



# MBRI

MUSC BRAIN RESEARCH INSTITUTE

## QUARTERLY NEWSLETTER

AUG 2020 | ISSUE 2



### *In this newsletter:*

---

Special Editorials

Pages 02 through 07

Legislative Assistants

Experience Neuroscience

Page 08

General Announcements

Page 09

Grant Announcements

Pages 10 through 11

---

## ***A MESSAGE FROM OUR DIRECTOR***

**by Jackie McGinty, Ph.D.**

What hasn't been said already about the events taking place in this diabolical year 2020? We asked our MUSC Neuroscience community to pause and consider how those events have specifically impacted each of you in your daily scientific and personal lives. How has COVID-19 affected your physical and mental health and your scientific productivity? How has the Black Lives Matter movement affected your personal and scientific perspective on racial justice and community? How has each of these life-changing matters changed the way you behave and will behave in the future?

(Continued Next Page)



# PERSPECTIVES ON 2020

by Jakie McGinty, Ph.D. (Cont'd)

As for me, I fell on a slippery riverbank and broke my left arm about 2 months ago and this is the cast I wore for three weeks. That and COVID-19-related changes have certainly slowed me down and thwarted in-person interactions with my friends, family, and colleagues. But just imagine if this pandemic and the BLM movement had happened in the era before the internet where we can meet and share experiences. Is the internet helping to weave us together or drive us further apart? Of course, similar upheavals have occurred: the influenza pandemic of 1917-18 (for a flavor, read "The Great Influenza" by John M. Barry). Also as a veteran of 1960s protests, I feel like white progressives of my generation dropped the ball after we thought we had made huge breakthroughs on racial inequalities during the civil rights decade but had no idea what was really going on, what the long game was (what we're in now), and became too comfortable. However, the late great John Lewis said "... (today is) another step on a very long journey...". (Watch "John Lewis: Good Trouble" on Prime, also "Thirteenth", and "Just Mercy" in Netflix's BLM collection for a historical perspective.) Also follow Dr. Sharde Davis' twitter feed #BlackintheIvory for more thoughts from Blackacademics speaking out.

The first brave soul and member of the department to accept our invitation to reflect with us here is Catherine Bridges, MD/PhD candidate in the Cowan lab. Thank you, Catherine, for taking the time and making the effort to step up. We look forward to hearing from more of you through this MBRI Newsletter.

Jakie



## ***BLM AND THE NEUROSCIENCE DEPARTMENT***

**by Catherine Bridges, Ph.D. Candidate**

I am an African American MD/PhD student in the Department of Neuroscience here at MUSC. I study how neuroimmune functions contribute to neurodevelopment disorders. However, I am not here to discuss my research. I am here to discuss our department and how we can improve to change the experiences of underrepresented minority trainees that are part of our department and MUSC at large.

(Continued Next Page)

# BLM AND THE NEUROSCIENCE DEPARTMENT

by Catherine Bridges, Ph.D. Candidate (Cont'd)

My perspectives are my own and I hope they are not discounted. I hope my words illustrate the experience of one black trainee in our department and it would be great to see discussion and action arise from my narrative.

Recently, the killing of George Floyd by a white police officer, amongst others, has brought attention to the state of policing in America. The ongoing issue of police brutality and the goals of the Black Lives Matter movement have sprung into the consciousness of many Americans and citizens across the globe. This movement, started in 2013, focuses its attention on injustices against black people in America. The recognition that there is racism against black people — and this leads to horrific acts of violence against them — is nothing new to the black community. In fact, the lynchings and other killings of black people are part of the scarred history of America. We have been fighting for equality and justice for centuries whether it was before emancipation, during Reconstruction, during the time of Jim Crow, throughout the Civil Rights movement, and all the way to the present. The difference now is that non-black, often white community members are becoming aware that this racism exists and, that police brutality is an issue. In addition, the suffering of black people is being permanently documented in media, which makes our suffering harder to ignore. Given recent events in the forefront of our minds, we are not okay. With the arising of black injustice as the forefront of our collective consciousness, the time for dialogue and education is of utmost importance. However, we need this dialogue and education to lead to change through action.

