

September 19, 2019

**NAME:** Kartik Venkatachalam, Ph.D.

**PRESENT TITLE:** Associate Professor of Integrative Biology and Pharmacology  
McGovern Medical School  
The University of Texas Health Science Center at Houston

**WORK ADDRESS:** Department of Integrative Biology and Pharmacology  
6431 Fannin Street, MSB 4.214  
Houston, TX 77030

**UNDERGRADUATE EDUCATION:** B.S. Biochemistry, 1997  
University of Delhi  
New Delhi, India

**GRADUATE EDUCATION:** Ph.D. Biochemistry, 2002  
University of Maryland School of Medicine  
Baltimore, MD

**POSTGRADUATE TRAINING:** Postdoctoral Research Associate, 2003-2008  
Department of Biological Chemistry  
Johns Hopkins University School of Medicine  
Baltimore, MD

**ACADEMIC AND ADMINISTRATIVE APPOINTMENTS:**

Research Assistant Professor (non-tenure track), 2008-2010  
Department of Biological Chemistry  
Johns Hopkins University School of Medicine  
Baltimore, MD

Assistant Professor (tenure track), 2010-2017  
McGovern Medical School  
The University of Texas Health Science Center at Houston  
Houston, TX

Regular Faculty Member, 2010-Present  
Cell and Regulatory Biology Program  
The University of Texas Graduate School of Biomedical Sciences  
Houston, TX

Regular Faculty Member, 2010-Present  
Neuroscience Program  
The University of Texas Graduate School of Biomedical Sciences  
Houston, TX

Director, 2014-Present  
University of Texas Lysosomal Storage Disease Center of Excellence  
McGovern Medical School  
The University of Texas Health Science Center at Houston and Memorial  
Hermann Hospital  
Houston, TX

Associate Professor with tenure, September 1, 2017 -  
McGovern Medical School  
The University of Texas Health Science Center at Houston  
Houston, TX

## **HONORS AND AWARDS:**

### Academic Awards:

Postdoctoral Research Award, 2006  
Mucopolipidosis IV Foundation

1<sup>st</sup> Place, Postdoctoral Association Scientific Seminar Series, 2008  
Johns Hopkins University

Daniel Nathans Young Investigator Research Award, 2009  
Johns Hopkins University

Invited Speaker, 2015  
Breakthrough Discoveries Symposium  
Annual Medical School Faculty Research Retreat  
McGovern Medical School  
The University of Texas Health Science Center at Houston

### Teaching Awards:

Deans Teaching Excellence Awards, 2012, 2014, 2016  
McGovern Medical School  
The University of Texas Health Science Center at Houston

Norman Weisbrodt Education Award, 2015  
 Department of Integrative Biology and Pharmacology  
 McGovern Medical School  
 The University of Texas Health Science Center at Houston

Commendation for Service to Graduate Education, 2016  
 The University of Texas Graduate School of Biomedical Sciences

## **EDITORIAL POSITIONS:**

### **Manuscript Reviewer (2010-present):**

*Autophagy, Biochemistry and Cell Biology, Cell, Cell Calcium, Cell Reports, Cellular and Molecular Life Sciences, Current Biology, Disease Models and Mechanisms, ELife, Experimental Neurology, Frontiers in Cell and Developmental Biology, Gene, Genetics, Human Molecular Genetics, Journal of Biological Chemistry, Journal of Cell Biology, Journal of Neuroscience, Journal of Physiology, Learning and Memory, Molecular Psychiatry, Nature, Nature Cell Biology, Nature Communications, Nature Methods, Nature Neuroscience, Nature Scientific Reports, Neurobiology of Disease, Neuron, Philosophical Transactions of the Royal Society B, PLOS Biology, PLOS One, Protein and Cell, Science Signaling, Trends in Biochemical Sciences (TIBS)*

## **SERVICE ON NATIONAL GRANT REVIEW PANELS, STUDY SECTIONS, COMMITTEES:**

### **Ad-hoc grant reviewer:**

Early Career Fellowship Grant Review Panel — **2012**  
 Wellcome Trust/DBT India Alliance, India

Million Dollar Bike Race Grant Review Panel — **2014, 2016, 2017**  
 Penn Orphan Disease Center  
 Perelman School of Medicine, University of Pennsylvania Health System

Early Career Award Grant Review Panel — **2015**  
 Czech Science Foundation, Czech Republic

Sir Henry Dale Fellowship Grant Review Panel — **2015-2016**  
 Wellcome Trust, UK

Grant Review Panel — **2008, 2016, 2018**  
 The MLIV Foundation

MRC Research Grants — **2017**

Medical Research Council, U.K.

