UCLA Engineering
HENRY SAMUELI SCHOOL OF
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BIOENGINEERING

PRESENTS

Using immunomodulatory biomaterial scaffolds to guide wound healing, tissue regeneration, and vaccine responses.

THURSDAY, May 21st, 2020
12:00 – 1:00 PM
Zoom Link:
https://ucla.zoom.us/j/3578398609

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ABSTRACT:

The immune system is the first responder to injury. While the immune system protects against foreign invaders, it can also contribute to tissue damage, scarring, and foreign body responses to implanted biomaterials. Still, the immune response in the correct context is required to properly orchestrate tissue repair. We created a tissue engineering technology that mimics the natural structure and porosity of the extracellular matrix of tissue for multiple clinical applications, including cutaneous wound healing. We discovered that while limiting immune responses can result in tissue scaffold properties that accelerate wound healing, eliciting the correct type of immune response from the biomaterial can trigger cutaneous regeneration. Our goals are to tune immune responses through this immunomodulatory biomaterial platform to design both regenerative immunotherapies and more potent vaccines.

BIOGRAPHY:

Dr. Scumpia received a BS in Microbiology and Cell Sciences from the University of Florida. He received his M.D. and PhD. from the University of Florida where he studied the immunobiology of sepsis. He completed his residency and fellowship training in Dermatology and Dermatopathology at UCLA. He is currently an Assistant Professor in the Department of Medicine at UCLA where he studies how innate and adaptive immune responses and the nervous system are activated by bacterial pathogens, cutaneous injury, and biomaterials in the skin and how to develop this understanding into potential therapeutics. He is currently a member of the American Academy of Dermatology and the Society of Investigative Dermatology where he is the Co-Director of the Innate Immunity, Microbiology, Microbiome symposium.