

# Tulane BRAIN INSTITUTE

September 2019 Newsletter



RESEARCH | EDUCATION | OUTREACH







Dr. Jill Daniel  
Photo Paula Burch-Celentano

## MESSAGE FROM THE DIRECTOR

Community.

That word more than any other captures the spirit of what we have built here at the Tulane Brain Institute in the three years since our founding in the Fall of 2016. A community that has come together with the common goal of advancing the Tulane Brain Institute to national prominence as we strive to understand the brain and develop new treatments for devastating brain diseases.

To achieve such an ambitious goal requires the expertise and efforts of a diverse and committed community. The Tulane Brain Institute is such a community.

Our community includes the Tulane administration, deans, and leaders from across the University, who prioritize and facilitate the building of academic collaborations across disciplines that are so essential to the work that we do. Our community includes Tulane alumni, parents and friends whose generosity and support of the Brain Institute have made so much possible. Our community includes the amazing students of our nationally recognized Tulane Neuroscience Program who are integrated in all aspects of our work.

And finally, the backbone of the Tulane Brain Institute community is our accomplished and dedicated faculty who work every day to advance our knowledge of the brain and nervous system.

The past year was a busy one for the Brain Institute community. We came together to welcome Nobel Prize recipient Dr. Edvard Moser to open the new Tulane Brain Institute Distinguished Lecture Series. Alumni Marcela Villareal de Panetta and Bernard J. Panetta II made a significant commitment to Tulane to establish the Panetta Family Presidential Chair Endowed Fund that will support a Presidential Chair to be associated with the Brain Institute. Other gifts to the Brain Institute have allowed us to grow our research and educational initiatives and expand community engagement activities. We invested in our core research facilities and awarded our third annual Marko Spark Fund Research Award. Our faculty continue their ground-breaking research as they make new discoveries about the brain and its disorders. And on May 18, 2019, a record number of Tulane students graduated with degrees in Neuroscience.

I invite you to read about these and other highlights of our third year. I hope you will get a sense of the close-knit, talented, and ambitious community that is the Tulane Brain Institute!

*Jill M. Daniel*

Jill M. Daniel, PhD

Gary P. Dohanich Professor in Brain Science

Professor, Department of Psychology

Director, Tulane Brain Institute

## CELEBRATING THE BUILDING OF COMMUNITY

Like all true New Orleanians, members of the Tulane Brain Institute community appreciate the importance of celebration.

On October 23, 2018, Marta and Bill Marko, (E '81, E \*83) lead donors of the Tulane Brain Institute, hosted a reception at Jack Rose Restaurant at the New Orleans Pontchartrain Hotel in celebration of the collaborative spirit of the Tulane Brain Institute community. Guests included members of the Tulane administration, deans and leaders from across the University, Brain Institute faculty, and the many supporters of the Brain Institute including Tulane alumni, parents, and friends.

When the Brain Institute was founded in 2016, we envisioned a community of Tulanians working together to create a world-class Institute spanning the entire University that was focused on understanding the brain and brain disease. The fun evening of camaraderie at Jack Rose provided the opportunity for our growing and dedicated Brain Institute community to celebrate the realization of that vision and to look forward to continued growth and success. It was a night to remember!



Brain Institute faculty members from the Schools of Medicine (SoM) and Science and Engineering (SSE) pose under the Lil Wayne portrait at Jack Rose Restaurant at the New Orleans Pontchartrain Hotel. From left to right: Drs. Ricardo Mostany (SoM), Sarah Lindsey (SoM), Beth Wee (SSE), Julie Markant (SSE), Jill Daniel (SSE), Andrei Derbenev (SoM), and Laura Schrader (SSE).



# NOBEL LAUREATE DR. EDVARD MOSER OPENS THE TULANE BRAIN INSTITUTE DISTINGUISHED LECTURE SERIES

On January 23, 2019, the Tulane Brain Institute welcomed to campus Nobel Laureate Dr. Edvard Moser of the Norwegian University of Science and Technology to present the Inaugural Tulane Brain Institute Distinguished Lecture, *Space and Time in the Brain*.

Dr. Edvard Moser, along with Drs. May-Britt Moser and John O'Keefe, won the 2014 Nobel Prize in Physiology or Medicine for their discoveries of cells that constitute a positioning system in the brain. During his Distinguished Lecture, Dr. Moser shared with the standing-room only crowd his Nobel-prize winning research as well as his more recent discoveries regarding cells that represent time in the brain. He

also talked about the implications of his work for understanding brain aging and devastating brain diseases associated with aging, including Alzheimer's disease.



*Dr. Moser interacts with guests at the wine and cheese reception held at Tulane's Lavin-Bernick Center following his lecture. (Photo by Paula Burch-Celentano)*

As part of his visit, Dr. Moser spent a busy day engaging with the Tulane

community. TUNA (Tulane University Neuroscience Association) hosted a student Meet-and-Greet Breakfast reception so that Tulane students from across the University had a chance to meet and interact with Dr. Moser. Tulane Neuroscience PhD students hosted Dr. Moser at a lunch and "data blitz" session providing them with the opportunity to get feedback on their research from a Nobel Prize winning neuroscientist.

