The Foundation’s grant making is focused primarily on pioneering efforts in biomedical engineering.

The platform he is developing centers on the development of a 3-D dynamic model of the tumor microenvironment to characterize the role of nanoscale imaging microscopes in tumor progression and metastasis.

Robertson’s research has been awarded the 61st Lindau Nobel Laureate Summer Meeting Public Impact Fellowship worth $10,000 from the UC Irvine Office of Research to support the establishment of the “W. M. Keck Nanotomography Laboratory,” whose mission is to develop state-of-the-art technologies that will revolutionize how protein dynamics are measured.

This technology will help gain insight into protein signaling mechanisms in the native intra- and extracellular environment. According to Digman, “The main advantage of this technology is that the laser beam can be positioned at any point in the cell. We can detect single molecule events while the cells are migrating and, with our fast feedback algorithm, we can maintain the fixed position while the nanotube ‘toggles’ between being free and laser-bound.”

Peeling the molecular interactions at the nanoscale inside live tissues and capturing the exact point at which a molecule is considered the next frontier in biosensing and cancer research. Developing this understanding in the next few years is critical to improve the therapy for various clinical settings, such as to monitor the dynamics of protein interactions that drive cellular behavior in living tissues during actions such as wound healing, neuronal targeting, angiogenesis and metastasis.
Dear Friends of BME:

The last nine months have been a whirlwind experience for me as I learned the ropes of being a department chair while getting my feet wet in the Department of Biomedical Engineering (BME). I have been a UC Irvine faculty member for nine years, so I can say that I am now more passionate than ever to be part of the BME family. If you have ever had a conversation with me about our short history, and am even more excited about our future. I invite you to take a moment and read through the rest of the newsletter, including the “Research Highlights,” “Faculty Profile,” “Empowering the Faculty” and “Discovery” sections.

Best Regards,

Michelle Khine

BME Assistant Professor Receives CAREER Award for Neuron Research

Zoran Nenadic, UC’s most recent CAREER awardee, recently demonstrated how to estimate a neuron’s position, size and dendritic tree morphology in real-time with an accuracy that takes into account design content, mathematical rigor and high sensor density.

BME: Bridging the Disciplines - Mobilizing the Students - Empowering the Faculty

Biomedical engineering is a multidisciplinary field whose practitioners understand how to bridge fundamental discoveries to applied clinical settings. BME faculty lead four highly visible and well-funded research centers that bridge fundamental discoveries to applied clinical settings. Each of these centers exceeds $1 million per year.

BME faculty are competitive in garnering extramural grants, and participating in cooperative research across fields of study.

Michelle Khine

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