Board of Directors Spotlight: Dr. Kathleen Friel

Kathleen Friel, PhD, is delighted to serve on the Board of Directors of ASNR. Dr. Friel has always had a passion for neurorehabilitation, rooted in her own diagnosis of cerebral palsy (CP). Dr. Friel was born with CP and spent her childhood stewing over the side effects of rehabilitation. As a child, she deeply disliked anything to do with rehabilitation. However, as we now know, neurorehabilitation improves the lives of people with neurological diagnoses. As she grew up, Dr. Friel came to appreciate the field of neurorehabilitation, but was still a skeptic. She understood the importance of rehab but realized that our field needs to make rehab more engaging, more effective, and more efficient. This was bolstered by how her school integrated physical, occupational, and speech therapy into her schedule: therapy happened when the other kids enjoyed recess. This felt cosmically unfair. Since she was the first student with a disability to *ever* go to mainstream school in her home district, she knew she was paving the way for other children.

Dr. Friel's neuroscience career began when she joined the lab of Randy Nudo, PhD, with whom she completed her doctorate degree. Her work supported a theory that was novel at the time: injured adult brains are plastic, and recovery of function is, indeed, possible. Her research demonstrated that for animals to improve upper limb function after a mini-stroke, they must repetitively use that limb in skillful movements. In her postdoctoral work with Jack Martin, PhD, she tested the same principles in a feline model of CP. Her findings showed that structural plasticity and recovery are possible in CP as well, if rehabilitation included repetitive skilled movement of the weak extremity.

After her postdoctoral fellowship, Dr. Friel decided that a shift to clinical research would give her the opportunity to translate new findings to enhance recovery for people with neurological conditions. She partnered with Andy Gordon, PhD, and Holly Lisanby, MD, to learn the nuances of clinical research. Over the years, her lab conducted several clinical trials showing that skilled movement of a weak upper limb promotes lasting improvements in function. From robotics to non-invasive stimulation to physical rehabilitation, her research has examined a wide variety of interventions for people with cerebral palsy, spinal cord injury, and other neurological conditions. Some of her studies tested the possibility that rehab could be more efficient and effective than currently available interventions.

Unfortunately, Dr. Friel closed her lab at the end of 2024 for health reasons. She was formerly Director of the Clinical Laboratory for Early Brain Injury Recovery Burke Neurological Institute

and Associate Professor of Neuroscience at the Brain and Mind Research Institute at Weill Cornell Medicine. Dr. Friel is excited and incredibly grateful for collaborators like Dr. Gordon who are keeping her research moving.

1) How did you get interested in science, and what steps did you take to get to your current role?

As a child, I wanted nothing to do with the medical community. In high school, I had a wonderful chemistry teacher and biology teacher. Before I knew it, I was on the Chem-a-Thon and Mathletes teams. I was super cool. In college, I fell in love with the process of research. I was lucky to have very understanding and supportive mentors who led me from undergrad beaker-washing to kinematic analyses to clinical research. I'm so grateful to each of them for taking a chance on the Mathlete team captain. I promise, I also had outside interests.

2) Why did you decide to get involved with the ASNR Board of Directors?

I was first invited to ASNR by Catherine Lang, PT, PhD. She encouraged me to develop a symposium presentation for one of ASNR's Annual Meetings. That year, Drs. Andy Gordon, Bernadette Gillick, and I gave a presentation about basic and clinical CP research being done by our teams. I greatly value the opportunity to learn from people with other areas of expertise in neurorehabilitation. I was encouraged by many to get involved in ASNR, and I've loved my service!

FAST FACTS

FAVORITE BREAKFAST CEREAL

LUCKY CHARMS

FAVORITE BOOKS OR MOVIES

AN OLDIE BUT GOODIE - I LOVED THE BOOK *STIFF: THE CURIOUS LIVES OF HUMAN CADAVERS* BY MARY ROACH. I ALSO LOVE HISTORICAL FICTION, SUCH AS *THE LIONS OF FIFTH AVENUE* BY FIONA DAVIS.

