |
| 1990-1991 | University of Minnesota College of Liberal Arts Waller Scholarship |
| 1989 | Mortenson Award |
| 1988-1990 | University of Minnesota Presidential Scholarship |
| 1988 | Graduated Co-Valedictorian of Roseville Area High School, Roseville, Minnesota |

## PUBLICATIONS

### PEER-REVIEWED ORIGINAL RESEARCH ARTICLES

Anderson, E.D., Cronkite, C.A., Baldwin, P.R., Abella, C.P., Duman, J.D., Simmonds, A.N., Waxham, M.N., **Tolias, K.F.***, Ludtke, S.J.* Primary cortical neurons precipitate and extrude large mitochondrial-associated calcium-phosphate sheets with a bone-precursor-like ultrastructure (2026) *Mol. Brain*. Jan 9. Doi: 10.1186/s13041-025-01272-0 PMID: 41508094 (*co-corresponding author)

Blanco, F. A., Saifullah, M.A.B., Cheng, J.X., Abella, C., Scala, F., Firozi, K., Niu, S., Park, J., Chin, J., **Tolias, K.F.** Targeting Tiam1 Enhances Hippocampal-Dependent Learning and Memory in the Adult Brain and Promotes NMDA Receptor-mediated Synaptic Plasticity and Function (2025) *J. Neurosci.* Feb 5; 45(6):e0298242024. doi: 10.1523/JNEUROSCI.0298-24.2024.

Fu, C-H., Park, J., Tosi, U., Blanco, F. A., Silva-Perez, M., Muralidharan, K., You, J.C., Stephens, G. S., Zhang, X. Zheng, Y., Scharfman, H., **Tolias, K. F.**, Chin, J. Seizure-induced Changes in sFRP3 Expression Contribute to Neural Stem Cell Depletion and Spatial Discrimination Deficits in a Mouse Model of Alzheimer's Disease Neuropathology. (2025) *J. Neurosci.* Dec 3; 45(49): e0049252025. Doi: 10/1523/JNEUROSCI.0049-25.2025.

Ha, Y-J., Nisal, A., Tang, I., Lee, C., Jhamb, I., Wallace, C., Howarth, R., Schroeder, S., Vong, K.I., Meave, N., Jiwani, F., Barrows, C., Lee, S., Jiang, N., Patel, A., Bagga, K., Banka, N., Friedman, L., Blanco, F.A., Yu, S., Rhee, S., Jeong, H.S., Plutzer, I., Major, M.B., Benoit, B., Poüs, C., Heffner, C., Kibar, Z., Bot, G.M., Northrup, H., Au, K.S., Strain, M., Ashley-Koch, A., Finnell, R.H., Le, J.T., Meltzer, H., Araujo, C., Machado, H.R., Stevenson, R.E., Yurrita, A., Mumtax, S., Ahmed, A., Khara, M.H., Mutchinick, O.M., Medina-Bereciartu, J.R., Hildebrandt, F., Melikishvili, G., Marwan, R., Capra, V., Noureldeen, M.M., Salem, A.M.S., Issa, M.Y., Zaki, M.S., Lee, J.E., Shin, D., Alkelai, A., Shuldiner, A.R., Kingsmore, S.F., Murray, S.A., Gee, H.Y., Miller, W.T., **Tolias, K.F.**, Wallingford, J.B., Spina Bifida Sequencing Consortium, Kim, S., Gleeson, J.G. The Contribution of De Novo Coding Mutations to Meningo-myelocele (2025) *Nature.* Mar 26. doi: 10.1038/s41586-025-08676-x

Lee, J., Lai, S., Yang, S., Zhao, S., Blanco, F.A., Lyons, A.C., Urteaga, R.M., Ahrens, J.F., Nguyen, N.A., Liu, H., Liu, Z., Lambert, G.G., Shaner, N.C., Chen, L., **Tolias, K.F.**, Zhang, J., Ha, T., St-Pierre, F. Bright and Photostable Yellow Fluorescent Proteins for Extended Imaging (2025) *Nat Commun.* Apr 4;16(1):3241. doi: 10.1038/s41467-025-58223-5

Yao, C., Fang, X., Ru, Q., Li, W., Li, J., Mehsein, Z., **Tolias, K.T.***, Li, L.* Tiam1-mediated Maladaptive Plasticity Underlying Morphine Tolerance and Hyperalgesia (2024) *Brain.* Jul 5;147(7) 2507-2521. doi: 10.1093/brain/awae106. (*co-corresponding author)

Li, L.*, Lu, Y., Ru, Q., Chen, G., Yao, C., Cui, J., **Tolias, K.F.*** Tiam1 Coordinates Synaptic Structural and Functional Plasticity Underpinning the Pathophysiology of Neuropathic Pain. (2023) *Neuron.* Jul 5;111(13)2038-2050. doi: 10.1016/j.neuron.2023.04.010 (*co-corresponding author)

Sharma, J. Mulherkar, S., Chen, U-I., Xiong, Y., Bajaj, L., Cho, B-K., Goo, Y.A., Leung, H-C E., **Tolias, K.F.**, Sardiello, M. (2023) Calpain Activity is Negatively Regulated by a KCTD7-Cullin-3 Complex via Non-degradative Ubiquitination. *Cell Discov.* Mar 24;9(1):32. doi: 10.1038/s41421-023-00533-3.

Anderson, E.D., Cronkite, C.A., **Tolias, K.F.**, Ludtke, S.J. (2023) Correlative Cryo-FIB and Cryo-ET of Dendritic Spines and Synaptic Connections. *Microsc Microanal.* Jul 22;29(29 Suppl1):1086. doi: 10.1093/micmic/ozad067.559

Ru, Q., Lu, Y., Saifullah, M.A.B., Blanco, F.A., Yao, C., Cata, J.P., Li, D.P., **Tolias, K.F.*#**, Li, L.* (2022) Tiam1-Mediated Synaptic Plasticity Underlies Comorbid Depression-like and Ketamine Antidepressant-like Actions in Chronic Pain. *J Clin Invest.* Dec 15;132(24):e158545. doi: 10.1172/JCI158545 (*co-corresponding author)

Cheng, J., Scala, F., Blanco, F. A., Niu, S., Firozi, K., Keehan, L., Mulherkar, S., Froudarakis, E., Li, L., Duman, J.G., Jiang, X., **Tolias, K.F.** (2021) The Rac-GEF Tiam1 Promotes Dendrite and Synapse Stabilization of Dentate Granule Cells and Restricts Hippocampal-dependent Memory Functions. *J. Neurosci*. Feb 10;41(6):1191-1206. doi: 10.1523/JNEUROSCI.3271-17.2020.

Cadwell, C. R., Scala, F., Fahey, P. G., Kobak, D., Mulherkar, S., Sinz, F., Papadopoulos, S., Tan, Z. H., Johnsson, P., Hartmanis, L., Li, S., Cotton, J., **Tolias, K.F**., Sandberg, R., Berens, P., Jiang, X., Tolias, A. S. (2020) Cell Type Composition and Circuit Organization of Clonally Related Excitatory Neurons in the Juvenile Mouse Neocortex. *eLIFE.* Mar 5;9:e52951. doi: 10.7554/eLIFE.52951.

Wang, L., Pang, K., Han, K., Adamski, C.J., Wang, W., He, L., Lai, J., Bondar, V., Duman, J.G., Richman, R., **Tolias, K.F.** , Barth, P., Palzkill, T., Liu, Z., Holder, J., Zoghbi., H.Y. (2020) An Autism-linked Missense Mutation in SHANK3 Reveals Modularity of Shank3 Function. *Mol Psychiatry.* Oct;25(10):2534-2555. doi: 10/1038/s41380-018-0324-x

Duman, J. G., Mulherkar, S., Tu, Y-K., Erikson, K.C., Tzeng, C.P., Mavratsas, V., Ho, T.S-Y, **Tolias, K.F.** (2019) The Adhesion-GPCR BAI1 Shapes Dendritic Arbors via Bcr-mediated RhoA Activation Causing Late Dendritic Growth Arrest. *eLIFE.* Aug 28;8:e47566. doi: 10.7554/eLIFE.47566.

