Recognition for extraordinary stroke care

Nebraska Medical Center and Bellevue Medical Center have been recognized by the American Heart Association/American Stroke Association for extraordinary care stroke patients receive at the hospitals.

Nebraska Medical Center and Bellevue Medical Center each received the Get With The Guidelines® Stroke Gold Plus Quality Achievement Award.

The award recognizes the hospitals’ commitment to ensuring stroke patients receive the most appropriate treatment according to nationally recognized, research-based guidelines based on the latest scientific evidence.

The continued collaboration between departments at Bellevue Medical Center have helped streamline our processes that follow national guidelines,” says Nicole Keil, clinical program coordinator, Chest Pain/Stroke. “The fact that we have won this award three years in a row shows the level of commitment and dedication from the team to provide the highest quality of stroke care. It is a privilege to work with such amazing people at Bellevue.”

Nebraska Medical Center also earned the Target: Stroke Elite Advanced Therapy Award. To qualify for this recognition, hospitals must meet quality measures developed to reduce the time between the patient’s arrival at the hospital and treatment with the clot-buster tissue plasminogen activator, or tPA, the only drug approved by the U.S. Food and Drug Administration to treat ischemic stroke.

“The Target Stroke Honor Roll Elite and Advanced Therapy Award is something that all of our teams should be extremely proud of,” says Denise Gorski, program manager, Neurosciences. “Over the last several years, we have been consistently improving our speed and ability to safely and efficiently treat stroke patients. This is only possible when colleagues come together as a team. This has been extremely satisfying to observe, and all individuals involved should be proud of the differences they are making in improving the outcomes for our patients.”
Message from the Chair

The University of Nebraska Medical Center (UNMC) is an academic medical institution. In direct alignment with UNMC and Nebraska Medicine, our evergreen missions in the Department of Neurological Sciences (DONS) are premier patient care, education, research and outreach to our communities, including the underserved.

Innovative biomedical research is our weapon against human suffering and the costs of disease. It is the most social of activities and essence of the Great Plains IDeA Clinical and Translational Research network, which I am honored to direct. To succeed we continue to think outside ourselves, our specialties, and across departments, colleges and institutional boundaries. We adhere to C.P. Snow, who advised us to rejoin the two cultures — the sciences and humanities — to solve the world’s problems, and to E.O. Wilson, who urged us to break down silos to achieve consilience, the unity of knowledge.

In this spirit, the Great Plains IDeA-CTR network, administered in the DONS, spans our whole campus and all University of Nebraska institutions, also reaching Boys Town, the Dakotas, Kansas, Children’s Hospital and Medical Center, Creighton University, the Omaha-Western Iowa VA, a practice based research network spanning 46 sites, and many other flagship IDeA programs such as COBREs and INBREs. Our charge is to build infrastructure, services, resources, and partnerships across multiple institutions — and our next generation of investigators and clinicians to advance biomedical knowledge and cures for decades to come. We practice team science, with clear rules of engagement and community involvement, giving credit where credit is due.

With success have come enormous opportunities to do good. We now convene all national CTR programs (from Alaska to Hawaii, Maine to Puerto Rico) with links to all national Clinical and Translational Science Award (CTSA) sites. This makes UNMC a flagship for urgent nationwide biomedical research efforts, as in a recent nimble pivot to form a national COVID-19 registry, a COVID-19 virtual biobank, telehealth, and rural health initiatives. I now chair the American Brain Coalition, spanning 100 patient advocacy groups, pharma, universities, professional organizations, and friends at NIH, FDA, and the Congressional Neurosciences Caucus. Brain disorders impose staggering costs of more than $1.5 trillion per year. Due to difficulty, delays and risks, pharma has largely abandoned brain-related product development, leaving our patients bereft of treatments and hope. We’re tackling this through Cures legislative efforts to create a Neurosciences Center of Excellence at the FDA, spanning drugs, biologicals and devices, to help deliver the treatments our patients need. This is consilience and systems thinking at work.

