Expanding Neurological Research In Nebraska

Dr. Matthew Rizzo, founder and director of the Mind & Brain Health Labs (MBHL) in the Department of Neurological Sciences, has joined UNMC to build multidisciplinary research programs and activities devoted to basic, translational, and clinical research on human neurocognitive performance. Dr. Rizzo is a leader in the integration of high fidelity, advanced driving simulators into clinical settings and has fostered the development of advanced instrumented vehicles and remote sensor telemetry to study driver performance, safety, and "behavior in the wild" in clinical and research settings.

The overarching goal of MBHL is to improve mind and brain health care, quality of life, mobility, safety, and efficiency across the lifespan. An interdisciplinary group of researchers is using a broad range of tools and methods to investigate behavioral and neurological deficits in the laboratory and real world, including:

- A driving simulator featuring a full-sized vehicle immersed in a wraparound visual display
- A clinical simulator with features for fitness-to-drive assessments and driving rehabilitation after injury or disease
- An instrumented vehicle that allows for on-road driving performance assessment

see EXPANDING pg 5

Neurology Practice-Based Research Network

The Department of Neurological Sciences has joined forces with other academic centers across the country to form the Neurology Practice-Based Research Network (NPBRN), which is developing standardized electronic medical record (EMR) tools to facilitate quality improvement and practice-based research in common neurologic conditions. This project is being led by Dr. Demetrios Maraganore at NorthShore University HealthSystem in Evanston, Illinois, and is funded by a Patient-Centered Outcomes Research Institute (PCORI) grant. The NPBRN is a coalition of eight academic centers including NorthShore University HealthSystem, Ochsner Medical Center, Dartmouth College, the University of Arkansas, the University of South Carolina, the University of Pennsylvania, Wake Forest University, and UNMC. All NPBRN members use EPIC as their EMR. Each site will use standardized
Message from the chair

It is a privilege to serve at Nebraska Medicine/UNMC with the dedicated team of clinicians, scientists and educators in the Department of Neurological Sciences and Neuroscience Services. Together we are Neurology, Neurosurgery, Psychiatry, Psychology/Neuropsychology, Anesthesia/Pain Medicine, Spine Surgery and related rehabilitation services, and Telehealth/Telemedicine. Our vision is to lead the nation in the neurosciences through the highest quality patient care, premier educational programs, innovative research, and community outreach. Our care includes Alzheimer's disease, Parkinson disease, multiple sclerosis, amyotrophic lateral sclerosis, Huntington's disease, neuromuscular disease, stroke, traumatic brain injury, brain tumor, epilepsy, mental health, autism, attention deficit disorder and neuro-developmental disorders. We are utilizing innovative approaches to care for patients with severe neurological conditions and train medical students and residents in providing world-class care. We are aggressively growing the robust Neurosciences programs and headquarters at Nebraska Medicine/UNMC with strong connections to the Regional Provider Network and our community. We look forward to regularly updating you on our progress.

Sincerely,
Matthew Rizzo, MD, FAAN
Francis and Edgar Reynolds Professor
Chair of the Department of Neurological Sciences
Clinical Program Leader of the Neurosciences
Clinical Trials for Patients with Neurologic Disorders

The Department of Neurological Sciences (DONS) faculty and staff have been very active in performing phase I-IV clinical trials of new therapeutics for patients with neurologic disorders. The areas of focus for these therapeutic clinical trials include amyotrophic lateral sclerosis (ALS), Alzheimer’s disease (AD), Huntington’s disease (HD), Parkinson disease (PD), multiple sclerosis (MS) and stroke. Soon there will be additional clinical trials in the areas of epilepsy, spasticity and neuro-ophthalmology. Multiple DONS faculty are members of national clinical trial groups including the Northeast ALS Consortium, the Alzheimer’s Disease Cooperative Study, the Parkinson Study Group, the Huntington Study Group, and StrokeNet. The National Institutes of Health supports the trials associated with these national clinical trial groups. Recent DONS trials have focused on treatments that may slow the progression of neurodegenerative diseases (ALS, AD, PD, HD) or prevent symptom onset in at-risk subjects (AD). A PD trial is investigating the effectiveness of an intestinal gel form of levodopa given continuously. MS trials have investigated new immunotherapies and compared them to currently available drugs, and one MS trial investigated an available drug in patients with secondary progressive MS. Stroke trials have investigated novel secondary prevention strategies and have investigated the efficacy of stem cell therapy after acute ischemic stroke.

