



# BIOENGINEERING

## Educating Thinkers, Leaders, and Entrepreneurs



# Clemson University

- Since 1889
- Land-Grant Public University of SC
- >20,000 students (undergraduates and graduates)
- 5 Colleges
  - College of Engineering & Science (~8,000 students)
    - Department of Bioengineering
      - BS, MS, PhD, Meng
      - MD/PhD, DMD/PhD



# Clemson Bioe

**GREENVILLE HEALTH SYSTEM PATEWOOD CAMPUS**  
Translational Research  
IRB Based Research  
BS, MS, PhD  
MD/PhD  
Surgery Residency



# iomaterials

**CLEMSON MAIN CAMPUS**  
BS, MS, PhD  
Basic Research  
Technology Development



**BIOENGINEERING BUILDING**  
MUSC Campus  
Clinical Research  
Research Training  
PhD  
MD/PhD, DMD/PhD

1968  
1st International Bioengineering Symposium (IBS), C



Maps are not

## Education/Training

- BS, MS, PhD Bioengineering, and Meng
- BS concentration in biomaterials and bioelectrical engineering
- Undergraduate Research-Creative Inquiry, Mentored Research, Senior Honors, Study Abroad
- 5 year BS/MS dual degree program
- Medical Device Recycling and Reprocessing Certificate
- MS in Bioengineering/MBA in Entrepreneurship and Innovation (CUBEInC Enterprising Studio)

## Research

- Advanced biomaterial design, fabrication, and testing
- Tissue engineering and regenerative medicine
  - Cardiovascular, neural, orthopaedic
- Nanotechnology for drug delivery, targeting, and imaging
- Image-guided surgery
- Optical imaging and biophotonics
- Research Centers-SCBioCRAFT and IBioE

## Economic Development

- SCBIO; Upstate SC Alliance
- Stryker (SC Med TransTech Program)
- CUBEInC Biomedical Corporate Collaboration
- Intellectual property development and faculty-driven start-ups
- Design and Entrepreneurship Network (DEN)



# SC-Bioengineering Center of Regeneration and Formation of Tissues (SC-BioCRAFT)

**Mission:** to find better treatments for human diseases by fostering interdisciplinary collaborations among researchers and enhancing interdependent intellectual capital and resources within the State of South Carolina.

**Project I** — Developing Luminescent Strain Sensors to Evaluate and Monitor Osteoinductive Therapies

Target investigator: Dr. Jeff Anker, Associate Professor of Chemistry, Clemson University

**Project II** — Targeted Nano-therapeutics for Neural Regeneration

Target Investigator: Dr. Jeong Soo Lee, Assistant Professor Bioengineering, Clemson University

**Project III** — Polymer Microarrays for Stem Cell Cardiac Differentiation

Target Investigator: Ying Mei, Ph.D., Assistant Professor of Bioengineering, Clemson University MUSC Campus

**Project IV** — Diabetes Resistant Vascular Graft Remodeling

Target investigator: Dr. Agneta Simionescu, Assistant Professor Bioengineering, Clemson University

**Project V** — Role of DCHS1 in Mitral Valve Development

Dr. Russell (Chip) Norris, Assistant Professor, MUSC



Go Tigers and Thank you!