Research in the DONS and UNMC is a target for systems thinking. Act locally, think globally. Reduce complicated problems to smaller ones with tractable solutions. Know the system. For example, in research we have an Institutional Review Board, Sponsored Programs Administration and accounting, information technology (IT), legal and other domains. The hospital tangos with the medical school, community, state and the federal agencies. The whole exceeds the sum of the parts. It’s all logistics, rules, funds flows, space, connections, stuff and people. We work to understand research needs, streamline processes, improve efficiencies, remove bottlenecks, and recruit the best people for our growing academic operations, including clinical, teaching, research and community partners, embracing service to our institutions, professions, partners, patients and the public. Sometimes a small change makes a big difference.
Our biggest gift is education at all levels, undergraduate, graduate, postdoctoral, and community based. We also advocate science, technology, engineering and math starting at an early age, to “rise above the gathering storm,” as ex-Merck CEO and surgeon, Dr. Roy Vagelos and NAS colleagues put it. Build science literacy to combat magical thinking and ignorance, and strengthen the pipeline for the next generation of physicians, educators and researchers. Science is not rarified, it’s fun. It’s not just test tubes and math. It’s a people’s history. It’s also good public policy and our team is doing its part.

On April 1, 2021, it will be seven years since our family crossed the Missouri River to Omaha. It’s a privilege to lead the DONS and the neurosciences programs — with superb colleagues in neurosurgery, PM&R, anesthesia pain, and psychiatry. I’m grateful to help build our biomedical research backbone and network and proud of our Mind and Brain Health labs and all neurosciences researchers. We’re mining a deep mine with NIH and industry, to improve health, mobility and quality of life across the lifespan.

We’re pioneering egalitarian platforms for personalized care, with attention to the underserved and forgotten. We use clinical trials, imaging, human factors and ergonomics, simulation, and novel tools to synch sensor signals and glean digital biomarkers from continuous decades of big, real-world data— drinking from a firehose. Our basic scientists are digging into developmental, degenerative and regenerative medicine, addressing stroke, Alzheimer’s disease, Parkinson’s disease, multiple sclerosis, inflammatory disorders, diabetes, cancer, trauma, COVID-19, and other plagues and scourges, here, nationally, and internationally. Our pipeline spans medicine, psychology, computer science, biostatistics, geography, public policy, business, ethics, law and the humanities. We even founded a Nebraska Medical Orchestra, feeding up to a National Association of Medical Orchestras cofounded by my daughter — the essence of consilience — and fun!

I am privileged to work with so many smart and creative people in the DONS, at UNMC and Nebraska Medicine — and in the community. It’s a blessing to make a difference, even more so in the face of our ongoing pandemic. We are proud of all the folks we’ve helped become doctors, scientists, teachers and leaders. We are grateful to the dean and chancellor offices, Nebraska Medicine, fellow chairs, and all our CTR folks. There are great people and opportunities here.

We take this opportunity to spread the good word on the DONS, the neurosciences and UNMC: People are everything. We’re scrappy, focused, resourceful and resilient, beating a path for academic biomedical enterprise and adventure. We have the ability, vision and teams to execute, through thick and thin. We’re better than we think — and not yet what we aspire to be. Quoting Neal Gaiman, “We are tougher than we seem... Our stories will outlive us. Let’s make them good.”

I hope you enjoy our good stories in this annual newsletter.

Sincerely,

Matthew Rizzo, MD, FAAN, FANA
Francis and Edgar Reynolds Professor
Chair, Department of Neurological Sciences
Clinical Program Leader, Neurological Sciences
Director, Great Plains IDeA CTR Network
Director, Mind and Brain Health Laboratories
Co-Director, Center for Integrative and Translational Neuroscience
Chair, American Brian Coalition
Being at the right place can make all the difference

For 45-year-old athletic trainer and bodybuilder Rene Martinez, a stroke was one of the last things on his mind. Rene kept meticulous track of his health, from his weight and diet to his daily exercise regimen.