Brain Institute donors and supporters shared afternoon coffee with Dr. Moser prior to his lecture. After the lecture, all attendees were invited to a "Meet the Speaker" wine and cheese reception. Dr. Moser's visit concluded with a faculty dinner at Commander's Palace Restaurant.

*A large crowd made up of Tulane faculty, students, administration, alumni, and New Orleans area neuroscientists filled the Kendall Cram Lecture Hall in Tulane's Lavin-Bernick Center to hear Dr. Moser's lecture. (Photo by Paula Burch-Celentano)*

## BRAIN INSTITUTE HOSTS LOUISIANA BRAIN BEE

The Tulane Brain Institute hosted the Louisiana Brain Bee held on the Tulane uptown campus on Saturday, February 2, 2019. The Brain Bee is an international Neuroscience competition for teenagers. TUNA (Tulane University Neuroscience Association) students working with faculty advisor Dr. Katie Black organized and executed the event.

The winner, Olivia Miller of Isidore Newman School of New Orleans (pictured here), represented Louisiana at the USA Brain Bee held in Hershey, Pennsylvania April 12-14, 2019.





# TULANE ALUMNI COUPLE ESTABLISHES A PRESIDENTIAL CHAIR TO FOCUS ON HORMONE-BRAIN INTERACTIONS

By Barri Bronston

Tulane University has received a significant commitment to fund a Presidential Chair from alumni Marcela Villareal de Panetta and Bernard J. Panetta II.

Ms. de Panetta is a member of the Board of Tulane and the Dean's Council of the Tulane School of Public Health and Tropical Medicine. Her husband and fellow Tulane graduate, Bernard, is a trial lawyer.

Tulane will establish the Panetta Family Presidential Chair Endowed Fund to support a professor in an interdisciplinary area of academic study associated with the Tulane Brain Institute. The Panettas have requested that the initial chair holder be a scholar whose research focuses on hormone-brain interactions in response to trauma and violence.

"Trauma and violence are impossible to avoid. We see their effects every day. We know that they are life altering. Trying to unravel the mysteries that show us the effects of trauma, physical, emotional and spiritual, is the work that is done every day at the Tulane Brain Institute. I believe this work is vital if we, as the human race, are to heal ourselves. This is why I am immensely proud and honored to be able to underwrite this interdisciplinary Presidential Chair. Because



*Bernard J. Panetta II, left, and Marcela Villareal de Panetta are establishing a Presidential Chair to be associated with the Tulane Brain Institute with their commitment to Tulane.*

we must begin to understand so that we can begin to heal," de Panetta said.

"Once again, the Panettas have demonstrated their dedication to Tulane and their commitment to advancing research and discovery in one of the most fascinating and exciting areas of science – the very center of human knowledge and consciousness," Tulane President Mike Fitts said.

In their commitment to Tulane, the Panettas envisioned that this chair would further enhance the robust collaborations already underway between the Brain Institute and the Tulane School of Medicine, the School of Public Health and Tropical Medicine, the School of Science and Engineering, and the School of Social Work.

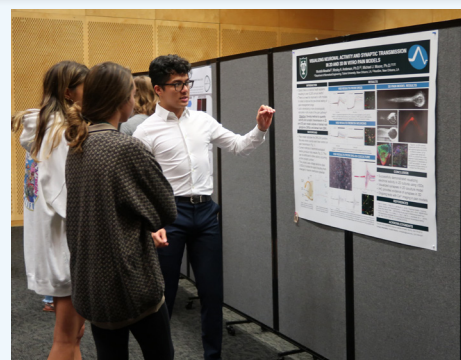
## SUPPORTERS OF THE TULANE BRAIN INSTITUTE HELP FUND RESEARCH, EDUCATIONAL, AND OUTREACH INITIATIVES

The rapid growth and success of the Tulane Brain Institute since our founding in 2016 is in large part due to the generosity of our many supporters.

Over the past year, new gifts to the Brain Institute have allowed us to increase investment in the critical brain research of our scientists, support innovative initiatives in neuroscience education and training for our students, and expand activities that aim to educate the community about the brain and provide support for patients and families affected by brain disorders.

The *Elizabeth Lyons Brewer Research Excellence Endowed Fund* was established by Kate and Lyons Brewer (A&S '83) to honor the memory of Lyons's mother, Elizabeth (Betty) Lyons Brewer (NC '51) who suffered from Alzheimer's disease. Income from this endowment will support research at the Tulane Brain Institute with priority for research related to Alzheimer's and other neurodegenerative diseases. "Our family is so desirous of The Brain Institute making progress in the fight to find a treatment for Alzheimer's," says Lyons Brewer.

Other gifts to the Brain Institute, including those by the AS Mitchell Foundation, Linda Stackhouse Conner (B '89) and Pierre E. Conner III (E '81, E '88, B '99), Randy Kramer Siegel and Andrew W. Siegel (A&S '85), Barbara R. Marko, and Rachel Perry Barr and Gregory E. Barr, III (B '84) provide support for core research facilities, the Tulane Brain Institute Distinguished Lecture Series, the TURN student summer research program, and new community engagement activities.