Tu, Y-K., Duman, J.G., **Tolias, K.F.** (2018) The Adhesion-GPCR BAI1 Promotes Excitatory Synaptogenesis by Coordinating Bidirectional Trans-Synaptic Signaling. *J. Neurosci.* Sep 26;38(39):8388-8406. doi: 10.1523/JNEUROSCI.3461-17.2018

Duman, J.G., Dinh, J., Zhou, W., Cham, H., Mavratsas, V.C., Paveskovic, M., Mulherkar, S., McGovern, S.L., **Tolias, K.F.***, Grosshans, D. R.* (2018) Memantine Prevents Acute Radiation-induced Toxicities at Hippocampal Excitatory Synapses. *Neuro Oncol.* Apr 9;20(5):655-665. doi: 10.1093/neuonc/nox203. (*co-corresponding author)

Mulherkar, S., Firozi, K., Huang, W., Uddin, M. D., Grill, R. J., Costa-Mattioli, M, Robertson, C., **Tolias, K. F.** (2017) RhoA-ROCK Inhibition Reverses Synaptic Remodeling and Motor and Cognitive Deficits Caused by Traumatic Brain Injury. *Sci Rep.* 7(1):10689. doi: 10.1038/s41598-017-11113-3.

Cadwell, C. R., Palasantza, A., Jiang, X., Berens, P., Deng, Q., Yilmaz, M., Reimer, J., Shen, S., Bethge, M., **Tolias, K. F.**, Sandberg, R., Tolias, A. S. (2016) Electrophysiological, Transcriptomic and Morphologic Profiling of Single Neurons Using Patch-seq. *Nat. Biotechnol.* Feb;34(2):199-203. doi: 10.1038/nbt.3445

Um, K., Niu, S., Duman, J. G., Cheng, J., Tu, Y-K., Schwechter, B., Liu, F., Hiles, L., Narayanan, A., Ash, R. T. Mulherkar, S., Alpadi, K., Smirnakis, S. M., **Tolias, K. F.** (2014) Dynamic Control of Excitatory Synapse Development by a Rac1 GEF/GAP Regulatory Complex. *Dev. Cell.* Jun 23;29(6):701-715. doi: 10.1016/j.devcel.2014.05.011.

Mulherkar, S., Uddin, M.D., Couvillon, A., Sillitoe, R., **Tolias, K. F.** (2014) The Small GTPases RhoA and Rac1 Regulate Cerebellar Development by Controlling Cell Morphogenesis, Migration and Foliation. *Dev Biol.* Oct 1;394(1) 39-53. doi: 10.1016/j.ydbio.2014.08.004

Narayanan, A. S., Reyes, S. B., Um, K., McCarty, J. H., **Tolias, K. T.** (2013) The Rac-GAP Bcr is a Novel Regulator of the Par Complex that Controls Cell Polarity. *Mol. Biol Cell.* Dec;24(24), 3857-3868. doi: 10.1091/mbc.E13-06-0333

Schwechter, B., Rosenmund, C., **Tolias, K. F.** (2013) RasGRF2 Rac-GEF Activity Couples NMDA Receptor Calcium Flux to Enhanced Synaptic Transmission. *Proc. Natl. Acad. Sci. USA.* Aug 27;110 (35), 14462-14467. doi: 10.1073/pnas.1304340110.

Mulherkar, S., Liu, F., Chen, Q., Narayanan, A., Couvillon, A. D., Shine, H. D., **Tolias, K. F.** (2013) The Small GTPase RhoA is Required for Proper Locomotor Circuit Assembly. *PLoS One.* Jun 25;8(6):e67015. doi: 10.1371/journal.pone.0067015.

Duman, J. G., Tzeng, C. P., Tu, Y-K., Munjal, T., Schwechter, B., Ho, T., **Tolias, K. F.** (2013) The Adhesion-GPCR BAI1 Regulates Synaptogenesis by Controlling the Recruitment of the Par3/Tiam1 Polarity Complex to Synaptic Sites. *J. Neurosci.* Apr 17;33(16):6964-6978. doi: 10.1523/JNEUROSCI.3978-12.2013

Reyes, S. B., Narayanan, A. S., Lee, H.S., Tchaicha, J. H., Aldape, K.D., Lang, F. F., **Tolias, K. F.,** McCarty, J. H. (2013) 8 Integrin Associates with RhoGDI1 to Suppress Activation of Rac1 and Cdc42 in Invasive Glioblastoma Cells. *Mol. Biol. Cell*. Feb;24(4):474-482. doi: 10.1091/mbc.E12-07-0521

**Tolias, K. F.**, Bikoff, J.B., Kane, C., Tolias, C.S., Hu, L., Greenberg, M.E. (2007) The Rac1 Guanine Nucleotide Exchange Factor Tiam1 Mediates EphB Receptor-dependent Dendritic Spine Development. *Proc. Natl. Acad. Sci. USA.* Apr 24;104(17):7265-7270. doi: 10.1073/pnas.0702044104.

Zhou, P., Porcionatto, M., Pilapil, M., Chen, Y., Choi, Y., **Tolias, K. F**., Bikoff, J. B., Hong, E.J., Greenberg, M. E., Segal, R. A. (2007) Polarized Signaling Endosomes Coordinate BDNF-induced Chemotaxis of Cerebellar Precursors. *Neuron.* Jul 5;55(1):53-68. doi:10.1016/j.neuron.2007.05.030.

**Tolias, K. F.***, Bikoff, J.B.*, Burette, A.., Paradis, S., Harrar, D., Tavazoie, S., Weinberg, R.J., Greenberg, M.E. (2005) The Rac1-GEF Tiam1 Couples the NMDA Receptor to the Activity-dependent Development of Dendritic Arbors and Spines. *Neuron.* Feb 17;45(4):525-538. Doi: 10.1016/j.neuron.2005.01.024.

Saito, K.*, **Tolias, K. F.***, Saci, A., Koon H.B., Humphries, L.A., Scharenberg, A., Rawlings, D.J., Kinet, J-P and Carpenter, C. L. (2003) BTK Regulates PtdIns-4,5-$P_2$ Synthesis: Importance for Calcium Signaling and PI3K Activity. *Immunity.* Nov;19(5):669-678. doi: 10.1016/s1074-7613(03)00297-8.

**Tolias, K. F.**, Hartwig, J. H., Ishihara, H., Shibasaki, Y., Cantley, L. C., Carpenter, C. L. (2000) Type I alpha Phosphatidylinositol-4-phosphate 5-kinase Mediates Rac-dependent Actin Assembly. *Curr. Biol.* Feb 10;10(3):153-156. doi: 10.1016/s0960-9822(00)00315-8.

Kost, B., Lemichez, E., Spielhofer, P., Hong, Y., **Tolias, K. F**., Carpenter, C. L., Chua, N-H. (1999) Rac homologues and compartmentalized phosphatidylinositol 4,5-bisphosphate act in a common pathway to regulate polar pollen tube growth. *J. Cell Biol.* 145, 317-330.

**Tolias, K. F.**, Rameh, L. E., Ishihara, H., Shibasaki, Y., Chen, J., Prestwich, G. D., Cantley, L. C., Carpenter, C. L. (1998) Type I Phosphatidylinositol-4-phosphate 5-kinases Synthesize the Novel Lipids Phosphatidylinositol-3,5-bisphosphate and Phosphatidylinositol-5-phosphate. *J. Biol. Chem.* Jul 17;273(29):18040-18046. doi: 10.1074/jbc.273.29.18040.

**Tolias, K. F.**, Couvillon, A. D., Cantley, L. C., Carpenter, C. L. (1998) Characterization of a Rac1- and RhoGDI-Associated Lipid Kinase Signaling Complex. *Mol. Cell Biol*. Feb;18(2): 762-770. doi: 10.1128/MCB.18.2.762.