It was the summer of 2018, and Rene was preparing for his next bodybuilding competition, an international competition in Kansas City, Mo. With several titles under his belt from Nebraska and Kansas City events, Martinez was hoping to add an international title to his record.

But it was Saturday, and Rene was taking the day off. He and his wife, Jenny, were planning to take their 7-year-old son boating. When Rene awoke that morning, however, he didn’t feel right.

“It was the weirdest and scariest feeling ever,” he recalls. “I tried to speak but nothing would come out.”

“He was trying to talk to me, but I couldn’t understand him,” Jenny says. “I told him to turn and face me and that’s when I realized he was having a stroke. His face was droopy, and he couldn’t move one of his arms. I told him we needed to go to the emergency room immediately.”

Jenny, who was eight months pregnant with their second child, grabbed their son and led Rene to the car. They headed to Faith Regional Health Services in Norfolk, Neb., less than a mile away.

A CT scan was done at Faith Regional followed by a telemedicine stroke consultation with the stroke team at Nebraska Medicine.

“There were no visible occlusions in the CT scan that would indicate a stroke, so I recommended he be transferred here so we could do additional testing,” says Marco Gonzalez, MD, the neurologist on call for the stroke team that day.
When Rene arrived at Nebraska Medicine, a whole team of doctors and nurses were waiting for him in the emergency department. "I felt so much better once we got there," recalls Rene. "When I saw that team waiting for us and how quickly they went to work on me, I knew we were in good hands."

Additional testing was done, but still no signs of blood clots in the large vessels were found. Dr. Gonzalez says he began to suspect patent foramen ovale (PFO), a congenital hole in the heart that doesn’t close properly after birth. This condition is present in about 25% of the population. Most live with PFO and don’t know it. While most people never require treatment, the condition can put people at higher risk for stroke, which occurs in a small percentage of patients.

An echocardiogram confirmed Dr. Gonzalez’s suspicions. Rene had a PFO. “When we have a young patient who has a stroke and doesn’t have any other risk factors, and we’ve done all of the standard testing and still can’t find a source, we start looking at PFO as the cause,” says Dr. Gonzalez.

Individuals with a PFO who have a stroke are at significant risk of having a second stroke. Nebraska Medicine was involved in a large clinical trial that revealed a significant reduction of recurrent strokes when the hole is closed. After discussing options with Rene and Jenny, Rene was started on aspirin to eliminate the risk of blood clots, and a PFO closure was scheduled with Andrew Goldsweig, MD, interventional cardiologist.

Dr. Goldsweig is part of an interdisciplinary clinic of neurologists, adult cardiologists and pediatric cardiologists at Nebraska Medicine that specializes in treating patients with PFOs. He is also a member of a group within the Society for Cardiovascular Angiography and Intervention that is writing the guidelines for treating PFO patients.

PFO closure is an outpatient procedure performed by inserting a tiny tube into a large vein in the groin and threading the tube to the heart. The tube holds a small clam shell device that is used to close the hole and remains in the heart permanently. "Because of our involvement in these trials, we generally perform more of these procedures than other hospitals in the area," says Dr. Goldsweig.

Rene has been doing quite well since the surgery and is pleased with his progress. He returned to competition mode the following year and competed in a St. Louis, Mo., international competition last fall, less than a year after his stroke, placing third. “I felt great about that considering what I had been through,” says Rene. “I felt great before the stroke, and I feel even better now.”

With a 9-year-old and a 21-monthold by her side, Jenny says she is very thankful that they made it to Nebraska Medicine. “Dr. Goldsweig and Dr. Gonzalez were both so helpful and encouraging,” she says. “They explained things well, answered questions and were very attentive. Aside from a slight speech problem when he tries to talk too quickly, you’d never know Rene even had a stroke.”