Alzheimer's and Related Diseases Research Award Fund  
Commonwealth of Virginia — **2017**

NIH Study Section, Synapses and Cytoskeleton (SYN)  
**October 2017, June 2019**

**SERVICE ON THE UNIVERSITY OF TEXAS MEDICAL SCHOOL AT HOUSTON  
COMMITTEES:**

Interviewer, 2011, 2015, 2016  
MD and MD/PhD Candidates  
UT Medical School Admissions Committee

Co-organizer, 2012-2015  
Department of Integrative Biology and Pharmacology Seminar Series

Member, 2014-2017  
UT Medical School Admissions Committee

Member, 2018-2019  
Department of Integrative Biology and Pharmacology Faculty Recruitment  
Committee

**SERVICE ON GRADUATE SCHOOL COMMITTEES:**

Member, 2011-2012  
Recruitment Subcommittee  
Graduate Program in Cell and Regulatory Biology

Member, 2012-2013  
Recruitment Council (GSBS Standing Committee)

Member, 2013-Present  
Examination Subcommittee  
Graduate Program in Cell and Regulatory Biology

Interviewer of Graduate Student Candidates, 2012-2013

Reviewer of Student Candidacy Abstracts, 2013  
Graduate Program in Neuroscience

Member, 2013-2015  
Faculty Membership Committee (GSBS Standing Committee)

Member, 2014-2015  
Admissions Subcommittee  
Graduate Program in Cell and Regulatory Biology

Chair, 2015-2016  
Examination Subcommittee  
Graduate Program in Cell and Regulatory Biology

Alternative Chair and Member, 2018  
Examination Committee  
Graduate Program in Biochemistry and Cell Biology

Talk and Poster Judging:

Annual Poster Competition, 2011  
Neuroscience Program  
The University of Texas Graduate School of Biomedical Sciences

Annual Neuroscience Poster Competition, 2011-2018  
UTHealth Neuroscience Research Center

Annual Poster and Research Talk Competition, 2012-2016  
Cell and Regulatory Biology Program  
The University of Texas Graduate School of Biomedical Sciences

UT Graduate School of Biomedical Sciences Graduate Student Advisory Committees:

Heather Turner, 2011-2016

Michael J. McCarthy (Master's student), 2012-2013

Alejandro Vila, 2012-2016

Denisse Meza, 2012-2013

Juyeon Jo, 2012-2016

Yu Huang, 2012-2017

Antonio J. Tito, 2012-2017

Brittany C. Parker-Kerrigan, 2012-2014

Sarah Baum, 2012-2013

Jian Xiong (Master's student), 2013-2014

Kelsey Maxwell, 2013-2018

Nabila Boukelmoune (Master's student), 2013-2014

Amanda Haltom, 2014-2015

Alexandria Plumer, 2014-2017

Jian Xiong, 2015-Present

Jie Chen, 2017-2019

Savannah West, 2018-Present

Jessica Symons, 2019-Present

Paulina Horton, 2019-Present

Jessie Morrill, 2019-Present

UT Graduate School of Biomedical Sciences Graduate Student Examination Committees:

Member, 2014  
Examination Committee of Yu Huang

Member, 2014  
Examination Committee of Kelsey Maxwell

Member, 2014  
Examination Committee of Mariya Liu

Member, 2014  
Examination Committee of Randi Stewart

Member, 2015  
Examination Committee of Alexandria Plumer

Chair, 2015  
Examination Committee of Courtney Olsen

Chair, 2015  
Examination Committee of Michael J. McCarthy

Chair, 2015  
Examination Committee of Tanya Baldwin

UT Graduate School of Biomedical Sciences Rotation Students:

Yu Huang, 2012  
Ryan Baumert, 2013  
Leandra Mangieri, 2014  
Albert Hunt, 2014  
Steven Gregory, 2015  
Jie Chen, 2016  
Nicholas Karagas, 2016  
Kristen Clemons, 2017  
Jonathan Schultz, 2018

**SERVICE TO THE COMMUNITY:**

Other Graduate Student (Ph.D.) Advisory Committees:

Bo Xiong, Baylor College of Medicine, 2011-2013  
Wu-Lin Charng, Baylor College of Medicine, 2011-2013  
Shiuan Wang, Baylor College of Medicine, 2012-2014  
Upasana Gala, Baylor College of Medicine, 2012-2016  
Gabriela David, Baylor College of Medicine, 2013-2016  
Tong-Chao Li, Baylor College of Medicine, 2013-2016  
Nele Haelterman, Baylor College of Medicine, 2013-2016  
Kuchuan Chen, Baylor College of Medicine, 2013-2016  
Lucy Liu, Baylor College of Medicine, 2014-2017

Mumine Senturk, Baylor College of Medicine, 2013-2018

Kai Li Tan, Baylor College of Medicine, 2014-2018

Dongxue Mao, Baylor College of Medicine, 2014-2018

Berrak Ugur, Baylor College of Medicine, 2014-2018

Burak Tepe, Baylor College of Medicine, 2014-2019

Hui Ye, Baylor College of Medicine, 2015-Present

Thomas Ravencroft, Baylor College of Medicine, 2018-Present

Outreach/Other activities:

Attendee, 2011, 2014  
GSBS Faculty Meeting

Attendee, 2013  
GSBS FAC for visitation

Participant, 2014  
Research Mentor Training Event  
Rice University

Speaker, 2014-2015  
Project GRAD, Houston (Favrot Fund Advanced Biology)

- This program is designed to help children from low-income households develop and achieve their educational aspirations

Participant, 2015  
“Mentoring Works” Seminars 1 and 2

Judge, 2017-2019  
St. Thomas Episcopal School Science Fair

**SPONSORSHIP OF CANDIDATES FOR POSTGRADUATE DEGREE:**

Nicholas Karagas, 2016-Present  
MD/PhD Candidate, Cell and Regulatory Biology Program

Kristen Clemons, 2017-2018  
Masters Degree, Cell and Regulatory Biology Program



## SPONSORSHIP OF POSTDOCTORAL FELLOWS:

Dr. Ching-On Wong, 2010-Present

- Dr. Wong is the first author on three high impact publications from my lab. He also won the 1<sup>st</sup> place in the 2011 postdoctoral seminar series hosted by the UTHSC-H postdoctoral association, and the 2<sup>nd</sup> place award in the 2015 Dean's Excellence in Research Award for Postdoctoral Research Fellows. In 2015, Dr. Wong was promoted to the position of non-tenure track faculty in the department of Integrative Biology and Pharmacology. Dr. Wong will be starting an independent research position as an assistant professor on the tenure track at Rutgers University in January 2020.