Rameh, L. E., **Tolias, K. T.**, Duckworth, B., Cantley, L. C. (1997) A New Pathway for Phosphatidylinositol-4,5-bisphosphate Synthesis. *Nature.* Nov 13;390(6656):192-196. doi: 10.1038/36621.

Berditchevski, F, **Tolias, K. F.**, Wong, K, Carpenter, C. L., Hemler, M. E. (1997) A Novel Link Between Integrins, Transmembrane-4 Superfamily Proteins (CD63 and CD81), and Phosphatidylinositol 4-kinase. *J. Biol. Chem*. Jan 31; 272(5):2595-2598. doi: 10.1074/jbc.272.5.2595.

Kolluri, R., **Tolias, K. F.**, Carpenter, C. L., Rosen, F. S., Kirchhausen, T. (1996) Direct Interaction of the Wiskott-Aldrich Syndrome Protein with the GTPase Cdc42. *Proc. Natl. Acad. Sci. USA.* May 28;93(11):5615-5618. doi: 10.1073/pnas.93.11.5615.

**Tolias, K. F.**, Cantley, L. C., and Carpenter, C. L. (1995) Rho Family GTPases Bind to Phosphoinositide Kinases. *J. Biol. Chem*. Jul 28;270(30):17656-17659. doi: 10.1074/jbc.270.30.17656.

**Fuchs[$], K.**, Shekels, L., and Bernlohr, D. (1992) Analysis of the ACP1 Gene Product: Classification as an FMN Phosphatase. *Biochem. Biophys. Res. Commun.* Dec 30;189(3):1598-1605. doi: 10.1016/0006-291x(92)00259-n.

*****Authors contributed equally to work
**[$]**Maiden name

**PEER-REVIEWED REVIEW ARTICLES**

Duman, J.G., Blanco, F. A., Cronkite, C. A., Ru, Q., Erikson, K. C., Mulherkar, S., Saifullah, M. A. B., Firozi, F., **Tolias, K.F**. (2022) Rac-manninoff and Rho-vel: The Symphony of Rho-GTPase Signaling at Excitatory Synapses. *Small GTPases.* Jan;13(1);14-47. doi: 10.1080/21541248.2021.1885264.

Choudhury, D., Autry, A. E., **Tolias, K.F.**, Krishnan, V. (2021) Ketamine: Neuroprotective or Neurotoxic? *Front. Neurosci.* Sep 10:15:672526. doi:10.3389/fnins2021.672526.

Mulherkar, S., **Tolias, K. F.** (2020) RhoA-ROCK Signaling as a Therapeutic Target in Traumatic Brain Injury. *Cells.* Jan 18;9(1):245. doi: 10.3390/cells9010245.

Morgan, R.K., Anderson, G.R., Araç, D., Aust, G., Balenga, N., Boucard, A., Briges, J.P., Engel, F.B., Formstone, C.J., Glitsch, M.D., Gray, R.S., Hall, R.A., Hsiao, C.C., Kim, H.Y., Knierim, A.B., Kusuluri, D.K., Leon, K., Liebscher, I., Piao, X., Prömel, S., Scholz, N., Srivastava, S., Thor, D., **Tolias, K.F.**, Ushkaryov, Y.A., Vallon, M., Van Meir, E.G., Vanhollebeke, B., Wolfrum, U., Wright, K.M, Monk, K.R., Mogha, A. (2019) The Expanding Functional Roles and Signaling Mechanisms of Adhesion G Protein-Coupled Receptors. *Ann N Y Acad Sci*. Nov;1456(1):5-25. doi: 10.1111/nyas.14094.

Duman, J.G., **Tolias, K.F.** (2016) Rho GTPases Spread the Word for Synaptic Crosstalk. *Dev Cell.* Oct 24;39(2):136-138. doi: 10.1016/j.devcel.2016.10.007.

Lai, K.O., Jordan, B.A., Ma, X.M., Srivastava, D.P., **Tolias, K.F.** (2016) Molecular Mechanisms of Dendritic Spine Development and Plasticity. *Neural Plast.* 2016:2078121. doi: 10.1155/2016/2078121.

Duman, J. G., Tu, Y-K., **Tolias, K. F.** Emerging Roles of BAI Adhesion-GPCRs in Synapse Development and Plasticity. (2016) *Neural Plast.* 2016:8301737. doi:10.1155/2016/8301737.

Duman, J. G., Mulherkar, S., Tu, Y-K., Cheng, J., **Tolias, K. T.** (2015) Mechanisms for Spatiotemporal Regulation of Rho-GTPase Signaling at Synapses. *Neurosci Lett.* Aug 5;601:4-10. doi: 10.1016/j.neulet.2015.05.034.

Schwechter, B. and **Tolias, K. F.** (2013) Cytoskeletal Mechanisms for Synaptic Potentiation. *Commun Integr Biol.* Nov 1;6(6):e27343. doi: 10.4161/cib.27343

**Tolias, K. F.**, Duman, J.G., Um, K. (2011) Control of Synapse Development and Plasticity by Rho GTPase Regulatory Proteins. *Prog. Neurobiol.* Jul;94(2):133-148. doi: 10.1016/j.pneurobio.2011.04.011.

**Tolias, K. F.** and Carpenter, C. L. (2000) In Vitro Interaction of Phosphoinositide-4-phosphate 5-kinases with Rac. *Methods Enzymol.* 325:190-200. doi: 10.1016/s0076-6879(00)25443-8.

**Tolias, K. F**. and Carpenter, C. L. (2000) Enzymes Involved in the Synthesis of PtdIns-4,5-$P_2$ and their Regulation-PtdIns Kinases and PtdInsP Kinases. *Biology of Phosphoinositides: Frontiers in Molecular Biology.* Ch 3. 109-130. doi: 10.1093/oso/9780199637652.003.0003.

**Tolias, K. F.** and Cantley, L. C. (1999) Pathways for Phosphoinositide Synthesis. *Chem. Phys. Lipids.* Apr;98(1-2): 69-77. doi: 10.1016/s0009-3084(99)00019-5.

Carpenter, C. L., **Tolias, K. F.**, Van Vugt, A., Hartwig, J. H. (1999) Lipid Kinases are Novel Effectors of the GTPase Rac1. *Adv Enzyme Regul.* 39;299-312. doi: 10.1016/s0065-2571(98)00009-0.

Hartwig, H.H., Barkalow, K., Azim, A., McGrath, J., **Tolias, K.**, Carpenter, C. (1998) The Membrane-Cytoskeleton Interface Controls Platelet Shape Change. *Cell. Mol. Biol. Lett.* 3 (4) 393-402.

Carpenter, C. L., **Tolias, K. F.**, Couvillon, A. C., Hartwig, J. H. (1997) Signal Transduction Pathways Involving the Small G Proteins Rac and Cdc42 and Phosphoinositide Kinases. *Adv Enzyme Regul.* 37:377-390. doi: 10.1016/s0065-2571(96)00005-2.

**INVITED COMMENTARIES**

**Tolias, K. F.** and Um, K. (2010) Autism-associated Protein Epac2 Promotes Rap-dependent Excitatory Synapse Remodeling and Depression. *Cell Science* 6 (3), 41-48.

Duman, J.G., **Tolias, K.F.** (2009) Spatiotemporal Dynamics of Rho GTPase Activities During Cell Protrusion. *Cell Science* 6 (2), 32-38.

