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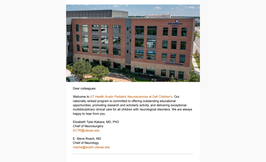
The Neurotransmitter

UT Austin Austin Pediatric Neuroscience at Dell Children's

Promoting Discovery and Innovation in the Pediatric Neuroscience



Dear colleagues:

Welcome to UT Austin Austin Pediatric Neuroscience at Dell Children's. Our nationally ranked program is committed to offering outstanding educational opportunities, innovative research, and state-of-the-art clinical care and interdisciplinary multidisciplinary clinical care for all children with neurological disorders. We are always happy to hear from you.

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ARE THALAMIC CIRCUITS RELATED TO AUTISM OR OTHER COMORBIDITIES?

Ashley Blomquist, MD, PhD, in the Blomkamp Lab

Ashley Blomkamp, MD, PhD, Assistant Professor of Neurology at Dell Medical School and Dell Children's, is a pediatric neurologist who completed her PhD in Neuroscience from National Institute of Mental Health entitled "Functional Architecture of the Mediodorsal Thalamus." Blomkamp's team will use mice to map the structure and function of thalamic circuits that are thought to be dysfunctional in people with autism, attention-deficit/hyperactivity disorder, and schizophrenia.

The thalamus is typically considered a relay center that facilitates the transfer of information between different areas of the brain. Although it is small, it is a highly synaptically structured hub that uses the incoming sensory information to orchestrate the activity of higher cortical brain areas. As one of the largest thalamic nuclei, the mediodorsal thalamus receives inputs from the prefrontal cortex, the ventral tegmental region, prolamus, a strong projection to the medial prefrontal cortex, and contributes the activity of cortical microcircuits there to perform cognitive-dependent behaviors. Blomkamp's team will use mice to map the structure and function of these thalamic circuits. Her lab is known about the physiology of the neurons in this region in mice and humans.

In preliminary work, Blomkamp discovered that two populations of neurons in the mediodorsal thalamus have different electrophysiological properties. Her team's preliminary work and how these two thalamic circuits connect differently to the rest of the brain. Blomkamp's team will use optogenetic and chemogenetic approaches to manipulate neuronal activity in the proposed circuits or in all of the thalamic cells types of behavior. She can test which circuit is important for each type of behavior. The team will also measure the neuronal activity in the thalamic circuits that regulate synaptic inputs from different brain regions.

The team's future work will decipher how these and other thalamic circuits are altered in autism and whether they can be modified to treat cognitive or social-emotional deficits associated with autism. Blomkamp's team will use mice to map the circuits that receive two extensive implications, said E. Steve Roach, MD, Blomkamp's student mentor. "This is a great opportunity for a student to be a pioneer. Our greatest the likelihood of finding an effective treatment will like side effects."

PEDIATRIC NEUROSCIENCES PROGRAM CO-SPONSORS FIRST ANNUAL NEUROTRANSMITTERS FAMILY DAY

Jane C. Edmond, MD, presenting at the NeuroMotivations Family Day Meeting

The first annual NeuroMotivations Family Day Meeting took place on Nov. 12, 2022, at Dell Children's Medical Center. Co-sponsored by the Dell Children's NeuroMotivations Program and the Austin Pediatric Neuroscience Program, the event was held in the Children's Center Pavilion, this inaugural meeting allowed children with a variety of neurological conditions and their families to meet with the Austin Pediatric Neuroscience Center. Patients and family members attended presentations on Neuromuscular Disease, Epilepsy, Stroke, Brain Tumors, and Pediatric Stroke. Pediatric neuroscience presenters included Jane C. Edmond, MD, Emily Dreesmann, PhD, Blackburn Moudley, MD, and Kara Robles-Lopez, MD, PhD.

The Dell Children's Neuroscience Center of Excellence offers comprehensive diagnosis and management for children and adolescents with known or suspected MT. The team-based approach combines the expertise of pediatric neurology, neurosurgery, neuroradiology, medical care and psychosocial support to our patients and their families. This first annual NeuroMotivations Family Day Meeting was a great opportunity to learn more about the disorder, promoted relationship building among the families, and raised awareness about the disorder and the need for additional research funding.

