

BIOENGINEERING

PRESENTS

Engineering Materials and Interfaces for Next-Generation Biodegradable Implants



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12:00 PM – 1:00 PM
2101 ENGINEERING V

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ABSTRACT:

In today's medical world, biomaterials are used for everything from coronary stents to orthopedic implants and devices. Current medical implants and devices are mostly made of titanium alloys or stainless steel – permanent materials that potentially increase patients' risk in infection and chronic pain, and often require secondary surgeries for removal. To address the critical needs of regenerative medicine and future medical implants, we are interested in developing biodegradable materials and nanostructured interfaces. This presentation will particularly focus on magnesium-based biodegradable metals and examples of nanostructured interfaces for controlling implant degradation and cellular responses for a wide range of medical applications.

BIOGRAPHY:

Dr. Huinan Liu currently is an Assistant Professor in the Department of Bioengineering, the interdisciplinary Materials Science and Engineering Program, and the Stem Cell Center at the University of California at Riverside (UCR). She received her Ph.D. in Biomedical Engineering from Brown University in 2008 and her M.S. and B.S. in Materials Science and Engineering from Purdue University and the University of Science and Technology in Beijing. Prior to joining UCR, she worked in a start-up company to translate nanomaterials to clinically viable products. Her current research involves design, fabrication, and evaluation of novel biodegradable materials for guided tissue regeneration and controlled drug delivery. Of particular interest is to understand cell and tissue interactions with material microstructure, processing, and properties toward better performance in human body. She has provided 54 peer-reviewed journal articles, 30 conference proceeding papers, 2 books, 9 invited book chapters, 4 provisional patents, 38 invited talks, and 100+ conference presentations and abstracts. Dr. Liu served as a symposium organizer for Materials Research Society (MRS) annual meetings and World Biomaterials Congress (WBC), and session chair for American Institute of Chemical Engineers (AIChE) annual meetings, Society for Biomaterials (SFB) annual meetings, etc.

Faculty Website: <http://www.engr.ucr.edu/faculty/bio/liu.html>

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