Police brutality leads to downright appalling acts of violence against black community members. We cannot forget that this brutality affects people of color from other backgrounds as well. When thinking of racism, some think that it happens outside of academia's ivory tower. Academics and those who comprise these areas are not immune. We all have implicit biases, or the concept that we have unconscious biases within us that affect how we treat others. Implicit biases have a neural basis that includes the amygdala, a part of the brain with a role in processing fear among other functions. The appraisal of a threat seems key to sustaining racism that can be expressed as police brutality or often unknown biases present in us all.

I would argue, while not violent, the black community has suffered injustices in academia and by those in their departments. These injustices can vary from lack of inclusion to the merits of people of color not being attributed to them. One example is the pernicious thought that black members of the department do not belong because they did not arrive on their own merits. I have found this thought occurs in some people's minds and has become more widespread because of misunderstandings about affirmative action. This idea is very hurtful and demeaning to members of the black community. The words of those around us make us feel like we do not belong. There is a need for equity in how trainees are spoken to and treated. Proper mentoring can make a great difference for the retention of minority trainees.

(Continued Next Page)

# BLM AND THE NEUROSCIENCE DEPARTMENT

by Catherine Bridges, Ph.D. Candidate (Cont'd)

Another common thought is that faculty can benefit from minority trainees via diversity supplements and other grants that are designed to retain underrepresented minorities in biomedical research. These grants are to benefit the trainee, but this can be seen as a way to profit off our blackness. During my first meeting with a faculty member to discuss a lab rotation, I was directly asked to disclose my race because the faculty member wanted to see if we could apply for funding available to members of my race. I felt uncomfortable because I was asked to disclose my race at a first meeting. It felt inappropriate because of the timing. I am not saying that suggesting diversity supplement and other grants to trainees is inappropriate. However, the timing of these interactions is important. Many people think that the financial gain at the expense of black community ended with slavery, but there is a modern history of using blackness for monetary gain in and outside of academia. In the academic setting, mentoring of minorities is often seen as a potential for financial gain more than for the benefits that come from diversity. We need to fight against this pattern in academia. Let me say it plainly, our blackness is not for profit. Nonetheless, diversity supplements and grants like them can be highly beneficial for both the trainee and the mentor. For example, the trainee can learn grant writing skills while the mentor can support the trainee monetarily. I believe the problem is often in the intent of mentors in their use. Careful conversations are needed to make sure these grants are being introduced and used appropriately.

Confirmation bias is the tendency to interpret evidence around us as confirmation of our existing beliefs. In science, confirmation bias is particularly dangerous. As scientists, we work diligently to have an objective and unbiased view of our data and our interpretations of our data. We fight against confirmation bias in our science, but we fall into these tendencies interpersonally and professionally. When there is diversity in thought, which minorities can bring, we can overcome some of this confirmation bias that can arise in our science and in our relationships with others. One person may see their data one way but others from different backgrounds may see something unique and novel. This can push neuroscience forward for the benefit of society. As neuroscientists, we want to understand the nervous system and, perhaps, with our scientific view of the world, we can understand our own brain's tendencies and change them to be innovative in our science in community with others. On the other side, as neuroscientists, we try to understand the human condition through various paradigms. It would make sense for us to try to understand the plights of the black community.

Implicit bias and confirmation bias are present in all of us and we often fall into them unknowingly. As a department, we can do better in how we treat black and minority trainees. To be honest, I have never felt more focus on my race than I have during my time as a trainee in the Neuroscience Department here. The most scarring and harrowing moment of my career has been when it was suggested that I received an offer to join a prestigious fellowship because of my race.

(Continued Next Page)

# BLM AND THE NEUROSCIENCE DEPARTMENT

by Catherine Bridges, Ph.D. Candidate (Cont'd)

The suggestion I was accepted for any other reason that my own merit immensely affected my psyche. I was sad at first and then enraged. I felt like I did not belong. We need to be diligently outspoken against micro-aggressions and injustices. We need underrepresented trainees to feel like they belong because society and communities for so long have said we do not. For so long, people have said we are not even wanted. Society has repressed us repeatedly.

***"We need to create that welcoming environment here by allowing feedback from people of color to know what is unwelcoming."***

Trainees come into neuroscience research because they gained an interest in it along the way. We do not always have a family history or role models to help us know how to navigate academia. Knowing this, mentors can maintain a level of flexibility and dialogue to know what a person from another culture may need to succeed. This could be help in expanding one's knowledge base or in navigating academia. Navigating academia is a new culture in itself and if you do not come from the primary culture, there can be challenges to learning how to adapt to a whole new world. There can be room and extra guidance on how to thrive in academic neuroscience. These lessons I have gained from my own mentors have helped me greatly.