Dr. Jewon Jung, 2017-Present

## CURRENT AND PAST TEACHING RESPONSIBILITIES:

### Medical School Teaching:

Instructor, 2013-2019

Medical School Pharmacology

Number of Lecture Hours/Year: 5, Number of students/year: 250

#### Titles of Lectures:

- Drugs of Abuse (2 hours/year)
- Antitumor Antibiotics (1 hour/year)
- Drug Resistance (1 hour/year)
- New Directions in Cancer Treatment (1 hour/year)

### Graduate School of Biomedical Sciences Teaching:

Instructor, 2011-2019

Molecular Basis of Cell Signaling (GS13 1024)

Number of Lecture Hours/Year: 3 (2011), 4.5 (2012, 2014, 2015), 6 (2013-2019)

#### Titles of Lectures:

- mTOR Signaling
- Ion Channels in Sensory Transduction
- Emerging Concepts in Channel Physiology
- Calcium Compartmentalization

Instructor, 2012-2019

Current Methods in Structural and Molecular Biology (GS03 1023)

Number of Lecture Hours/Year: 1

#### Title of Lecture:

- *Drosophila* in Biomedical Research

Instructor, 2011-2013  
 Cell Biology (GS04 1013)  
 Number of Lecture Hours/Year: 1.5 (2011-2012), 3 (2013)

Titles of Lectures:

- Sensory Transduction
- Calcium Signaling

Instructor, 2013  
 Seminar in Cell Signaling and Regulation (GS04 1751)  
 Number of Lecture Hours: 1.5

Instructor, 2013  
 Cell and Systems Physiology (GS12 1254)  
 Number of Lecture Hours: 4

Title of Lecture:

- Neuroendocrine Regulation of Metabolism

Coordinator, 2013-2014  
 Seminars in Integrative Biology and Pharmacology (GS12 1051)  
 Number of Lecture Hours/Year: 0 (2013), 5 (2014)

Instructor, 2014-2019  
 Foundations in Biomedical Research (GS21 1017)  
 Number of Lecture Hours/Year: 2

Titles of Lectures:

- Autophagy
- Pathologies of Defective Protein Degradation

Discussion Leader, 2015-2016  
 Seminars in Integrative Biology and Pharmacology (GS12 1051)  
 Number of Lecture Hours/Year: 1 (2015), 2 (2016)

**MENTORING ACTIVITIES:**

Undergraduate Students:

Daria Nikolaeva, 2004-2008 (co-mentored with Dr. Craig Montell)  
 Johns Hopkins University

Chynna Foucek, 2013  
 Rice University

Ryan Seo, 2013  
 Rice University,

Meera Namireddy, 2013-2016  
 Rice University

- Ms. Namireddy received, “The Best Undergraduate Research” award from the Genetics Society of America for the research she performed in my laboratory. She was recently admitted to the MD program at Baylor College of Medicine.

Malvika Govil, 2015  
Rice University,

Kelly Tomasevich, 2015-2016  
Rice University

Alexandra Bulga, 2015-2016  
Rice University

- After graduating from Rice University, Ms. Bulga was admitted to the MD program at the UT Medical School, Rio Grande Valley

Morgan Rousseau, 2016  
Rice University

Shilpa Narayanan, 2017-2018  
University of Connecticut

Shannon Toole, 2018  
Oakwood University, Alabama

Shaoling Han, 2018  
Jiao Tong University School of Medicine  
Shanghai, China

#### Research Associates:

Geoffrey Broadhead, 2010-2012

- Mr. Broadhead worked in my lab for 2 years before applying to graduate school. In the fall of 2012, he joined the Department of Neurobiology and Behavior in Cornell University, New York, as a PhD candidate. Mr. Broadhead is a coauthor on two publications from my lab.

Hongxiang Hu, 2010-2014

Yufang Chao, 2012-2019

- Ms. Chao is a coauthor on three publications from my lab

Morgan Rousseau, 2017-2019

- Ms. Rousseau is a coauthor on three publications from my lab. She became a full-time medical student this fall at McGovern Medical School

UT Graduate School of Biomedical Sciences Graduate Students:

Nicholas Karagas, 2016-Present  
MD/PhD Candidate, Cell and Regulatory Biology Program

Kristen Clemons, 2017-2018  
Masters Degree, Cell and Regulatory Biology Program

Medical Students:

Mohammed Qureshi, 2011

- Mr. Qureshi was a medical student (MD) at Texas Tech University School of medicine who performed research in my lab for the summer.

Nicholas Karagas, 2014

- Mr. Karagas is a medical student at the McGovern Medical School. He worked in my lab over the summer in 2014. In 2015, he was admitted to the MD/PhD program, and will be performing his PhD thesis research in my lab.

