



A Message from the IBIOE Director

Dear alumni, academic colleagues, clinical partners, and industry partners:

It is my pleasure to update you with news highlights from the Institute for Biological Interfaces of Engineering (IBIOE) at Clemson University.

Here in the southeastern region of the United States, we are in the midst of a very busy summer. Please see our website for more detailed news updates, <http://www.clemson.edu/centers-institutes/ibioe/>. In the meantime, I draw your attention to a few highlights to whet your interest.

After a multi-stage competitive review and interview process, the National Science Foundation (NSF) has awarded Clemson University an I-Corps innovation grant to develop IBIOE laparoscopy-focused test systems for translation. Clinical input to the foundational research was overseen by IBIOE adjunct faculty member and laparoscopic clinician Dr. Dane Smith. The grant will build on this foundation and fund a collaborative team comprising IBIOE entrepreneurship mentor- faculty investigator - student entrepreneur to carefully explore the limitations and opportunities to translate their research to commercialization reality. Additionally, the NSF has awarded IBIOE a training grant to introduce undergraduate researchers to IBIOE multi-disciplinary research technique and concepts; the program will be collaboratively conducted by IBIOE engineers at Clemson University and IBIOE biologists at the University of North Carolina at Charlotte, with input from education and mentoring specialists at both locations. This exciting program will be launched in August.

Meanwhile on the Clemson University campus, IBIOE doctoral graduate student collaborators Jordon Gilmore (bioengineer) and Justin Ballenger (science educator) spearheaded three June workshops for visiting school children to introduce them to IBIOE concepts and creative inquiry. The workshops involved interactive online demonstrations as well as hands-on activities and showcased a very unique IBIOE partnership coupling experts in engineering and in education. Once again this summer we will be partnering with the Clemson College of Engineering & Science to provide an IBIOE Call Me Doctor®-sponsored symposium series for incoming Clemson University minority freshman, introducing them to the concepts of research as well as special research opportunities.

As far as personnel news, we are pleased to welcome IBIOE visiting scholar, Dr. Ugur Hasirci, from Duzce University in Turkey. Ugur's background is in Electronics Engineering; he will be working with us over the next year with focus on biomodeling of 3D tissue systems. As for me, I just returned from China, where, in the capacity of President of the Society For Biomaterials, I served as the United States representative



Dr. Karen Burg

to the recent World Biomaterials Congress in Chengdu, China. Several Congress presentations featuring IBIOE biofabrication efforts were very well received. While on site, of particularly exciting note, we began work in planning a future US-China roundtable to discuss medical technologies, specifically best research and training practices as well as best mode of technology translation and connection between two major world markets (including, of course, the role of test systems).

Many thanks for your interest in and support of IBIOE.

Best wishes from Clemson,

Karen J.L. Burg

Director

Kerri Kwist Joins IBIOE as New Cell Engineering Research Associate

IBIOE is proud to announce the recent addition of Kerri Kwist to its tissue engineering research team as the new Cell Engineering Research Associate. Kwist's main job responsibilities include identifying IBIOE cell biology needs and implementing solutions to meet those needs as well as exploring and developing novel biology techniques.

Kwist's professional background includes working as an adjunct instructor at the Biology Department at Tri County Technical College where she taught both lab and lecture classes in the subjects of biology, anatomy and physiology and microbiology. Kwist comes to IBIOE with a strong background in different laboratory environments including endocrinology research laboratory, forensic biology and microbiology.



Kerri Kwist

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Call Me Doctor® Fellow LaToya McDonald Embarks on New Research Path

Call Me Doctor[®] fellow LaToya McDonald was the first person in her family to go to college. Now, she'll be the first person in her family to be called "Doctor". McDonald began her journey to a PhD in July 2011 as she commenced her research with cancer cells and biomechanics under the mentorship of IBIOE collaborative researcher and Clemson University Bioengineering professor, Dr. Delphine Dean.

McDonald grew up in Columbia, SC, where she developed an early interest in engineering and math. By the time she was in ninth grade, she was taking senior calculus classes surrounded by all upperclassmen. "I loved math in high school and just always knew I wanted to be an engineer." After high school, McDonald traveled to Raleigh, North Carolina to study at St. Augustine's College where she graduated with a Bachelor of Science degree in Engineering and Mathematics in May 2010.

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LaToya McDonald

IBIOE Research Assistant Professor, Dr. Brian Booth, Presents at the International Association for Breast Cancer Research Conference

Dr. Brian Booth, IBIOE Research Assistant Professor, took part in the 28th International Association for Breast Cancer Research (IABCR)/Breakthrough in Breast Cancer Conference in Manchester, England from April 15-18, 2012. Booth presented his poster abstract entitled, "Differential expression of stem cell associated genes in nuclear label-retaining epithelial cells during mouse mammary gland development." Booth's poster was one of 100 abstracts that were selected for presentation at the poster session.

This was Booth's first time presenting at IABCR conference and believed it was a great opportunity to discuss his most recent data. "It's great to be in a place where breast cancer researchers from around the world are coming together to gain novel insights and new collaborations in the areas of stem cells in breast cancer development," he said. "The IABCR conference inspired me to drive my research forward."

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Dr. Brian Booth

IBIOE PhD Student Jordon Gilmore Earns Seminar Award

IBIOE Graduate Student Jordon Gilmore was honored with Second Place in Clemson University's Bioengineering Department's fall semester seminar presentation awards. Gilmore presented a summary of his research entitled, "Automated Loom Development for Variable Weaving for Biocompatible Meshes." Each semester, Department Head Martine LaBerge gives three awards to the best seminar presentations. Winners receive a certificate of achievement and \$300 travel award to attend a bioengineering conference of their choice. To watch a video on the IBIOE loom project, click [here](#).

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Jordon Gilmore

IBIOE...Linking research, production, and clinical application to engineer tissue systems for design and testing of new medical solutions. Where innovation occurs at the boundaries of disciplines.

THIS NEWSLETTER WAS SENT FROM:

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