

Kimberly F. Raab-Graham, Ph.D.

Office:

Wake Forest School of Medicine
Department of Physiology and Pharmacology
Piedmont Triad Community Research Center
115 S Chestnut St., Room 280
Winston-Salem, NC 27101
336-716-6072
kraabgra@wakehealth.edu

Education:

University of California, San Francisco

Postdoctoral Fellow, Department of Physiology 2007
Advisor: Dr. Lily Jan, HHMI Investigator

University of California, Santa Barbara

Ph.D., Molecular, Cellular, and Developmental Biology 1998

California State University, Long Beach

B.A. Biology, Minor in Chemistry 1992

Additional Coursework:

Cold Spring Harbor, *Neurobiology Course* 1998

Professional Experience:

Wake Forest School of Medicine

Associate Professor,
Department of Physiology and Pharmacology 2016-Present

University of Texas at Austin

Assistant Professor of Neuroscience 2007 - 2016
Fellow, Center for Learning and Memory 2007 - 2016
Member, Institute for Neuroscience 2007 - 2016
Member, Institute for Cell and Molecular Biology 2007 - 2016
Member, Waggoner Center for Alcohol and Addiction Research 2013 - 2016

Title of Dissertation:

Molecular and Biochemical Characterization of Inward Rectifier Potassium Channels

Dissertation Advisor Dr. Carol Vandenberg
Professor of Molecular Cellular Developmental
Biology
University of California, Santa Barbara
Santa Barbara, CA 93106-9625

Postdoctoral Research Topic: Identification and characterization of locally translated ion channels in neuronal dendrites

Postdoctoral Advisor: Dr. Lily Jan
HHMI investigator
Professor of Physiology
University of California, San Francisco
San Francisco, CA 94143

Current Research Interests:

My group focuses on how synapses remodel their protein composition in a site-specific manner in response to changes in neuronal activity, a process thought to code for memory. Specifically, we study how NMDAR/mTOR regulates local protein synthesis or protein stability in neuronal dendrites. We focus on how dynamic changes in ion channel and receptor density may influence synaptic integration and the threshold for neuronal firing. We employ a multidisciplinary approach toward Neuroscience by utilizing molecular tools, live calcium imaging, and behavior to verify the physiological relevance of our findings.

Professional Societies:

Society for Neuroscience
American Society for Biochemistry and Molecular Biology
Research Society on Alcoholism
Molecular and Cellular Cognition Society

Grants

Previous Funding

Extramural Awards

(Direct/Indirect)

NIH Funded Pilot Grant	PI	9/1/2013 - 8/31/2015
NIAAA		Total: \$120,000
Integrated Neuroscience Initiative on Alcoholism (INIA)		(\$84,848/\$35,152)
Molecular Studies Investigating the Link between Ethanol Blockade of NMDARs and GABA _B R mediated Activation of mTOR Kinase		

IOS-1026527 National Science Foundation Posttranscriptional Regulation, a Novel Mechanism for Ion Channel Regulation and Dendritic Excitability	PI	8/15/2010 - 8/14/2014 Total: \$449,997 (\$303,903/\$146,997)
1F32MH013010 National Institute of Mental Health Postdoctoral Individual National Research Service Award Activity Dependent Expression of Kv 4.2 in CA-1 Neurons	PI	5/1/2001-4/30/2004 \$136,252
AHA Predoctoral Fellowship #95-430 American Heart Foundation California Affiliate Predoctoral Fellowship Assembly of Cardiac Inward Rectifier Potassium Channels	PI	1995 - 1997 \$33,000

Internal Awards

Texas Institute for Drug and Diagnostic Development The Role of Clovanemagnolol and Stolonidiol in Neurite Outgrowth and Synaptogenesis	co-PI	2009 - 2010 \$70,000
University of Texas at Austin Research Award Reversible regulation of Kv1.1 translation by a microRNA and RNA binding protein.	PI	9/1/2009 - 9/1/2010 \$6000
University of Texas Graduate School Faculty Summer Research Assignment Identification of mRNAs regulated by mTOR kinase activity	PI	2008 2 months summer salary
University of Texas at Austin, Graduate Studies Faculty Travel Award	PI	2008, 2010, 2011, 2013 \$1200

Sponsor for Grants to Trainees

Extramural Awards

IOS- 1332379 National Science Foundation Research Experiences for Undergraduates (REU) Awarded to Michael Ohabughiro		6/1/2013 - 8/31/2013 \$6000
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DBI-1103738