Postdoctoral Fellows and Non-tenure Track Faculty:

Dr. Ching-On Wong, 2010-Present

- Dr. Wong is the first author on three high impact publications from my lab. He also won the 1<sup>st</sup> place in the 2011 postdoctoral seminar series hosted by the UTHSC-H postdoctoral association, and the 2<sup>nd</sup> place award in the 2015 Dean's Excellence in Research Award for Postdoctoral Research Fellows. In 2015, Dr. Wong was promoted to the position of non-tenure track faculty in the department of Integrative Biology and Pharmacology. Dr. Wong will be starting an independent research position as an assistant professor on the tenure track at Rutgers University in January 2020.

Dr. Jewon Jung, 2017-Present

**CURRENT GRANT SUPPORT:**

Research Grant, 5R01NS081301-03  
NCE till 01/31/2020  
NIH/NINDS

02/01/2014 – 01/31/2019

Title: Alterations in Synaptic Growth and Lipid-raft Organization in a Fly MLIV Model

Direct Cost: \$218,750/year

Role: PI

Research Grant, R21 AG061646                      07/01/2018-06/30/2020

NIH/NIA

Title: Modulation of Mitochondrial Proliferation and Function in Drosophila neurons

Direct costs: \$ 95,109.5 /year

Role: PI

Research Grant, 2019 Starter award                      09/01/2019-08/31/2020

ALS association

Title: Role of the extracellular matrix in C9-ALS

Direct costs: \$ 50,000 /year

Role: co-PI with Dr. Jeffrey Frost

#### **PAST GRANT SUPPORT:**

Research Grant, MDBR-18-132-RAS      1/1/2018 – 12/31/2018

PENN Orphan Disease Center

Title: Targeting Endolysosomal Proteins to Treat RASopathies

Direct costs: \$47,189/year

Role: PI

Research Grant, 1R21NS094860-01A1                      07/01/2016 – 06/30/2018

NIH/NINDS

Title: GDAP1 Mediated Cellular Damage in MLIV

Direct Cost: \$95, 250/year

Role: Co-PI with Dr. Kirill Kiselyov, University of Pittsburgh

Research Grant, MDBR-15-104-ML4                      05/01/2016-12/31/2017

Penn Medicine Orphan Disease Center

Title: Mechanisms of Neurodevelopmental Defects in a Lysosomal Storage Disease

Direct Cost: \$53,000/year

Role: PI

Small Award to Conduct Research on Fly Models of ALS

The Homejoy Foundation

07/01/2014-09/30/2014

The purpose of the small award of \$1000 was to pay for the imaging costs associated with the investigation of Drosophila models of ALS.

Postdoctoral Fellowship, 07104247

08/01/2007-07/31/2008

The MLIV Foundation

Title: *Drosophila* as a Genetic Model for MLIV

Direct Cost: \$60,000/year

Role: PI

## **PUBLICATIONS:**

### A. Abstracts:

1. Patterson, R.L., Venkatachalam, K., and Gill, D.L.: Stress Induced Over-Expression of Inositol Trisphosphate-Receptors and the Effect of Store-Operated Calcium Entry Mechanisms. *FASEB Summer Conference: Calcium and Cell Function*, Copper Mountain, CO, 2000.
2. Venkatachalam, K., Patterson, R.L., Ma, H-T., and Gill, D.L.: Action of 2-Aminoethoxydiphenyl Borate on Inositol Trisphosphate Receptor Function, *FASEB Summer Conference: Calcium and Cell Function*, Copper Mountain, CO, 2000.
3. Venkatachalam, K., Ma, H-T., Ford, D.L., and Gill D.L.: Expression of Functional Receptor-Coupled TRPC3 Channels in DT40 Triple InsP3 Receptor-Knockout Cells, *Gordon Research Conferences: Calcium Signaling*, Oxford, U.K., 2001.
4. Venkatachalam, K., Ford, D.L., van Rossum, D.B., and Gill, D.L.: Assessment of the Mechanisms of Activation of Exogenously Expressed TRPC3 and TRPC4 Channels in DT40 Chicken Pre-B Cells and HEK Cells, *12th International Symposium on Calcium-Binding Proteins and Calcium Function in Health and Disease*, Cavalese, Italy, 2002.
5. Venkatachalam, K., Ford, D.L., and Gill, D.L.: Mechanisms of Activation of Exogenously expressed TRPC3 and TRPC5 Channels in DT40 and HEK293 Cell Lines, *FASEB Summer Conference: Calcium and Cell Function*, Salt Lake City, UT, 2002.
6. Venkatachalam, K., Long, A.A., Elsaesser, R., Broadie, K., and Montell, C.: *Drosophila melanogaster* as an Animal Model for the Lysosomal Storage Disease, Mucopolipidosis type IV, *Gordon Research Conferences*, Andover, NH, 2006.
7. Venkatachalam, K., Long, A.A., Elsaesser, R., Nikolaeva, D., Broadie, K., and Montell, C.: Development of Novel Therapeutic Strategies for the Lysosomal Storage Disease, Mucopolipidosis type IV, Using a *Drosophila melanogaster* Animal Model. *Keystone Symposium on TRP Channels*, Keystone, CO, 2007.