**ORIGINAL RESEARCH ARTICLES CURRENTLY UNDER REVIEW**

Cronkite, C.A., Thomas, R., Grosshans, D.R., Duman, J.G.*, **Tolias, K.F*.** Radiation-induced Maladaptive Glutamatergic Signaling Drives Divergent Remodeling of Excitatory and Inhibitory Synapses. (in revision) (*co-corresponding author)

## GRANT SUPPORT

**CURRENT RESEARCH SUPPORT**

**NIH R01 – NIMH**
"BAI Adhesion-GPCRs: Key Regulators of Synapse Development and Plasticity in Health and Disease"
Performance Period: 08/2024 – 03/2029
Role: PI

**NIH R01 – NINDS**
"Signaling Mechanisms Regulating Rho GTPase-Dependent Synaptic Plasticity Underlying Memory in Health and Disease"
Performance Period: 7/2009 – 8/2027
Role: PI

**NIH R01 – NINDS**
"The Conserved Mechanisms Underlying Different Types of Chronic Pain"
Performance Period: 8/2022 - 7/2027
Role: PI with Lingyong Li

**NIH R01 – NIDA**
"Targeting Tiam1-mediated Synaptic Plasticity for the Relief of Opioid Tolerance"
Performance Period: 8/2022 – 7/2027
Role: PI with Lingyong Li

**NIH R01 – NCI**
"Molecular and Cellular Mechanisms of Neuronal Damage Caused by Anticancer Therapies"
Performance Period: 3/2024 – 2/2029
Role: Co-I with Joseph Duman as PI

**COMPLETED RESEARCH SUPPORT**

**Welcome Leap 1kD Award**
"Microbial-Based Integrated Model to Measure and Modulate Brain Development and Function"
Performance Period: 7/2021 – 4/2025
Role: Co-PI with Rob Britton as PI

**Department of Defense**
"Synaptic Plasticity Mechanisms Underlying Neuropathic Pain Following Spinal Cord Injury"
Performance Period: 9/2021 - 8/2025 (NCE)
Role: Co-PI with Lingyong Li as PI

**Department of Defense**
"Tiam1-Mediated Synaptic Structural and Functional Plasticity Underlying Transition to Chronic Pain"
Performance Period: 9/2020 - 8/2025 (NCE)
Role: Co-PI with Lingyong Li as PI

**NIH F31 predoctoral fellowship**
"Role of the Rac1-GEF Tiam1 in Synaptic Plasticity and Hippocampal-Dependent Learning and Memory"
Performance Period: 05/2021 – 05/2024
Role: Mentor with Francisco Blanco as PI

**NIH R01 – NIMH**
"Adhesion-GPCRs: Regulators of Dendritic Development, Synaptogenesis and Mental Health"
Performance Period: 3/2017 – 1/2023
Role: PI

**NIH R01 - NIMH**
"Deciphering the building blocks of hippocampal circuits"
Performance Period: 9/2017 - 6/2024 (NCE)
Role: PI with Andreas Tolias and Rickard Sandberg

**NIH U19 - NIMH**
"A Comprehensive Whole Brain Atlas of Cell Types in the Mouse"
Performance Period: 9/2017 - 5/2023
Role: Co-I (multi-PI grant)

**NIH R01 – NINDS**
"Signaling Mechanisms Regulating Rac-dependent Synaptic and Dendritic Development"
Performance Period: 7/2009 – 8/2022
Role: PI

**NIH - NINDS - AD/ADRD Supplement**
"Signaling Mechanisms Regulating Rac-dependent Synaptic and Dendritic Development"
Performance Period: 5/2020 – 8/2022
Role: PI

**NIH RO1-NCI**
"Directed and unbiased studies of synaptic injuries as sequelae of radiotherapy: mapping, sex-dependence, and reversal"
Performance Period: 9/2017 - 12/2022 (NCE)
Role: Co-I with Joseph Duman as PI

**DARPA – Lifelong Learning Machines (L2M)**
"Continual learning across synapses, circuits, and brain areas"
Performance Period: 1/2018 - 1/2022
Role: Co-PI with Andreas Tolias as PI

**TIRR Foundation - Mission Connect**
"Synaptic Plasticity Mechanisms Underlying the Development of Opioid Analgesic Tolerance and Opioid-induced Hyperalgesia (OIH)"
Performance Period: 06/2020 - 05/2022
Role: Co-PI with Lingyong Li as PI

**TIRR Foundation - Mission Connect**
"Synaptic Plasticity Mechanisms Underlying Chronic Pain-Induced Depression"
Performance Period: 7/2020 - 6/2022
Role: Co-PI with Lingyong Li as PI

**NIH R01 – NCI**
"Synaptic Basis of Deficits in Attention and Executive Function Following Cranial Irradiation"
Performance Period: 09/2016 – 09/2021
Role: Co-I with David Grosshans as PI

**TIRR Foundation - Mission Connect**
"Targeting RhoA-ROCK Signaling Pathways to Enhance Recovery Following Nerve Injury"
Performance Period: 9/2016 - 8/2019
Role: PI

**McKnight Memory and Cognitive Disorders Award**
"Studying Global Memory Traces at Single Synapse Resolution."
Performance Period: 2/2016 - 1/2019
Role: PI with A. Tolias

**The John S. Dunn Foundation Collaborative Research Award**
"Cellular level, functional brain imaging using multi-probe, snapshot image spectroscopy"
Performance Period: 01/2017 – 12/2018
Role: PI with Tomasz Tkaczyk (Rice University)

**March of Dimes**
"Identifying cortical microcircuit abnormalities in a mouse model of autism spectrum disorder"
Performance Period: 6/2015 – 5/2018
Role: PI

**NIH – NIMH - EUREKA AWARD**
"A Molecular Code for Connectivity in the Neocortex"
Performance Period: 9/2013 - 8/2017
Role: PI with Andreas Tolias

**Department of Defense**
"Mission Connect Mild TBI Translational Research Consortium"
"Targeting Rho Family GTPase Signaling Pathways to Enhance Recovery after TBI"
Performance Period: 7/2008 - 5/2014
Role: PI

**Cancer Prevention & Research Institute of Texas (CPRIT)**
"Synaptic Mechanisms of Cognitive Decline after Cranial Radiation"
Performance Period: 8/2014 – 7/2017
Role: Co-PI with David Grosshans

**Angelman Syndrome Foundation Joseph E. Wagstaff Fellowship**
"Targeting Rho GTPase Signaling in Angelman syndrome"
Performance Period: 7/2015 - 6/2017
Role: Mentor with S. Mulherkar as PI

**Baylor College of Medicine (BCM) Neuroscience Pilot Award**
"Multiprobe Hyperspectral Imaging of Long-term Potentiation"
Performance Period: 7/1/2014 – 6/30/2015
Role: PI with Joseph Duman

**TIRR Foundation-Mission Connect**
"Enhancing Recovery from Traumatic Brain Injury by Targeting RhoA-ROCK Signaling"
Performance Period: 9/2013 - 8/2015
Role: PI

**NIH KO1 - NIMH**
"Mechanism of Brain-specific Angiogenesis Inhibitor 1 (BAI1) in Neural Development"
Performance Period: 4/2010- 2/2015
Role: Mentor with Joseph Duman as PI

**Intellectual and Developmental Disabilities Research Center (IDDRC)-New Development Award**
"Regulatory mechanisms of Rac-dependent Dendritic Development and Plasticity"
Performance Period: 7/2008 - 6/2009
Role: PI

**Baylor College of Medicine 2008 Junior Faculty Seed Funding**
"Signaling Mechanisms Regulating Rac-dependent Dendritic Development"
Performance Period: 7/2008 - 6/2009
Role: PI

## EDITORIAL SERVICE

**Guest Editor:** Neural Plasticity

**Ad Hoc Journal Reviewer:** Science, Nature, Neuron, Nature Neuroscience, Nature Communications, eLIFE, Journal of Neuroscience, Journal of Cell Biology, Cell Reports, Science Advances, PLOS Biology, PLOS Genetics, Current Biology, PNAS, Molecular Psychology, Translational Psychiatry, Journal of Neurotrauma, Progress in Neurobiology, Journal of Cell Science, Molecular and Cellular Neuroscience, Molecular Neurobiology, Trends in Pharmacological Sciences, iScience, Neurobiology of Disease, Neurosignals, Neuroscience Letters, BCM Neuroscience, Frontiers in Cellular Neuroscience, PLoS One, British Journal of Pharmacology, Digestive Diseases and Sciences, Alzheimer's Research and Therapy, Progress in Neuropsychopharacology and Biological Psychiatry.