“Rene is testament to what happens when you come to a comprehensive stroke center,” says Dr. Gonzalez. “We have all the knowledge, expertise and tools in place to follow the right protocols and provide the right care to achieve the best outcome.”
AI algorithm can diagnose, predict risk for Alzheimer’s

Researchers, including investigators from UNMC, have developed a computer algorithm based on artificial intelligence (AI) that can accurately predict the risk for and diagnosis of Alzheimer’s disease. The algorithm uses a combination of brain magnetic resonance imaging (MRI), testing to measure cognitive impairment, along with data on age and gender.

Arun Swaminathan, MBBS, and Sachin Kedar, MBBS, of the UNMC Department of Neurological Sciences, were co-authors on the paper, which appears online in the journal Brain.

“The use of AI in medicine is a rapidly expanding field and heralds a future where man and machine will complement each other in diagnosis and treatment of various conditions,” Dr. Swaminathan said. “The use of AI in diagnosing patients with dementia, as demonstrated in this study, is a first step in developing better diagnostic algorithms for dementia and other neurodegenerative disorders to enable earlier detection and prompt treatment for these conditions.”

“With an aging population, the burden of neurodegenerative diseases such as Alzheimer’s dementia, will continue to increase,” Dr. Kedar said.

“A projected national shortfall of neurologists, particularly in rural and Midwestern states, will adversely impact care for our patients with dementia,” he said. “AI-based tools can support clinicians caring for patients with Alzheimer’s disease in our resource-limited geographical region. This collaborative study provides a first step in the use of AI in diagnosing Alzheimer’s dementia using commonly available clinical tests and radiological images.”

The AI strategy, based on a deep learning algorithm, is a type of machine learning framework. Machine learning is an AI application that enables a computer to learn from data and improve from experience.

“If computers can accurately detect debilitating conditions such as Alzheimer’s disease using readily available data such as a brain MRI scan, then such technologies have a wide-reaching potential, especially in resource-limited settings,” said corresponding author Vijaya B. Kolachalama, PhD, assistant professor of medicine, Boston University. “Not only can we accurately predict the risk of Alzheimer’s disease, but this algorithm can generate interpretable and intuitive visualizations of individual Alzheimer’s disease risk en route to accurate diagnosis.”

Dr. Swaminathan said he was pleased to be part of the study and looked forward to similar studies and collaborations in future.

“I’m excited to participate in such cutting edge multi-centric research involving UNMC and other prominent research institutions and look forward to helping develop many such novel diagnostic and therapeutic approaches in future,” he said.

ABOUT THE STUDY

The researchers obtained access to raw MRI scans of the brain, demographics and clinical information of individuals with Alzheimer’s disease and the ones with normal cognition from four different national cohorts. Using data from one of these cohorts, they developed a novel deep learning model to predict Alzheimer’s disease risk. They then showed that their model could accurately predict the disease status on the other independent cohorts.

An international team of expert neurologists then was asked to perform the task of detecting Alzheimer’s disease on the same set of cases. In this head-to-head comparison, the algorithm model performed slightly better than the average neurologist. They also showed that model-identified regions of high disease risk were highly aligned with autopsy reports of the brains on a few individuals who were deceased.
Movement Disorders fellowship draws increased interest

In the four years Danish Bhatti, MD, has been offering his mini-fellowship in movement disorders, he has never had as many applicants as he had this year. The program explores disorders such as Parkinson’s, ataxia and orthostatic tremor that Dr. Bhatti developed at UNMC. The enthusiasm for the program, which generally sees six to nine participants in years past, surprised Dr. Bhatti.

“We had 44 interested physicians from all over the world, including six from the United States,” said Dr. Bhatti, an associate professor of neurological sciences in the UNMC College of Medicine.