8. Venkatachalam, K., Long, A.A., Elsaesser, R., Nikolaeva, D., Broadie, K., and Montell, C.: Defective Clearance of Apoptotic Cells Underlies the Motor Deficit in a *Drosophila* Model of Mucopolysaccharidosis Type IV. *Symposium on Mucopolysaccharidosis in Disease at the National Institutes of Health*, Bethesda, MD, 2008.
9. Wong, CO., Lin, Y.Q., Broadhead G.T., Ganguly, A., Cabral, F., Bellen, H.J. and Venkatachalam, K.: TRPV Channels are Required for Glutamatergic Synapse Development. *Gordon Research Conference on Cell Biology of Neurons*, Waterville Valley, NH, 2012.
10. Gala, U., Tong, C., Jaiswal, M., Sandoval, H., Yamamoto, S., Bayat, V., Xiong, B., Zhang, K., Charng, WL., Duraine, L., Venkatachalam, K., and Bellen H.J.: A Novel Role of *Drosophila* P/Q type Voltage Gated Calcium Channel Subunits in Autophagy. *Annual Drosophila Research Conference*, Washington D.C., 2013.
11. Wong, CO., Lin, YQ., Chen, K., Broadhead, G.T., Duraine, L., Ganguly, A., Cabral, F., Bellen, H.J., and Venkatachalam, K.: A TRPV Channel Controls Presynaptic Ca<sup>2+</sup> Concentration to Regulate Presynaptic Growth and Synaptic Vesicle Release Probability. *XXXVII International Congress of Physiological Sciences (IUPS)*, Bath, U.K., 2013.
12. Wong, CO., Palmieri, M., Li, J., Feng, X., Chao, Y., Broadhead, G.T., Zhu, M.X., Collins, C.A., Sardiello, M., and Venkatachalam, K.: Alterations in TORC1-Dependent JNK-Activation Underlie the Neurodevelopmental Defects Associated with Lysosomal Dysfunction. *Gordon Research Conference on Cell Biology of Neurons*, Waterville Valley, NH, 2014.
13. Wong, CO., Lin, YQ., Chen, K., Chao, Y., Duraine, L., Yoon, WH., Sullivan, J., Broadhead, G.T., Sumner, C.J., Lloyd, T.E., Macleod, G.T., Bellen, H.J., and Venkatachalam, K.: TRPV Channel in *Drosophila* Motor Neurons Regulates Presynaptic Resting Ca<sup>2+</sup> Levels, Synapse Growth, and Synaptic Transmission. *Gordon Research Conference on Cell Biology of Neurons*, Waterville Valley, NH, 2014.
14. Wong, CO., Hu, H., Chao, Y., Namireddy, M., and Venkatachalam, K.: Role of a Lysosomal Chloride Transporter in Phagocytic Degradation of Bacteria. *Annual Drosophila Research Conference*, Chicago, IL, 2015.
15. Wong, CO., Palmieri, M., Li, J., Akhmedov, D., Chao, Y., Broadhead, G.T., Zhu, M.X., Berdeaux, R., Collins, C.A., Sardiello, M., and Venkatachalam, K.: Diminished MTORC1-Dependent JNK-Activation Underlies the Neurodevelopmental Defects Associated with Lysosomal Dysfunction. *Annual Drosophila Research Conference*, Chicago, 2015.

16. Wong, CO., Hu, H., Chao, Y., Namireddy, M., and Venkatachalam, K.: Role of a Lysosomal Chloride Transporter in Phagocytic Degradation of Bacteria. *Gordon Research Conference on Lysosomal Diseases*, Galveston, TX, 2015.
17. Wong, CO., Palmieri, M., Li, J., Akhmedov, D., Chao, Y., Broadhead, G.T., Zhu, M.X., Berdeaux, R., Collins, C.A., Sardiello, M., and Venkatachalam, K.: Diminished MTORC1-Dependent JNK-Activation Underlies the Neurodevelopmental Defects Associated with Lysosomal Dysfunction. *Gordon Research Conference on Lysosomal Diseases*, Galveston, TX, 2015.
18. Cho, KJ, Gregory, S., Wong, CO., Tomasevich, K., Levental, I., Zhou, Y., van der Hoeven, D., Hancock, J.F., and Venkatachalam, K.: Inhibition of TRPML1 Reveals a Selective Vulnerability of Cancer Cells to Lysosomal Dysfunction. *Gordon Research Conference on Lysosomal Diseases*, Florence, Italy, 2017.
19. Wong, CO., Gregory, S., Yu, H., Chao, Y., Sepulveda, V., He, Y., Li-Kroeger, D., Goldman, W.E., Bellen, H.J., and Venkatachalam, K.: Lysosomal Degradation is Required for Sustained Phagocytosis of Bacteria by Macrophages. *Gordon Research Conference on Organellar Ion Channels and Transporters*, West Dover, VT, 2017.

#### B. Original Articles:

1. Ma, H-T., Venkatachalam, K.\*, Li, H-S., Montell, C., Kurosaki, T., Patterson, R.L., and Gill, D.L.: Assessment of the Role of the Inositol 1,4,5-Trisphosphate Receptor in the Activation of Transient Receptor Potential Channels and Store-Operated Ca<sup>2+</sup> Entry Channels. *Journal of Biological Chemistry* **276**: 18888-18896, 2001.  
**(\*- Joint First Author)**
2. Venkatachalam, K., Ma, H-T., Ford, D.L., and Gill, D.L.: Expression of Functional Receptor-Coupled TRPC3 Channels in DT40 Triple InsP<sub>3</sub> Receptor-Knockout Cells. *Journal of Biological Chemistry* **276**: 33980-33985, 2001.  
***This article was featured in Faculty of 1000***
3. Ma, H-T., Venkatachalam, K., Parys, J.B., and Gill D.L.: Modification of Store-operated Channel-coupling and InsP<sub>3</sub> Receptor-function by 2-Aminoethoxydiphenylborate in DT40 Lymphocytes. *Journal of Biological Chemistry* **277**: 6915-6922, 2002.



