# UT Southwestern Medical Center

# Neurology and Neurotherapeutics



3D image of a whole mouse brain showing green neurons that control motor movement labeled by injection of a retrograde tracer into the muscle (Sankalp Gokhale, Katie Poinsatte, Shazia Mirza, Mark Goldberg.) Created by **Whole Brain Microscopy Facility**.



#### From the Chair Mark Goldberg, M.D.

We chose the above image for the front page of this quarter's newsletter because it is a great example of the research being conducted in our department. You can learn more about the **Whole Brain Microscopy Facility** inside on page 5.

2016 started off with the establishment of a new **sports neurology and concussion program** as well as a new service dubbed **NeRD** that will help researchers who are working

toward grants and publication. Plus, the **Neuroscience Nursing Research Center** welcomed a new group of nurse-fellows who are embarking on research projects.

Also, we welcome many new employees and tell you about the honors and awards our faculty and staff have received.

All the best for 2016!

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# Bert Vargas, M.D., FAHS, named director of new sports neurology and concussion program

#### By Julie Kirchem, Department of Neurology and Neurotherapeutics

Bert B. Vargas, M.D., FAHS, joins the UT Southwestern Department of Neurology and Neurotherapeutics from the Mayo Clinic in Arizona. His primary role will be as director of the new sports neurology and concussion program and director of the sports neurology fellowship program.

Dr. Vargas, Associate Professor of Neurology and Neurotherapeutics, is an Arizona native who grew up in Tucson and attended the University of Arizona where he obtained his undergraduate degree in Molecular and Cellular Biology. He went on to medical school at the University of Arizona College of Medicine and then completed an internal medicine internship at Banner Good Samaritan Medical Center in Phoenix, Arizona.



The United States Air Force had paid for Dr. Vargas to attend medical school, so he served as a flight surgeon stationed at Travis AFB, California. While on active duty, he was deployed numerous times in support of Operations Northern Watch, Enduring Freedom, and Iraqi Freedom.

"Being a flight surgeon was one of the best jobs I have ever had. Not having any family obligations at the time, I was able to deploy frequently and experience a lot of memorable things and see a lot of interesting places," he said. Not only did Dr. Vargas get a chance to see the world, the job of flight surgeon also gave him a glimpse of his future. As the flight surgeon specifically attached to the 9th Air Refueling Squadron, he worked and traveled with a group of elite pilots and other air crew caring for both them and their families. His responsibilities included a lot of time in the cockpit where he was able to directly observe the physical demands specific to their job and how it affected their physical condition.

"That way when any of my patients were recovering from illness or injury, I had first-hand knowledge of the specific requirements and physical needs required to perform their jobs safely and effectively. It was a way for me to practice a very individualized style of medicine," said Dr. Vargas.

He likens that kind of care with how he sees treating elite athletes in the sports neurology program. And he found that pilots and athletes have other things in common – both groups are in top physical condition and both don't like seeing the doctor since it could mean getting grounded or put on the sideline.

Dr. Vargas' next stop was at New York University to train in neurology. From there, he went back to his native Arizona where he completed a headache medicine fellowship at Mayo Clinic.

After spending six years on the Mayo Clinic faculty, Dr. Vargas saw an opportunity at UT Southwestern that he could not pass up: build one of only five sports neurology fellowships and help put UT Southwestern on the map as a destination for comprehensive neurologic care for athletes at all levels.

The sports neurology program will encompass any neurologic injury as a result of participating in sports, for example, neuromuscular injuries, and traumatic injuries to the brain and spinal cord. The program will also address neurologic issues in athletes that are not sportsrelated such as migraine. Dr. Vargas also hopes to work with other individuals who require a



**Dr. Bert Vargas** 

level of elite physical performance for their jobs including police, fire, and military.

"Sometimes we don't recognize these individuals as being athletes, but they definitely require an athletic-level of physical fitness and abilities to perform their daily jobs."

Dr. Vargas will also treat headache patients in the neurology clinic.

"I almost feel like the union of headache medicine and sports medicine is a perfect combination, mostly because headache is the most common symptom of concussion," he said. Dr. Vargas's research will focus on areas of post-traumatic headache, preventing headaches and treating acute headaches including migraine, and other headache disorders.