In the end, 28 physicians were reviewed for the program and 14 accepted representing 11 countries, including the U.S., Australia, Colombia, Ethiopia, Saudi Arabia, Kuwait, Qatar, Dubai, Bangladesh, India and Pakistan.

Among the fellows are the president-elect of the American Society of Neurophysiology Monitoring and two neurologists from Sioux Falls, S.D.

The six-month fellowship is offered entirely online and began June 1. Each fellow is assigned a faculty mentor and will take part in live sessions, online lectures, assigned research and reading. They also have the opportunity to discuss their own clinical cases and gain insight into the latest best practices on treating movement disorders.

With the large number of fellows this year, Dr. Bhatti enlisted the help of four movement disorder faculty and three senior fellows from UNMC.

“The key factor for the success of this program is that we are replicating a formal fellowship that would normally require a physician to leave their practice for a year to complete and condensing that into a six-month program provided on a virtual platform that allows the participants to stay in their home countries and continue with their clinical practice,” Dr. Bhatti said.

This is critical, he said, because several of the fellows, those from Kuwait, Dubai and Ethiopia, are the only movement disorder specialists in their countries.

It was important for Dr. Bhatti that the physicians selected for the fellowship would have the greatest impact.

“In designing this fellowship, I was very mindful of those physicians who do not have access to these training programs in their region, but who provide care to the most impoverished patients,” he said.

“I am excited to offer this kind of virtual fellowship, which allows clinicians to gain the knowledge and skills they need and can in turn share with their peers in their own institutions thereby providing the best care possible for patients suffering with movement disorders,” Dr. Bhatti said.

“Dr. Bhatti has developed an innovative program by providing important information in a virtual environment. This is a great example of how innovative virtual approaches can be used. When the world needed more virtual options, Dr. Bhatti’s program was already up and running and ready to receive more participants,” said Jane Meza, PhD, associate vice chancellor for global engagement at UNMC and the University of Nebraska at Omaha.
Drs. Amrita Vuppala and Bethany Lowndes accepted into the UNMC Interprofessional Academy of Educators

The UNMC Interprofessional Academy of Educators (IAE) was created to connect people with like interests to drive collaboration, camaraderie and the development of educational activities that cross unit lines. Membership into the IAE represents a pledge to provide assistance and mentorship to other UNMC teachers and also to help innovation locally, regionally, nationally and internationally.

Julie Pavelka, APRN-NP, continues to address need for Parkinson’s disease support

Julie creates helpful programs and outreach for patients with Parkinson’s disease (PD) and their families/caregivers. She continues to coordinate and facilitate educational updates/learnings to these patients outside of clinic, including the monthly PD Support Group meetings, the Parkinson’s Post newsletter and other outreach efforts.

The support group, which meets on the third Friday of every month, had its first virtual meeting on May 15, 2020. The hour-long session entitled “Inspiration and Motivation” was well attended with more than 50 attendees. Perhaps the most energizing part of the meeting was the Movement Disorders team video she created. Attendees were indeed inspired and motivated after watching the video. Viewers concluded with a resounding round of applause and grateful thanks.

Congratulations to Julie and the entire Movement Disorders team for their successful outreach efforts!

PD Support Group with record-breaking attendance and new groups created

Julie Pavelka, APRN-NP, Nebraska Medicine Nurse Practitioner

Amitra Vupplala, MD, Assistant Professor

Bethany Lowndes, PhD, MPH, Assistant Professor
Welcome New Faculty

Elizabeth Hartman, MD, Associate Professor, DONS

Dr. Hartman is a graduate of UNMC and obtained an internship with the Department of Internal Medicine in 2005. After completing a Multiple Sclerosis (MS) fellowship at the University of Chicago, Dr. Hartman was the MS director at the University of Illinois at Chicago for two years. For the past seven years, Dr. Hartman worked in private practice before joining UNMC in 2020. Her professional interests include MS, along with helping individuals and their families understand and better manage neurological conditions.