*Gifts to the Brain Institute help support our TURN (Tulane Undergraduate Research in Neuroscience) Program in which stipends are provided to undergraduate students allowing them to spend the summer working full-time in labs of Tulane neuroscientists. The Program culminates in a scientific poster session in which students share their research with the Tulane neuroscience community.*

*Above: 2019 TURN participant Mostafa Meselhe presents his summer research that was conducted in Dr. Michael Moore's lab.*

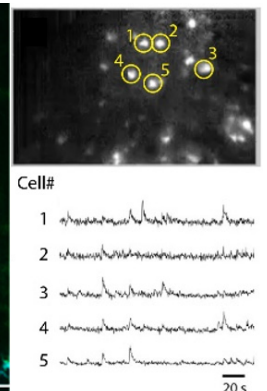
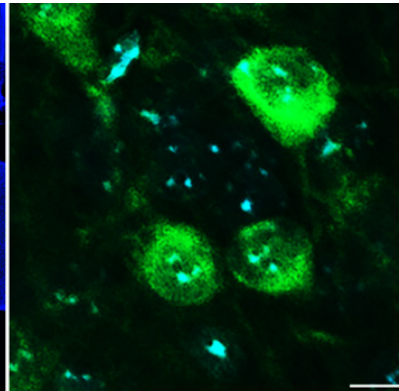
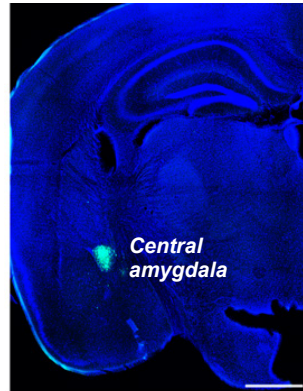


# MARKO SPARK FUND RECIPIENTS UTILIZE INNOVATIVE TECHNOLOGY TO INVESTIGATE THE NEURAL CIRCUITS OF FEAR

Dr. Jonathan Fadok, Assistant Professor of Psychology at the Tulane School of Science and Engineering, and Dr. Ricardo Mostany, Associate Professor of Pharmacology at the Tulane School of Medicine received the 2018-2019 Tulane Brain Institute *Marko Spark Innovation Research Fund* award in support of their proposal entitled “Determining the neuronal correlates of fear intensity using advanced neurotechnology”.

This exciting cross-campus collaboration brings together the expertise of Fadok in the neural circuits of fear with that of Mostany in advanced neuronal imaging techniques to understand how populations of neurons control fear- and anxiety-related behavior.

Fear and anxiety are emotional states that evolved to avoid harm. The amygdala is an important node in the brain circuitry involved in fear responses. Dysfunction in the way that amygdala neurons communicate could underlie the development of fear disorders such as post-traumatic stress disorder (PTSD). To investigate



Left: The central amygdala was targeted with genetically encoded calcium indicator (green color).

Middle: High magnification image showing expression in individual neurons.

Right: An example recording of neuronal activity using the miniature microscope.

this possibility, Drs. Mostany and Fadok used miniature microscopes and different lines of transgenic mice to record neuronal activity in the amygdala. This technique allowed the research groups to monitor how neuronal activity of specific neuron subtypes correlates with transitions from anxiety to fear to panic. Results from these experiments will facilitate understanding of what goes wrong to generate the maladaptive responses observed in PTSD and panic disorder.

The *Marko Award* supported the

collection of pilot data included in a collaborative grant proposal by Fadok and Mostany to the National Institutes of Health.

The *Marko Spark Innovation Research Fund* was established in 2016 through the generous support of Marta and Bill Marko (E '81, E '83) to spark innovative cross-disciplinary research and support the creation of collaborative research teams at the Tulane Brain Institute. An annual \$50,000 research award is to be made through 2020.

## The Work of the Tulane Brain Institute Highlighted at *Only the Audacious* Campaign Launch Events Held Across the Country

The Tulane Brain Institute was prominently featured in presentations at regional launch events for *Only the Audacious: The Campaign for an Ever Bolder Tulane*. Director of the Tulane Brain Institute Dr. Jill Daniel and Tulane Neuroscience Program PhD students Nina Baumgartner and Jeff Darling joined President Michael Fitts and other members of the Tulane community at launch events held in Los Angeles, San Francisco, Houston, Dallas, Atlanta, Washington DC, New York, Miami, and Boston. Pictured here is the Tri-State Regional Launch held at the Ziegfeld Ballroom in New York City in October of 2018.