The UNMC Multiple Sclerosis Program: Reaching Out to All Nebraskans

To address the needs of patients who have difficulties getting far from home, we are extending our reach beyond the physical walls of traditional clinical care and delivering quality care directly to the patient through expanded locations, telemedicine links, and home-based care. A satellite clinic in North Platte, Nebraska has expanded our access to western Nebraska and the surrounding region. A key relationship with Good Samaritan Hospital in Kearney has allowed us to connect our first telemedicine link, bringing real-time specialty care to our regional partners. Quality care is being delivered to even our most advanced home-bound patients under the inspired and compassionate vision of Dr. Kathleen Healey, who heads the Multiple Sclerosis At Home Access (MAHA) comprehensive home-based care program. Patients seen through MAHA have experienced fewer complications and have required fewer hospital and emergency admissions, which has also decreased care costs.

Beyond patient care, the MS program remains a fertile ground for education and research. In addition to publishing recent papers, the group will be presenting an abstract at the American Academy of Neurology conference in April and giving a platform presentation at a meeting of The Consortium of Multiple Sclerosis Centers. The group is also developing a fellowship program to educate and train the next generation of neurologists specializing in MS.

Please also read about our comprehensive Multiple Sclerosis Center on page 4, “Optimizing Clinical Care.”
Autoimmune Epilepsy Laboratory at the Durham Research Center

Dr. Olha Taraschenko, MD, PhD, is the director of the new Autoimmune Epilepsy Laboratory at the Durham Research Center, where her team is studying the mechanisms of refractory seizures caused by autoantibodies against neuronal receptors. Specifically, they are working on developing a mouse model of New Onset Refractory Status Epilepticus (NORSE), a severe acute epileptic encephalopathy affecting previously healthy adults. As a part of this project, Dr. Taraschenko's team is conducting electroencephalography in mice treated with various proteins known to be associated with NORSE. This research has great potential to extend our understanding of NORSE and aid in developing urgently-needed therapies for this devastating condition.

Optimizing Clinical Care

Studies have shown that the multidisciplinary team approach has a positive impact on patient longevity, extending life by six months or longer. Certified treatment centers optimize healthcare delivery, prolong survival, and may also enhance quality of life. Having a team that works together, rather than seeing patients in separate visits at different locations and organizations helps to ensure that specialists are addressing the big picture in a proactive manner.

THE HDSA CENTER OF EXCELLENCE AT THE UNIVERSITY OF NEBRASKA
The Huntington’s Disease Society of America (HDSA) Center of Excellence at UNMC is directed by Dr. Amy Hellman, and it serves the Huntington’s disease (HD) patient community through education, research and clinical activities. Dr. Hellman and Dr. Diego Torres-Russotto have developed a comprehensive, multidisciplinary clinic where patients and their families can obtain advanced care for HD. This is a combined effort with the Departments of Psychiatry, Rehabilitation, Nutrition, and Genetics.

THE UNMC COMPREHENSIVE MULTIDISCIPLINARY PARKINSON DISEASE CLINIC
The UNMC Comprehensive Multidisciplinary Parkinson Disease Clinic was established in 2016 by Drs. John Bertoni and Danish Bhatti to serve as Nebraska’s premier comprehensive multidisciplinary program for Parkinson disease (PD). In this highly successful new clinic, all newly referred patients with PD not only see a movement disorders specialist, but also receive a comprehensive evaluation and management plan from a team that includes occupational therapists, physical therapists, speech therapists, nutritionists, social workers and nurse case managers.

THE NEBRASKA MEDICINE/UNMC ALS ASSOCIATION CERTIFIED TREATMENT CENTER OF EXCELLENCE
Nebraska Medicine/UNMC’s amyotrophic lateral sclerosis (ALS) multidisciplinary clinic was first established in 2008, and in 2014, was named an ALS Association Certified Treatment Center of Excellence – one of only 46 in the country, and the only one in the state of Nebraska. The center is under the direction of Dr. J. Americo Fernandes, who works with the support of professional staff who deliver physical therapy, occupational therapy, respiratory therapy, nursing, registered dietitian services, speech and language pathology,

see CLINICAL CARE pg 6
Improving Access to Expert Stroke Care in Nebraska

UNMC is pioneering a new statewide telestroke network so that patients far from a stroke center can still receive specialized care.