## GRANT REVIEWER SERVICE

| | |
|---|---|
| 2024 | Ad Hoc Study Section Member for NIH – MNG |
| 2022 | Ad Hoc Study Section Member for NIH – Conte Center |
| 2018 | Synapsis Foundation – Alzheimer Research Switzerland Grant Reviewer |
| 2018 | Co-chair for NIH NDPR Study Section |
| 2017 – 2021 | Permanent Study Section Member for NIH – NDPR |
| 2014 | Ad Hoc Study Section Member for NIH – ZRG1 MDCN |
| 2014 | Ad Hoc Study Section Member for NIH – ZRG1 MDCN |
| 2012 | Ad Hoc Study Section Member for NIH – NDPR |
| 2012 | Ad Hoc Study Section Member for NIH – ZRG1 MDCN |
| 2011 – 2013 | TIRR Foundation - Mission Connect Grant Reviewer |
| 2011 – 2012 | Italian Telethon Foundation Grant Reviewer |
| 2009 | Ad Hoc Study Section Member for NIH – ZRG1 MDCN |

## UNIVERSITY SERVICE (BCM)

| | |
|---|---|
| 2021 – 2026 | Neuroscience Faculty and Appointments Committee |
| 2021 – 2026 | MSTP Faculty Operating Committee |
| 2021 – 2026 | Committee on Scientific Integrity |
| 2020 – 2023 | Co-Chair for Cancer and Cell Biology Qualifying Exam Committee |
| 2019 – 2026 | Cancer and Cell Biology Graduate Program Executive Committee |

| | |
|---|---|
| 2018 – 2020 | Faculty Awards Committee |
| 2017 | Internship Advisory Committee |
| 2017 | Subcommittee on Thesis Advisory Committees |
| 2015 – 2025 | Chair of Neuroscience Graduate Student Admissions Committee |
| 2015 – 2026 | Neuroscience Graduate Program Committee |
| 2015 – 2026 | Neuroscience Reporting Committee |
| 2015 – 2022 | Department of Biochemistry and Molecular Biology Seminar Series Committee |
| 2012 – 2013 | Department of Neuroscience Faculty Search Committee |
| 2010 – 2013 | Co-chair for Neuroscience Department Seminar Series Committee |
| 2009 – 2026 | Integrative Mol. and Biomedical Sciences Grad. Program Steering Committee |
| 2009 | Neuroscience Department Seminar Series Committee |
| 2009 | Committee on Neuroscience Foreign Graduate Student Admissions |
| 2008 – 2012 | Graduate School Central Admissions Committee |
| 2007 – 2008 | Brain Aging Faculty Search Committee |
| 2007 – 2008 | Center for Learning and Memory Faculty Search Committee |
| 2007 | Committee to Determine Inventory and Content of Courses Available |
| 2006 – 2026 | Ph.D. Thesis Advisory Committees (see below - each committee meets biannually) |

## PROFESSIONAL ORGANIZATION SERVICE

| | |
|---|---|
| 2023 – 2024 | Program Committee Member for the American Society for Neurochemistry (ASN) |
| 2022 – present | Board Member of Adhesion GPCR International Consortium |
| 2011 – 2015 | Mission Connect Internal Advisory Committee Member |
| 2009 – 2013 | Society for Neuroscience (SFN) Houston Chapter Travel Awards Committee |

## INVITED TALKS AND WORKSHOPS

| | |
|---|---|
| 2026 | Pain Mechanisms and Therapeutic Conference, Verona, Italy |
| 2026 | UT Austin, Neuroscience Seminar Series, Austin, TX |
| 2025 | American Society for Cell Biology (ACSB) Conference, Philadelphia, PA |
| 2025 | Chemical Sciences Symposium, Ft. Lauderdale, FL |
| 2024 | Adhesion-GPCR 11$^{th}$ Workshop, Mexico City, Mexico |
| 2024 | International Association for the Study of Pain, Amsterdam, Netherlands |
| 2024 | American Society for Neurochemistry Meeting, Portland, OR |
| 2024 | Bollum Symposium, Biochemistry Department, University of Minnesota, Minneapolis, MN |
| 2024 | Northwestern University, Department of Neuroscience, Chicago, IL |
| 2024 | FASEB Conference, Structure, Function & Regulation of Small GTPases, Southbridge, MA (cancelled - illness) |
| 2023 | Stanford University, Department of Anesthesiology, Perioperative and Pain Medicine, CA |
| 2023 | Dalhousie University, Department of Physiology Seminar, Nova Scotia, Canada |
| 2023 | MD Anderson Department of Genetics Research Exchange Series, Houston, TX |
| 2022 | Adhesion-GPCR 10$^{th}$ Workshop, Copenhagen, Denmark |
| 2022 | UC Davis, Joint Seminar in Molecular Biology, Davis, CA |
| 2021 | Gulf Coast Consortia Neurobiology and Translational Psychiatry Symposium, Houston, TX |
| 2021 | Neurology Grand Rounds, Baylor College of Medicine, Houston, TX |
| 2021 | Zusman International Workshop on Neuroregeneration, Methodist, Houston, TX |
| 2020 | Texas A&M University, Texas A&M Institute for Neuroscience (TAMIN), Bryan, TX |
| 2020 | Stony Brook University, Department of Neurobiology and Behavior, Stony Brook, NY |
| 2020 | UT Health, Department of Integrative Biology and Pharmacology, Houston, TX (COVID) |
| 2020 | UT Health, Department of Neurobiology and Anatomy, Houston, TX (COVID) |
| 2019 | Baylor College of Medicine, Department of Neuroscience, Houston, TX |
| 2019 | East Carolina University, Department of Anatomy and Cell Biology, Greenville, NC |
| 2019 | McKnight Conference, Aspen, CO |
| 2019 | Duke University, Department of Cell Biology, Durham, NC |
| 2019 | Johns Hopkins University, Department of Neuroscience, Baltimore, MD |
| 2019 | UCLA Joint Seminars in Neuroscience, Los Angeles, CA |
| 2018 | The Adhesion-GPCR 9$^{th}$ Workshop, Portland, OR |
| 2018 | EMBO Conference, Dendritic Anatomy, Molecules and Function, Heraklion, Greece |
| 2018 | Mission Connect-TIRR Foundation, Houston, TX |
| 2017 | FASEB Conference, Regulation and Function of Small GTPases, Palm Beach, FL |

