# Kunal Ghosh Reception Speech

Thank you all for coming out this evening! I know SfN is a busy time and it really means a lot to us to have you share a few minutes of your precious Sunday evening with us. I hope you're having fun and meeting people – meeting with old friends and making new connections!

It's an exciting time for Brain Science. I strongly believe that we're on the brink of a revolution – a revolution that will yield *deeper insights* into the brain and that will fundamentally advance our understanding of how the brain works, and how it does not in disease. Beyond advancing our understanding of the brain, this revolution promises to have profound implications on how we treat, and perhaps even ultimately cure, brain disorders. It is estimated that brain disorders cost the world $2.5 trillion annually, not to mention the social cost, the human cost. This huge social and economic toll stems from the lack of precise and efficacious therapeutics that can reverse the symptoms of Alzheimer's, or that can target and re-tune the neural circuits that go awry in diseases like Parkinson's or schizophrenia. If we understood how the brain functions, and how it malfunctions, we would not only address a grand challenge that is arguably grander and more complex than the grand challenge of mapping the genome, but we would also pave the way for a new era of therapies, treatments, and maybe even cures, for brain disorders.

This revolution in Brain Science will be led by *you*. But this revolution will not be successful, the promise that lies out there will not be realized, without an active brain tools or neurotech industry playing a pivotal role. Just take a look at Genomics. Industry, companies like Affymetrix, Illumina, played a crucial role in developing and disseminating instrumentation, reagents, and analytics to sequence and decode genomes. Without a Science-driven industry the promise of the Human Genome Project would not have been realized. We would not be entering the new age of personalized medicine. Similarly, without a Science-driven industry serving neuroscientists, the promise of the revolution in Brain Science that we are on the verge of seeing will not be realized. You don't have to take my word for it! The leaders of the BRAIN Initiative have said just as much. For the BRAIN Initiative to be successful, for *you* to lead the revolution that will ultimately decode the language of the brain, industry has to rise up to serve you with not just new technologies and tools, but with models to iteratively innovate, and disseminate and support these tools. Industry will have to do what only industry does best: partner with the technology and tool innovators, whether they're within companies or at universities, translate innovative neurotechnologies into scalable products to enable new discoveries, to enable you to revolutionize Brain Science.

When we started Inscopix just about four years ago, to translate a miniature microscope technology for imaging large-scale Calcium activity in freely behaving

rodents into a scalable product, nVista, we had probably only an inkling of an idea that the field was at the brink of a revolution. We had a feeling that understanding circuits would be important, but we certainly did not foresee the BRAIN Initiative being launched in 2013, which has understanding neural circuits towards understanding the brain in action as one of it central tenets. We are more emboldened than ever and stand ready to help lead the brain tools, or the 21st century neurotech industry, in its mission to enable and to catalyze the revolution in Brain Science. We might be only four years old, and we might still be a small company, with just shy of 30 full-time employees, truly dedicated and passionate employees, but we have a bold vision to develop, iteratively innovate upon, and disseminate the technological, biological, and analytical tools that will be necessary to monitor, manipulate and decode neural circuit activity. We hope to be part of a vibrant industry that enables and catalyzes your efforts to decode the language of the brain. We hope to be part of a Science-driven industry that partners with you through the entire research process, from supporting you to ensure that you get that first data set as quickly as you can, to working with you to ensure that you can effortlessly manage and analyze the big brain data sets to unlock the mysteries of the brain.

Today we're still squarely focused on scaling-up our capabilities for imaging and interpreting Calcium dynamics in freely behaving rodents. We're also keen to partner with innovators of all kinds of tools – technological, biological, or analytical – to serve

the needs of neural circuit research. We also care very much about innovating on new business models towards democratization of new tools and solutions, and to help in building capacity. Last year we launched the DECODE grant program to provide grants of equipment, supplies, and software to labs specifically interested in understanding the neural circuit basis of disease. A group of 13 labs, some of whom are here today, won the first DECODE grants, and are doing amazing work on advancing understanding of diseases like autism, PTSD.

And literally this evening, at this very moment in time, on behalf of the entire Inscopix team I'd like to officially announce the launch of an innovative "Technology-as-a-Service" program – which we call "1,000 Neurons" – to easily facilitate our NEAP academic community to access additional systems and to build capacity. For as low as $1,000 a month, a NEAP lab will be able to subscribe to an additional nVista system with complete warranty and equipment protection. There's no limit to the number of systems that a lab can subscribe to.

I won't take up much more of your valuable time this evening. Before you get back to mingling, I'd like to summarize the four key messages that I made in my remarks today.

1. We're at the brink of a revolution in Brain Science. Make no mistake about it. The 21st century will see breakthroughs on our understanding of how the brain works, how it does not, and will see a new generation of therapeutics – small

molecules, biologics, and eletroceuticals – to treat and perhaps even cure brain disorders.

2. The success of this revolution and how quickly the outcomes of the revolution are realized will absolutely depend on the 21st century neurotech industry's ability to serve you, scientists, with the tools and solutions that will enable you to discover and that will catalyze your research. When we look at other frontier projects and grand challenges such as mapping the genome and genomics, or even space travel, it doesn't take long to appreciate the significance of industry and great companies like Illumina and SpaceX in truly enabling and catalyzing the revolutions in those spaces. For the 21st century neurotech industry to play the pivotal role that it needs to play in the Brain Science revolution, we need your support. We will also need you to appreciate the role of industry in neuroscience, and we will need you to help us help you.
3. Inscopix stands ready to lead the 21st century neurotech industry and to partner with you, all the way from providing you with products to supporting you technically and scientifically and ensuring that your time is spent productively on research and on discovery. We will innovate organically, through licensing and acquisitions, and we will provide you with scalable, reliable, and high-performing products. We will support those products and your research, and will do

everything that we can to streamline workflows, improve your research productivity, and to enable you to revolutionize Brain Science.

4. Lastly, and more immediately, if you are a NEAP Lab, an academic member of the Inscopix Community, you can still directly purchase additional systems or you can now subscribe to new systems through the 1,000 Neurons Technology-as-a-Service program. Please contact an Inscopix team member if you'd like to sign-up!

Let's all work together to seize the opportunities ahead of us. Here's to gaining deeper insights into the brain, and to revolutionizing Brain Science….