# RESEARCH SPOTLIGHTS

*Research at the Tulane Brain Institute is centered around four research themes built on identified strengths that are advanced by transdisciplinary teams made up of Brain Institute faculty, postdoctoral fellows, and students from across the University.*

*Themes are supported through investment in infrastructure and programmatic initiatives with the goal of developing physical and intellectual clusters of research excellence in the following four areas.*

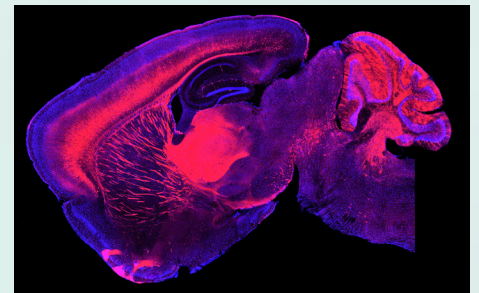
## Research Spotlight in Memory and Cognition

*Are abnormalities in the electrical activity of the brain during sleep associated with memory impairment?*



Brain oscillations are rhythmic patterns of electrical activity produced by neural tissue. Oscillations that occur during sleep are thought to play an important role in memory formation. In schizophrenia and other disorders, patients have shown abnormal sleep linked to unusual oscillations. They have also shown memory impairments. **Dr. Maria Galazo**, Assistant Professor of Cell & Molecular Biology in the School of Science and Engineering, is interested in understanding the molecular mechanisms controlling the development and function

of brain circuits underlying higher cognitive skills and how disruptions in these mechanisms underlie abnormal brain functions. She is currently researching the basis of brain oscillations and their role in memory formation. "The hope is that this research will lay the groundwork for manipulating brain oscillations as a new treatment for sleep and memory deficiencies in schizophrenia and other conditions," says Galazo.



*Genetic labeling of cortico-thalamic connections involved in sleep oscillations and memory consolidation in adult mice. Image acquired in the Tulane Brain Institute Cell and Tissue Imaging Core Lab.*

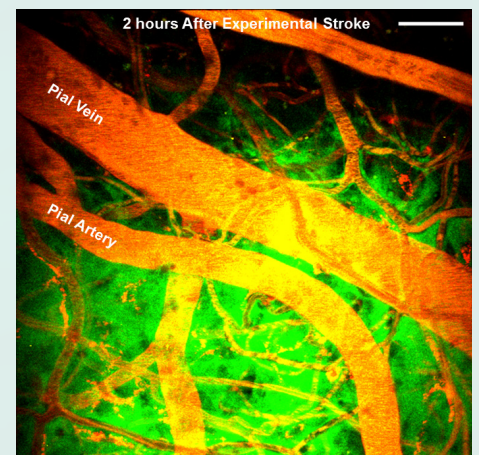
## Research Spotlight in Neurodegenerative Disease, Neural Injury and Repair

*Can we find better treatments for microvascular dysfunction that occurs following stroke?*



Cerebral microvascular dysfunction is implicated in brain injury that occurs following stroke and renders current therapies for occlusive stroke ineffective even after resolution of the clot. The research of **Dr. Prasad Katakam**, Associate Professor of Pharmacology in the School of Medicine, aims to understand the contributions of nitric oxide synthase, the enzyme that synthesizes nitric oxide, to microvascular dysfunction. Nitric oxide is a gaseous molecule that plays an important role in keeping the cerebral blood vessels dilated. Disruption

in nitric oxide signaling results in reduced perfusion of brain tissue leading to brain injury. Katakam and his team have discovered a variant in one of the isoforms of nitric oxide synthase that produces superoxide, which is detrimental, instead of nitric oxide, which is protective. The focus of current work in the lab is testing the hypothesis that targeting nitric oxide synthase isoforms to inhibit production of superoxide and thereby increase availability of nitric oxide will be neuroprotective following stroke. "Nitric oxide synthase is the single most important regulator of the neurovascular unit," says Katakam. "Results of our research suggest that selective targeting of nitric oxide synthase isoforms could protect microvasculature thereby salvaging the brain tissue jeopardized by stroke injury."



*Two photon excitation microscopy image of mouse brain vasculature at the surface of the brain (pial surface). Red and green fluorescent dyes injected into blood vessels show leakage that occurs after stroke due to breach of the blood-brain barrier. Scale bar is 100  $\mu$ m.*



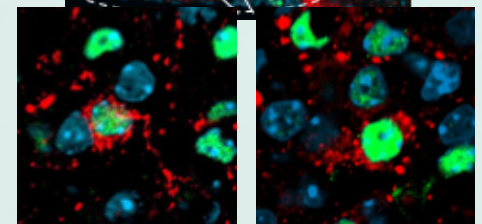
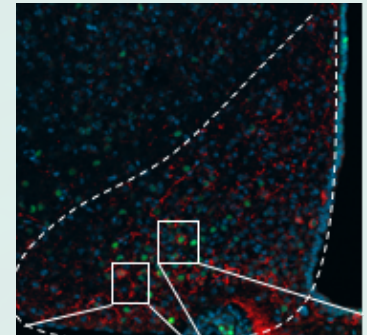
### Research Spotlight in Brain-Body Health