A SECOND OPINION

This 13-year-old girl presented to a second opinion regarding headaches. Her left/right headaches were often frequent and severe. Her symptoms began to flare in her headaches typically occurred one or two times per week, each lasting two to three days. Her headaches were accompanied by photophobia, phonophobia, with vomiting. One year earlier, she had been diagnosed with idiopathic nocturnal arythmetrosis (SLF) with antiphosphoglycol antibodies, but she had not experienced seizure-type-related symptoms. Her physical abnormalities were normal.

Magnetic resonance imaging revealed a small chronic right-based gangrio infarction. Her electroencephalogram was normal. Her neuropsychological testing was documented pronounced pitting uniform distance of the entire right occipital parietal area, with secondary headache and ischemic stroke, and long-term immunosuppression was with secondary headache and ischemic stroke, and long-term immunosuppression was recommended.

Was the referring diagnosis correct? What other conditions should be considered?

See below for additional discussion.

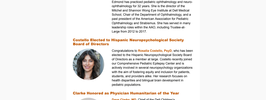
EPILEPSY CENTER EXPANDS TO NORTH AUSTIN

Dell Children's Medical Center North Shoeller campus

On Nov. 14, 2022, the Dell Children's Comprehensive Pediatric Epilepsy Center opened a second clinic in the medical office building on the campus of the new Dell Children's Medical Center North Shoeller campus. The clinic offers pediatric epilepsy neurology and neurosurgery consultations, neuropsychology evaluations, and EEG studies. Services will continue to expand throughout the year to accommodate the growing need for pediatric epilepsy care throughout Austin and Central Texas.

ELECTED AND SELECTED

Edmond Named President-Elect of the American Academy of Ophthalmology



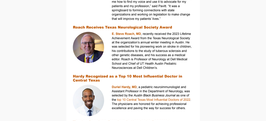
Jane C. Edmond, MD, was recently named president-elect of the American Academy of Ophthalmology and will serve as president in 2023. Edmond's term as president-elect leverage her role as President to address the increasing workforce shortage, the growing disparities in access to care, expanding access to ophthalmologic care locally and nationwide, in part by recruiting equity-driven residents to the field.

Edmond has practiced pediatric ophthalmology and neuro-ophthalmology for 30 years. She is the Chief of the Medical and Rheumatic Medical Institute at Dell Medical School, Dell Children's Medical Center, and Austin. She is a past president of the American Association for Pediatric Ophthalmology and Strabismus (AAPOS) and a 2022 AAPOS leadership class within the NAO, including Trustee at Large from 2019 to 2011.

Castillo Elected to Hispanic Neuroophthalmology Society Board of Directors

Congratulations to **Rosalie Castillo, PsyD**, who has been elected to the Hispanic Neuroophthalmology Society Board of Directors as a member at large. Castillo recently joined the Austin Pediatric Neuroscience Program, where she advises involved in several neuropsychology organizations with the aim of fostering equity and inclusion for patients, families, and providers. Castillo is a Board Member of Health Disparities and Inclusion Committee of the American Academy of Ophthalmology.

Clarke Honored as Physician Humanitarian of the Year



Dana Clarke, MD, Chief of the Dell Children's Neuromuscular Medicine Clinic and Associate Professor in the Departments of Neurology and Pediatrics, received the Texas Medical Association's 2022 Physician Humanitarian Award in recognition of her tireless efforts to provide quality care to underserved children and families in Austin, Texas and several Caribbean Island countries.

Perrott Participates in American Academy of Neurology Leadership Forum

Sara Perrott, MD, Chief of the Dell Children's Pediatric Headache Center, was selected as one of 30 American Academy of Neurology members to participate in the 2022 Leadership Development Forum (LDF). The LDF is a program named in honor of AAN Board of Directors member Donald M. Paolucci, MD, trains neurologists to become leaders in the AAN and in their communities by providing leadership skills in action planning, media relations, and advocacy. Perrott is a member of the AAN Headache Section, the Texas Chapter, and the Texas Society of Neurology and Psychiatry. Perrott is also a member of the AAN Committee on Pediatric Neurology and Neurology and Neurology and