7/1/2011 - 6/30/2014
\$189,000

National Science Foundation
Minority Postdoctoral Award
Awarded to Luisa Cacheaux, Ph.D.
Characterizing changes in calcium channel protein synthesis and its effects on neuronal excitability

Internal Awards

University of Texas at Austin

2014
\$1000

College of Natural Sciences
Burton Fellowship
Awarded to Emily Workman

University of Texas at Austin

2012
\$1250

College of Natural Sciences
Summer Undergraduate Research Fellowship
Awarded to Michael Garza (Undergraduate Student)

University of Texas at Austin

2009
\$1000

College of Natural Sciences
Undergraduate Research Fellowship
Awarded to Pawan Pavela (Undergraduate student)

University of Texas at Austin

2009
\$1000

College of Natural Sciences
Undergraduate Research Fellowship
Awarded to Kathleen Nguyen (Undergraduate student)

University of Texas at Austin

2009
\$1250

College of Natural Sciences
Summer Undergraduate Research Fellowship
Awarded to Pawan Pavela (Undergraduate Student)

Parkinson's Disease Foundation

6/1/2008 - 8/31/2008
\$3000

Undergraduate Summer Research Fellowship
Awarded to Pawan Pavela (Undergraduate Student)
The Role of the Voltage-gated Potassium channel Kv1.1 in the Dendrites of Neurons affected by Parkinson's disease

Current Funding

Extramural Awards

IOS – 1355158	PI	8/1/2014 - 7/31/2017
National Science Foundation		Total: \$495,000
Defining a Role for GABA _B Receptor Signaling		(\$333,592/\$161,408)
in Activation of TORC1 Kinase During Homeostatic Plasticity		
DOD-TS130081	PI	4/15/2014 - 4/14/2017
Department of Defense		Total: \$800,064
Molecular Studies Investigating the Link between Dendritic		(\$528,744/\$271,320)
mRNA Translation and Repression Leading to Epilepsy in TSC		

Sponsor for Grants to Trainees

DBI-1306528	8/1/2013 - 5/31/2017
National Science Foundation	\$259,000
Minority Postdoctoral Award	
Awarded to Farr Niere, Ph.D.	
Defining the mechanism that regulates the insertion of the voltage-dependent potassium channel 1.1 into the surface membrane of neuronal dendrites	

Peer Reviewed Journal Articles

- ‡ Senior and communicating author
- † Postdoctoral fellow advisee
- * Graduate Student advisee
- ** Undergraduate Student advisee
- ^a Equal contribution

Please note these article types as indicated:
¹ **Refereed articles**

Publications while in rank of Assistant Professor

¹**Raab-Graham, K.F.** ‡, Workman, E.R.* , Namajoshi, S.* , Niere, F. † (2016) Pushing the threshold: how pharmacology induces homeostasis through protein synthesis to remedy depression. *Brain Research*, Apr 25. pii: S0006-8993(16)30215-3. doi: 10.1016/j.brainres.2016.04.020.

¹ Niere, F.^{†a}, Namjoshi, S.^{*a}, Song, E., Dilly, G.A., Schoenhard, G., Zemelman, B.V., Mechref, Y., and **Raab-Graham, K.F.**[‡] (2016) Analysis of proteins that rapidly change upon mTORC1 repression identifies Park7 as a novel protein aberrantly expressed in Tuberous Sclerosis Complex. (*Molecular and Cellular Proteomics*; I.F. 6.564; <http://www.mcponline.org/content/early/2015/09/29/mcp.M115.055079.full.pdf+html>)

¹ Sosanya, N.M.* , Cacheaux, L.P.[†], Workman, E.R.* , Niere, F. [†], Perrone-Bizzozero, N.I., and **Raab-Graham, K.F.**[‡] (2015) Mammalian Target of Rapamycin (mTOR) Tagging Promotes Dendritic Branch Variability through the Capture of Ca²⁺/calmodulin-dependent protein kinase II α (CaMKII α) mRNAs by the RNA-binding Protein HuD. (*Journal of Biological Chemistry*; I.F. 4.573). 10.1074/jbc.M114.599399

One of the top 5 most viewed articles at the *Journal of Biological Chemistry* in May and June, 2015

¹ Workman, E.R.* , Haddick, P.C.G., Bush, K**, Dilly, G.A., Niere, F.[†], Zemelman, B.V. and **Raab-Graham, K.F.**[‡] (2015) Rapid Antidepressants Stimulate the Decoupling of GABA_B Receptors from GIRK/Kir3 Channels through increased Protein Stability of 14-3-3 η , *Molecular Psychiatry* (IF: 14.496). 20(3), 298-310.

