

Executive Committee Spotlight: Dr. Heidi Schambra

ASNR's Executive Committee is made up of a diverse group of leaders in neurorehabilitation who are instrumental for guiding the activities and the direction of the organization. Our current Program Committee Chair, Heidi Schambra, MD, has been an ASNR member for over a decade. She previously served on and chaired our Education Committee, and she has contributed to the society through involvement in webinars, roundtables, Annual Meeting presentations, and other activities. Dr. Schambra is an Associate Professor of Neurology and Rehabilitation Medicine, Vice Chair of Research in the Department of Neurology, and Principal Investigator of the Mobilis Lab at NYU Langone. In this interview, Dr. Schambra shares more about herself, her career, and her involvement with ASNR over the years.



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

The brain is endlessly fascinating to me, but what ultimately pulled me toward neurorehabilitation was the combination of scientific complexity and clinical need. As a neurologist, I was struck by how differently people recover after apparently similar brain injuries. I was also frustrated by how little we could tell patients about why recovery happens, who is most likely to recover, or how we might improve it. That led me to build a research program focused on the neural mechanisms of stroke recovery, moving between clinical neurology and translational neuroscience. I now lead a multidisciplinary lab and serve in a research leadership role at NYU Langone, which lets me pursue those questions while also helping create the conditions for other investigators to do ambitious, collaborative work.

2) What is the focus of your current research, and what are some of your key findings?

My research is mostly about understanding why some people recover movement after stroke better than others, and whether we can use that knowledge to make rehabilitation more effective. We study how motor pathways reorganize after stroke using transcranial magnetic stimulation, quantitative movement testing, imaging, and computational methods. One thing that has become increasingly clear is that recovery is not driven by one pathway doing one thing. Different pathways contribute differently depending on the part of the body, the behavior, and the stage of recovery. More recently, we have been studying how treatments like paired vagus nerve stimulation change these systems and whether we can predict who is most likely to

benefit. In parallel, we are developing better ways to measure what actually happens during rehabilitation, because “therapy dose” is still a surprisingly imprecise scientific variable.

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

ASNR has been an important intellectual home for me because neurorehabilitation is inherently interdisciplinary. The interesting problems usually sit somewhere between neurology, neuroscience, rehabilitation, engineering, behavior, and increasingly data science. ASNR brings together people who are comfortable living in those borderlands. I first became involved through educational and scientific programming. Over time, it felt natural to take on a broader role, especially to help support strong science, create opportunities for early-career investigators, and make it easier for people from different disciplines to actually find one another.

4) What do you enjoy most about being an ASNR Board Member, and what are you most looking forward to as you plan the 2027 ASNR Annual Meeting?

What I enjoy most is the opportunity to move the Society forward in ways that support its members and trainees. It feels meaningful to help shape something that strengthens the research community and, ultimately, improves care and outcomes for patients. The Board is also full of colleagues who care deeply about both the science and the neurorehabilitation community and are generally delightful humans.

For the Annual Meeting, I am most excited about creating a program that reflects where neurorehabilitation is going rather than simply where it has been. I want the meeting to bring strong mechanistic neuroscience together with clinical translation, quantitative measurement, novel technology, and computational approaches, while keeping the central question of meaningful recovery in view. Just as importantly, there will be East Carolina barbeque to be had.

FAST FACTS

FAVORITE BREAKFAST FOOD

COFFEE, THEN MORE COFFEE

FAVORITE AUTHORS

JUNOT DIAZ, JOHN KENNEDY TOOLE, EUDORA WELTY, ANNIE PROULX, MARILYNNE ROBINSON, DANIEL MASON, WILLA CATHER

FAVORITE PLACES TO TRAVEL

ANYWHERE WITHOUT INTERNET.

FAVORITE SCIENTIFIC JOURNALS TO FOLLOW

NEUROREHABILITATION & NEURAL REPAIR OF COURSE

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

CHIPS MOTORCYCLE OFFICER, À LA DREAMBOAT PONCH

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

A major gap and opportunity is measurement. Rehabilitation has historically had much less precise measures of treatment dose and treatment response than in other medical fields. New sensing, computer vision, machine learning, neurophysiology, and imaging methods give us the ability to measure both behavior and brain function at a resolution that was previously impossible. The challenge will be to use these tools to answer biologically meaningful questions rather than adopting technology simply because it is available. If we can combine rigorous measurement with mechanistic neuroscience and well-designed clinical studies, I think we have a real opportunity to shape recovery.