| | |
|---|---|
| 2017 | Department of Pharmacology, Yale University, New Haven, CT |
| 2017 | Mission Connect-TIRR Foundation, Houston, TX |
| 2016 | Adhesion-GPCR 8th Workshop, Leipzig, Germany |
| 2016 | Medical College of Wisconsin, Dept. of Pharmacology and Toxicology, Milwaukee, WI |
| 2015 | FASEB Conference, Regulation and Function of Small GTPases, Palm Beach, FL |
| 2015 | Society for Neuroscience, Nanosymposium, Chicago, IL |
| 2015 | University of North Carolina-Chapel Hill, Department of Pharmacology, Chapel Hill, NC |
| 2015 | Texas Children's Hospital, Child Neurology, BCM, Department of Pediatrics, Houston, TX |
| 2014 | Harvard Medical School, Beth Israel Deaconess Medical Center, Boston, MA |
| 2014 | University of Pennsylvania, Pennsylvania Muscle Institute, Pennsylvania, PA |
| 2013 | Brandeis University, Department of Biology, Waltham, MA |
| 2013 | Neurotrophic Factors, Gordon Research Conference, Newport, RI |
| 2013 | University of Texas Medical Branch, Mitchell Center for Neurodegenerative Diseases, Galveston, TX |
| 2012 | International Prenylation Society Meeting, New Orleans, LA (cancelled due to illness) |
| 2012 | Baylor College of Medicine, Department of Molecular and Cellular Biology, Houston, TX |
| 2012 | Mission Connect-TIRR Foundation, Houston, TX |
| 2011 | International Symposium on Computational Models for Life Sciences, Tokyo, Japan (cancelled due to tsunami) |
| 2011 | International Society of Neurochemistry Meeting, Athens, Greece |
| 2011 | Dendrites Meeting, Gordon Research Conference, Ventura, CA |
| 2010 | University of Iowa, Department of Biochemistry, Iowa City, IA |
| 2009 | University of Houston, Department of Pharmacology, Houston, TX |
| 2009 | Military Health Research Forum, Kansas City, MO |
| 2008 | Baylor College of Medicine, Cell and Molecular Biology Program, Houston, TX |
| 2006 | Baylor College of Medicine, Houston, Department of Biochemistry, Houston, TX |
| 2005 | New York University, Smilow Institute, New York City, NY |
| 2005 | Baylor College of Medicine, Houston, Department of Neuroscience, Houston, TX |
| 2005 | University of Wisconsin-Madison, Center for Neuroscience, Madison, WI |
| 2005 | University of Pittsburgh, Department of Neurobiology, Pittsburgh, PA |
| 2005 | Boston University, Department of Biology, Boston, MA |
| 2005 | Rutgers University, Department of Biological Sciences, Newark, NJ |
| 2005 | University of Illinois-Chicago, Department of Pharmacology, Chicago, IL |
| 2004 | Channels, Receptors & Synapses Meeting, Cold Spring Harbor, NY |
| 2003 | Society for Neuroscience Conference, New Orleans, LA |
| 2002 | Axon Guidance and Neural Plasticity Meeting, Cold Spring Harbor, NY |
| 1999 | University of Minnesota, Biochemistry Department, Minneapolis, MN |
| 1994 | Boston Area Graduate Student Symposia, Boston, MA |

## BCM GRADUATE STUDENT PROGRAMS

| | |
|---|---|
| 2018 – 2026 | Cancer & Cell Biology Graduate Program |
| 2018 – 2026 | Development, Disease Models &Therapeutics Graduate Program |
| 2018 – 2026 | Chemical, Physical & Structural Biology Graduate Program |
| 2010 – 2026 | Developmental Biology Interdepartmental Graduate Program |
| 2008 – 2026 | Integrative Molecular and Biomedical Sciences Interdepartmental Program |
| 2007 – 2026 | Biochemistry and Molecular Biology Department Graduate Program |
| 2006 – present | Neuroscience Graduate Program |

## TRAINEES

### Undergraduate Students

| | | |
|---|---|---|
| Amanda Schultz | University of Chicago | 2007 |
| Christopher Tzeng | Rice University | 2009 – 2010 |
| Tina Munjal | Rice University | 2009 – 2011 |
| Nate Lee | Rice University | 2010 – 2012 |
| Yu Sun | Peking University | 2010 |
| Mohammad Uddin | University of Houston | 2011 – 2014 |

| | | |
|---|---|---|
| Allison Lattanzio | Augustana College | 2012 |
| Mark Chen | Bowdoin College | 2013 |
| Vasilis Mavratsas | Rice University | 2014 – 2017 |
| Urvazi Firozi | University of Houston | 2014 – 2015 |
| Vivian Shaw | UCSD | 2015 |
| Laura Keehan | Rice University | 2016 – 2018 |
| Matea Paveskovic | College of Wooster | 2016 – 2017 |
| John Parkerson | Dickinson College | 2018 |
| Ricky Lozoya | Rice University | 2018 – 2019 |
| Divya Choudhury | Rice University | 2019 – 2021 |
| Brittany Nguyen | Rice University | 2020 – 2021 |
| Christos Georgiadis | Texas A&M | 2022 |
| Amanda Butz | Baylor University | 2024 |
| Diya Kashyap | UT Austin | 2024 |
| Oluwatoni Salami | Rice University | 2024 – 2026 |
| Zuhair Khan | University of Houston | 2025 – 2026 |
| Harris Khan | Baylor University | 2025 |

**Research Assistant**

| | |
|---|---|
| Feng Liu | 2007 – 2010 |
| Christopher Tzeng | 2010 – 2012 |
| Karen Firozi | 2010 – 2026 |
| Adnan Naim | 2010 – 2011 |
| Vasilis Mavratsas | 2017 – 2018 |
| Uan-I Chen | 2017 – 2019 |
| Kelly Erikson Carter | 2017 – 2022 |
| Matt Taylor | 2021 – 2022 |
| Marcus Hunter | 2022 – 2023 |
| Gabriel Tow Ortiz | 2022 – 2023 |
| Marque Villareal | 2023 – 2024 |

**Graduate Students**

| | |
|---|---|
| Kyongmi Um (PhD) | 2007 – 2012 |
| Anjana Narayanan (PhD) | 2008 – 2013 |
| Brandon Schwechter (PhD) | 2008 – 2013 |
| Laura (Hiles) Galdamez (MD) | 2011 – 2012 |
| Jinxuan Cheng (PhD) | 2012 – 2017 |
| Yen-Kuei (Peter) Tu ( PhD) | 2012 – 2018 |
| Christopher Cronkite (MD/PhD) | 2018 – 2023 |
| Francisco Blanco (PhD) | 2018 – 2025 |
| Carlota Abella Peniche (PhD) | 2023 – present |
| Ashleigh Simmonds (PhD) | 2024 – present |
| Ritika Bhalla (PhD) | 2025 – present |

**Postdoctoral Fellows**

| | |
|---|---|
| Joseph Duman, Ph.D. | 2007 – 2013 |
| Shalaka Mulherkar, Ph.D. | 2011 – 2017 |
| Roshni Christo Ph.D. | 2016 – 2019 |
| Md. Ali Bin Saifullah, Ph.D. | 2019 – 2026 |

**Staff Scientist**

| | |
|---|---|
| Sanyong Niu, M.D., Ph.D. | 2007 – 2013 |
| Do Hun Lee, Ph.D. | 2023 – present |
| Younghye Moon, Ph.D. | 2023 – present |
| Md. Ali Bin Saifullah, Ph.D. | 2026 – present |

**Research Faculty**

| | |
|---|---|
| Joseph Duman, Ph.D. | 2013 – 2026 |
| Shalaka Mulherkar, Ph.D. | 2017 – 2020 |
| Lingyong Li, Ph.D. | 2017 – 2022 |

**Rotation Students**

| | |
|---|---|
| Kyong M. Um | Oct – Dec 2006 |
| Erika E. Perez | Jan – Mar 2007 |
| Anjana Narayanan | Oct – Dec 2007 |
| Josepheen De Asis Cruz | Oct – Dec 2007 |
| Cameron Cowan | Jan – Mar 2008 |
| Allison Kriel | Jan – Mar 2008 |
| Brandon Schwechter | Mar – May 2008 |
| Yi (Joy) Zha | Mar – May 2008 |
| Heather Born | Aug – Oct 2008 |
| Jennifer Lewis | Jan – Mar 2009 |
| Monica Montoya | Jan – Mar 2009 |
| Aditya Kulkarni | Jul – Oct 2009 |
| Liuliu Zheng | Oct – Dec 2009 |
| Lauren Covington | Oct – Dec 2009 |
| Angela Carter | Jan – Mar 2010 |
| Upasana Gala | Jan – Mar 2010 |
| Catherine Hughes | Apr – Jun 2010 |
| Baouyen Tran | Aug – Oct 2010 |
| Carolyn Adamski | Oct – Dec 2010 |
| Laura Hiles | Jan – Jun 2011 |
| Shen Shan | Aug – Oct 2011 |
| Xiaoming Zhang | Oct – Dec 2011 |
| Zachary Conley | Oct – Dec 2011 |
| Jinxuan Cheng | Jan – Mar 2012 |
| Yen-Kuei (Peter) Tu | Mar – May 2012 |
| Trace Stay | Aug – Oct 2012 |
| Kevin Ung | Oct – Dec 2012 |
| Steven Lien | May – Jul 2013 |
| Chih-Chuan Wang | Aug – Oct 2013 |
| Sanjeev Khatiwada | Oct – Dec 2013 |
| Henry Cham | Oct – Dec 2013 |
| Cheng-Hsin Liu | Aug – Oct 2014 |
| Vidya Sethunath | Aug – Oct 2015 |
| Adam Fluty | Oct – Dec 2015 |
| Tianyou Yao | Jan – Mar 2016 |
| Alicia Strtak | Jan – Mar 2016 |
| Yi-Ting Cheng | Aug – Oct 2016 |
| Lidija Wilhelms | Jan – Mar 2017 |
| Francisco Blanco | Aug – Oct 2017 |
| Christopher Cronkite | Oct – Dec 2017 |
| Kiara Vega-Bellido | Jan – Mar 2018 |
| Samantha Decker | Aug – Oct 2018 |
| Jongsu Choi | Aug – Oct 2018 |
| Victoria Soeung | Oct – Dec 2018 |
| John Thomas Gebert | Aug – Oct 2019 |
| Allison Melton | Aug – Oct 2020 |
| Ross Perez | Aug – Oct 2021 |
| Carlota Abella Peniche | Aug – Oct 2022 |
| Ashweni Ramanah | Oct – Dec 2022 |
| Noura Hakam | Jan – Mar 2023 |
| Ashleigh Simmonds | Aug – Oct 2023 |
| Alex Larson | Oct – Dec 2023 |
| Lu-Tang (Felicia) Yang | Mar – May 2024 |
| Marque Villareal | Aug – Oct 2024 |