Invited Cover



¹ Sosanya, N.M. *, Brager, D.H., Wolfe, S., Niere, F. [†], and **Raab-Graham, K.F.**[‡] (epub: 2014) Rapamycin reveals an mTOR-independent Repression of Kv1.1 Expression during Epileptogenesis, *Neurobiology of Disease* (IF: 5.078), 73, 96-105.

¹ Sosanya, N. M.* , Huang, P.P.C.[†], Cacheaux, L.P.[†], Chen, C.J., Nguyen, K.** , Perrone-Bizzozero, N.I., and **Raab-Graham, K.F.**[‡] (2013) Degradation of High Affinity HuD Targets Releases Kv1.1 mRNA from miR-129 repression by mTORC1, *Journal of Cell Biology* (I.F. 9.834), 202, 53-69.

- **Highlighted in *Journal of Cell Biology* (Kepert, I. and Kiebler, M.A. (2013) MoniTORing neuronal excitability at the synapse, *Journal of Cell Biology*, 202, 7-9.**
- **5 reviews have described this work schematically in a figure**

¹Workman, E.R.*, Niere, F.†, and **Raab-Graham, K.F.‡** (2013) mTORC1-dependent Protein Synthesis Underlying Rapid Antidepressant Effect Requires GABA_BR Signaling, *Neuropharmacology* (I.F. 5.106), 73, 192-203.

Publications as a postdoctoral fellow

¹**Raab-Graham, K.F.^a**, Haddick, P. C. G.^a, Jan, Y. N., Jan, L. Y. (2006) Activity- and mTOR-dependent suppression of Kv1.1 channel mRNA translation in dendrites. *Science* (I.F. 33.611), 314,144-148.

- **Highlighted in Editors' Choice (Sci. STKE 356:348, 2006)**
- **Highlighted in Previews (Neuron 52:399-401, 2006).**
- **Highlighted in "Highlights from the Literature" (Physiology 21:3-6, 2007)**

¹Lin, Y.F., **Raab-Graham, K.F.**, Jan Y. N., Jan, L.Y. (2004) NO stimulation of ATP-sensitive potassium channels: Involvement of Ras/mitogen-activated protein kinase pathway and contribution to neuroprotection. *Proc Natl Acad Sci U S A*. (I.F. 9.674) 101, 7799-804.

¹Ma, D., Zerangue, N., **Raab-Graham, K.**, Fried, S.R., Jan, Y.N., and Jan, L.Y. (2002) Diverse Trafficking Patterns due to Multiple Traffic Motifs in G Protein-Activated Inwardly Rectifying Potassium Channels from Brain and Heart. *Neuron* (I.F. 15.766) 33, 715-729.

Publications as a graduate student

¹**Raab-Graham, K. F.**, Cirilo, L. J., Boettcher, A. A., Radeke, C. M. and Vandenberg, C. A. (1999) Membrane Topology of the Amino-terminal Region of the Sulfonylurea Receptor. *Journal of Biological Chemistry* (I.F. 4.573) 274, 29122 - 29129.

¹**Raab-Graham, K. F.** and Vandenberg, C.A. (1998) Tetrameric subunit structure of the Native Brain Inwardly Rectifying Potassium Channel Kir 2.2. *Journal of Biological Chemistry* (I.F. 4.573) 273, 19699 – 19707.

¹Perier, F., Radeke, C. M., **Raab-Graham, K. F.**, and Vandenberg, C. A. (1995) Expression of putative ATPase suppresses the growth defect of a yeast potassium transport mutant: Identification of a mammalian member of the Clp/HSP 104 family. *Gene* (I.F. 2.138) 152, 157 – 163.

¹**Raab-Graham, K. F.**, Radeke, C. M., and Vandenberg, C. A. (1994) Molecular cloning

and expression of a human heart inward rectifier potassium channel.
NeuroReport (I.F. 1.52) 5, 2501 – 2505.

A figure and discussion of our studies was reproduced in the Chapter entitled *Channels, Ischemia and Stunning: Cellular Electrophysiology and Intercellular Communication* by Marc Ovadia and Peter Brink in the book *Myocardial Viability: A Clinical and Scientific Treatise* (2000), edited by Vasken Dilsizian.

