

Neural Networking

Society for Neuroscience National Conference

By Kelly DeMars

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Brain Awareness
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This year’s national Society for Neuroscience Conference was in Washington, D.C. The conference offered something to researchers at every level that included lectures, professional development workshops, socials, a “NeuroJobs career center,” graduate school fair, and free pens. I acquired 14 ballpoint pens. The famous neuroscientist-turned-artist Greg Dunn had a booth at the Art of Neuroscience Exhibit showing his intricate, “animated reflective effects of microetchings” of the brain displayed under LED lights, however I am reluctant to include any images because I do not want to pay for licensing. The conference provided a networking opportunity for ~30,000 to meet others in their respective fields covering every aspect of neuroscience including: development; neural excitability, synapses, and glia; neurodegenerative disorders and injury; sensory systems, motor systems, integrative physiology and behavior; motivation and emotion; cognition; and techniques.

As a stroke researcher, I was excited to listen to Dr. Louise McCullough discuss challenges of animal models of pathology. Some of the discussion included her work showing the effects of age, sex, and the



Wireless LED optogenetic stimulation of light-activated membrane channels allows more natural, untethered movement. The future is now.

immune system on infarct progression. The theme of her talk underscored the interconnectedness of the brain with the rest of the body, and as an example, she talked about the relatively recent parabiosis study by Villeda et al. showing that suturing an old mouse to a young mouse improves cognitive function in the aged mouse in part mediated by increased dendritic spines in the hippocampus. This is the exact Frankenstein-inspired, mad science that I have come to love hearing about at prestigious conferences in this line of work. I thought the “blood-boy” from HBO’s Silicon Valley was just a weird joke, but now I am aware of an alternative career in case I get kicked out of the graduate program for producing unorthodox neural newsletters.



Washington, D.C. is a happening locale for a conference.



Society for Neuroscience Poster Session

This year’s conference was luckily devoid of comments by Dario Maestriperi of University of Chicago lamenting the lack of women “super model types,” and wondering if “unattractive women [are] particularly attracted to neuroscience...No offense to anyone.” Not that I was offended.

Brain Bee

By Tomer Zilbershtein

With the sun yet to spray its warmth across the morning sky, competitors travelled to Gainesville for a competition that could change their lives. As they entered the McKnight Brain Institute, a screen greeted guests with the hallmark of the world's largest neuroscience organization, the Society for Neuroscience. After a brief social, with everyone's nerves slightly dampened, the competitors took their seats at the front of the hall, with the audience behind them; to their right sat Dr. Brittney Yegla & Dr. Mohamad El-Chami, the judges that would crown the champion who would go on to Washington D.C. for the national finals. As each participant got, the room hung silent until one of the judges would read the question aloud, accompanied by a visual graphic on the screen to the side, and then an answer was spoken.

Scripted like a true TV drama, anticipation painted everyone's faces, and pregnant pauses littered the judges' responses. "This chemical is produced in the pineal gland, derived from serotonin." It was either Isabel Dutton or Keshav Motwani who would walk out the champion, and now Isabel stood before everyone, as she had on a plethora of questions before. "Gamma-aminobutyric acid!" The judges' expressions said it all, and it was now up to Keshav to take the grand prize - if he could get the answer right. "What serves as the bridge between the hemispheres of the cerebrum, lying within the longitudinal fissure?" Quiet. The neurons in his brain were on overload, and out bursts, "the corpus callosum!" Following a ding, the audience cheered the new champ back to his seat.

Once everyone settled down, the panel discussion began. Two graduate students and two undergraduate students, Jonathan Cho and Abbi Hernandez, and Ashley Holland and Leah Truckenbrod, respectively. The discussion revolved around research, the campaign from high school into graduate school, and the general lifestyle that the panelists had. Once the panel was wrapping up, the room prepared for the highly anticipated award ceremony. In first place, Keshav Mot-



wani, who would go on to Washington DC to compete for a chance at the national championship. Succeeded by him were Isabel Dutton, Sara Andrea, and Brenda Rathinasabapathi, in second, third, and fourth places, respectively. All the contestants were great sports, and everyone agreed that it was an event that would live on as an influential driver in all of the students' academic career paths.

Can you answer some of the questions posed to students competing in the Brain Bee? Answers on top of page 4.

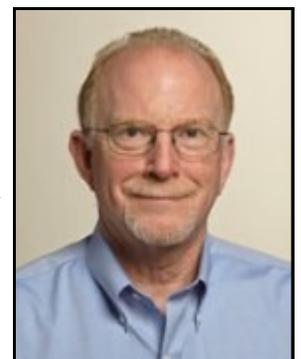
1. LTP takes place as a result of changes in the strength of synapses at contacts involving what kind of receptors?
2. Oligodendrocytes: central nervous system: _____: peripheral nervous system
3. Which neurotransmitter activates NMDA receptors?
4. What is the resting voltage of a neuron?