Almost every American has a family member or friend who has suffered a stroke. Stroke is the fifth leading cause of death and the leading cause of serious long-term disability in the United States. Recent treatment advances for acute ischemic stroke, such as the use of IV rt-PA and mechanical thrombectomy, have the potential to lower patient mortality and disability. These treatments are most likely to be available and promptly used at a specialized stroke center, but fewer than 1 in 4 people have access to a stroke center within 30 minutes, and only half can reach a stroke center within an hour. Telemedicine offers a solution to these challenges. Using high-quality videoconferencing, a patient can have a face-to-face encounter with a stroke physician who is miles away. Patients treated at their community hospital using telemedicine can expect expedited treatment with similar outcomes at 90 days as if they were treated in a stroke center.

UNMC has just launched a telestroke network with two sites in western Iowa and Nebraska, and further expansion is planned. The network’s technology allows specialists not only to see and hear each patient, but also to examine the heart and lungs through a remote chest piece. With this network, the Department of Neurological Sciences will be able to offer stroke treatment to a wider population, reducing long term disability and mortality in the region.

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- “Black Boxes” that provide a naturalistic assessment of driver behavior “in the wild”
- An optical coherence tomography (OCT) machine that provides micrometer-resolution imaging of the human retina
- Development of biomarkers that extend our understanding of the mechanisms and risks associated with developing neurological disorders
- Clinical trials of promising new treatments for neurological disorders and outcomes research focused on determining the value of new treatments and translating new research advances into clinical practice

You can read more about MBHL at www.unmc.edu/mbhl/. If you are interested in working with our program, please contact us at 402-559-6870.

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EMR tools to assess neurologic conditions including migraines, MS, Parkinson disease, epilepsy, memory disorders, stroke, neuropathy, brain tumors and concussion. These standardized assessments will allow systematic data collection, and the de-identified patient data can be shared among participating institutions for research purposes. The NPBRN has the potential to develop valuable tools to improve the delivery of neurologic care in the outpatient setting and to better determine practices that result in the best patient outcomes.
THE MOVEMENT DISORDERS FELLOWSHIP PROGRAM

Dr. Diego Torres-Russotto is very pleased to announce that the Movement Disorders Fellowship matched two new fellows for 2016-2017, bringing the program to its maximum of four fellows. Drs. James Shou and Luis Zayas will join the program as first-year fellows in July 2016, and Drs. Ryan Brennan and Becky Thompson will be promoted to their second and final year of fellowship training.

James Shou, MD, will join the fellowship program on the two-year academic track. Dr. Shou received his undergraduate degree from Cornell University and his MD from Virginia Commonwealth University School of Medicine. He is currently completing his Neurology residency at Georgia Regents University Medical Center in Augusta, Georgia.

Luis Zayas, MD, will join the fellowship program on the one-year clinical track.

Dr. Zayas completed his Neurology residency at UMDNJ, and then completed a Neuro-Critical Care fellowship at the Cleveland Clinic. While working as a hospitalist in Illinois, Dr. Zayas realized that he wanted to connect more with his patients and that he especially enjoyed working with patients with movement disorders. He therefore decided to complete a fellowship in movement disorders as a capstone to his training.

Nationwide, less than three-quarters of all movement disorders fellowship slots are filled. Dr. Torres said, “I believe this result highlights the amazing curriculum that we provide, and the personalized mentoring provided by our very dedicated faculty.”

The fellowship program is generously supported by the Rhonda and Howard Hawks Movement Disorders Fund.

Giving Back

UNMC is in a key position to leverage clinical and research expertise, creating synergies between clinicians, teachers and scientists to transform neurological care now, and for future generations.

Investing in the UNMC Department of Neurological Sciences will advance research for effective treatment and prevention of neurologic diseases that threaten life, independence, productivity and happiness. Your gift can impact big discoveries and transform care in these devastating diseases.

To learn more about how you can help, contact Melonie Welsh, Director of Development, 402-502-4117 or melonie.welsh@nufoundation.org.

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and social work services. The team also collaborates with other disciplines such as Pulmonary Medicine, Gastroenterology, Interventional Radiology, Psychology, Palliative Care, and Hospice services to provide management and care for ALS patients at every stage of the disease.

THE UNMC MULTIPLE SCLEROSIS CENTER

The UNMC Multiple Sclerosis Center is the only multidisciplinary center accredited by the National Multiple Sclerosis Society in the state of Nebraska and has been a member of the Consortium of Multiple Sclerosis Centers since 1998. Directed by Dr. Rana Zabad, the center provides comprehensive, state-of-the-art, multidisciplinary care for patients with MS and related demyelinating disorders, with integrated services from Neuro-Ophthalmology, Neuroradiology, Neuropsychology, Neurosurgery, Occupational and Physical Therapy, Psychiatry, Pain, Urogynecology and Specialty Pharmacy. The center also provides a full complement of treatments for spasticity and includes a state-of-the-art infusion center.

