



DEPARTMENT OF PHYSIOLOGY

## DEPARTMENT OF PHYSIOLOGY FACULTY

### Zhongjie Sun, MD, PhD, FAHA

Professor and Chair  
Thomas A. Gerwin Chair of Excellence  
in Physiology

### Adebowale Adebisi, PhD

Associate Professor

### Julio Cordero-Morales, PhD

Assistant Professor

### Ioannis Dragatsis, PhD

Associate Professor

### Zheng Fan, PhD

Professor

### Polly Hofmann, PhD

Professor  
Senior Executive Associate Dean  
in the College of Medicine

### Jonathan H. Jaggard, PhD

Maury W. Bronstein Professor

### Salvatore Mancarella, PhD

Assistant Professor

### Helena Parfenova, PhD

Professor

### Kaushik Parthasarathi, PhD

Associate Professor

### Gadiparthi N. Rao, PhD

George and Elizabeth Malloy Professor

### Radhakrishna Rao, PhD

Professor

### Donald B. Thomason, PhD

Professor  
Dean, College of Graduate Health Sciences

### Gabor J. Tigyi, MD, PhD

Van Vleet Professor

### Valeria Vasquez, PhD

Assistant Professor

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# CIRCA

## DRS. ADEBOWALE ADEBIYI AND JONATHAN JAGGAR

### AWARDED CIRCA FUNDING

#### DR. ADEBOWALE ADEBIYI

Dr. Adebowale Adebisi, Associate Professor of Physiology, has been awarded \$50,000 in funding from the Collaborative Intramural Research in the College of Medicine (CIRCA) support program for his project entitled "The Association of Podocyturia with Progressive Glomerular Injury in Sickle Cell Disease." Dr. Adebisi will collaborate with Dr. Kenneth Ataga, MD, Plough Foundation Endowed Chair in Sickle Cell Disease Professor of Medicine and Pediatrics, on bringing this project to fruition.

The goal of the CIRCA program is to stimulate innovative, interdisciplinary, team research leading to submission of an R01-scale grant application. Specifically, CIRCA is designed to fund innovative research collaborations between a clinician (patient care responsibilities and/or a clinical researcher) and a basic sciences researcher in different departments. Matthew Ennis, PhD, Chair of the CIRCA proposal review committee, noted, "There were many meritorious applications and the decision to fund this proposal was an excellent choice based on thorough review by a committee with broad research expertise." To learn more about Dr. Adebisi's work, please contact him at [aadebiyi@uthsc.edu](mailto:aadebiyi@uthsc.edu). To learn more about the CIRCA program, please contact Dr. Matthew Ennis at [mennis@uthsc.edu](mailto:mennis@uthsc.edu).

#### DR. JONATHAN JAGGAR

Dr. Jonathan Jaggard, Maury W. Bronstein Endowed Professor, Department of Physiology, was recently awarded \$50,000 in funding from the Collaborative Intramural Research in the College of Medicine (CIRCA) support program for his project entitled "Ion Channel Trafficking in Human Endothelial Cells." Dr. Jaggard will be collaborating with Dr. Frederick A. Boop, Professor and J.T. Robertson Chair in the Department of Neurosurgery, on this project.

Each of the recommended proposals was awarded \$50,000 to support their research. Funding from these internal awards is provided from the 2% return to the College of Medicine of the Finance and Administrative costs (F&As), also known as "indirect" costs, generated by external grant awards in the UTHSC College of Medicine in Memphis. Additionally, F&As go to the individual departments that generated the F&A (3%) and to support campus-wide research infrastructure and the faculty research initiative (95%). To learn more about Dr. Jaggard's research, please contact him at [jjaggard@uthsc.edu](mailto:jjaggard@uthsc.edu).

## DR. VALERIA VASQUEZ

### NAMED REVIEW EDITOR OF SYNAPTIC NEUROSCIENCE

Dr. Valeria Vasquez, Assistant Professor of Physiology, was recently welcomed as Review Editor on the Editorial Board of Synaptic Neuroscience, part of the journal *Frontiers in Neuroscience*. *Frontiers in Neuroscience* publishes rigorously peer-reviewed research that advances our understanding of the synaptic structure, function, plasticity, and alternations in diseases. This multi-disciplinary open-access journal is at the forefront of disseminating and communicating scientific knowledge and impactful discoveries to researchers, academics, and the public worldwide. The journal considers original research articles on synaptic transmission and plasticity in all relevant areas including the ultrastructure, physiology and biophysics of synaptic transmission, molecular composition of synapses, molecular-molecular interactions, and biochemical, biophysical and structural mechanisms involved in forming, maintaining and altering synaptic properties. The journal also publishes work on the genetic determination of synaptic properties and the impact of genetically induced synaptic alterations. To learn more, please [frontiersin.org/journals/synaptic-neuroscience#about](http://frontiersin.org/journals/synaptic-neuroscience#about).