He is board certified in Neurology by the American Board of Psychology and Neurology and in Headache Medicine by the United Council for Neurologic Subspecialties and is a fellow of the American Headache society.



**NeRD Team**: (I-r) Caryn Harper, M.S.; Charlene Supnet, Ph.D.; Samarpita Sengupta, Ph.D. ,and Sheila Allen. **Photo Credit**: Samarpita Sengupta.

## Charlene Supnet, Ph.D., named Director of Neuroscience Research Development (NeRD) Office

By Julie Kirchem, Department of Neurology and Neurotherapeutics

Since **Charlene Supnet**, **Ph.D.**, joined the Department of Neurology and Neurotherapeutics in April 2013, she has assisted with more than 100 grant applications and manuscripts. Her expertise is to guide and advise researchers through the process of putting together competitive grant applications for submission and manuscripts for publication.

Dr. Supnet, Assistant Professor of Neurology and Neurotherapeutics, joined the department as a Scientific Research Writer. In that role, she worked with researchers to generate and edit documents, provide critical review of proposals or papers, and manage the grant or manuscript submission process. In addition, she played an integral role in the growth of the Neuroscience Clinical Research Center, Texas Institute for Brain Injury and Repair, and the Neuroscience Nursing Research Center. She was promoted in October 2016 to Director of the newly-formed Neuroscience Research Development (NeRD) Office.

NeRD is a group of researchers, scientific writers, and grants and contracts specialists with the goal of efficiently managing the grant application and contracts process from inception to submission. In addition, NeRD aspires to serve as a hub for neuroscience research at UTSW, providing a means for interdepartmental collaboration and integration of research programs.

NeRD core members are **Caryn Harper**, M.S., CCRC, Research Programs Manager; Samarpita Sengupta, Ph.D., Scientific Research Writer; and Sheila Allen, Senior Grants and Contracts Specialist.

"The overall goal of the NeRD office is to facilitate the discovery of novel neurotherapeutics and technologies," said Dr. Supnet. "We will accomplish this goal by empowering individual and team researchers to focus on the science while obtaining funding."

Dr. Supnet took a position at UT Southwestern in 2009 as a postdoctoral researcher in physiology. In that role, she made an important discovery about herself.

"I realized that the thing I liked best about science wasn't bench research," she said. "It was helping other people work through their projects and helping them to write grant proposals and manuscripts."

She knew she was at a crossroads in her

career and started looking for guidance. She found it when she attended a lecture by Dr. Ann Stowe, Assistant Professor of Neurology and Neurotherapeutics, at the Annual Neuroscience Retreat. Afterwards, Dr. Supnet talked with Dr. Stowe who suggested that she apply for a newly-created scientific writer position in neurology.

A few months later, Dr. Supnet became the Department of Neurology and Neurotherapeutics' first Scientific Research Writer. Her success in securing grants and pushing manuscripts to publication has created a university-wide demand for the services that she and the NeRD office provide.

"We want to be the place that researchers come to when they have a research idea but don't really know where to start, who to talk to, or don't know what resources are available to them. We want them to come to us as part of their research team so we can guide them in the right direction," she said.

For more information or to schedule a consultation, contact Dr. Supnet at nerdoffice@ utsouthwestern.edu

#### **Department of Neurology and Neurotherapeutics**

# Ghazala Perven, M.D., joins UTSW Epilepsy Team

By Julie Kirchem, Department of Neurology and Neurotherapeutics

**Ghazala Perven, M.D.**, completed her residency at the University of Toledo in 2012 and then stayed on for a year as a Clinical Instructor. She then moved to Cleveland in 2013 for a two-year fellowship in epilepsy at the Cleveland Clinic.

#### Q & A with Dr. Perven

## Why did you decide to become a neurologist?

Dr. Perven: Neurology is one of the most challenging and intellectually stimulating fields in medicine. The intricacies of the human brain are most fascinating. It was this passion that led me to seek training in neurology.

# What factors led you to specialize in epilepsy?

Dr. Perven: Treating epilepsy is challenging. There is not a single "magic pill" for seizures. In today's world, fortunately, we have multiple choices available to try and render our patients seizure-free. We also have surgical options available for a certain subset of these epilepsy patients which were not available in the past. Our goal is to improve quality of life by offering the safest and most effective options to our patients.

