PITT | SWANSON ENGINEERING

BIOENGINEERING

MESSAGE FROM THE CHAIR

SANJEEV G. SHROFF, PHD

On behalf of our faculty, staff, and students, I am happy to present you with the Department of Bioengineering's Spring-2018 E-Newsletter. Many exciting things have happened since we communicated last (Fall-2017), and I would like to share some of this information with you.

While our department is involved in many research areas, in this newsletter, I would like to focus on our work in neural engineering area. An interview with Dr. Peter Strick is the featured story. Dr. Strick, Distinguished Professor and Thomas Detre Endowed Chair of Neuroscience and founding Scientific Director of the Brain Institute at Pitt, underscores the importance of collaborative efforts between bioengineers and neuroscientists/clinicians for basic and applied research related to normal and abnormal brain function. The Center for Neural Basis of Cognition, a cross-university research and educational program between the University of Pittsburgh and Carnegie Mellon University, promotes this type of interdisciplinary research collaboration by taking advantage of each institution's strengths.

Pitt Bioengineering faculty published several important articles in the neural engineering area over the past 5 months; three publications are highlighted in the current newsletter: (1) The work of an interdisciplinary team of researchers, which included Aaron Batista's group, was featured in a recent issue of Nature Neuroscience. Using a brain-computer interface, this research team provides new insights into the changes that take place in the brain while learning a new task. (2)Takashi Kozai and his colleagues at Michigan State University and the Mayo Clinic published a paper in Nature Biomedical Engineering. This publication provides new insights into the role of glial cells in the context of stimulation of neural tissue by implanted devices. (3) In a paper published by the Journal of Materials Chemistry B (The Royal Society of Chemistry), Tracy Cui and colleagues report the development of a novel, aptamer-based sensor for detecting cocaine in brain tissue of live animals. This technology is expected to facilitate studies aimed at examining why adolescent brain is more vulnerable to addictive substances like cocaine than the adult brain. This research was also featured on Pittsburgh's NPR station.

Several major grants were awarded to Pitt Bioengineering faculty in the neural engineering area over the past 5 months: (1) The National Institutes of Health (NIH) awarded Raj Gandhi a R01 grant to develop experimental and computational approaches to study the neural control of interceptive movements. (2)Tamer Ibrahim has continued to receive NIH funding for his laboratory's hardware and software development associated with the whole-body magnetic resonance imager. This technology has contributed to research in a variety of neurological disorders. (3)Lee Fisher (Assistant Professor of Physical Medicine & Rehabilitation and Secondary Faculty in Bioengineering) and Doug Weber were one of the four Pitt teams to receive the NIH BRAIN Award. They will be working to improve neuro-prosthetics through sensory feedback.

Takashi Kozai served as co-vice chair at the inaugural Gordon Research Conference on Neuroelectronic Interfaces. The meeting took place March 25-30, 2018 in Galveston, Texas.

I am delighted to report that Lance Davidson, Richard Debski, and Jonathan Vande Geest were inducted into the American Institute of Medical and Biological Engineering (AIMBE) College of Fellows on April 9, 2018.

Bioengineering undergraduate and graduate students continue to excel. For example, I am delighted to report that six current bioengineering students (2 undergraduate students and 4 graduate students) received the 2018 NSF-GRFP award and one current bioengineering undergraduate student received an Honorable Mention.

I would like to extend a warm welcome to Allison Formal who joined us as the Director of the Pitt Coulter Translational Research Partners II Program. Last month, the University of Pittsburgh announced that James R. Martin has been named Dean of the Swanson School of Engineering. He will succeed Gerald Holder, who has served as Dean of the Swanson School since 1996 and returns to the faculty in fall 2018. We thank Jerry for his outstanding leadership and support for Pitt Bioengineering, and we look forward to Dean Martin's arrival in August 2018.

Please peruse our newsletter for more details on these and other stories. On behalf of the Department of Bioengineering, I thank you for your continued interest and support.

Sincerely,

Sanjeev G. Shroff, PhD
Distinguished Professor of and McGinnis Chair in Bioengineering