Publications Edited

Samarut, E. , Bekri, A. and Drapeau, P. (2016). Transcriptomic Analysis Of Purified Embryonic Neural Stem Cells From Zebrafish Embryos Reveals Signalling Pathways Involved In Glycine-dependent Neurogenesis. *Front Mol Neurosci*, 9, 22.

Steward, O., Farris, S., Pirbhoy, P.S., Darnell, J., and Driesche, S.J. (2014). Localization and local translation of Arc/Arg3.1 mRNA at synapses: some observations and paradoxes. *Front Mol Neurosci* 7, 101.

Sharifnia, P., and Jin, Y. (2014). Regulatory roles of RNA binding proteins in the nervous system of *C. elegans*. *Front Mol Neurosci* 7, 100.

Nosyreva, E., Autry, A.E., Kavalali, E.T., and Monteggia, L.M. (2014). Age dependence of the rapid antidepressant and synaptic effects of acute NMDA receptor blockade. *Front Mol Neurosci* 7, 94.

Fernandez-Moya, S.M., Bauer, K.E., and Kiebler, M.A. (2014). Meet the players: local translation at the synapse. *Front Mol Neurosci* 7, 84.

Most, D., Workman, E., and Harris, R.A. (2014). Synaptic adaptations by alcohol and drugs of abuse: changes in microRNA expression and mRNA regulation. *Front Mol Neurosci* 7, 85.

Pimentel, J., and Boccaccio, G.L. (2014). Translation and silencing in RNA granules: a tale of sand grains. *Front Mol Neurosci* 7, 68.

Articles in Conference Proceedings (*invited*):

²Aziz-Zadeh, L., Kotler, S., Luton, J., Mandayam, N.B., McAuley, J. D., **Raab-Graham, K.F.**, Strayer, D.L., Watson, J.M. (2013) “Development of new approaches to assess the differences in cognitive and brain function between the brains of digital natives and digital immigrants. *The Informed Brain in a Digital World*, pg. 59-63. National Academies Press, Washington, DC.

Articles in Workshop Proceedings (*invited*):

²**Raab-Graham, K.F.**[‡], Posttranscriptional Regulation of Intrinsic Plasticity, (2010)
Society for Neuroscience (epub)
http://www.sfn.org/index.aspx?pagename=ShortCourse2_2010.

Awards and Honors

College of Natural Sciences Teaching Excellence Award The University of Texas at Austin	2015
Center for Learning and Memory Fellow University of Texas at Austin	2007 – 2016
Individual National Research Service Award National Institute of Health Postdoctoral Fellowship, NIMH	2001 - 2004
Howard Hughes Medical Institute Postdoctoral Fellow	1999-2001
Neuroscience Research Institute Award “Excellence in Neuroscience Research” University of California, Santa Barbara (see grants)	1997
Ellen Schamberg Burley Graduate Scholarship University of California, Santa Barbara	1997
American Heart Association Pre-doctoral Fellowship California Affiliate (see grants)	1995 - 1997
Biophysical Society, Membrane Subgroup Travel Award	1995
Amgen Fellowship, University of California, Santa Barbara	1993

Service

Department of Neuroscience

Academic Advising:

Current Predoctoral Trainees:

Sarah Wolfe, Ph.D. candidate, ICMB (co-mentored with Adron Harris, Ph.D.)

Sanjeev Namjoshi, Ph.D. candidate, ICMB

Current Postdoctoral Fellows:

Luisa Cacheaux, Ph.D., NSF Minority Fellow DBI-1103738,
Ph.D. awarded at UC Berkeley

Farr Niere, Ph.D., NSF Minority Fellow, DBI-1306528,
Ph.D. awarded at UT Southwestern

Chelcie Heaney, Ph.D.
Ph.D. awarded at University of Nevada, Las Vegas

Previous Predoctoral Trainees:

Emily Workman, Ph.D., INS, Fall, 2015
Postdoctoral Fellow, National Research Associateship Fellow, United States Army Institute of Surgical Research, JBSA Ft. Sam Houston, TX.

Natasha Sosanya, Ph.D. I.C.M.B. Spring, 2014
Postdoctoral Fellow, National Research Associateship Fellow, United States Army Institute of Surgical Research, JBSA Ft. Sam Houston, TX.