| | |
|---|---|
| Ritika Bhalla | Oct – Dec 2024 |
| Michael Dew | Jan – Mar 2025 |

**Ph.D. Thesis Advisory Committees**

| | | |
|---|---|---|
| Wilson Chwang | advisor: Dr. David Sweatt | 2006 – 2007 |
| Olivia Fitch | advisor: Dr. Friedlander | 2007 – 2015 |
| Patricia Celestino | advisor: Dr. Arthur Beaudet | 2007 – 2011 |
| Dang Dao | advisor: Dr. Mariella Debiasi | 2007 – 2007 |
| Azza Al-Tawashi | advisor: Dr. Jun Qin | 2007 – 2008 |
| David Shim | advisor: Dr. Hui Zheng | 2007 – 2011 |
| Derek Cridebring | advisor: Dr. Stanley Appel | 2008 (thesis defense) |
| I-Chia Huang | advisor: Dr. Christian Rosenmund | 2008 – 2010 |
| Erika Perez | advisor: Dr. Mariella Debiasi | 2008 – 2014 |
| Jose R. Casanova | advisor: Dr. John Swann | 2008 – 2013 |
| Yanfen Teng | advisor: Dr. Mariella Debiasi | 2008 – 2010 |
| Tingting Sun | advisor: Dr. Thomas Westbrook | 2008 – 2013 |
| Yinyin Liu | advisor: Dr. Zhou Songyang | 2008 – 2013 |
| Justin Cordill | advisor: Dr. Adam Kuspa | 2008 – 2014 |
| Zanwen Chen | advisor: Dr. Peter Saggau | 2008 – 2008 |
| Surabi Veeraragavan | advisor: Dr. Richard Paylor | 2008 – 2011 |
| Christopher McGraw | advisor: Dr. Huda Zoghbi | 2009 – 2012 |
| Aislyn Nelson | advisor: Dr. Ellen Lumpkin | 2009 – 2013 |
| Kara Marshall | advisor: Dr. Ellen Lumpkin | 2009 – 2010 |
| Alexia Thomas | advisor: Dr. Richard Paylor | 2009 – 2011 |
| Kelli Baalman | advisor: Dr. Matt Rasband | 2010 – 2014 |
| Tammy Szu-Yu Ho | advisor: Dr. Matt Rasband | 2010 – 2014 |
| Gabriela David | advisor: Dr. Hugo Bellen | 2010 – 2015 |
| Liuliu Zheng | advisor: Dr. Anna Sokac | 2010 – 2015 |
| Aditya Kulkarni | advisor: Dr. Christopher Peters | 2010 – 2014 |
| Cathryn Hughes | advisor: Dr. Andreas Tolias | 2011 – 2015 |
| Lesley Chaboub | advisor: Dr. Ben Deneen | 2011 – 2016 |
| David Chung | advisor: Dr. Andrew Groves | 2011 – 2011 |
| Christie Buchovecky | advisor: Dr. Monica Justice | 2011 – 2014 |
| Ryan Ash | advisor: Dr. Stelios Smirnakis | 2011 – 2015 |
| Zenghui Xue | advisor: Dr. Anna Sokac | 2011 – 2017 |
| Meagan Pitcher | advisor: Dr. Jeff Neul | 2011 – 2015 |
| Miguel (Alec) Marin | advisor: Dr. Matt Rasband | 2012 – 2016 |
| Angela Carter | advisor: Dr. Anne Anderson | 2012 – 2017 |
| Baouyen Tran | advisor: Dr. Ed Cooper | 2012 – 2017 |
| Zachary Conley | advisor: Dr. Lynn Zechiedrich | 2012 – 2019 |
| Yu-Mei Huang | advisor: Dr. Matt Rasband | 2013 – 2018 |
| Xiaowei (Sophie) Xu | advisor: Dr. Rachel Schiff | 2013 – 2016 |
| Jennifer Johnson | advisor: Dr. Mauro Costa-Mattioli | 2013 – 2017 |
| Li Wang | advisor: Dr. Huda Zoghbi | 2014 – 2018 |
| Rogers Brown | advisor: Dr. Andrew Groves | 2014 – 2016 |
| Sanjeev Khatiwada | advisor: Dr. Mauro Costa-Mattioli | 2014 – 2019 |
| Wesley Murphy | advisor: Dr. Ted Wensel | 2014 – 2018 |
| Berkley Luk | advisor: Dr. James Versalovic | 2015 – 2018 |
| Chien-Ju Chen | advisor: Dr. Mauro Costa-Mattioli | 2015 – 2019 |
| Chih-Chuan Wang | advisor: Dr. Matt Rasband | 2015 – 2019 |
| Vivek Rajasekharan | advisors: Drs. Farrell and Pereira | 2015 – 2017 |
| Won-Seok Lee | advisor: Dr. Huda Zoghbi | 2016 – 2020 |
| Paul Fahey | advisor: Dr. Andreas Tolias | 2016 – 2019 |
| Fatima Morales | advisor: Dr. Russel Ray | 2016 – 2019 |
| Jessica Messier | advisor: Dr. Mingshan Xue | 2016 – 2018 |
| Elizabeth Lackey | advisor: Dr. Zoghbi/ Sillitoe | 2016 – 2021 |
| Shuqi Du | advisor: Dr. Hui Zheng | 2016 – 2021 |
| Alexandra Acevedo | advisor: Dr. Shailaja Mani | 2016 – 2017 (ex officio) |
| Yingyao Shao | advisor: Dr. Huda Zoghbi | 2017 – 2021 |