Please also read about our MS outreach efforts on page 3, “The UNMC Multiple Sclerosis Program: Reaching Out to All Nebraskans.”
Welcome to our New Faculty

Olha Taraschenko, MD, PhD
Dr. Taraschenko is an Assistant Professor in the Department of Neurological Sciences at the University of Nebraska Medical Center. She also directs the Autoimmune Epilepsy Laboratory at the Durham Research Center, where she leads translational research on refractory seizures. She completed her Epilepsy fellowship training at Emory University, where she focused on epilepsy surgeries, refractory epilepsies and continuous EEG monitoring in the intensive care setting. Her research interests include new onset refractory status epilepticus and seizures caused by autoimmune conditions. Her work has been recognized by numerous prestigious national awards. Her current practice includes patients with refractory epilepsies and epileptic encephalopathies.

Marco A. Gonzalez-Castillon, MD
Dr. Gonzalez-Castillon is an Assistant Professor in the Department of Neurological Sciences at the University of Nebraska Medical Center. A native of Panama City, Panama, Dr. Gonzalez-Castillon graduated from the University of Panama School of Medicine in 2000. He completed an Internal Medicine residency in Panama City before moving to the United States. He completed his Neurology residency and Vascular Neurology fellowship at the New York – Presbyterian Hospital of Columbia and Cornell in New York. Dr. Gonzalez-Castillon evaluates patients with cerebrovascular diseases including acute ischemic stroke, intracerebral hemorrhage, vertebral venous thrombosis, cerebral vessel atherosclerosis, spinal cord infarction, and vasculopathies. His research interests include stroke prevention and acute care.

Darryl Gress, MD
Dr. Gress is a Professor in the Department of Neurological Sciences at the University of Nebraska Medical Center. Dr. Gress received his MD from Washington University in St. Louis. He attended Johns Hopkins University in Baltimore, Maryland, and was Chief Resident at Massachusetts General Hospital in Boston, Massachusetts, where he also completed his fellowships. Prior to coming to Nebraska, Dr. Gress held academic appointments at Harvard Medical School, the University of California - San Francisco, and the University of Virginia. His recent projects have involved work with transcranial cerebral oximetry to improve neurocritical care management and patient outcomes.

Sachin Kedar, MD
Dr. Kedar was appointed as the program director for the UNMC/Creighton Joint Neurology Residency Program in August 2015. He takes over the reins of the program from Dr. Pierre Fayad, who served in this capacity for almost 12 years. Dr. Kedar is passionate about medical education and has served on education committees at the institutional and national levels. Prior to his arrival at UNMC, he served as the neurology residency program director at the University of Kentucky. He has received numerous awards in the area of medical education, including the A. B. Baker Teacher Recognition Award from the American Academy of Neurology. Dr. Kedar hopes to grow the program to be one of the top ten in the nation.

David Warren, PhD
Dr. Warren is an Assistant Professor in the Department of Neurological Sciences at the University of Nebraska Medical Center. Dr. Warren received his PhD (Psychology) from the University of Illinois at Urbana-Champaign. He completed post-doctoral training in cognitive neuroscience at the University of Iowa. Currently, Dr. Warren is conducting research on the neural bases of cognitive processes such as memory and decision-making.
Save the Date

The UNMC Department of Neurological Sciences
Annual Department Faculty and Alumni Reception
During the American Academy of Neurology (AAN) Annual Meeting

Saturday, April 16, 2016 | 7:00 pm - 9:00 pm

Bellagio
26 - 1055 Canada Place Way
Vancouver, BC V6C 0C3
Tel: 604-647-7523

RSVP to crystal.upshaw@unmc.edu or 402-559-6591

Please mark your calendars and plan to join us.

The More We Grow...

The Department of Neurological Sciences is expanding. Positions are currently posted in the following areas: General Neurology, Vascular Neurology, Epileptology, Scientific Administration and Human Factors. We are also interested in expanding all of our subspecialties, and we welcome inquiries even if positions are not currently posted. Expanding subspecialties include: Behavioral/Geriatric Neurology, Epilepsy, General Neurology, Movement Disorders, Multiple Sclerosis, Neurocritical Care, Neuromuscular Diseases, and Vascular Neurology/Stroke

Please visit us at unmc.edu/employment/ for more information.