## What do you like most about your job?

Dr. Perven: We are in an era of rapid advances being made in the field of neurology, especially epilepsy. I love the constantly evolving nature of our field. It helps us serve our patients better.



Dr. Ghazala Perven

# Describe your new role at UT Southwestern.

Dr. Perven: I am here to add to the already thriving surgical epilepsy program. I have special interest in surgical evaluation of medically refractory epilepsy and I am well-trained in stereo-EEG, grids and cortical mapping. I am also interested in ICU monitoring.

#### Perven's manuscript named Editor's Choice in epilepsy journal

Dr. Perven co-authored a review article in "Epileptic Disorders" (the educational journal of the International League against Epilepsy) that was selected in December 2015 as the "Editor's Choice manuscript."

*Epileptic auras: phenomenology and neurophysiology* (co-author Norman So) discusses the phenomenology, neurophysiology, and localization of epileptic auras with particular emphasis on how auras can manifest as part of an epileptic network. The manuscript was accompanied by a series of educational slides.



### **Upcoming Events**

#### Neurology Grand Rounds Wednesday, March 2, 2016

12:00 Page B. Pennell, M.D., Harvard Medical School "In Search of Equipoise: Maternal Benefits vs. Fetal Risks of Anti-Epileptic Drugs" McDermott Plaza (D) 1.602

#### UTSW Regenerative Medicine Seminar Series

Wednesday, March 30th, 2016 12:00-1:00 pm. Where: NB2.EEF Jerry R. Mendell, M.D. Professor of Pediatrics and Neurology Director of Center for Gene Therapy Ohio State University

#### UTSW Neurology Alumni Reception

(in conjunction with American Academy of Neurology Annual Meeting in Vancouver) **Tuesday, April 19th, 2016** 6:30-9:00 pm. Where: Residence of Dr. Anne Lipton Invitations will be sent via email or contact Pepper Wedgewood for details:

pepper.wedgewood@utsouthwestern. edu

# Whole Brain Microscopy Facility Update

By Denise Ramirez, Ph.D., Core Manager

The **Whole Brain Microscopy Facility** (WBMF) was established in 2014 and has recently completed extensive testing on our TissueCyte 1000 serial two-photon instruments (the only ones in the state) which allow for high-resolution imaging of whole rodent brains.

More than 150 tissue samples from 23 labs within and outside of UTSW have been submitted for testing and have allowed us to optimize the imaging and image processing conditions for multiple types of experiments. The unique nature of the 3D image data collected on these microscopes will advance the study of many types of brain injury and disease, promoting the discovery of effective treatments or preventative agents for these conditions.



What's happening at the WBMF:

- Updated methods to create 3D renderings of TissueCyte data developed by Julian Meeks (core director)
- Ongoing development of quantitative analysis of tissueCyte data
- Collaboration with BioHPC to allow facility users their own cloud storage space (250gb) to facilitate big image transfer
- New core facility management platform (iLab) adopted as of 1/1/16
- New equipment freezing microtome and upright epifluorescence microscope

# **Faculty News Briefs**



**Kan Ding, M.D.**, received a grant from the Darrell K. Royal Research Fund to study dementia related to traumatic brain injury. Dr. Ding, Assistant Professor of Neurology, trained at UTSW as a neurology resident and epilepsy fellow.



**Craig Powell, M.D., Ph.D.,** was recently interviewed by the American Neurological Association. He offered advice on career-building for neurologists and talked about his role with the ANA.



**Steve Vernino, M.D., Ph.D.,** conducted a live webchat with patients and professionals to answer questions about autoimmune autonomic ganglionopathy. The webchat was sponsored by Dysautonomia International.







Susan Iannaccone, M.D., (left) and Jaya Trivedi, M.D. (below), are part of the leadership team of the new Wellstone Muscular Dystrophy Research Center at UT Southwestern. The Center will focus on research that uses a new gene-editing technique developed at UTSW.

There are six Wellstone Centers nationwide that serve as focal points for research collaborations, communication, resource sharing and training of new muscular dystrophy researchers.

Shilpa Chitnis, M.D., Ph.D., was selected by the American Academy of Neurology to participate in Neurology on the Hill. She will meet face-to-face with lawmakers and educate them about the critical role of neurologists in health care and the need for reform.