Three things people may not know about her:

• She was raised on a farm and ranch in western Nebraska with five older brothers and a younger sister
• She was the Women’s World Champion Buffalo Chip Thrower from Chadron’s Fur Trade Days celebration in 1999
• She enjoys running and being outdoors with her family

Maximiliano Hawkes, MD, Assistant Professor, DONS

Dr. Maximiliano Hawkes joined the department in October as a neurointensivist and assistant professor. He comes to us after completing his neurology residency in Buenos Aires, Argentina. Dr. Hawkes then went on to complete a Stroke Fellowship in Buenos Aires and a Neurocritical Care Fellowship at Mayo Clinic in Rochester, Minn.

Dr. Hawkes has professional interests in ischemic stroke, intracerebral hemorrhage, intracranial pressure and status epilepticus. Three things you may not know about him:

• He played in a rock band
• He is a former swimmer
• He is a soccer fan (River Plate!)
Welcome New Faculty

Miguel Situ-Kcomt, MD Assistant Professor, DONS

Hometown: Lima, Peru

Title and department at UNMC:
Assistant professor at the UNMC Department of Neurological Sciences, Movement Disorders Division

Research/professional interests:
• Medical education
• Parkinson’s disease pathophysiology and management
• Peripheral movement disorders

How I fell in love with neurology and movement disorders: I thought of medicine as the art and science of empathizing with other people, as well as delving into the mechanics of the human machinery. Thus, I found neurology, and by extension movement disorders, as a natural progression of that perception.

Education:
• MD, Universidad Peruana Cayetano Heredia, Lima, Peru
• Residency, neurology, University of Cincinnati
• Fellowship, movement disorders, University of Cincinnati

Memberships:
• American Academy of Neurology

Three things people may not know about me:
• I enjoy reading about history.
• I am an avid foodie.
• I recently have taken up the hobby of practicing Kung Fu.
DONS Spotlight

Julie Ditter, Admin

How long have you been with UNMC?
In October, it will be 30 years!

What were your roles before joining this department, and what are your roles now with the DONS?
I started out in Grants Accounting (now referred to as Sponsored Programs Accounting) in 1990. The office was located in the old Administration/IT Building on 42nd and Emile. The building is no longer there as it was torn down to make way for the Michael F. Sorrell Center for Health Science Education.

After six years in grants, I accepted a position in the Department of Psychiatry as a financial analyst. Psychiatry was in a long building on 45th Street that spanned from Emile to Dewey. It was torn down to make way for the two Durham Research Center towers. I enjoyed the faculty and staff there very much and made some lifelong friends that I am still in contact with today.

In 1998, the Center for Neurovirology and Neurodegenerative Disorders (CDDN) was approved by the Board of Regents and I accepted the position of administrator. The CDDN was housed in Swanson Hall on the corner of 45th and Dewey, and you guessed it, was torn down to make way for the Fred & Pamela Buffett Cancer Center. In 2004 we merged with the Department of Pharmacology and became the Department of Pharmacology and Experimental Neuroscience (PEN) where I was the administrator there until spring 2020 when I accepted the position here in the Department of Neurological Sciences.

What are some things you hope to accomplish in your new role?
I plan to review processes that are used in the department to find if we are doing things in the most practical and efficient way. So many processes are moving to electronic formats and I find that this saves time, money and space. During the COVID-19 pandemic, the institution has been forced find ways to adapt to doing business electronically. I hope that these practices will remain in place.

Another goal is to improve on financial compliance and financial reporting. In my 21 years in PEN, we evolved our systems to maximize efficiencies and reporting. I am fortunate that my colleague, Johna Belling, has also joined DONS, as she plays a key role in research administration and research finances. In my first five months with the DONS, we have not yet accomplished what we need to, but with the new fiscal year starting, we are making great progress. With assistance from many other staff, we are ready to start the year off with some new procedures that will help get the information to those that need it.