In the context of my perspective, I would like to give credit to the many faculty, postdocs, and students who have contributed to my development as a trainee in our department. I am grateful for the education I am receiving and do not want my perspective on these issues to completely overshadow these facts.

To the department, I challenge you to reflect and take a look at your own biases. Together, we can change the environment for people of color in our department and at MUSC.



## **RESPONSE FROM DEPARTMENT CHAIR**

**by Chris Cowan, Ph.D.  
Professor and Chair, Department of Neuroscience**

When I read Catherine's article describing her negative experiences in the Department of Neuroscience at MUSC, I was crushed. I wanted to deflect blame for her negative experiences as a Neuroscience graduate student training in my lab. However, I quickly realized that my initial emotional reactions were neither appropriate nor productive.



As a leader of my lab, and now of the Department of Neuroscience, I have sought to foster an environment of diversity, equity and inclusion and to treat everyone with dignity and respect. In the aftermath of the George Floyd murder, and the international cries for social justice and reform, many of us have experienced a true awakening to the realities of modern life as a black person in America. Catherine's words describe her specific tribulations as a black scientist-in-training, but her experiences with racism highlight the difficulties of navigating academia as an African American. As a Neuroscience community, we need to embrace the discussion of pernicious racism in our midst, no matter how painful or close to home it hits.

What can we do as a community to improve diversity and create a more welcoming environment for all? The Neuroscience Department faculty have been making some positive changes recently. For example, at the annual faculty retreat, I presented the statistics on diversity of our faculty and trainees, and as a faculty, we discussed strategies to improve DEI in our department. Earlier this year, we added a requirement that all future faculty searches require candidates to submit a DEI statement, which is fully considered in deliberations for interview selections. As committee chair, I also incorporated a DEI statement mandate for the ongoing search for the next MUSC Vice President for Research. In addition, we agreed to submit faculty job advertisements to the MUSC Department of Diversity, Equity and Inclusion for the purpose of detecting unintended "code language" that might deter women or URMs from submitting an application. On each faculty search, I've designated an official "DEI Advocate" who is charged with ensuring that our top candidate pool reflects the desired diversity and inclusive values of our community. We have also made strides in our community outreach programs. Last year, the MBRI hosted students from Claflin University, the oldest historically black college or university in South Carolina, for a tour of MUSC Neuroscience labs, and multiple trainees in our department have taken the human brain samples to numerous public schools in the Charleston area to expose a broader swathe of our community to the excitement of neuroscience and a possible career in biomedical research. Finally, we have worked hard to ensure that our invited Neuroscience seminar speakers represent a fair balance of men and women and URM faculty, all of whom represent important role models for our department's diverse trainees.

(Continued Next Page)

# RESPONSE FROM DEPARTMENT CHAIR

by Chris Cowan, Ph.D. (Cont'd)

Despite the aforementioned departmental efforts, we clearly have lots more work to do. Our goal in the Department of Neuroscience is to improve and to try our very best to ensure that no one feels unwelcome or exploited because of their race, gender, sexual orientation, disabilities, religion, etc. Let's all agree to make positive change and work toward creating an academic community of which we can all be proud.

## FURTHERING THE CONVERSATION

by Chris Cowan, Ph.D., Rachel Penrod-Martin, Ph.D. and  
Catherine Bridges, Ph.D. Candidate

The Department of Neuroscience desires to improve and support diversity and inclusion in our research community. Toward that goal, we'd like to learn more about your specific experiences and challenges that you have faced as a consequence of your race, gender, religion, nationality, etc, and we'd love to hear from you about initiatives that might foster a more diverse and inclusive environment in the neurosciences at MUSC.

As a starting point, the Department will work to make positive changes in the following areas: 1) undergraduate engagement, 2) graduate student recruitment and support, 3) faculty hiring and retention, and 4) inclusive departmental activities. While some existing policies are working to improve in these areas, we seek engagement and feedback for new policies and systems that can help bolster our efforts.

1) Enhance engagement of URM undergraduates

How can we expand our existing outreach efforts?