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#### **Neurology Nursing News**



Advanced Practice Nurse **Cathleen Bauer, APN,** is a winner in D Magazine's Excellence in Nursing Awards for 2016. Cathleen is an integral part of our headache team.



**Susan Alex, DNP, RN, ANP-C,** earned her Doctor of Nurse Practice from Texas Woman's University. She specializes in stroke.



**DaiWai Olson, Ph.D.**, received the Suzanne Smith Mentoring Editors Award from the International Academy of Nursing Editors. Dr. Olson conducts his own research and mentors nurses at UT Southwestern and around the world.

# New class of nursing fellows embarks on research projects with NNRC

Six nurses attended bootcamp in January 2016 to kickstart their research projects with the assistance of the **Neuroscience Nursing Research Center (NNRC),** a resource created by the Department of Neurology and Neurotherapeutics. This was the NNRC's third class of fellows.

The NNRC guides nurses on idea formulation, protocol development, IRB assistance, funding opportunities, coordination of protocol, statistical support, and publication.

#### **Pictured below:**

(First row I-r) Samarpita Sengupta, PhD, NNRC Scientific Writer; Taylor Jansen, RN, Zale Lipshy Neuro ICU; Charlene Supnet, PhD, NeRD Director; Kelly Moore, RN, Moncrief Cancer Institute; Rebecca Dill, RN, Zale-Lipshy Apheresis Unit; Sonja Stutzman, PhD, NNRC Clinical Research Manager. (Back row I-r) Melissa Panter, RN, Zale-Lipshy Neuro ICU; James West, BSN, Zale-Lipshy Apheresis Unit; DaiWai Olson, PhD, RN, NNRC Director; Keri Draganic, APRN, Clements Hospital Heart, Lung, Vascular Unit.

Photo credit: Samarpita Sengupta



# Nursing intern teams up with neurocritical care team for cranial nerve lesson

Nursing student **Aljean Santos**, an intern with the NNRC, tackled a tough lesson for his capstone project at Texas Woman's University. He, along with the neurocritical care team, created a music video about the cranial nerves. Click on the picture to view or copy this link into your browser: https://youtu.be/sAFaTaavmO8



# Mona Cheung, APN, and epilepsy team guide Fort Worth woman to a life free of seizures

By Gregg Shields, UT Southwestern Department of News and Publications

Twala Freeman is an electrical engineer, so it might be considered cruel irony that she long suffered from epileptic seizures, a virtual "electric storm" of neurons firing without control in her brain.

Her journey for treatment led her to doctors and hospitals across the country, going from one medication to the next. For years, the Fort Worth resident unsuccessfully sought an effective treatment before reaching UT Southwestern Medical Center.

As an adolescent growing up in Muscle Shoals, Alabama, Ms. Freeman experienced occasional auras, or brief periods of altered consciousness.

"It was mainly the déjà vu or aura sensations that I would have from time to time," said Ms. Freeman. "I asked if anybody smelled that, or did they feel like they had been here before, and I was the only one feeling that way."

Her health took a turn for the worse when she suffered a major seizure in 2001 while driving on a Dallas freeway. Ms. Freeman started feeling nauseous, again experiencing feelings of altered awareness, then lost consciousness. She crossed several lanes of oncoming traffic and came to rest in a hollow off the road. Fortunately, she survived, with her car getting only a small scratch.

She was taken to a nearby emergency room, where doctors said it appeared she had suffered a seizure. They suggested she see a local neurologist in Fort Worth.

"Hey, everyone has one seizure in life," Ms. Freeman said she was told, "that was yours."

Unfortunately, that wasn't the end of her seizures.



Mona Cheung, APN, and Twala Freeman.

Another neurologist prescribed a few medications that resulted in severe side effects. None fully succeeded in controlling the seizures.

After nine years of medication changes and tests, Ms. Freeman learned that the University of Virginia was conducting a study using brain surgery to treat chronic epilepsy.

"I had never heard of this," she said. "The neurologists I had dealt with said they had medications for epilepsy, but that if I didn't want those, there was nothing they could do for me."