Previous Postdoctoral Trainees:

Peggy Huang, Ph.D.,
Ph.D. awarded at University of Wisconsin, Madison,
Scientist at Advanced Biotechnologies Inc., Baltimore, MD.

Previous Undergraduate Students:

Yesha Shah, Sophomore, Business Honors and Biology

Cameron Reynoldson, Sophomore, Computer Science
(TIP Scholar)

Juan Penaranda, Sophomore, Computer Science

(TIP Scholar)

Keegan Bush, Chemical Engineering and Neuroscience
Co-author, *Molecular Psychiatry* (2015)
Ph.D. student at UTMB

Brent Winemiller, Biochemistry

Yan Jin, Biochemistry

Michael Ohabughiro, Medical School Student at UTMB

Michael Garza, technician at Gibco/Life technologies

Dylan Dean, Medical School Student

Ololade (Lola) Longe, Post-Baccalaureate Program in Health Studies at
Cornell University

Carissa Huk, Research Assistant, University of Texas Medical Center
Houston
Honors Thesis

Pawan Pavela: Neuro-monitor, Seton Hospital, Austin, TX

Kathleen Nguyen, Medical School Student, Texas A&M:
Co-author, *Journal of Cell Biology*, 202, 53-69.

Previous High School Student:

Zachary Juansing, UT-Dallas

Priya Ramamoorthy, Westwood High School

Solomon White, Crocket High School

Institute and Departmental Service:

- Graduate School Admissions Committee,
Institute for Neuroscience 2008 – 2010
- Faculty Recruitment Committee,
Center for Learning and Memory 2008 – 2010
- Neurobiology Retreat Planning Committee 2008

- Curriculum Committee, Department of Neuroscience 2010 - 2011
- Neuroscience Seminar Committee 2013

- New Course Design:
 1. Syllabus for Introductory Neuroscience (2nd semester)
 2. Syllabus for Molecular Neuroscience Laboratory
 3. Creator and Co-Director of Institute for Neuroscience Boot camp, overall course design (<http://neuroscience.utexas.edu/bootcamp/>).
 4. Institute for Neuroscience Boot camp, Molecular and Behavioral Module

- Guest Lecturer:

Principles in Neuroscience I	Fall, 2009 - 2010
Principles in Neuroscience II	Spring, 2009 – 2010
Biology Scholars Program	Spring, 2010
Neural Systems I	Fall, 2014

Graduate student committee member for students in the INS program, University of Texas at Austin:

Chung Sub Kim (advisor Dan Johnston)
Liz Arnold (advisor Dan Johnston)
Michael Chirillo (advisor Kristen Harris)
Dana Most (advisor Adron Harris)
Laura Ferguson (advisor Adron Harris)
Anthony Lacagnina (advisor Michael Drew)
Andrea Dickson (advisor Dan Johnston)
Kylie Huckleberry (advisor Michael Drew)
Maureen Dupree (advisor Nigel Atkinson)
Heather Smith (advisor Kristen Harris)

Rotation Students:

Emily Workman - INS
Mariana Rodriguez-Santiago - INS
Dana Most – INS
Anna Warden – INS
Gregory Ordemann - INS

Community Service:

- Graduate School Admissions Committee, Institute for Cell and Molecular Biology

Graduate student committee member for students in the ICMB program, University of Texas at Austin:

Billy Lau (advisor Jennifer Morgan)
David Busch (advisor Jennifer Morgan)
Kwang Woo Ko (advisor Nace Golding)
Ashley Crisp (advisor Jon Pierce-Shimomura)
Matt Kanke (advisor Paul Macdonald)
Xiaolei Li (advisor Nigel Atkinson)
Sheila Bal (advisor Adron Harris)

Rotation Students:

Natasha Sosanya - ICMB
Sanjeev Namjoshi - ICMB
Sarah Wolfe – ICMB
Patrick McGurk – ICMB
Jesse Cohn – ICMB
Zahra Dehghani – ICMB
Emma Erickson – ICMB
David Haimen – ICMB

College/University Service

- Participated in Graduation Commencement Ceremonies
CNS and University (cancelled) Spring, 2015
Graduate School Spring, 2014
University Spring, 2013
- Curriculum Committee, Campus Conversation 2014-15

Goal: Research integration into quality education for all UT undergraduate students.
Committee wrote proposal for co-teaching within/across disciplines.
Proposal was accepted and is being put into action with the first round of applications due summer 2015.