What do you enjoy doing outside of work?
I come from a small town but a large family. I am the youngest of seven children. My mother is 95 and still lives on her own in Humphrey, Neb. I love family gatherings and spending time with friends. I have several “therapy” groups that are great for making memories and laughing a lot! I also love to listen to books while driving, cleaning or walking.
Welcome New Residents

Mohammad Aladawi, MD
I am a graduate from University of Jordan school of medicine class of 2019. Before coming to UNMC, I worked as medical editor at Amboss. I’ve been interested in neurology ever since I started medical school. I currently see myself as a neuromuscular physician. My biggest career goal is to start a neurology residency program in my home medical school once I finish my training.

My life interests include humanities, history and art.

Mohamed Elfil, MD
I am a graduate from Faculty of Medicine, Alexandria University in Egypt. Before coming to UNMC to start my residency, I was doing research at the Department of Neurology of Yale University. My interests in neurology are mainly movement disorders and stroke.

Whenever I am not working or doing research, I am watching movies, running or playing soccer. One interesting fact about myself is that neither of my two hands is a dominant one.

Dmitry Balian, MD
I am from Belarus. Before arriving at UNMC, I was doing a clinical fellowship in neuro-ophthalmology at University of Illinois at Chicago. Before that I was working as a neuro-ophthalmologist and comprehensive ophthalmologist in Minsk, Belarus.

Interesting fact about me, I ran a full marathon in Reykjavik, Iceland.
Congratulations to the DONS research team on enrolling their first subject in the trial.

DONS research team enrolls UNMC’s first subject in the Healey ALS Platform Trial

Principal Investigator:
J. Americo Fernandes, MD

Research Faculty/Staff:
Ezequiel Piccione, MD
Pariwat Thaisetthawatkul, MD
Neil Jouvenat, PA-C

Renee Hogue, RN
Nick Miller, BA
Deb Heimes, BS

Isha Snehal, MBBS
I am from Gurugram, India. I completed my medical graduation from Lady Hardinge Medical College, New Delhi, before joining UNMC.

Apart from my interest in neurology, education and academics, I love to write — especially poetry. I authored and illustrated a book in 2018 called Why I Scream In Verse and a new one will be out soon! I am also a trained black belt in Karate, in Hindi classical singing and I’ve played Girls Nationals in soccer under 19.

Leith Hobbs, DO
Most UNMC people I’ve met so far know me as being the extremely tall PGY-1, who has to duck to go through the hospital doorways. Besides being a giant, I have done a few other things during my life. I grew up in northwest Indiana, about 45 minutes outside of Chicago. I decided to attend a college in Arkansas, originally on a basketball scholarship. However, after about a year of playing college ball, I decided to devote all my time and effort to pursuing a pre-medical degree.

After college graduation, I married my college sweetheart Mary Rachel. I then took a science teaching job in an inner-city high school where I taught 9th-12th graders biology, chemistry and physical science. After two years of teaching, I decided to attend medical school at NYIT-Arkansas State University. During medical school, I led a team that helped establish a boxing exercise program specifically designed for Parkinson’s disease patients. This experience led me to want to pursue neurology as a specialty. My current sub-specialty interests include: neuroimmunology, neuromuscular and community neurology.

In my free time I enjoy hiking, remodeling my home and spending time with my precious 4-month-old baby girl.
Dr. Rizzo is UNMC’s 15th Scientist Laureate

The era of the scientist in a silo — think of Galileo working alone in his tower — is over, said Matthew Rizzo, MD, Frances & Edgar Reynolds Chair and professor in the UNMC Department of Neurological Sciences. So even though Dr. Rizzo recently was named UNMC’s 15th Scientist Laureate, he said that science’s greatest discoveries — not to mention awards like this one, the highest honor UNMC bestows upon its researchers — now come from working in teams, or even “teams of teams.”

