Voiceover:

As neuroscientists, our research is at the heart of our everyday lives. From designing experiments to analyzing data, to writing grants and journal articles. This work brings us closer and closer to understanding the most fascinating and mysterious part of our bodies, the brain and nervous system. But for neuroscience to have the greatest possible impact on our world, it must be rooted in a strong foundation of rigorous principles. You're listening to Pathways to Enhance Rigor: A Collection of Conversations where neuroscientists come together to discuss how to embed rigor into every part of the scientific process.

Voiceover:

This podcast is a part of the Society for Neuroscience's Foundations of Rigorous Neuroscience Research program, or FRN. Supported by the National Institute for Neurological Disorders and Stroke, FRN is designed to inform and empower neuroscientists at all career levels to enhance the rigor in their research and the scientific culture at large. In this episode, we hear from the principal investigators of FRN, Drs. Lique Coolen and Os Steward. They discuss the FRN project, the idea behind this podcast, and some of the conversations they're most excited about from the next four episodes. Without further ado, let's hear about Setting the Foundations.

Os Steward:

Hello, my name is Os Steward. I'm a professor in the Department of Anatomy and Neurobiology at the University of California, Irvine, and also director of the Reeve-Irvine Research Center there in the School of Medicine. My own research is in the area of spinal cord injury. We're trying to develop ways to enhance regeneration of axons after spinal cord injury and improve recovery function. And just to say, that is really the area that got me sort of involved in this whole aspect of scientific rigor.

Lique Coolen:

And hello, I am Lique Coolen. I'm a professor in biological sciences at Kent State University, which is in Ohio. I am also an associate dean in the College of Arts and Sciences for research development, graduate studies, and post-doctoral studies. My laboratory studies three different areas in the neuroscience. I study reproductive neuroendocrinology. So this is the control of the female reproductive cycle. I also study spinal cord pathways and how they control sexual reflexes in the interest of spinal cord injury. And finally, my lab studies the pathways that control motivation and reward linked to addiction. So Os and I are Co-PIs on a program for the Society for Neuroscience that is called Foundations of Rigorous Neuroscience Research. We call it the FRN program. This program is a three-year training program that is funded by the National Institute of Health in the United States and, specifically, is supported by the National Institute for Neurological Disorders and Stroke.

Os Steward:

Starting in approximately 2012, the Society for Neuroscience began to identify things that, as a society, we could do to enhance scientific rigor. This began with a series of sessions at the Society for Neuroscience meeting, continued with different training modules that the society sponsored. And now, we're actually at the point where we're trying to look broadly into what can be done to actually enhance research reproducibility and rigor for a lot of the levels of our organization, meaning, across the career spectrum. That was really the genesis of the project that we'll be talking about now.

Lique Coolen:

So therefore, of course, one really important aim of this program is to continue to develop training resources that will inform researchers in neuroscience in all different career stages on how to enhance rigor in the laboratory and the professional practices. But what is also really important is that not only do we inform our researchers, we empower them and engage them in this discussion. So another important aim there of all of our program is to promote awareness of barriers and to together come up and develop solutions to these barriers to, therefore, conduct rigorous neuroscience research.

Os Steward:

One of the main issues that we discovered as we were working to put things together was really a broad, I think, frustration would be the word, in the way that we were trying to emphasize rigor, but without really fully appreciating the barriers that exist at different levels in terms of promotion, tenure, hiring, all aspects of career advancement and how aspects of rigor were either being rewarded or not being rewarded. So this was really the genesis of the project, to bring together people to have conversations about these different issues from different perspectives, with different backgrounds.

Lique Coolen:

No, absolutely. And it's important that, also for very junior investigators, that they feel that they have the power to not only use practices for rigorous neuroscience, but also really change the culture of science. So that is a theme that's really going to come across throughout all of the programming, including the podcast that we are introducing here today. So some of the resources that have been produced so far as part of this program include in-person workshops during the meetings that are all recorded. And you can find those on the neuroscience website, which is neuronline.org/frn or FRN. There's also written articles, again, published on there online or published in journals. And, again, you can find those on the website. And I think what's really of interest is also the online discussion platforms that you can find. And those are still all open and available. You can still post your comments and your thoughts, and there will still also be experts that will be responding to your comments. And that leads me to the final item, expert meetings, meeting with experts, I should say, sessions that also have a lot of training materials available for you to review.

Os Steward:

And just to say, we really wanted this to be a back and forth between the people who were volunteering to actually participate in these panels. We wanted it to be maybe just a little bit practiced, but at least spontaneous, because so much incredibly interesting conversation and insight came out of the exchanges that came during the production of these.

Lique Coolen:

And also, the speakers are from many different stages in careers. So there's very junior career investigators, as well as very seasoned investigators that will be speaking, plus, they are from all over the world. So the speakers are coming from many different countries and they bring with them their many different perspectives. Some of the scientists that you will hear are in industry, others are running a laboratory in the universities or are involved in scientific rigor in a very different way. So they will all come with their different perspectives to these discussions. In addition, we wanted to have the focus, not so much on all the problems, you get tired of hearing about problems, and really focus on the solutions. So the speakers really will be talking about what they think of solutions to further enhance scientific rigor.

Os Steward:

We're living in a time when society has, to some extent, lost its trust in science and scientists. We can all contribute to improving the situation by improving ourselves. And, in a sense, that's maybe one of our biggest obligations. We serve the public, we work for the public, and the public has to be able to believe and trust what it is that we do. So in the context of scientific rigor, thinking together, building together, and making it better is all a good thing and now more than ever.

Lique Coolen:

Okay. So with that, we really hope that you will enjoy this podcast series. Have fun.

Voiceover:

Thank you for listening to this episode of Pathways to Enhance Rigor: A Collection of Conversations brought to you by the Society for Neuroscience, the world's largest organization of scientists and physicians devoted to understanding the brain and nervous system. You can hear the rest of this series on your preferred podcatching app. Be sure to visit neuronline.org/frn to explore the other resources and materials created as a part of the FRN program. That's N-E-U-R-O-N-L-I-N-E.org/F-R-N. We'd like to know what you thought of this episode. Please take a moment and check the episode description for a link to a one-minute survey. Supported by the National Institute for Neurological Disorders and Stroke grant number 5R25NS112922-02. Drs. Os Steward and Lique Coolen are the principal investigators and senior producers. This episode was written and produced by Maya Sapiurka, Tristan Rivera, Emily O'Connor, and Taylor Johnson. Audio engineering and post-production services were provided by Human Factor. Thank you for tuning in and we'll see you next time.