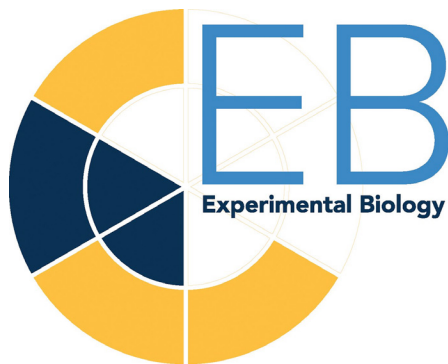


## DRS. IOANNIS DRAGATSI AND PAULA DIETRICH

### PUBLISH ARTICLE IN AMERICAN JOURNAL OF HUMAN GENETICS

Dr. Ioannis Dragatsis, Associate Professor in Physiology, and Dr. Paula Dietrich, Assistant Professor in Dr. Dragatsis's lab, contributed to an article published recently in the *American Journal of Human Genetics*. The article, entitled "ELP1 Splicing Correction Reverses Proprioceptive Sensory Loss in Familial Dysautonomia," appears in the April 4, 2019 issue, and was Epub'd on March 21, 2019. The full citation for the publication is: Morini E, Gao D, Montgomery CM, Salani M, Mazzasette C, Krussig TA, Swain B, **Dietrich P**, Narasimhan J, Gabbeta V, Dakka A, Hedrick J, Zhao X, Weetall M, Naryshkin NA, Wojtkiewicz GG, Ko CP, Talkowski ME, **Dragatsis I**, Slaugenhaupt SA. ELP1 splicing correction reverses proprioceptive sensory loss in familial dysautonomia. *Am J Hum Genet.* 2019 April 4;104(4):638-650. doi: 10.1016/k.ajhg.2019.02.009. Epub 2019 Mar 21. To learn more, please contact Dr. Dragatsis at [idadrats@uthsc.edu](mailto:idadrats@uthsc.edu) or Dr. Dietrich at [pdietric@uthsc.edu](mailto:pdietric@uthsc.edu).





## DR. VALERIA VÁSQUEZ PRESENTS INVITED LECTURE AT EB

Dr. Valeria Vásquez was invited by Dr. Qiu-Xing Jiang, Chair of the Cell and Molecular Physiology Section of the American Physiological Society, to present a talk as part of the “New Frontier in Direct Effects of Lipids and Lipid Metabolic Defects on Membrane Proteins” symposium. Dr. Vasquez’s talk was entitled “The Effect of Dietary Fatty Acids in Sensory Ion Channels.”

Dr. Vásquez received her PhD in Molecular Physiology and Biological Physics from the University of Virginia while working in the lab of Dr. Eduardo Perozo. Dr. Vásquez did her postdoctoral training in the lab of Dr. Miriam B. Goodman at Stanford University where she worked with the mechano-electrical transduction channel complex present in *C. elegans* touch receptor neurons. Dr. Vásquez joined the University of Tennessee Health Science Center as Assistant Professor in the Department of Physiology in March 2014, and her current research focuses on understanding the functional and structural basis of mechano-dependent gating of the ion channels responsible for touch, pain, and proprioception. To learn more about Dr. Vasquez’s work, please contact her at [vvasquez@uthsc.edu](mailto:vvasquez@uthsc.edu).

## DRAGATSIS LAB AWARDED NIH R21 GRANT

### STUDYING THE ROLE OF CHOLESTEROL IN THE ETIOLOGY OF HPE

Dr. Ioannis Dragatsis and Dr. Paula Dietrich were recently awarded an NIH R21 grant focusing on cholesterol and sonic hedgehog signaling in alobar holoprosencephaly. As Dr. Dragatsis explained, this grant provides funding necessary to investigate the role of huntigtin (Htt) and cholesterol biosynthesis in the etiology of holoprosencephaly (HPE), which is a common congenital forebrain malformation in humans. Their findings will provide fundamental information into the mechanisms underlying this common but poorly understood disorder. Dr. Dragatsis and Dr. Dietrich will serve as PI and Co-PI, respectively, on this grant effort, which will last for two years.

## DR. ANBERITHA MATTHEWS NAMED VICE CHAIR OF ATVB MEMBERSHIP AND COMMUNICATIONS COUNCIL

### ATVB Arteriosclerosis, Thrombosis, and Vascular Biology

Dr. Anberitha Matthews, postdoctoral fellow in Dr. Adebowale Adebisi’s lab, was nominated for and accepted the position of Vice Chair on the Membership and Communications Committee of the Council on

Arteriosclerosis, Thrombosis, and Vascular Biology (ATVB). Her term will start on July 1, 2019, and she will serve for two years in this position.