*Do androgens act in the brain to impact risk of Type 2 diabetes?*



High testosterone levels are associated with an increased risk for type 2 diabetes in females and a decreased risk for type 2 diabetes in males. Results of research conducted in the lab of **Dr. Franck Mauvais-Jarvis**, Price-Goldsmith Professor and Professor of Medicine in the School of Medicine indicate that these contrasting effects are due, at least in part, to hormones acting in the brain. Mauvais-Jarvis and his research team have identified critical sex differences in the effects of estrogens and androgens in neurons of the

hypothalamus that drive sex-specific effects on insulin secretion and sensitivity and the predisposition to type 2 diabetes. The work is part of the broad research focus of the lab to understand sex differences and the role of male and female hormones in glucose and energy homeostasis and how this balance is altered in diabetes, obesity and metabolic syndrome. Work in the lab includes basic research in cell culture and pre-clinical animal models, translational research and patient-oriented clinical research. “Our goals are to develop sex-based approaches to prevent/treat diabetes, obesity and related metabolic disorders,” says Mauvais-Jarvis.



Androgen receptor expressing cells (green) of the hypothalamus that regulate metabolism.

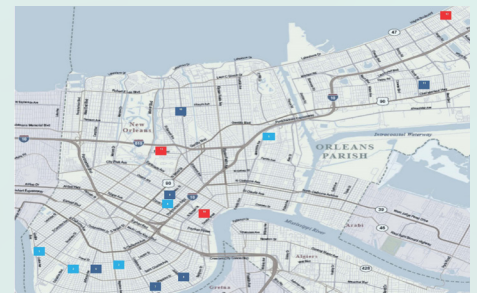
### Research Spotlight in Hormone-Brain Interactions

*Can trauma-informed approaches used in schools counteract the impacts of chronic trauma in children?*



Community violence. Parental incarceration. Death of a loved one from natural causes. These life experiences, which can be potentially traumatic, are all too common for New Orleans youth. A traumatic experience activates a child’s stress response, releasing powerful chemicals to help the child mount a response to the threat. However, chronic exposure to trauma in childhood often results in neurobiological and psychological adaptations that create a profound sense of danger, leaving youth in a persistent state of alarm. When students enter school in a state of

alarm, in survival brain mode, they have difficulty accessing the thinking brain that supports their learning. The research of **Dr. Stacy Overstreet**, Professor of Psychology in the School of Science and Engineering is exploring if the development of trauma-informed schools can break this cycle. “Our goal,” says Overstreet, “is to help schools create physically and psychologically safe environments that allow children to calm their survival brain and focus on learning.” In collaboration with city government, community organizations, and local schools, the lab is conducting rigorous studies to determine whether trauma-informed schools lead to better outcomes for our children and our community.



Location of partner schools throughout New Orleans (indicated by red and blue squares) that have participated in the implementation of trauma-informed approaches. Figure adapted from Bullington, J. & Webster, R.A. (2018), *The Children of Central City*.

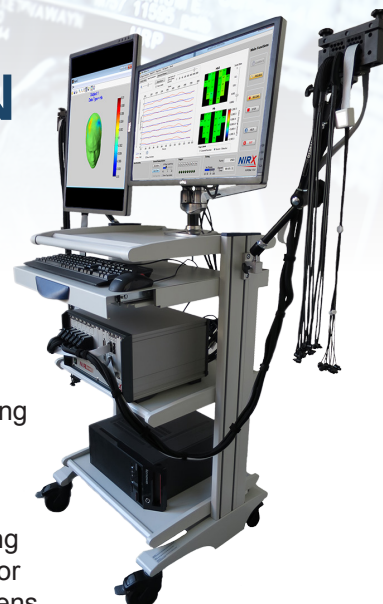


# BRAIN INSTITUTE EXPANDS ITS CORE FACILITIES ON THE UPTOWN AND DOWNTOWN CAMPUSES

State-of-the-art shared core research infrastructure facilitates cutting-edge research and helps foster a collaborative environment that is crucial for competitive interdisciplinary science. With the generous support of donors to the Brain Institute as well as major investments made possible with funding from a \$1 million grant from the Louisiana Board of Regents, "Enhancement of Core Research Facilities in the Tulane Brain Institute", we are building such infrastructure.

On the uptown campus, the Tulane Brain Institute Cell and Tissue Imaging Core located in the Donna and Paul Flower Hall has expanded its microscopy capabilities. With grant support from the Louisiana Board of Regents, we

purchased an Olympus FV3000 Confocal Laser Scanning Microscope, which provides high-resolution optical imaging with depth selectivity allowing for optical sectioning and construction of 3-D images. This uptown core also houses a new Zeiss AxioScan.Z1 Slide-Scanning Microscope, which allows for rapid digitization of specimens to create high quality virtual slides (see newsletter cover image from the J. Fadok lab).



On the downtown campus, we are expanding the Tulane Brain Institute Human Research and Data Analysis Core located in the J. Bennett Johnston Building. With Louisiana Board of Regents grant support, we are building infrastructure for human functional neuroimaging with the purchase of a Functional Near Infrared Spectroscopy (fNIRS) System. fNIRS is a non-invasive optical brain imaging technique. The downtown core also houses new powerful computers including a Thinkmate GPX, which runs a high capacity Linux system and can interface with Tulane's high performance computing system, Cypress.