- Invited Faculty, Campus Conversation Sept., 2014
- Faculty Mentor for Kin North dormitory (all female dormitory) 2014-15
- Invited Speaker, Freshman Integrated Group Oct., 2014
First year interest group, 18 freshman who are interested in biology
- Faculty Representative, University of Texas Family Day Oct., 2013
- Invited Speaker, Women in Science Club at UT 2012 & 2014
- Judge for NeuroOlympics, Synapse Club 2013
- Invited Speaker, Synapse Club 2013 & 2011
- Invited Speaker, Women in Natural Sciences 2011, 2012, 2013 & 2014
- Invited Speaker, Dean's Scholars Seminar Series 2010 & 2012
- Invited Panelist, Postdoctoral Scholars Association Women in Science 2011
- Invited Panel member, Neuroscience Career class 2010 & 2011
- Invited Panel Member, "How to get a tenure track position" the application. WINS workshop, "The Search for a Tenure Track Job" 2009
- Invited Facilitator for the ICMB Responsible Conduct of Research Workshop for first year graduate students 2009
- Support/advising (informal) for undergraduate students enrolled in my classes at UT-Austin. Activities include discussing future career goals, advising on research opportunities, and writing letters of recommendation for medical, professional, and graduate school applications. 2008 – pres.

Scholarly Presentations

Invited Talks (2006- present):

- *Invited*, Gordon Conference – Alcohol and the Nervous System Feb., 2016
- *Invited*, RNA Metabolism in Neurological Disease, Society for Neuroscience Satellite meeting, Chicago, IL Session Chair Oct., 2015
- *Invited*, Wake Forest Medical School, Winston-Salem, NC March, 2015
- *Invited*, Third Annual WCAAR Advance, Austin, TX March, 2015
- *Invited*, Integrated Neuroscience Initiative on Alcoholism, Austin, TX Jan., 2015
- *Invited*, Integrated Neuroscience Initiative on Alcoholism, Bellevue, WA June, 2014
- *Invited*, Second Annual WCAAR Advance, Austin, TX March, 2014
- *Invited*, University of California, Irvine, CA March, 2014
- *Invited*, University of California, Los Angeles, CA March, 2014
- *Invited*, Institute for Neuroscience Student Annual Symposium, Austin, TX Jan., 2014
- *Invited*, Neurobiology Seminar Series at UT-Austin, Austin, TX Spring, 2013
- *Invited*, Burke Medical Research Institute and Weill Cornell Medical College, White Plains, NY April, 2012
- *Invited*, EMBO Conference Series, Intracellular RNA Localization & Localized Translation, Tuscany, Italy August, 2011
- *Invited*, Austin Conference on Learning and Memory, 1st biannual symposium at the University of Texas at Austin, Austin, TX April, 2011
- *Invited*, Gordon Research Conference, Cell Biology of the Neuron June, 2010
- *Invited*, Society for Neuroscience Short Course II: Posttranscriptional

Regulation in Nervous System Development and Plasticity,
San Diego, CA Nov., 2010

- *Invited*, Hunter College, City University of New York, New York, NY Dec., 2010
- *Invited*, Translation at the Synapse, HHMI,
Janelia Farm, Ashburn, VA Nov., 2009
- *Invited*, UT-Southwestern, Dallas, TX April, 2008
- *Invited*, University of Pittsburgh, Medical School, Pittsburgh, PA March, 2007
- *Invited*, Boston University, Boston, MA Feb., 2007
- *Invited*, Northwestern, Evanston, IL Feb., 2007
- *Invited*, University of Texas at Austin, Austin, TX Jan., 2007
- *Invited*, University of California, Los Angeles Medical School,
Los Angeles, CA Jan., 2007
- *Invited*, University of Massachusetts, Medical School,
Worcester, MA Nov., 2006

National and International Symposiums (2006 – present)

Each symposium or minisymposium contains four to six speakers chosen by the Program Committee to present exciting and cutting-edge research in a formal setting to a broad audience.

