

*Joint Department of*

# BIOMEDICAL ENGINEERING



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## “Regenerative Biomaterials: Enabling the Practice of Regenerative Medicine”

### **Guillermo Ameer, Sc.D.**

Daniel Hale Williams Professor of Biomedical  
Engineering & Surgery  
Director, Center for Advanced Regenerative Engineering  
Director, Regenerative Engineering Training Program  
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Dr. Ameer is the Daniel Hale Williams professor of Biomedical Engineering and Surgery in the Biomedical Engineering Department at Northwestern University. He is the founding director of the Center for Advanced Regenerative Engineering (CARE). His research interests include regenerative engineering, biomaterials, additive manufacturing for biomedical devices, controlled drug delivery and bio/nanotechnology for therapeutics and diagnostics. Dr. Ameer’s laboratory pioneered the development and tissue regeneration applications of citrate-based biomaterials (CBB), the core technology behind the innovative bioresorbable orthopaedic tissue fixation devices CITREFIX™, CITRESPLINETM, and CITRELOCK™, which were recently cleared by the F.D.A for clinical use and marketed worldwide. CBBs are the first thermoset synthetic polymers used for implantable biodegradable medical devices. The co-founder of several companies, Dr. Ameer has over 300 publications and conference abstracts and 65 patents issued and pending in 9 countries. Dr. Ameer is a Fellow of several professional societies and a member of the U.S. National

### **ABSTRACT**

Regenerative engineering is the convergence of advances in materials science, physical sciences, stem cell and developmental biology, and translational medicine to develop tools that enable the regeneration and reconstruction of tissue and organ function. I will describe how materials can be engineered to play a critical role in treating tissue and organ defects and dysfunction by promoting cellular processes that are conducive to regeneration. Applications of these materials to address the complications of diabetes and orthopaedic injuries will be discussed.

**Friday, September 16th  
12:00 Noon**

**Presented From: 4142 Engineering Building III (NC State)  
Videoconferenced to: 321 MacNider Hall (UNC)  
& East Carolina University (ECU)**