2) Create a support network for existing graduate students

How do we build a stronger community where students can receive support, guidance, and share concerns? How can we improve our recruitment efforts to increase diversity and inclusion in our graduate program?

3) Increase faculty diversity and examine hiring metrics for bias

How does our current hiring process affect faculty diversity? How can we expand our existing DEI efforts?

(Continued Next Page)

# FURTHERING THE CONVERSATION

by Chris Cowan, Ph.D., Rachel Penrod-Martin, Ph.D. and Catherine Bridges (Cont'd)

## 4) Diversify the content and speakers in our seminar series

How can we enhance our existing efforts at seminar speaker diversity? Can we add non-science seminars with topics of importance to our trainees, such as strategies to navigate a career in academia, etc.?

## Climate survey and DEI effort reporting

How do we know how we are doing as a department? How do we best communicate our goals, actions, and successes to the neuroscience community?

# LEGISLATIVE ASSISTANTS EXPERIENCE NEUROSCIENCE

On December 4, 2019, Ms. Kaylen Koszela, Director of Congressman Joe Cunningham's Community Outreach Office, and Ms. Hollis Infanzon toured the neuroscience facilities on campus accompanied by many of our faculty. Our visitors were awed by the discoveries, innovations, and synergy among the preclinical and clinical neuroscience labs.

We are grateful to the following faculty for generously donating their time and expertise:

- Dr. Howard Becker, Charleston Alcohol Research Center
- Dr. Jane Joseph, Human MRI Lab
- Dr. Catrina Robinson, Neurology, Behavioral Testing Lab
- Dr. Bashar Badran, Transcranial Magnetic Stimulation Lab
- Dr. Steven Kautz, Human Neurological Recovery Labs
- Dr. Rachel Penrod-Martin, Neuroscience Behavioral Testing Labs





# GENERAL ANNOUNCEMENTS

## **Tenure-Track Faculty Position Open in Addiction Sciences Rolling Review of Applications Begins: September 1, 2020**

The Department of Neuroscience at the Medical University of South Carolina (MUSC) invites applications for tenure-track Assistant or Associate Professor positions in the area of alcohol or substance use disorders (AUD/SUD) research. Major topics of interest include, but are not limited to, structural and synaptic plasticity, brain imaging, big data analytics, genetics, epigenetics, molecular mechanisms underlying AUD/SUD, and cutting-edge technologies to study AUD/SUD. Applicants should have a PhD and/or MD with appropriate research expertise and are expected to possess an outstanding record of high-quality publications and extramural funding appropriate to current rank. Successful candidates will benefit from a highly collaborative research environment and a competitive start-up package in a basic science department that contains nearly \$16 million in NIH awards, active core facilities, and a strong commitment to faculty mentoring and collegiality. The department's strong addiction research focus includes a NIDA-funded P50 Center on Cocaine and Opioid Addiction (COCA), a successful PhD graduate program, and two NIH-funded (NIDA, NIAAA) T32 training grants for pre- and postdoctoral scholars. In addition, many of our Neuroscience faculty are members of the NIAAA-funded P50 Alcohol Research Center housed in the Dept of Psychiatry & Behavioral Sciences. Interested applicants should submit an updated CV, a 2-page summary of research interests, a 1-page diversity statement, and contact information for three professional references to Brandon Harris-Smith (harrisas@musc.edu).

## **Virtual 2020 Rally for Medical Research - September 16-17**

The purpose of the 2020 Rally for Medical Research is to ask policymakers to prioritize funding for the NIH. Medical research advocates from across the country, and across scientific disciplines, will participate in virtual meetings with their members of Congress and staff to raise awareness on the importance of continued investments in medical research. The Rally will be 100% virtual, and all are welcome to participate. To register, please visit this link: <https://www.surveymonkey.com/r/2020RallySignUp>. Additional information can be found here: <https://rallyformedicalresearch.org/>.

