Jeffrey J. Rice, PhD

Assistant Professor
Department of Chemical Engineering

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EDUCATION

Ph.D. Chemical Engineering, University of California, Santa Barbara, CA, USA 2001-2007
Thesis Project: *Development & Optimization of Bacterial Display Methodologies for Peptide Library Screening*
Advisor: Prof. Patrick S. Daugherty, PhD

RESEARCH EXPERIENCE

Assistant Professor, Chemical Engineering, Tennessee Technological University, Cookeville, TN 2013-present
Research Project: *Combinatorial Protein Engineering, In Vitro Cellular Flow Chambers, Bio-synthetic Hydrogels, Rational Protein Design*

Postdoctoral Scholar, Ecole Polytechnique Fédérale de Lausanne (**EPFL**), Switzerland 2008-2012
Advisor**:** Prof. Jeffrey A. Hubbell, PhD, Laboratory of Regenerative Medicine and Pharmacobiology
Research Project: *Engineering Morphogens for Improved Tissue Regeneration and Wound Healing*

Scientist, Protein Engineering Division, at **CytomX**, Santa Barbara, CA 2007-2008
-Applied protein engineering technologies developed at UCSB and headed a research project within the Institute for Collaborative Biotechnologies (a joint effort between the Army, academia, and industry) to engineer microfluidic devices for pathogen detection

RESEARCH PROJECTS

Engineering of three dimensional cellular flow chambers for drug screening applications and in vitro analysis of cellular differentiation, migration, and tissue structure formation in physiological conditions.

Engineering of extracellular matrix proteins for improved wound healing and nerve regeneration.

Site directed mutagenesis of fluorescent proteins for tailored functions and enhanced fluorescent properties.

RECENT PUBLICATIONS (*authors contributed equally)

Rice JJ, Martion MM, Evan S, Hubbell JA (2014). Control Release Strategies in Tissue Engineering, Tissue Engineering (pp. 347-386). Waltham, MA: Academic Press.

Martino* MM, Briquez* PS, Güç E, Tortelli F, Kilarski WW, Metzger S, **Rice JJ**, Kuhn GA, Müller R, Swartz MA, and Hubbell JA (2014). Growth Factors Engineered for Super-affinity to Extracellular Matrix Enhance Tissue Healing. ***Science***. 343(6173), 885-888.

De Laporte* L, **Rice* JJ**, Martino MM and Hubbell JA (2013). Tenascin C promiscuously binds growth factors via its fifth fibronectin type III-like domain. ***PLoS ONE*** 8(4): e62076. doi:10.1371/journal.pone.0062076.

Rice* JJ, Martino* MM, De Laporte* L, Tortelli* F, Briquez PS, Hubbell JA (2012). Engineering the regenerative microenvironment with biomaterials. ***Adv. Healthcare Materials****, doi:10.1002 /adhm. 201200197.*

Rice JJ, Gerwins P, and Kilarski WW (2012). Mechanisms of angiogenesis: Perspectives from antiangiogenic tumor therapies. ***Current Angiogenesis***. 1(2):139-147.

Getz JA, **Rice JJ** and Daugherty PS (2011). Protease-resistant peptide ligands from a knottin scaffold library. ***ACS Chemical Biology***. 6(8):837-44.

AWARDS

TTU Quality Enhancement Plan Award for Undergraduate Education 2014
BMES Travel Award 2013
Gordon Conference Travel Award 2013
Whitaker International Postdoctoral Scholar 2009-2011