Q: Who was Connie Lieber?

Constance Lieber was an extraordinarily kind, generous and selfless individual who was deeply committed to understanding the biological origins of mental illness and using that information to improve people’s lives. This was her life’s mission. She and her husband Steve had a daughter with schizophrenia, and that inspired them to help create an organization now known as the Brain and Behavior Research Foundation, which has handed out more than $320 million worth of small grants to investigators, mostly early career researchers, all over the world – I was a recipient of several. These launched careers, which have led in a very short period to substantial progress in turning clinical genetic associations into molecular mechanisms and therapeutic targets, with two novel drugs expected to enter Phase I clinical trials within two to four years.

Q: How do I nominate someone for the Constance Lieber Prize for Innovation in Developmental Neuroscience?

The prize is meant to memorialize Connie’s extraordinary life and contribution to biomedical research and her conviction that understanding brain development was critical for understanding mental illness. We’ve set an age limit on who’s eligible to win because we want to recognize people who are still in the most productive times of their career. On the official prize website (clprize.libd.org), there’s a form available to nominate qualifying individuals. Self-nominations are not accepted, and we encourage people to have a colleague who’s a leader in the field make this nomination. The nominations have to be submitted by December 31st, and the winner will be announced at a symposium at the Johns Hopkins School of Medicine in June 2017. We have a selection committee comprised of leading developmental neuroscientists, and we look forward to reading about some extraordinary individuals who’ve had a really innovative impact.

Q: What’s different about the Lieber Institute’s approach to brain research?

Every institution in the world that’s studying psychiatric illness is trying to use recent genetic discoveries to enrich the search for mechanisms of illness that might uncover new targets, but the Lieber Institute has the largest, most carefully curated repository of human brain tissue related to neuropsychiatric illness that has ever been assembled. We have over 2,200 human brain samples, and we are on track to collect 500 new brains each year. We have hundreds of brains of patients with developmental behaviour disorders, as well as hundreds of brains of normal individuals – from prenatal to old age – and these are brains that are processed and extensively characterized by one team of people, in contrast to most other brain repositories which are based on separate sub-collections. The other unique thing we have are hundreds of human living cell lines that we’ve created from over 500 of these brains. So we can now explore how genetic variation influences development in brain tissue and in cell models from specimens with the same genomes. That’s an important investment the Lieber Institute has made, and these are extraordinary biologic materials that we are ultimately sharing through our research with scientists around the world. These investments have led to a very short period to substantial progress in understanding brain development was critical for understanding mental illness.

Q: How might new findings from the Lieber Institute translate into novel strategies for identifying and turning clinical genetic associations into breakthrough treatments?

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Q: With years of experience leading research programs at the NIH, what has it taught you about how best to make meaningful clinical progress?

My scientific career has been focused on understanding the basic mechanisms of serious psychiatric illness at the level of the human brain, and one of the things I learned at NIH is to think outside the box. You have to be flexible and not get stuck in a paradigm – and the best way to do that is in an institutional setting that is multidisciplinary and not dominated by preconceptions of getting funded for one’s personal science. This was in part what made me so excited about the Lieber’s desire to create such an environment that’s dynamic, flexible but strongly deliverable-oriented. If you come to visit us, you’ll see that we live in a glass house with open spaces and a physical environment that sends a strong message that there are no silos here. Consistent with Connie and Steve Lieber’s vision, diverse scientists from different facets of biomedical research are in the same space interacting with each other in real time on a daily basis, all striving to translate the newest discoveries about genes and brain development into novel strategies for identifying and validating novel drug targets.