FAVORITE PLACES TO TRAVEL

I LOVE EXPLORING THE UNITED STATES – THERE'S SO MUCH TO SEE. I LOVE WASHINGTON, DC, AND I REALLY ENJOYED VISITING SEDONA AND THE GRAND CANYON THIS PAST SUMMER.

FAVORITE SCIENTIFIC JOURNALS TO FOLLOW

FIRST, OBVIOUSLY, *NEUROREHABILITATION AND NEURAL REPAIR*! I ALSO KEEP UP WITH *DEVELOPMENTAL MEDICINE AND CHILD NEUROLOGY*, *JOURNAL OF NEUROSCIENCE*, AND *JAMA*.

IF YOU DIDN'T PURSUE A CAREER IN NEUROREHABILITATION, WHAT OTHER CAREER MIGHT YOU HAVE CHOSEN?

AFTER COLLEGE, I WAS DEBATING WHETHER TO GO INTO NEUROREHABILITATION OR SOCIAL WORK. I THINK BOTH CAREERS ARE ABOUT ADVOCATING FOR OTHERS AND BRINGING OUT THE BEST IN PEOPLE. THAT'S MY STYLE.

FUN FACT:

IN SEPTEMBER 2025, ONE OF MY FORMER MENTEES PUBLISHED A CHILDREN'S BOOK ABOUT MY CAREER. IT'S CALLED, *REWRITING THE RULES: HOW DR. KATHLEEN FRIEL CREATED NEW POSSIBILITIES FOR BRAIN RESEARCH AND DISABILITY*. IT'S WRITTEN FOR KIDS IN GRADES 1-4. I AM SO GRATEFUL TO DR. DANNA ZEIGER FOR WRITING THIS BOOK – SHE'S A FIRST-TIME AUTHOR WHO IS GETTING LOADS OF ACCOLADES FOR THIS BOOK!

3) What do you enjoy most about being an ASNR Board Member?

I love the opportunity to shape each year's Annual Meeting program. My greatest expertise is outside the field of stroke, and I enjoy having other diagnoses and perspectives represented at the conference. It is rewarding to have a say in the types of symposia and presentations that will be shared during the Annual Meetings, and through this role, I can help guide and amplify important conversations that are happening in the field.

4) What do you see as the biggest challenges or areas of opportunities in neurorehabilitation research right now?

I still think we owe a lot to patients with neurological disabilities. We now have decades of research establishing the importance of skillful movement in rehabilitation. We know that people need high doses of movement to optimize outcomes. However, implementation is still a problem. We need interventions that are truly engaging and fun, such that patients are excited to participate, using their own motivation as a pull. While we do have more engaging interventions now, they still get boring over time. Another huge challenge is cost. We need to reach more patients, independent of their ability to pay. We need to provide financial and practical assistance to enable regular attendance of the people we serve. Far too many people go without the best available rehab because they do not live near a provider and, even if they lived closer, have trouble getting to therapy appointments. We also need to improve the efficacy of home-based rehab approaches. From a research perspective, we also have the opportunity to combine modalities to optimize outcomes, such as combining non-invasive brain stimulation, nutrition, and/or medications with physical rehab.

5) You've left your academic position. What's next?

I did leave, though not exactly by choice. I have been living with metastatic breast cancer (MBC) since 2018. MBC is terminal and requires continual chemotherapy to keep it in check. The treatments that I now require sap my energy. It would be unfair to my lab and future participants for me to continue working under these circumstances. I miss science deeply, but I'm still involved. I'm still on the ASNR Board of Directors, and I'm grateful for their trust. I've received some formal training in patient advocacy and am using that wisdom to advocate for others with CP or MBC. I'm also writing papers from the data my lab has generated. For the most part, my days are filled with meaningful activities. And some days, I take naps in medical waiting rooms. I hope that my work will help move the needle to improve outcomes and quality of life for people with neurological disabilities and that my career will help pave the way for others who are interested in pursuing careers in neurorehabilitation research.