The Council on ATVB engages scientists and clinicians working to improve the prevention, diagnosis, and treatment of atherosclerotic, vascular, and thrombotic diseases in the US and worldwide. Council membership includes investigators with interests that range from discovery science to clinical research. The ATVB council is among the largest and most active councils within the American Heart Association and it strives to engage its members through the dissemination of scientific findings at national meetings and the AHA Scientific Sessions. To learn more about Dr. Matthews’ work, please contact her at [anberitha@gmail.com](mailto:anberitha@gmail.com). Dr. Matthews is also an active blogger at the American Heart Association’s Early Career Voice blog and the American Physiological Society’s I Spy, where she is excited to help spread content on advocating for a healthy lifestyle by way of a healthy heart. To read her blog contributions, please visit [earlycareervoice.professional.heart.org/blog/](http://earlycareervoice.professional.heart.org/blog/) (Early Career Voice) or [ispyphysiology.com/author/apsphysiology/](http://ispyphysiology.com/author/apsphysiology/) (I Spy). You can also follow her on Twitter (@AnberithaT). To learn more about ATVB, please visit [professional.heart.org/professional/MembershipCouncils/ScientificCouncils/UCM\\_322848\\_Council-on-Arteriosclerosis-Thrombosis-and-Vascular-Biology-ATVB.jsp](http://professional.heart.org/professional/MembershipCouncils/ScientificCouncils/UCM_322848_Council-on-Arteriosclerosis-Thrombosis-and-Vascular-Biology-ATVB.jsp).



APS Award Winners Dr. Jeremiah Afolabi (left) and Dr. Anberitha Matthews (right) pose with mentor Dr. Adebowale Adebisi at Experimental Biology meeting.



Dr. Jeremiah Afolabi, Physiology graduate student, poses with family members and Dr. Peter Agre, Bloomberg Distinguished Professor at Johns Hopkins University and winner of the 2003 Nobel Prize in Chemistry.



Dr. Anberitha Matthews, Physiology postdoctoral fellow, poses with Dr. Peter Agre, Bloomberg Distinguished Professor at Johns Hopkins University and winner of the 2003 Nobel Prize in Chemistry.

## TWO FELLOWS FROM ADEBIYI LAB RECEIVE APS AWARDS AT EB

Two fellows from the lab of Dr. Adebowale Adebisi received awards at the 2019 Experimental Biology (EB) meeting convened in April 2019 in Orlando, Florida. Dr. Jeremiah Afolabi, DVM, MSc, a graduate student in Dr. Adebisi's lab, was awarded the 2019 American Physiological Society (APS) Martin Frank Diversity Travel Award. The Martin Frank Diversity program is designed to broaden participation of those pursuing professional careers in physiological/biomedical sciences. Specifically, the program provides travel fellowships to underrepresented graduate students, postdoctoral fellows, and early career faculty members (within five years of obtaining a PhD) to attend the annual Experimental Biology spring meeting and APS conferences. Dr. Afolabi's travel was also supported by a travel stipend from the College of Graduate Health Sciences.

Dr. Anberitha Matthews, PhD, received three awards at the 2019 Experimental Biology meeting. In addition to receiving the Martin Frank Diversity Travel Award, Dr. Matthews was awarded the APS Minority Outreach Fellowship and the Teaching Mentoring Award. The APS Minority Outreach Fellowship program fosters communication between underrepresented minority (URM) graduate and postdoctoral students and middle/high school URM life sciences students. Program activities include year-long outreach fellowships for awardees to visit K-12 classrooms, participate in online professional development activities on outreach, help conduct teacher professional development workshops, and attend scientific meetings.

Dr. Matthews received the APS Teaching Mentoring Award in recognition of her work with the Columbus, Mississippi, Municipal School District, with whom she collaborated to present physiology lectures and perform a three-day equipment usage and protocol introduction for students interested in the field of biomedical science. Dr. Matthews' work with students at Sale Elementary School and Cook Elementary School in Columbus included a hands-on workshop demonstrating use of lab instruments, a group activity conducting an experiment with these instruments to demonstrate how nutrients and food impact oxidative stress in cells, and a writing lab on how to develop scientific manuscripts.

Experimental Biology is a four-day meeting attended by approximately 12,000 scientists annually. EB serves as a forum for interactions between physiologists and scientists from other areas of experimental biology. APS meetings are focused on a specific physiology topic and occur in an informal setting, allowing for greater interaction between students and scientists at the meeting. APS meetings range in length from three to five days.

To learn more about Experimental Biology or to view a program from this year's meeting, please visit [experimentalbiology.org/2019/home.aspx](http://experimentalbiology.org/2019/home.aspx). To learn more about the American Physiological Society, please visit [the-aps.org/](http://the-aps.org/).

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