Brain Awareness Week 2018

By Kelly DeMars

Are you a talented, young researcher? Or a talented, old researcher? Do you want to earn neuroscience pride points? Then don't forget to register for next year's upcoming neuroscience related activity during Brain Awareness Week (BAW) March 12-18! The local chapter welcomes all interested to sign up as volunteers to travel to local schools and teach brain presentations to students K-12. Keep an eye out for more details as the date gets closer!

The last day of BAW, our chapter will host a BAW Conference including a poster session to present your research from 8-11 am, panel discussion, a data blitz of 5 minute neuroscience presentations, and a talk by keynote speaker John Morrison, Ph. D. from UC Davis who specializes in the neurobiology of aging and neurodegeneration. Lunch will be included for those who register for the conference.



John Morrison, Ph.D.

Community Outreach in Gainesville, Florida

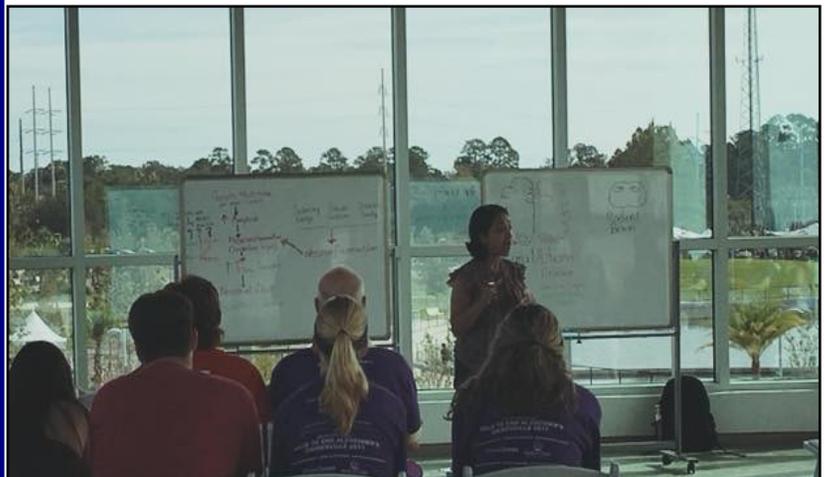
By Kelly DeMars

Sheep Brain Dissection!

June 26, we gave 48 tenth graders scalpels and hoped for the best. From 19 different high schools across Florida, the UF Center for Precollegiate Education and Training sponsored summer program Science Quest provides an opportunity for motivated high school participants to experience college life (debt-free!) and stimulate interest in science careers. Yours truly and former Brain Awareness week chairs Leslie Gaynor and Kevin Strang led sheep brain dissections highlighting brain regions according to our respective expertise including Alzheimer's disease, stroke, and traumatic brain injury. Out of the weeklong science extravaganza, one student said, "I loved the dissection and the lesson on neuroscience." Another said, "It was my favorite part of the day." All of the scalpels were safely disposed of after the dissections. I am pretty sure I heard one student whisper to a friend, "Wow, stroke is the best biomedical disease to study. One day I will research potential druggable targets in ischemic stroke, so I can be as cool as Kelly!"

Walk to End Alzheimer's

At Depot Park October 21, our local chapter participated in the Fundraising event to raise money for Alzheimer's care and research. After the walk, Brain Awareness Week coordinators Monica Banez-Coronel and Ziqi Wang set up a table of brain tricks at the brand new Cade Museum for those at the walk to learn more about neural processing via fun demonstrations in the lab space while researchers like Sarah Burke, Ph. D, Abbi Hernandez, M.S., and Paramita Chakrabarty, Ph. D (pictured below) explained differences between normal and pathological aging in the brain in the lecture room upstairs.



Dr. Chakrabarty explains pathological aging to an audience after the Alzheimer's Walk.

Girls Build the World

In conjunction with the College of Medicine Graduate Student Organization, our local chapter was represented at the Cade Museum's event. Using hands-on activities, we demonstrated aspects of the various fields of engineering under the guidance of Program Director Patty Lipka to stimulate interest of young women in STEM.

Answers to selected Brain Bee questions: 1. NMDA 2. Schwann Cells 3. Glutamate 4. -70 mV

North Central Florida
Chapter of the
Society for Neuroscience
PO Box 100244
Gainesville, FL 32610-0244

Phone: (352) 627-9200
Fax: (352) 392-8347
E-mail: nflsfncchapter@gmail.com

The North Central Florida Chapter of the Society for Neuroscience is located on the campus of the University of Florida in Gainesville, FL. Since its inception, the Chapter has been led by graduate students and postdoctoral fellows with support from faculty and administrators in the UF Department of Neuroscience. Each year we organize scientific and professional development venues for our members, visit local schools and community centers to educate about the brain and scientific research and sponsor travel awards to support attendance at the national meeting of the Society for Neuroscience.



*Advancing the Understanding of
the Brain and Nervous System*



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<http://neuroscience.ufl.edu/sfn-north-central-fl-chapter/>

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