To facilitate the development of our research infrastructure, we recently hired Misty Quintana to oversee operation and maintenance of our core laboratories. Quintana has a Biomedical Engineering degree from Tulane and specializes in instrumentation. "This is an exciting time of growth for the core facilities at the Tulane Brain Institute and I am so happy to be a part of it," says Quintana.



*Misty Quintana, the recently hired Brain Institute core lab technician, works with postdoctoral researcher Dr. Chandrashekar Borka, on the new Olympus confocal laser scanning microscope located in the Tulane Brain Institute Cell and Tissue Imaging Core Lab on the uptown campus (Above). A Functional Near Infrared Spectroscopy (fNIRS) System was recently purchased for the Tulane Brain Institute Human Research and Data Analysis Core located on the downtown campus (Right).*

At the 2019 Tulane University Commencement Ceremony, neural engineer and Brain Institute faculty member Dr. Michael Moore received the Suzanne and Stephen Weiss Presidential Fellows Awards in recognition of excellence in undergraduate teaching. Dr. Moore is an Associate Professor of Biomedical Engineering in the School of Science and Engineering. The Teaching Awards committee described his dedication to mentorship and noted that he received the Alpha Eta Mu Beta Biomedical Engineering Teacher of the Year honor multiple times.

*Photo by Paula Burch-Celentano*





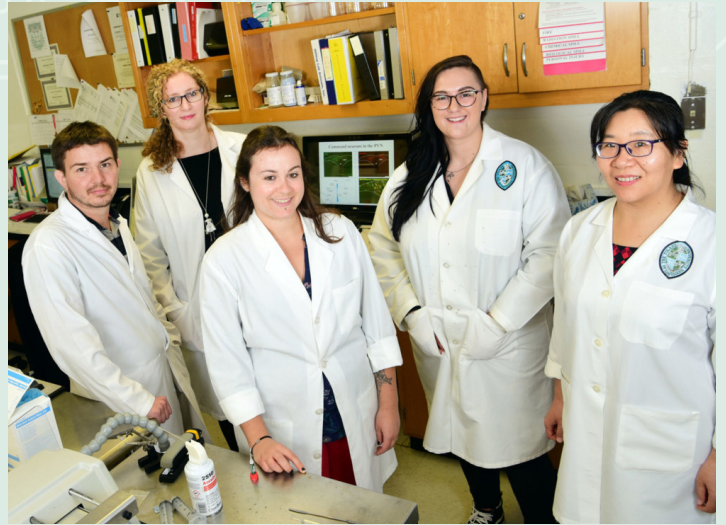
# TULANE BRAIN INSTITUTE SCIENTISTS FOCUS ON ALZHEIMER'S DISEASE

There are 5.7 million people living with Alzheimer's disease, according to Alzheimers.org, and the dreaded disease has caused more deaths than both breast and prostate cancer combined. Finding a cure is paramount.

The Tulane Office of Research established in the Brain Institute an interdisciplinary working group on Alzheimer's disease and cognitive aging, including funds invested through the Brain Institute to support the continued growth of research in this critical area. Two Brain Institute faculty members involved in the working group were recently awarded supplemental funding from the National Institutes of Health (NIH) to expand their research programs to include investigation into brain mechanisms of Alzheimer's disease.

Dr. Andrea Zsombok, Associate Professor of Physiology in the School of Medicine, received a \$334,000 supplement to her current \$1.6 million grant from the NIH that supports research into the brain's role in diabetes. Diabetes is associated with an increased risk for all dementias, including Alzheimer's disease. The additional funding is supporting studies aimed at understanding how disruption of the central control of glucose homeostasis exacerbates disease pathology. The hope is that knowledge gained from these studies could lead to new strategies to improve glucose homeostasis before the full development of Alzheimer's disease.

Dr. Jill Daniel, the Gary P. Dohanich Professor of Brain Science and Professor of Psychology in the School of Science and Engineering received a \$376,000 supplement to her current \$1.8 million grant from the NIH that supports research into the impact of estrogens on memory and the



*Dr. Andrea Zsombok received a supplement to her current NIH grant examining the brain's role in diabetes to support research into the link between diabetes and Alzheimer's disease. From left to right: Adrien Molinas, Andrea Zsombok, Lucie Desmoulin, Sierra Butcher and Hong Gao. (Photo by Cheryl Gerber)*

aging female brain. Women as compared to men are at increased risk of Alzheimer's disease. The new funds are supporting studies that use a newly developed mouse model of Alzheimer's disease to understand how the loss of estrogens in midlife contributes to female vulnerability to the disease. The research is being conducted in collaboration with Dr. Ricardo Mostany, Associate Professor of Pharmacology at the School of Medicine.

The *Tulane Brain Institute Research Fund in Cognitive and Brain Aging* is available to support faculty activities that will lead to federal grant submissions in this vital research area.



Tulane University Neuroscience Association (TUNA) members Sarah McLaren, left, and Anna Testore, right, host a workshop about the central nervous system during the Fall 2018 Boys At Tulane in STEM event (BATS). Connected via a human-to-human interface, one student moves and the other feels the movement in their own arm. TUNA conducts workshops about the nervous system at both BATS and Girls in STEM at Tulane (GiST) events each year.