4. Venkatachalam, K., Zheng, F., and Gill, D.L.: Regulation of TRPC Channel Function by Diacylglycerol and Protein Kinase C. *Journal of Biological Chemistry* **278**: 29031-29040, 2003.
5. Ma, H-T., Venkatachalam, K.\*, Rys-Sikora, K.E., He, L-P., Zheng, F., and Gill, D.L.: Modification of Phospholipase C- $\gamma$ -Induced  $Ca^{2+}$  Signal-generation by 2-Amino-ethoxydiphenyl Borate. *Biochemical Journal* **376**: 667-676, 2003.  
**(\* - Joint First Author)**
6. Venkatachalam, K., Hofmann, T., and Montell, C.: Lysosomal Localization of TRPML3 Regulated by Interactions with TRPML2 and Mucopolipidosis-associated Protein TRPML1. *Journal of Biological Chemistry* **281**: 17517-17527, 2006.
7. Venkatachalam, K., Long, A., Elsaesser, R., Nikolaeva, D., Broadie, K., and Montell, C.: Motor deficit in a *Drosophila* model of mucopolipidosis type IV due to defective clearance of apoptotic cells. *Cell* **135**: 838-851, 2008.
8. Venkatachalam, K., Wasserman, D., Wang, X., Li, R., Mills, E., Elsaesser, R., Li, H-S., and Montell, C.: Dependence on a Retinophilin/Myosin Complex for Stability of PKC and INAD and Termination of Phototransduction. *Journal of Neuroscience* **30**: 11337-11345, 2010.
9. Wong, CO., Li, R., Montell, C., and Venkatachalam, K.: *Drosophila* TRPML is Required for TORC1 Activation *Current Biology* **22**: 1616-1621, 2012.
10. Feng, X., Huang, Y., Lu, Y., Xiong, J., Wong, CO., Yang, P., Xia, J., Chen, D., Du, G., Venkatachalam, K., Xia, X., and Zhu, M.X.: *Drosophila* TRPML forms PI(3,5)P2-activated cation channels in both endolysosomes and plasma membrane *Journal of Biological Chemistry* **289**: 4262-4272, 2014.
11. Wang, S., Tan, KL., Agosto, M.A., Xiong, B., Yamamoto, S., Sandoval, H., Jaiswal, M., Bayat, V., Zhang, K., Charng, WL., David, G., Duraine, L., Venkatachalam, K., Wensel, T.G., and Bellen, H.J.: The Retromer Complex is Required for Rhodopsin Recycling and its Loss Leads to Photoreceptor Degeneration *PLoS Biology* **12**: e1001847, 2014.
12. Wong, CO., Chen, K., Lin, YQ., Chao, Y., Duraine, L., Lu, Z., Yoon, WH., Sullivan, J.M., Broadhead, G.T., Sumner, C.J. Lloyd, T.E., Macleod, G.T., Bellen, H.J., and Venkatachalam, K.: A TRPV Channel in *Drosophila* Motor Neurons Regulates Presynaptic Resting  $Ca^{2+}$  Levels, Synapse Growth, and Synaptic Transmission *Neuron* **84**: 764-777, 2014.  
**- Cover Article**

**- Accompanying this article was the following preview:**

Imler, E. and Zinsmaier, K.E.: TRPV1 Channels: Not So Inactive on the ER *Neuron* **84**: 659-661, 2014.

13. Tian, X., Gala, U., Zhang, Y., Shang, W., Jaiswal, S.N., Ronza, A.D., Jaiswal, M., Yamamoto, S., Sandoval, H., Duraine, L., Sardiello, M., Sillitoe, R.V., Venkatachalam, K., Fan, H., Bellen, H.J., and Tong, C.: A Voltage Gated Calcium Channel Regulates Lysosomal Fusion with Endosomes and Autophagosomes and is Required for Neuronal Homeostasis. *PLoS Biology* **13(3)**: e1002103, 2015.

14. Zhou, Y., Wong, CO., Cho, KJ., van der Hoeven, D., Liang, H., Thakur, D.P., Luo, J., Babic, M., Zinsmaier, K.E., Zhu, M.X., Hu, H., Venkatachalam, K., and Hancock, J.F.: Membrane Potential Modulates Plasma Membrane Phospholipid Dynamics and K-Ras Signaling. *Science*, **349(6250)**: 873-876, 2015.

**- Accompanying this article was the following comment:**

Accardi, A.: Lipids Link Ion Channels and Cancer. *Science*, **349(6250)**: 789-790, 2015.

15. Wong, CO., Palmieri, M., Li, J., Akhmedov, D., Chao, Y., Broadhead, G.T., Zhu, M.X., Berdeaux, R., Collins, C.A., Sardiello, M., and Venkatachalam, K.: Diminished MTORC1-Dependent JNK-Activation Underlies the Neurodevelopmental Defects Associated with Lysosomal Dysfunction. *Cell Reports*, **12**: 2009-2020, 2015.