## **Upcoming MUSC Diversity & Inclusion Opportunities**

- August 19th: 3:00–4:30PM, "Unnatural Causes: In Sickness and in Wealth"
- August 25th: 3:00–4:00PM, "MUSC Health Policy Symposium: Improving Quality and Achieving Equity: COVID-19, Racism, and the Path Ahead "
- August 26th: 10:00–11:00AM and August 31st: 3:00–4:00PM, "The Power of Language: LGBTQ Health Series"
- August 27th: 10:00–11:00AM, "Hear With Your Eyes and See With Your Heart: Compassionate Healthcare"

For additional information, please visit their website:

<https://education.musc.edu/leadership/diversity/training-calendar>

# NEUROSCIENCE FUNDING ANNOUNCEMENTS

Congrats to the following PIs for receiving new or renewed research funding!

**Dr. Takashi Sato: Spinal Cord Injury Research Fund (2020 P-01)**

"The roles of cortico-spinal tract in the functional recovery following spinal cord injury in mice"

**Dr. Naryan Bhat (CO-I) and Dr. Yan Huang (PI): NIH (DE027070)**

"Role of Periodontitis and Metabolic Syndrome Interaction in Alzheimer's Disease"

**Dr. Jens Jensen: NIH (DA050085)**

"Establishing the Neurostructural and Clinical Impact of Brain Iron Dysregulation in Cocaine Use Disorder"

**Dr. Daniela Neuhofer: Brain and Behavior Research Foundation (28102)**

"Cell-Type Specific Neuroadaptations After Withdrawal from THC Self-Administration"

**Dr. Peter Kalivas: NIDA (DA012513)**

"Glutamate and Craving for Cocaine"

**Dr. Rachel Penrod-Martin: NIMH (MH123883)**

"Activity-Regulated Cytoskeleton-Associated Protein Mediates Anxiety via Cell-Type-Specific Action in the Nucleus Accumbens"

**Reda Chalhoub: NIDA (DA051159)**

"Single Cell Encoding of Cocaine Seeking Behavior in the Nucleus Accumbens"

**Dr. Heather Boger: NINDS (3200003226-20-281)**

"Long-Term Effects of Wildtype Huntingtin Lowering in the Primate Corticostriatal Tract and Thalamus"

**Dr. Daniela Neuhofer: NIDA (DA048337)**

"The Role of Ventral Pallidal Cannabinoid and Opioid Signaling in Cross-Sensitization Between THC and Cue-Induced Heroin Seeking"

**Dr. Sarah Barry: NIDA (FDA047845A)**

"Epigenetic Mechanisms in Heroin Seeking Behavior"

**Daniel McCalley: NIDA (AA028426)**

"Evaluating Neural Architecture as a Novel Biomarker for TMS Efficacy in AUD"

**Dr. Narayan Bhat: NIA (AG067443)**

"Ceramide Signaling in AD Pathogenesis"

**Dr. John Woodward: NIAA (AA028189)**

"Cerebellum and Ethanol Drinking"

**Dr. Hesheng Liu: Duke University (DC015216)**

"A Multimodal Assessment of Neurophysiology in Focal Dystonia"

**Dr. Thomas Jhou: NIDA (UDA044468A)**

"Genomic Analysis of Avoidance Learning in Addiction"

**Dr. Kumar Sambamurti: NIH (AG062378)**

"Dietary Restriction and Associated Changes in Microbiota to Prevent Alzheimer's Disease"

(Continued Next Page)

# NEUROSCIENCE FUNDING ANNOUNCEMENTS

(Cont'd)

**Dr. Davide Amato: Brain and Behavior Research Foundation (27142)**

"Antipsychotics and Psychostimulants Cross-sensitization as a Mechanism of Pathological Drug Seeking and Relapse in Schizophrenia: a Ca<sup>2+</sup> Imaging Study"

**Dr. Patrick Mulholland: NIAA (AA020930)**

"INIA Stress and Chronic Alcohol Interactions: Stress-Induced Dysregulation of Prefrontal Cortex Circuitry and Plasticity in Alcohol Dependence"

**Dr. Judson Chandler: NIAA (AA027706)**

"Adolescent Alcohol Abuse, Traumatic Stress, and Vulnerability to Development of PTSD"

**Dr. Hesheng Liu: NINDS (NS091604)**

"Translating the Individualized Functional Connectome to Surgical Planning"

**Dr. Jakie McGinty: NIDA (DA047792)**

"Winter Conference on Brain Research"

If you are a member of the Neuroscience Department and receive new research funding, or if you received new research funding recently and are not listed above, please send an email to Brandon Harris Smith and include the title and grant number so you can be featured in future newsletters.