- Speaker, International Neuroscience Winter Conference,
Minisymposium, Sölden, Austria April, 2010
- Speaker, Society for Neuroscience, Minisymposium,
mRNA Transport and Local Protein Synthesis in Development,
Plasticity, and Regeneration. Washington, D.C. Nov., 2008
- Speaker, Cold Spring Harbor Laboratory Meetings, Receptors/Channels &
Synapses April, 2006

Conference Abstracts (since 2007):

- Niere, F., Namjoshi, S., Song, E., Mechref, Y., Schoenhard, G., and **Raab-Graham, K.F.** (October, 2015) mTOR activity inversely regulates the protein levels of Park7/DJ-1 and its potential mRNA targets. RNA Metabolism in Neurological Disease, Society for Neuroscience Satellite meeting, Chicago, IL
- Wolfe, S. A., Workman, E.R., Farris, S.P., Zemelman, B.V., Harris, R.A. and **Raab-Graham, K.F.** (October, 2015) Acute ethanol and rapid antidepressants promote a shift in GABA_BR signaling: a potential molecular basis for the self-medication hypothesis. RNA Metabolism in Neurological Disease, Society for Neuroscience Satellite meeting, Chicago, IL
- Wolfe, S. A., Workman, E.R., Farris, S.P., Zemelman, B.V., Harris, R.A. and **Raab-Graham, K.F.** (June, 2015) Alcohol Exposure Alters the Dendritic Expression and Function of the GABA_BR through Local Protein Synthesis. Research Society on Alcoholism
- Namjoshi, S., Niere, F., Song, E., Mechref, Y., Schoenhard, G., and **Raab-Graham, K.F.** (November, 2014) Rapid repression of mTORC1 shifts the regional expression of disease-related protein ensembles, Molecular Cognition, Society for Neuroscience Satellite meeting, Washington, D.C.
- Sosanya, N.M., Cacheaux, L.P., Perrone-Bizzozero, N.I., and **Raab-Graham, K.F.** (2014) Mammalian Target of Rapamycin (mTOR) Tagging Promotes Dendritic Branch Variability through the Capture of Ca²⁺/calmodulin-dependent protein kinase II α (CaMKII α) mRNAs by the RNA-binding Protein HuD. Molecular Cognition, Society for Neuroscience Satellite meeting, Washington, D.C.
- Namjoshi, S., Niere, F., Song, E., Mechref, Y., Schoenhard, G., and **Raab-Graham, K.F.** (November, 2014) Rapid repression of mTORC1 shifts the regional expression of disease-related protein ensembles, Society for Neuroscience, Washington, D.C.
- Cacheaux, L.P., Niere, F., and **Raab-Graham, K.F.** (November, 2014) Group I mGluR activation leads to an increase in $\alpha 2/\delta 2$ calcium channel subunit levels. Society for Neuroscience, Washington, D.C.
- Workman, E.R., Haddick, P.C.G., Bush, K.M., Dilly, G.A., Niere, F., Zemelman, B.V., and **Raab-Graham, K.F.** (November, 2014) Rapid Antidepressant Stimulates Decoupling of GABA_BR from GIRK/Kir3 through 14-3-3 η . Society for Neuroscience, Washington, D.C.
- Wolfe, S.A, Workman, E.W., Harris, R.A., and **Raab-Graham, K.F.** (June, 2014) Molecular Mechanisms of Dendritic GABA_B Receptor Regulation Produced by Alcohol Exposure. Research Society on Alcoholism, Bellevue, WA.

- Workman, E.W., Haddick, P.C.G., and **Raab-Graham, K.F.** (January, 2014) Rapid Antidepressant Stimulates Decoupling of GABA_BR from GIRK/Kir3 through 14-3-3 η . Institute for Neuroscience Symposium, Austin, TX.
- Sosanya, N., Huang, P., Cacheaux, L., Brager, D., Perrone-Bizzozero, N. and **Raab-Graham, K.F.** (November, 2013) Bidirectional Dendritic Expression of Kv1.1 through mTORC1-dependent Binding of miR-129-5p and HuD. RNA Metabolism, SFN Satellite meeting, San Diego, CA.
- Sosanya, N., Brager, D., Wolfe, S.A., **Raab-Graham, K.F.** (April 2013) miR-129 regulation of Kv1.1 in Temporal Lobe Epilepsy (TLE). CLM Retreat, Austin, TX.
- Sosanya, N., Huang, P., Luisa Cacheaux., Chun Jung Chen., Nguyen, K., Perrone-Bizzozero, N.I., **Raab-Graham, K.F.** (March 2013) Degradation of High Affinity HuD Targets Releases Kv1.1 mRNA from miR-129 Repression by mTORC1. National Graduate Student Symposium (NGSS) St Jude Children's Research Hospital. Memphis, TN.
- Sosanya, N., Huang, P., Workman, E.R., Cacheaux, L.P., Perrone-Bizzozero, N.I., **Raab-Graham, K.F.** (Oct., 2012) mTORC1 Regulated CaMKII α mRNA Degradation Releases HuD to Increase Kv1.1 Expression, Society for Neuroscience, New Orleans, LA.
- Cacheaux, L.P., Niere, F., Garza, M.G., and **Raab-Graham, K.F.** (October, 2012) mGluR activation leads to an mTOR-dependent increase in alpha2/ delta-2 calcium channel subunit levels. Society for Neuroscience, New Orleans, LA.
- Workman, E.R. and **Raab-Graham, K.F.** (October, 2012) Modulating mTOR activity through L type calcium channels. Society for Neuroscience, New Orleans, LA.
- Huang, P., Sosanya, N., Chang.P.Y., Nguyen, K., Perrone-Bizzozero, N.I., **Raab-Graham, K.F.** (Nov., 2010) mTOR Serves as a Switch for Neuronal Excitability by the Reversible Regulation of Kv1.1 mRNA Translation via miR-129 and HuD. Society for Neuroscience, San Diego, CA.