16. Wong, CO., Gregory, S., Hu, H., Chao, Y., Sepúlveda, V.E., He, Y., Li-Kroeger, D., Goldman, W.E., Bellen, H.J., and Venkatachalam, K.: Lysosomal Degradation Is Required for Sustained Phagocytosis of Bacteria by Macrophages. *Cell Host & Microbe*, **21**:719-730, 2017.

**- Cover Article**

**- Accompanying this article were the following previews:**

Monahan, A.J., and Silverman, N.: Relish the Thought and Channel Your Chloride, for Bacterial Clearance Depends on It. *Cell Host & Microbe*, **21**:657-659, 2017.

VanHook, A.M.: Macrophages Don't Take More Than They Can Eat. *Science Signaling*, **Vol. 10, Issue 484**: eaao1183, 2017.

17. Jung, J., Cho, K-J., Naji, A.K., Clemons, K.N., Wong, CO., Villanueva, M., Gregory, S., Karagas, N.E., Tan, L., Liang, H., Rousseau, M.A., Tomasevich, K.M., Sikora, A.G., Levental, I., van der Hoeven, D., Zhou, Y., Hancock, J.F. and Venkatachalam, K.: HRAS-driven cancer cells are vulnerable to TRPML1 inhibition. *EMBO Reports*, **e46685**, 2019.

**- Accompanying this article was the following preview:**

Schwartz, D.M. and Muallem, S. Oncogenes calling on a lysosomal Ca<sup>2+</sup> channel. *EMBO Reports*, **e7973**, 2019.

18. Wong, CO., and Venkatachalam, K.: Motor Neurons from ALS Patients with Mutations in *C9ORF72* and *SOD1* exhibit distinct transcriptional landscapes. *Human Molecular Genetics*, **28**:2799-2810, 2019.

### C. Invited Reviews:

1. Venkatachalam, K., van Rossum, D.B., Patterson, R.L., Ma, H-T., and Gill, D.L.: The Cellular and Molecular Basis of Store-Operated Calcium Entry. *Nature Cell Biology* **4**: E263-E272, 2002.
2. Spassova, M.A., Soboloff, J., He, L-P., Hewavitharana, T., Xu, W., Venkatachalam, K., van Rossum, D.B., Patterson, R.L., and Gill, D.L.: Calcium Entry Mediated by SOCs and TRP Channels: Variations and Enigma. *Biochimica et Biophysica Acta* **1742**: 9-20, 2004.
3. Soboloff, J., Spassova, M., Hewavitharana, T., He, L-P, Luncsford, P., Xu, W., Venkatachalam, K., van Rossum, D., Patterson, R.L., and Gill, D.L.: TRPC Channels: Integrators of Multiple Cellular Signals. *Handbook of Experimental Pharmacology* **179**: 575-591, 2007.
4. Kalra, D., Elsaesser, R., Gu, Y., and Venkatachalam, K.\*: Transducin in Rod Photoreceptors - Translocated When Not Terminated. *Journal of Neuroscience* **27**: 6349-6351, 2007.  
**(\*-Corresponding author)**
5. Venkatachalam, K., and Montell, C.: TRP Channels. *Annual Reviews of Biochemistry* **76**: 387-417, 2007.
6. Venkatachalam, K.\*, Wong, CO., and Montell, C.\*: Feast or Famine: Role of TRPML in Preventing Cellular Amino Acid Starvation *Autophagy* **9**: 98-100, 2013.  
**(Cover Article)**  
**(\*, corresponding authors)**
7. Venkatachalam, K.\*, Luo, J., and Montell, C.\*: Evolutionarily conserved, multitasking TRP channels—lessons from worms and flies *Handbook of Experimental Pharmacology, Edition on "Mammalian Transient Receptor Potential (TRP) Channels"*, **223**: 937-962, 2014.  
**(\*, corresponding authors)**
8. Venkatachalam, K.\*, Wong, CO., and Zhu, M.X.\*: The Role of TRPMLs in Endolysosomal Trafficking and Function *Cell Calcium*, **58**: 48-56, 2015.  
**(\*, corresponding authors)**

9. Klionsky, D.J. et al.: Guidelines for the Use and Interpretation of Assays for Monitoring Autophagy (3rd edition). *Autophagy*, **12**:1-222, 2015.
10. Venkatachalam, K.: VGLUT soothes the sour synapse. *J. Physiol.*, **595**: 615-616, 2017.
11. Jung, K., and Venkatachalam, K.: TRPML1 and RAS-driven Cancers — Exploring a Link with Great Therapeutic Potential. *Channels* (Austin), **13**: 374-381, 2019.
12. Jung, K., and Venkatachalam, K.: TRPping the Homeostatic Alarm — Melanoma Cells are Selectively Vulnerable to TRPML1 Deletion. *Cell Calcium In press*, 2019.