“I’ve worked with people in all of the colleges at UNMC, across all departments,” said Dr. Rizzo, who was honored along with other research awardees in a virtual ceremony Feb. 23, 2021.

“Many hands make light work, and there is a lot of wisdom in working together. Each of us have strengths. Each of us have gaps. Together, we can be really great.”

That idea is the cornerstone of the Great Plains IDeA-CTR, an organization led by Dr. Rizzo that brings together institutions across North Dakota, South Dakota, Nebraska and Kansas to collaborate on research and develop research resources across clinical-translational research. This grant is the largest single grant UNMC has ever received, at $20 million.

The true, real-life strength of this team of teams was brought to light during the ongoing pandemic.

“Being nimble, pivoting quickly and marshalling resources to face down COVID-19 helped create data gold mines and biobanks to answer all kinds of questions,” Dr. Rizzo said. “Some questions we want to answer are: What treatments...”
work? What are the long-term side effects? Is there a greater rate of cognitive problems? Who’s at greater risk? Will the virus have consequences down the road? It’s unprecedented to get so many networks together quickly so we can pool data to help figure out what is going on with this disease and the pandemic. Even better, we can use this approach to tackle many other conditions beyond COVID.”

Seeing how scientific data actually translates to real life is a common theme throughout Dr. Rizzo’s career.

“What we do in the clinic is, we can tap on reflexes, listen to someone’s heart, have them do some maneuvers, apply some tests.”

“That tells us a lot about the disease, but it doesn’t tell us how it plays out in the real world.”

So what does?

Dr. Rizzo uses high-fidelity driving simulators at UNMC’s Mind & Brain Health Labs along with digital information from a host of sensors embedded in people’s own cars and personal devices. Driving, he said, is an excellent way to see how our brains affect our decision making and behavior under pressure in critical settings.

“It allows us to learn about people in context,” he said.

This quest for knowledge and how it applies to real people, in their real lives, is never-ending.

“It’s just fascinating from so many different angles,” Dr. Rizzo said.

Drs. Taraschenko & Li receive NORSE/AES award

UNMC Department of Neurological Sciences Assistant Professors, Olga Taraschenko, MD, PhD, and Xiaowei Li, PhD, received a seed grant from the American Epilepsy Society (AES) and NORSE Institute to develop a new preparation of anakinra, an anti-inflammatory agent that has a promise for the treatment of autoimmune seizures.

Autoimmune seizures, like those occurring in New Onset Refractory Status Epilepticus (NORSE), currently have no effective treatments. Anakinra is currently approved by the FDA for the treatment of rheumatoid arthritis and has been tried with success in a few patients with NORSE; therefore, it may be a new promising agent. However, some properties of this drug, such as its short half-life and the need to be administered intravenously, limits its potential use in patients who are already severely ill and are being treated in the intensive care unit.

Drs. Taraschenko and Li proposed to develop a nanoparticle-bound preparation of anakinra and administer it intranasally, just like the other existing medicinal spray preparations. The belief is that anakinra administered via this route can be delivered directly to the brain and will obviate the need for an intravenous access.

The pair will test the nanoparticle-bound intranasal preparation in a mouse model of autoimmune seizures, with the goal of taking it to the bedside in the future. Dr. Li will be responsible for the development of nanoparticles and Dr. Taraschenko will be directing the studies in mice.

Drs. Taraschenko, MD, PhD, Assistant Professor

Xiaowei Li, PhD, Assistant Professor

Olga Taraschenko, MD, PhD, Assistant Professor

Xiaowei Li, PhD, Assistant Professor

RIGHT PLACE from pg 14
A Desire to Give Back

UNMC is in a key position to leverage clinical and research expertise by 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 generous gift can impact big discoveries and revolutionize care for those living with these devastating diseases. No gift is too small, and all gifts have the power to transform lives.

To learn more about how you can help, please contact Edwin V. Lyons, director of development, at 402.504.3339 or edwin.lyons@nufoundation.org

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