# THE BRAIN INSTITUTE CONGRATULATES OUR 2019 GRADUATES

At the May Commencement, 155 students were awarded degrees in Neuroscience that included 129 Bachelor of Science, 23 Master of Science and three Doctor of Philosophy degrees.

The following Neuroscience graduates received Neuroscience Program Awards:

**Sandy Nguyen** - Senior Scholar in Neuroscience

**Genevieve Curtin** - Senior Scholar in Neuroscience

**Kaitlyn Tholen** - Arnold Gerall Prize in Neuroscience

**Jenna Bates** - Neuroscience Faculty Award

**Claire Namboodri** - Neuroscience Faculty Award

**Owen Parra** - Neuroscience Faculty Award

**Samantha Perry** - Neuroscience Faculty Award

**Keaton Ott** - Neuroscience 4.0 Award

The following Neuroscience graduates received University Awards:

**Claire Namboodri**

Edward Ambrose Bechtel Medal for Cocurricular Achievement

**Claire Namboodri**

Leaders in Service Award

**Kaitlyn Tholen**

Newcomb-Tulane College Dean's Service Award

**Claire Namboodri**

Tulane 34 Award

**Jenna Bates**

William Peery Society



Neuroscience Program PhD graduates Jeffrey Darling and Amy Feehan pose for a picture as they line up to enter McAlister Auditorium for the PhD Recognition and Hooding Ceremony.

The following graduates received PhD degrees in Neuroscience:

**Jeffrey Darling**

Currently a Postdoctoral Fellow at the University of Texas at Austin

**Amy Feehan**

Currently a Research Scientist at Ochsner Health System

**Rebecca Voglewede**

Currently a Postdoctoral Fellow at the University of Texas at Austin

## FACULTY ACCOLADES

Congratulations to the following Brain Institute faculty for their recent awards and recognitions.

**Dr. David Busija** was awarded a \$430,000 grant from the NIH, "High throughput assay for mitochondrial respiration in aged brain microvessels."

**Dr. Jill Daniel** was awarded a \$376,000 supplement from the NIH to her current grant, "Short-term estradiol use in middle-age: implications for female cognitive aging."

**Dr. Stacy Drury** was appointed Chief Research Officer of Children's Hospital New Orleans.

**Dr. Laurie Earls** was named a Newcomb-Tulane College 2018-2019 Duren Professor.

**Dr. Sarah Gray** was awarded a \$500,000 grant from the NIH, "A randomized controlled trial to improve biobehavioral regulation among high-adversity mothers and young children." Gray also received the *Early Career Research Contributions Award* from the Society for Research in Child Development.

**Dr. Jean-Pyo Lee** was awarded a \$2.4 million grant from NIH, "Combination treatment of ischemic stroke with perlecan DV and neural stem cells."

**Dr. Michael Moore** received the Tulane University Suzanne and Stephen Weiss Presidential Fellows Award for excellence in undergraduate teaching.

**Dr. Jeffrey Tasker** was awarded a \$2.6 million grant from the NIH, "Stress plasticity of CRH neurons."

**Dr. James Zadina** was awarded a \$480,000 NIH grant as part of a \$6 million Multi-Principal Investigator grant "Development of a safe and effective novel mechanism analgesic to treat moderate to severe pain with low or absent abuse liability" with Michael Lark of Mirata Pharmaceuticals, LLC.

**Dr. Andrea Zsombok** received a \$334,000 supplement from the NIH to her current grant "TRPV1-dependent autonomic control in diabetes."

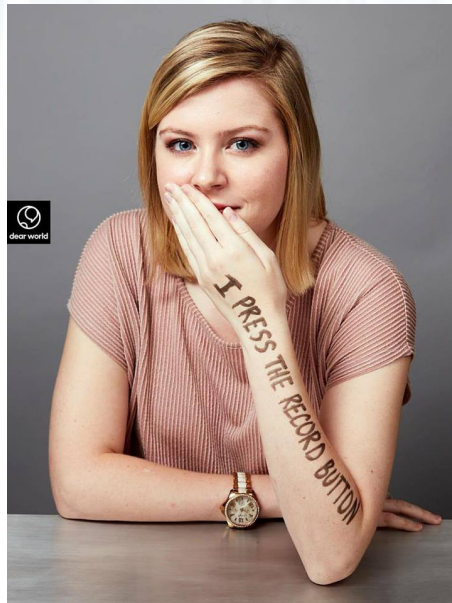


# KAITLYN THOLEN RECEIVED THE 2019 ARNOLD GERALL PRIZE IN NEUROSCIENCE

At the Newcomb-Tulane College Senior Awards Ceremony held on May 16, 2019, Kaitlyn Tholen received the 2019 Arnold Gerall Prize in Neuroscience. The award is given annually by the Tulane Department of Psychology to recognize a Newcomb-Tulane College senior for excellence in the field of behavioral neuroscience.