#### D. Book Chapters:

1. Venkatachalam, K., Zheng, F., and Gill D.L. Control of TRPC and Store-Operated Channels by Protein Kinase C. *Novartis Foundation Symposium* **258**: 172-185; Discussion 185-188, 263-266, 2004.
2. Venkatachalam, K.\* and Kiselyov, K.\* TRPML1-Dependent Processes as Therapeutic Targets. *TRP Channels as Therapeutic targets* 469-482, 2015.  
(\*, **corresponding authors**)

#### E. Other Professional Communications:

##### Seminars (International seminars are bolded):

1. Johns Hopkins Postdoctoral Association Scientific Seminar Series, Baltimore, MD (2008). Host, Johns Hopkins Post-doctoral Association (JHPDA)
2. National Institute of Dental and Craniofacial Research/National Institutes of Health, Bethesda, MD (2009). Host, Dr. Indu S. Ambudkar
3. Departments of Neurology and Neurosurgery, Johns Hopkins Medical Institute, Baltimore, MD (2009). Host, Dr. Thomas Lloyd
4. National Institute of Neurological Diseases and Stroke/National Institutes of Health, Bethesda, MD (2009). Hosts, Drs. Howard Nash and Chi-Hon Lee
5. Young Investigator Award Day, Johns Hopkins University, Baltimore, MD (2009). Host, Dr. Randall Reed

- 6. XXXVI International Congress of Physiological Sciences (IUPS), Kyoto, Japan (2009). Host, Dr. Shmuell Muallem**
7. Department of Physiology, Case Western Reserve University, Cleveland, OH (2009). Host, Dr. Walter Boron
8. Department of Biology, University of Toronto, Toronto, Canada (2009). Host, Dr. Greg Vanlerberghe
9. Department of Microbiology and Molecular Genetics, Duke University School of Medicine, Durham, NC (2009). Host, Dr. Hiroaki Matsunami
10. Department of Anesthesiology, Washington University School of Medicine, St. Louis, MI (2009). Host, Dr. Michael Crowder
11. Annual Research Retreat Day, University of Texas Health Science Center at Houston, Houston, TX (2010). Host, Dr. John Byrne
12. Department of Biochemistry and Molecular Biology, University of Texas Health Science Center at Houston, Houston, TX (2011). Host, Dr. Eric Wagner
13. Department of Biology and Biochemistry, University of Houston, Houston, TX (2011). Host, Dr. Gregg Roman
14. Department of Neuroscience and Cell Biology, UTMB-Galveston, Galveston, TX (2012). Host, Dr. Darren Boehning
15. Department of Pediatrics, University of Texas Health Science Center at Houston, Houston, TX (2012). Host, Dr. Karen Posey
16. Mucopolidosis IV Foundation, Agenda Setting Conference, Tarrytown, NY (2013). Host, Dr. Rebecca Oberman and the ML4 Foundation
17. Institute of Molecular Medicine, University of Texas Health Science Center at Houston, Houston, TX (2013). Host, Dr. Sheng Zhang
18. Mucopolidosis IV Foundation, Annual Conference, Atlanta, GA (2014). Host, Dr. Rebecca Oberman and the ML4 Foundation
19. Department of Genetics, MD Anderson Cancer Center, Houston, TX (2014). Host, Dr. Swathi Arur
- 20. Garvan Institute, Sydney, Australia (2014). Host, Dr. Greg Nealy**

- 21. Gordon Conference on Lysosomal Storage Diseases, Galveston, TX (2015). Host, Dr. Steven Walkley**
22. The Scripps Research Institute, Jupiter, FL (2015). Hosts, Dr. Gregory Macleod and Dr. William Ja
23. University of California Santa Barbara (UCSB), Santa Barbara, CA (2015). Host, Dr. Craig Montell
- 24. VIB Center for the Biology of Diseases, University of Leuven Department of Human Genetics, Leuven, Belgium (2015). Host, Dr. Patrik Verkstreken**
- 25. 3<sup>rd</sup> Annual Leuven TRP Symposium, Leuven, Belgium (2015). Host, Dr. Thomas Voets**
26. Center for Human Genetic Research, Massachusetts General Hospital and Harvard Medical School (HMS), Boston, MA (2015). Host, Dr. Susan Slaughaupt
27. Department of Biological Sciences, Kenneth P. Dietrich School of Arts and Sciences, University of Pittsburgh, Pittsburgh, PA (2015). Host, Dr. Kirill Kiselyov
28. Department of Human and Molecular Genetics, Baylor College of Medicine, Houston, TX (2016). Host, Dr. Marco Sardiello
29. Mucopolidosis IV Foundation Conference, Atlanta, GA (2016). Host, Dr. Rebecca Oberman and the ML4 Foundation
30. National Heart Lung and Blood Institute, National Institutes of Health, Bethesda, MD (2016). Host, Dr. Hong Xu
- 31. International Symposium on Regulation of Cell Function by Transient Receptor Potential Channels, Herrsching (near Munich), Germany (2016). Host, Dr. Viet Flockerzi**
32. Department of Molecular, Cellular, and Developmental Biology, University of Michigan, Ann Arbor, MI (2016). Host, Dr. Haoxing Xu
33. Department of Neuroscience and the Mitchell Neurodegeneration Center, University of Texas Medical Branch (UTMB), Galveston, TX (2017). Host, Dr. Yogesh Wairkar
34. BioSciences at Rice, Rice University, Houston, TX (2017). Host, Dr. Kathleen Beckingham

35. Mucopolipidosis IV Foundation Conference, Atlanta, GA (2018). Host, Dr. Rebecca Oberman and the ML4 Foundation
36. 7th annual "Metabolism in Cancer" symposium, The University of Texas, MD Anderson Cancer Center (2018). Host, Dr. Pratip Bhattacharya
37. Huffington Center on Aging, Baylor College of Medicine (2019). Host, Dr. Melanie Samuel