



Engineering materials for trauma medicine



Prof. Suzie H. Pun

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Abstract

Trauma-related injuries, such as from motor vehicle accidents, accidental falls or acts of violence, are three of the top 5 causes of death in the world for ages 5-29 years. Damage control resuscitation is initiated by first responders to restore tissue perfusion and oxygen delivery while preventing complications associated with aggressive resuscitation efforts. However, as most interventions for addressing bleeding rely on blood product transfusions, limited treatments are available for use outside the hospital setting. We have been developing synthetic therapies for stabilizing trauma victims in the critical “golden hour” after injury. This presentation will describe hemostatic polymers designed to address noncompressible hemorrhage and synthetic, low volume resuscitants that maintain organ perfusion while preserving the patient’s coagulation system.

Biography

Suzie H. Pun is the Washington Research Foundation Professor of Bioengineering, Director for the Molecular Engineering and Sciences Institute, and Associate Director of the Resuscitation Engineering Science Unit (RESCU) at University of Washington. She is a fellow of the U.S. National Academy of Inventors (NAI) and American Institute of Medical and Biological Engineering (AIMBE), and has been recognized with MIT Technology Review’s “Top 100 Young Innovators” designation, the Presidential Early Career Award for Scientists and Engineers, and as an AAAS-Lemelson Invention Ambassador. She was also recognized with the University of Washington’s Marsha Landolt Distinguished Graduate Mentor Award for her dedicated mentoring of students. She currently serves as an Associate Editor for ACS Biomaterials Science and Engineering and on the Science Board of Reviewing Editors.

Suzie Pun received her B.S. in Chemical Engineering from Stanford University and her Ph.D. in Chemical Engineering from the California Institute of Technology. She also worked as a senior scientist at Insert Therapeutics/Calando Pharmaceuticals developing polymeric drug delivery systems before joining the Department of Bioengineering at University of Washington. Her current work focuses on biomaterial applications in drug delivery, trauma medicine and cell therapy.

*** ALL ARE WELCOME ***

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