Public Outreach:

- Invited Speaker, Brain Tank, Natural Sciences Week sponsored by the Natural Science Council at UT-Austin (declined due to conflicting speaking engagement) Oct., 2015
- Invited Speaker, Austin Chapter of Women in Bio "Bridging the gap between Academia and Industry" (declined due to conflicting speaking engagement) Oct., 2015
- Invited Speaker, Dell Medical School Middle

- School Summer Camp Aug., 2015
- Invited Speaker, Dell Medical School High School Summer Camp July 2015
 - Invited Speaker, Austin Center for Inquiry March, 2015
 - Invited Keynote Speaker, Memory Matters, Center for Learning and Memory, Public Outreach May, 2014
 - Science Fair Judge, Lee Elementary School, Austin Independent School District Feb., 2011
 - Invited Keynote Speaker, Memory Matters, Center for Learning and Memory, Public Outreach, (<http://clm.utexas.edu/MemoryMatters/home/>) April, 2010
 - Invited Speaker, Quenercia Barton Creek, Retirement Living Community Feb. 2009

Media Coverage and Media Outreach

- Proclivitas, WCAAR Newsletter, Featured Faculty member, University of Texas at Austin, Fall, 2013
- *In vivo*, Faculty Spotlight, School of Biological Sciences Newsletter, University of Texas Spring, 2012
- “KNOW” Video Interview for the University of Texas, Science and Technology section “Old Drug Holds New Promise” (<http://www.utexas.edu/know/2012/07/08/alzheimers-rapamycin/>) Sum., 2012
- Memory Matters Interview, Fox News by Nik Ciccone April, 2010
- KUT Interview on memory (<http://kut.org/items/show/18545>). Oct., 2009

Professional Services:

Journal Editing:

Associate Editor, *Frontiers in Molecular Neuroscience*

2015 - Present

Guest Associate Editor, *Frontiers in Molecular Neuroscience* – Research Topic:
Balancing Synaptic and Homeostatic Plasticity through
Local Translation of Ion channels and Receptors 2014 – 2015

Journal Reviewer (2007 – present):

- Science
- Cell
- PNAS
- Biological Psychiatry
- Journal of Cell Biology
- Journal of Neuroscience
- Cerebral Cortex
- Molecular Cellular Biology
- Neuroscience
- Neurosignals
- International Journal of Neuropsychopharmacology.
- Neuroscience Bulletin
- Bioessays
- Communicative and Integrated Biology
- Alcoholism: Clinical and Experimental Research
- Elife

Conference Chair Position

Session Chair, RNA Metabolism in Neurological Disease, Oct., 2015
Society for Neuroscience Satellite meeting, Chicago, IL

Organizer, Austin Conference on Learning and Memory May, 2013
Molecular Session

Panel member, The National Academies Keck Future Initiative Nov., 2012

Grant Proposal Reviewer:

- Reviewer for TS Alliance Fall, 2015
- Cottrell Scholar Award, Fall, 2015
Research Corporation for Science Advancement
- Panel Member for CDMRP TSCRP Panel Fall, 2015
- Reviewer for Alzheimer's Association Spring, 2012
Fall, 2013

- Panel member for NSF IOS review panel (declined),
Spring, 2016
- External reviewer for NSF MCB Spring, 2011
- External reviewer for NSF MCB Fall, 2007
Fall, 2012