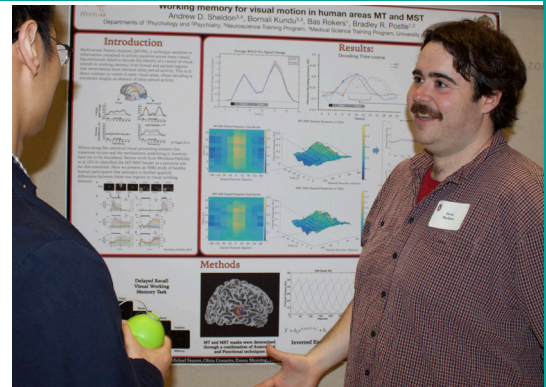




NTP student Sofiya Hupalo talking with prospective students at SfN 2015



NTP student Katie Yang volunteering during Brain Awareness Week 2016



NTP student Drew Sheldon presenting at the 2015 Neuroscience Poster Fair

# Brain Waves

Spring 2016—Biannual Newsletter

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## Career Chats with NTP Alumni

N&PP student, Andrew Merluzzi interviewed Ishmael Amarreh on career tips and advice for recent graduates

At some point, every graduate student faces a critical choice: Whether to stay on the academic path, or to repurpose his or her mentoring, technical, and problem-solving skills into a different career.

For Ishmael Amarreh, who graduated from the Neuroscience and Public Policy (N&PP) Program in 2013, the choice was easier than for most. While working as a postdoc in the Biomedical Engineering Department at UW-Madison, Amarreh knew he wanted to apply for the American Association for the Advancement of Science's (AAAS) Science & Technology Policy Fellowship.

"The Fellowship offers a wide variety of policy jobs, but you only get a good sense of the position after doing the work for several months. My AAAS appointment was in the Office of the Director of the National Institute on Drug Abuse (NIDA), and the highlight of my year was working on the Longitudinal Study of Adolescent Brain and Cognitive Development (ABCD)."

The ABCD study is slated to be the largest long-term study of cognitive and brain development in adolescents in the U.S., with more than a dozen grants awarded to research institutions around the country.

"I was involved from the initial steps of concept development all the way through to awarding the grants," he says. "I learned a lot about implementing nationwide research initiatives." As part of the ABCD's working group, Dr. Amarreh received an NIH's Director Award for his contributions to this project.

The position at NIDA led Amarreh even closer toward the crux of science and policy, and he currently works at the Office for Research on Disparities & Global Mental Health as a Health Scientist. As a Program Officer, he is responsible for overseeing how NIMH grants are funded, from the development of research questions to administrative and technical review of funded grants.

*[continued. on p.2]*

# CONGRATS FALL GRADUATES!

**Ibis Agosto** graduated from Gordon Mitchell's lab and is now a Postdoctoral Fellow at Seattle Children's Research Institute.

**Christian La** graduated from Vivek Prabhakaran & Beth Meyerand's labs and is now a Postdoctoral Fellow at Stanford University.

**Robin Fropf** graduated from Jerry Yin's lab and is now a Postdoctoral Fellow at Stowers Institute for Medical Research.

**Yun Ding** graduated from Luigi Puglielli's lab and is now a Postdoctoral Fellow at Eli Lilly in Indianapolis.

## *Interview continued from page 1*

"It was only after working at NIDA for a year and building a professional network that I become interested in global mental health. So, at the end of my fellowship and with some luck I stumbled upon my current position."

And while Amarreh acknowledges there is always a certain element of luck in the job search, he believes that fortune favors the well prepared.

"If you want to stay in research you should pick your postdoc position carefully. The first 2-3 years in a postdoc position can make or break your academic career. If that's the career you want, start early. Ask yourself, 'What do I need to do to be a successful postdoc? What are the skills I need to learn now to make myself marketable? How can I transition from my current research into a new area and build my scientific niche?'"

But for those interested in transitioning to a career outside of academia, the process is likely to be very different.

"It can be difficult to get a job in the federal government," he says. "Every office is overworked and understaffed, and the political climate isn't always favorable. That's why fellowships are so important. AAAS and the National Academy of Sciences both offer fellowships, and now more federal agencies are beginning to offer them as well."

Part of the reason that getting a foot in the door can be so difficult is that too often students focus all their efforts on employment at the federal level.

"There are many jobs at the state level that are comparable, and it may be easier to find those jobs and get experience. I will say, once you do land a job with the federal government, it's easier to move around within the system. You can use the connections you've made. Overall, the best thing is to be open-minded and carefully consider all your options."

One of those options might be a career in industry. According to Amarreh, getting an industry internship while still in graduate school could be a great way to make that transition.



"At this point, I've seen how academia works, and I've seen how government works," Amarreh says. "At my current job, I realize that having a better understanding of industry could be useful. That's another area where you can apply the skills you learn in graduate school."

That might be especially so today, when it's becoming harder and harder to stay on the academic route and government jobs may be few and far between.

Given how difficult it can be, Amarreh feels fortunate to be where he is today.

"My day-to-day work is never the same, and that's part of what makes it a great place to be," he says. "Because I work on global NIMH grants, I get to travel and see how research is conducted elsewhere in the world. While there's a lot the U.S. can offer the global research community, there's also a lot we can learn."