Her neurologist at the time discouraged her from the surgical option. But she was determined, and contacted the Virginiabased neurosurgeons. Although they were initially interested in enrolling her, the study closed. The doctors in Virginia suggested she contact UT Southwestern.

Ms. Freeman's first contact with the Medical Center was Mona Cheung, an advanced practice nurse in the Epilepsy Division of the Department of Neurology and Neurotherapeutics.

"When Twala first called, she lost her cell phone connection, and I was concerned she was having a seizure on the spot," said Mrs. Cheung. "We had a long wait list, but Twala was very persistent."

UT Southwestern epileptologists examined Ms. Freeman, including a stay in the epilepsy monitoring unit, and determined she was a good surgery candidate.

"I was so impressed," recalled Ms. Freeman. "Mona and the doctors knew all about the medications I had been taking and their side effects, they knew about the University of Virginia study, and they seemed to understand all I had been through."

Subsequently, she had a few more tests to localize the seizures, and the surgical team met with her to explain the risks and benefits.

In December 2013, Dr. Samuel Barnett, Associate Professor of Neurological Surgery and Otolaryngology, performed a partial resection of Ms. Freeman's right temporal lobe, removing the portion of the brain causing the seizures.

Two years later, Ms. Freeman is seizurefree, her medications are gradually being reduced, and she is working at Triumph Fabrications in Fort Worth.

### **Neurology residents on retreat**

Our neurology program had its annual retreat this year at Group Dynamix in Carrollton, Texas. Residents and program staff and faculty took part in team-building activities like dodgeball and bow and arrow tag. They also met for part of the evening to talk about the future of the program and suggestions for improvement.



# **Welcome to Neurology!**



Brandi Woodard Clinic Staff Assistant I



Cason Hicks, M.S. Education Coordinator Pediatric Neurology



Christal Burnett Sr. Administrative Assistant



Christine Yu Interviewer NNRC



Christy Draper Clinical Data Specialist NCRC



Cindy Daniel Mgr. Clinical Research Multiple Sclerosis



Elizabeth Kent Social Worker III Movement Disorders



Eunice Bernardo, APN Sleep Medicine



Janice Windsor, M.S. Clinical Research Coord. NCRC



Jose Santoyo Research Study Coord. Multiple Sclerosis



Lauren Aldridge, P.A. Movement Disorders



Marchetta Miller Clinical Data Specialist ADC



Paige Paladino, RN Neurology Clinic



Pavel Yanev Visiting Jr. Researcher Stowe Lab



Pei Liu, Ph.D. Postdoctoral Researcher Cognitive & Memory



Samarpita Sengupta, Ph.D. Scientific Writer NeRD



Shazia Mirza, MBBS Research Tech I Neurocritical Care



Shradhdha Joshi Research Study Coord. ADC



Tahnae Tarkenton Research Study Coord. NCRC



Adrian Avila Research Study Coord. NCRC

### **Neurology Clinic puts spotlight on employees**

Neurology Clinic Manager Debra Clamp chooses several employees a year through a random drawing to be featured in an employee spotlight. The employee is asked to answer several questions about themselves and provide photos. The resulting flyer is posted in the clinic so that co-workers can learn more about the employee. Our latest clinic employee in the spotlight is Kiana Walker.



Kiana Walker CSA II Nursing Student Skating Star



Kiana can kick it on roller skates, as you can see. She competed for a time but now skates all over the world for fun

wow! ouch!



fit's fun traveling to different states and seeing their style of skating. I meet new people all the time and have friends from California to London."



Kiana's celebrity lookalike: actress Kyla Pratt.



Kiana's mom: "My mom is my backbone." 4

> If I were an animal "a dove because they are peaceful and can

#### quick quiz

Favorite food: Chick-Fil-A fries Most people don't know: I'm from Chicago Favorite Music: Gospel and R&B Dream Vacation: Bora Bora Dream Job: Movie Star or Print Model



Barbertha Waller

# **Celebrating the Holidays**

Click on the photo to be taken to the photo gallery on Flickr. If you have a print copy of the newsletter, we have provided the link.

### **Neurology Holiday Party at the Goldbergs**



Link: https://flic.kr/s/aHskqoH4b2

### **Neurology Clinic Holiday Photo Booth**



Link: https://flic.kr/s/aHskubLFDG