Tholen graduated in May magna cum laude with a degree in Neuroscience. She conducted her Senior Honors Thesis in the laboratory of Brain Institute and Department of Psychology faculty member, Dr. Julie Markant, investigating effects of musical experience on interactions between working memory and selective attention systems. Her research will soon be submitted for publication in a scientific journal. "Kaitlyn was a leader in my lab and worked at a level more typical of a graduate student than an undergraduate," says Markant. "She was a fantastic student and I am so glad she was a member of our research team."

When not in the classroom or the



*2019 Gerall Prize in Neuroscience recipient Kaitlyn Tholen highlighted her work with the Ochsner Medical Center's ALS voice banking program for a portrait taken as part of the DearWorld story telling experience at Tulane.*

lab, Tholen spent time volunteering at Ochsner Medical Center where she was involved in a voice banking program for patients in the early stages of ALS. Her work inspired her to participate in DearWorld, a storytelling experience, when it

visited Tulane. To tell their stories, participants were asked to write a unique phrase on their bodies and have a portrait taken. Tholen chose to tell her story about voice banking to inspire others to speak up for ALS patients.

Tholen currently serves as a Clinical Research Coordinator at University of Colorado School of Medicine and Children's Hospital Colorado and has future plans to attend medical school

Dr. Arnold Gerall (1927-2013), for whom the prize is named, was a faculty member of Tulane's Department of Psychology from 1961 to 1997 and in 1986 became a founding faculty member of the Tulane Neuroscience Program. Gerall was an internationally recognized expert in the field of hormone-brain interactions and was revered by the many students he taught and trained. During his years at Tulane, he mentored 38 doctoral graduates, many of whom went on to prestigious academic careers. To honor his legacy, Dr. Gerall's friends, colleagues, and former students established the research prize in his name.

## LOOKING FORWARD

### 2020 Tulane Brain Institute Distinguished Lecture to Feature Dr. Carol Barnes, World Leader in The Study of Memory and Aging

On January 15, 2020, the Tulane Brain Institute will welcome Dr. Carol Barnes, Regents Professor, Evelyn F. McKnight Chair for Learning and Memory in Aging, and Director of the Evelyn F. McKnight Brain Institute at the University of Arizona, to present its second annual Distinguished Lecture. Dr. Barnes, a member of the National Academy of Sciences and past-president of the 38,000-member Society for Neuroscience, is an international leader in the study of the neural mechanisms of memory loss during normal brain aging.

The Tulane Brain Institute Distinguished Lecture Series was established with the goal of bringing internationally renowned scientists to campus to interact with Tulane faculty and students and to provide a lecture on their work to the New Orleans Neuroscience community.



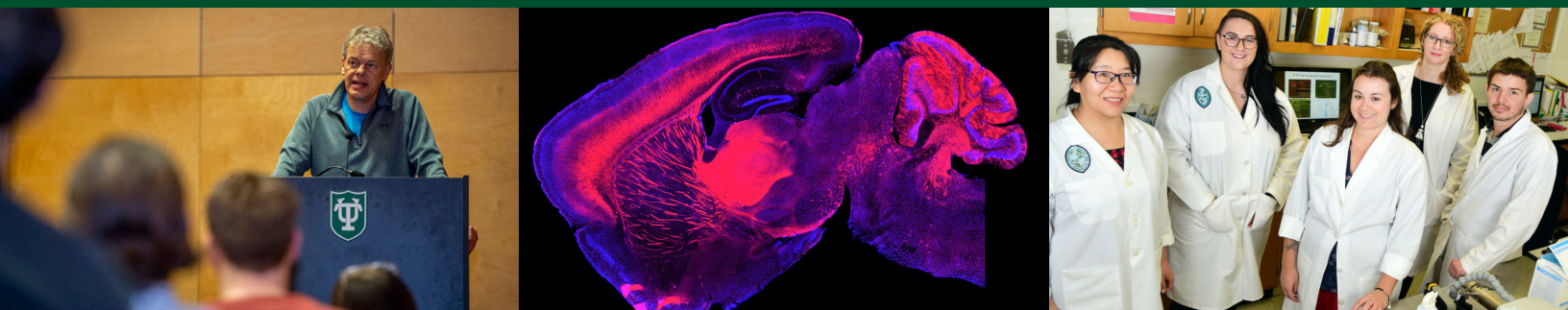
*Dr. Carol Barnes*





### **Tulane Brain Institute**

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## **GIVING TO THE TULANE BRAIN INSTITUTE**

Our vision is to create a new era of discovery, learning, and public influence in brain sciences at Tulane as we advance the Tulane Brain Institute to national prominence. A gift to the Brain Institute can help us realize this vision.

To give online, please go to <http://giving.tulane.edu> and type in Brain Institute in the "other" box. For more information on giving opportunities or if you would like to target your gift to initiatives supporting faculty and their research, the training and education of our students, or community outreach and engagement, please contact **Lisa Pagniucci**, Office of Advancement, at **504.314.7268** or [lpagniuc@tulane.edu](mailto:lpagniuc@tulane.edu). Thank you.