# Welcome New Faculty!



**Brittany Travers**

Assistant Professor,  
Department of Kinesiology

Motor and Brain  
Development (MRI) in  
Autism Spectrum Disorder



**John-Paul Yu**

Assistant Professor,  
Department of Biomedical  
Engineering

Systems neuroscience of  
neuropsychiatric disease

## CONGRATS TO THE STUDENTS THAT HAVE RECENTLY PASSED THEIR PRELIMS!

**Rothem Kovner**  
**Elizabeth Kiernan**

**Annie Racine**  
**Drew Sheldon**

**Scott Vermilyea**

## Awards & Recognitions

Congratulations to the following students and faculty for their recent achievements:

**Inca Dieterich** recieved honorable mention for the 2016 National Science Foundation Graduate Research Fellowship Program.

**Mary Halloran** received the Kellett Mid-Career Award.

**Corinne Jones** won the 2nd place New Investigator Award for her talk titled: Volume-dependent swallowing pressure variability in early Parkinson disease and in healthy controls at the Dysphagia Research Society meeting, was offered a spot in the American Speech-Language-Hearing Association's Lessons for Success, has been selected to participate in the NIH-sponsored Summer School in Adaptive Neurotechnologies this summer in Albany, NY and has been selected to speak at the Wisconsin Festival of Ideas.

**Ned Kalin** was elected to the National Academy of Medicine.

**TaeHee Kim** has been awarded the Klaus Reymann Young Scientist's Award that will be given at the 9th International Symposium on Neuroprotection and Neurorepair.

**Andrew Merluzzi** received a Student Research Travel Grant to present at the Human Amyloid Imaging Conference and the WARF Discovery Challenge Peer Award.

**Aditya Rayasam** was selected to receive the 3rd annual Award for Mentoring Undergraduates in Research, Scholarly and Creative Activities.

**Lauren Ritters** has been awarded the 2016 Distinguished Teaching Award.

**Ari Rosenberg** received a Sloan Research Fellowship.

**Edwin Suarez-Zayas** recieved honorable mention for the 2016 National Science Foundation Graduate Research Fellowship Program and honorable mention for the 2016 Ford Fellowship.

**Katie Yang** received the Early Excellence in Teaching award from the College of Letters and Science at UW-Madison.

**Xinyu Zhao** has been awarded the Vilas Faculty Mid-Career award.

# NIH grant to launch statewide study of the brain in people with epilepsy

By Susan Lampert Smith, UW-Madison News

The Medical College of Wisconsin (MCW) and the University of Wisconsin—Madison have received a four-year, \$5 million grant from the National Institutes of Health's (NIH) National Institute of Neurological Disorders and Stroke to study brain networks in people with epilepsy. This clinical study, called the Epilepsy Connectome Project, will use state-of-the-art noninvasive brain imaging methods to understand how communication between brain areas changes as a result of epilepsy, and how these changes contribute to seizure recurrence and other health problems associated with epilepsy.

Jeffrey Binder, professor of neurology and biophysics at MCW, and Elizabeth Meyerand, professor and chair, Department of Biomedical Engineering at UW—Madison, are the principal investigators on the project, which also involves 14 other key team members from both institutions. Teams at Froedtert Hospital, Aurora Health Care and Marshfield Clinic are also involved.

The term “connectome” refers to the complex network of fiber connections that link brain regions, and the relative strength of these connections. Beginning in January 2016, the Epilepsy Connectome Project will be the first effort to describe these complex networks in a large group of individuals with a well-defined neurological condition. Researchers will collect detailed connectome measurements in 200 adults with temporal-lobe epilepsy from across the state of Wisconsin. These results will be compared against healthy control data from the NIH's Human Connectome Project to determine whether systematic changes occur in people with epilepsy. Variations in the connectome will be examined to determine relationships with clinical outcomes such as frequency of seizures, responsiveness to seizure medication, and changes in cognitive abilities.

“Through this collaboration, we are hopeful that our findings from the Epilepsy Connectome Project will lead to new tools

allowing optimal diagnosis and individualized treatment for people with epilepsy,” says Binder. “The expertise at MCW and UW—Madison in physics and functional MRI technologies, as well as in functional connectivity studies, make this collaborative group an ideal one to conduct this study.”

According to the Centers for Disease Control and Prevention, when counting both children and adults, about 2.9 million people in the United States have active epilepsy. The study will focus on temporal-lobe epilepsy, the most common form of epilepsy in adults.

In 2009, the NIH launched a large-scale effort, called the Human Connectome Project, to measure connectomes in a large set of healthy people and detect variations that relate to individual differences in brain function and ability. The size and strength of the connections can be measured with advanced MRI methods such as diffusion tensor imaging (DTI) and functional MRI (fMRI), as well as with magnetoencephalography (MEG), a technique that measures tiny magnetic fields produced by brain activity. The resulting set of connection measurements constitutes a detailed map of the brain's functional networks.

“Cutting-edge imaging technology and methods will allow us to generate a much more comprehensive picture of brain changes due to epilepsy than has ever before been possible,” says Meyerand, who also holds a faculty appointment in medical physics. “We are excited at the prospect that this close collaboration between two stellar Wisconsin institutions will yield impactful advances in patient care.”

Study participants, adults between the ages of 18 and 60, will be studied in an outpatient setting where they will undergo MRI and MEG imaging and participate in mental ability tests.



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## Contributions to the Program

Funds given to the program are used to support recruiting activities, guest speakers, the graduate travel award for professional conferences and the annual program picnic. For additional information, please contact the program office at (608) 262-4932. To contribute, please contact the UW Foundation at:

<https://www.myuwconnect.org/give?id=9E933A87-82C0-449E-B62E-6476CF0A0A93>

Thank you to all those who have contributed and continue to support the Neuroscience Training Program and its students.

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