| | | |
|---|---|---|
| Shuqi Du | advisor: Dr. Ben Deneen | 2017 – 2021 |
| Quynh Nguyen | advisor: Dr. Joanna Jankowsky | 2017 – 2023 |
| Yu-Szu (Anna) Huang | advisor: Dr. Ben Deneen | 2017 – 2020 |
| Natalie Biel | advisor: Dr. Anna Sokac | 2017 – 2024 |
| Jing Zhang | advisor: Dr. Ido Golding | 2017 – 2018 (ex officio) |
| Lindsay Teliska | advisor: Dr. Mathew Rasband | 2018 – 2022 |
| Lidija Wilhelms | advisor: Dr. Weei-Chin Lin | 2018 – 2022 |
| Omar Pena Ramos | advisor: Dr. Zheng Zhou | 2018 – 2022 |
| Yi (Joy) Zhou | advisor: Dr. Roy Sillitoe | 2019 – 2022 |
| Justine Liang | advisor: Dr. Melanie Samuel | 2019 – 2023 |
| Vera Hutchison | advisor: Dr. Jichao Chen | 2019 – 2023 |
| Derek Reznik | advisor: Dr. Rodney Samaco | 2019 – 2023 |
| Tuba Aksoy | advisor: Dr. Dave Grosshans | 2019 – 2024 |
| Abiodun Adeosun | advisor: Dr. Ted Wensel | 2019 – 2025 |
| Karl Poncha | advisor: Dr. Nicholas Young | 2019 – 2025 |
| Matea Paveskovic | advisor: Dr. Shulman/Arenkiel | 2020 – 2024 |
| James Okoh | advisor: Dr. Mauro Costa-Mattioli | 2020 – 2023 |
| Samantha Thompson | advisor: Dr. Jeffery Noebels | 2020 – 2025 |
| Kuo Xiao | advisor: Dr. Jeff Magee | 2020 – 2024 |
| Navish Bosquez Huerta | advisor: Dr. Ben Deneen | 2020 – 2023 |
| Bethany Taylor | advisor: Dr. Nicolas Young | 2020 – 2024 |
| Alisha Kardian | advisor: Dr. Stephen Mack | 2020 – 2026 |
| Emily Leptich | advisor: Dr. Rachel Arey | 2020 – 2026 |
| Ashley Hayden | advisor: Dr. Rachel Arey | 2020 – 2024 |
| Suyang Bao | advisor: Dr. Ben Arenkiel | 2021 – 2026 |
| Yoshitaka Furuta | advisor: Dr. Jeannie Chin | 2021 – present |
| Yueyang (Eric) Gou | advisor: Dr. Mingshan Xue | 2021 – 2026 |
| Suyang Bao | advisor: Dr. Ben Arenkiel | 2021 – 2026 |
| Jonathan Pickett | advisor: Dr. Zheng Zhou | 2021 – 2025 |
| Pilar Andrade | advisor: Dr. Melanie Samuels | 2021 – 2026 |
| Sanjana Murali | advisor: Dr. Ben Deneen | 2021 – 2026 |
| Erik Anderson | advisor: Dr. Steven Ludke | 2022 – 2025 |
| Gabe Escobedo | advisor: Dr. Matthew Rasband | 2022 – 2025 |
| Pei-Yun Chuang | advisor: Dr. Jeannie Chin | 2022 – present |
| Tamor Khan | advisor: Dr. Maya Shelly (Stonybrook) | 2022 – 2026 |
| Victoria Palfini | advisor: Dr. Matthew Rasband | 2023 – 2026 |
| Adebowale (Lex) Alade | advisor: Dr. Jin Wang | 2023 – 2026 |
| Lindsay Altidor | advisor: Dr. Mirjana Maletic-Savatic | 2024 – 2026 |
| Emily Llewellyn-Brenner | advisor: Dr. Francois St-Pierre | 2024 – 2026 |

**Additional Ph.D. Qualifying Exam Committees**

| | | |
|---|---|---|
| Pooja Shivraj | Biochemistry department | Feb 2008 |
| I-Chia Huang | Neuroscience department | Mar 2008 |
| Josepheen De Asis Cruz | Neuroscience department | Aug 2008 |
| Cameron Cowan | Neuroscience department | Aug 2008 |
| Eric Buras | MCB department | Sep 2008 |
| Erika Perez | Neuroscience department | Sep 2008 / Dec 2008 |
| Yanfen Teng | Neuroscience department | Aug 2008 |
| Tingting Sun | Biochemistry department | Mar 2009 |
| Justin Cordill | Biochemistry department | Mar 2009 |
| Aislyn Nelson | Neuroscience department | Mar 2009 |
| Yinyin Liu | Biochemistry department | Apr 2009 |
| Kara Marshall | Neuroscience department | Apr 2009 |
| Heather Born | Neuroscience department | Jun 2009 |
| Aly Yarnall | Neuroscience department | Jun 2009 |
| Joel Quiros | CMB program | Apr 2010 |
| Natalie Fernandez | CMB program | Apr 2010 |
| Kelli Baalman | Neuroscience department | Apr 2010 |
| Ryan Ash | Neuroscience department | Jun 2010 |

| | | |
|---|---|---|
| David Chung | Neuroscience department | Aug 2010 |
| Lauren Figard | CMB program | Sep 2010 |
| Michael Bolt | MCB department | Sep 2010 |
| Lucy Liu | Neuroscience department | Jul 2012 |
| Wenyi Zhu | CMB program | Aug 2012 |
| Linda Tran | CMB program | Aug 2012 |
| Steven Lien | Neuroscience department | Jul 2013 |
| Li Wang | Mol and Human Genetics department | Sep 2013 |
| Lexi Crommett | Neuroscience department | Jul 2014 |
| Henry Cham | Neuroscience department | Jul 2014 |
| Winnie Zou | IMBS Program | Aug 2014 |
| Megan Vogt | IMBS Program | Aug 2014 |
| Justin Bartanus | Mol. and Human Genetics department | Sep 2014 / Feb 2014 |
| Annie Fu | Neuroscience department | Jun 2017 |
| Joseph Jelinski | IMBS Program | Sep 2017 |
| Tyler Haeberle | IMBS Program | Sep 2017 |
| Derek Reznik | Neuroscience department | Jun 2018 |
| Erin Neyhart | Neuroscience department | Jun 2019 |
| Amanda Williams | CCB Program | Mar 2021 |
| Amber Wolf | CCB Program | Mar 2021 |
| Minerva Solis | CCB Program | Mar 2021 |
| Zifan Zhao | CCB Program | Mar 2021 |
| Thomas Gebert | DDMT Program | Mar 2021 |
| Minh Khoa Dao | CPSB Program | Mar 2021 |
| Anthony Hoang | CPSB Program | Mar 2021 |
| Sarah Waldvogel | CCB Program | Feb 2022 |
| Sydney Parks | CCB Program | Mar 2022 |
| Jonathan Vazquex-Perez | CCB Program | Mar 2022 |
| Giselle De La Torre Pinedo | CCB Program | Mar 2022 |
| Zhuoyi Song | CPSB Program | Mar 2023 |
| Weiqi Gu | CPSB Program | Mar 2025 |

## DIDACTIC TEACHING

**Anatomy and Development of the Nervous System**
fall 2007 (3), fall 2008 (3), fall 2009 (3), fall 2010 (3), fall 2011 (3), fall 2012 (3), fall 2013 (3), fall 2014 (3)

**Brain Cell Biology**
fall 2015 (3), fall 2016 (3), fall 2017 (3), fall 2018 (3), fall 2019 (3), fall 2020 (3), fall 2021 (3), fall 2022 (3), fall 2023 (3), fall 2024 (3)

**Concepts of Learning and Memory**
spring 2008 (2), spring 2014 (1), spring 2015 (1), spring 2016 (1), spring 2017 (1), spring 2018 (1), spring 2019 (1), winter 2021 (1), winter 2023 (1), spring 2024 (1), spring 2025 (1)

**Cellular Signaling**
spring 2010 (1), spring 2011 (1), fall 2011 (1), fall 2012 (1), fall 2013 (1), fall 2014 (1), fall 2015 (1), fall 2016 (1), fall 2017 (1), fall 2018 (1), fall 2019 (1)

**Neuroscience for Non-neuroscience Students**
winter 2011 (1)

**Special Topics in Neuroscience – Preparing for your Qualifying Exam**
winter 2011 (co-director - 8), winter 2012 (co-director - 12), winter 2013 (co-director - 12), winter 2014 (co-director - 12), winter 2015 (co-director - 12), winter 2016 (co-director - 12), winter 2017 (co-director – 12), winter 2018 (co-director – 12), winter 2019 (co-director– 12), winter 2020 (co-director – 12), winter 2021 (co-director – 12), winter 2022 (co-director – 12), winter 2023 (co-director – 12), winter 2024 (co-director – 12), winter 2025 (co-director – 12)

**Neurobiology of Disease**
spring 2014 (1)

**Thinking Like a Scientist Biochemistry Course**
fall 2013 (1)