Rebecca L. Heise, Ph.D.

Inez A. Caudill, Jr. Distinguished Professor and Chair, Department of Biomedical Engineering | B.S. Chemical Engineering, B.S. Biomedical and Health Engineering, Carnegie Mellon University | Ph.D. Bioengineering, University of Pittsburgh at VCU College of Engineering

Engineering Research Building, Room 4322B, Richmond, VA, US

Professor Heise studies pulmonary mechanotransduction, including lung injury and pulmonary regenerative medicine

Biography

Dr. Heise is an associate professor of biomedical engineering at Virginia Commonwealth University (VCU). She holds an affiliate appointment in the Department of Physiology and Biophysics at VCU and is a member of the Massey Cancer Center and the Johnson Center for Critical Care and Pulmonary Research. She earned her B.S. in chemical engineering with an additional major in Biomedical and Health Engineering from Carnegie Mellon University in 2003. She then earned her PhD in bioengineering from the University of Pittsburgh in 2008. She then did her postdoctoral work in the Laboratory of Respiratory Biology at the NIEHS in Research Triangle Park, NC. She joined the faculty of Biomedical Engineering at VCU in 2010. Dr. Heise?s research focuses on pulmonary mechanobiology and regenerative medicine. She seeks to understand how the mechanical environment in the lung influences cellular behavior in health and disease with in vitro and in vivo models. Dr. Heise also researches the use of naturally-derived extracellular matrix as a biomaterial for cell and drug delivery to the lung. She has been awarded an R01 from the National Institute of Aging to study the effects of ventilator induced lung injury on inflammatory cell signaling, and she has earned a CAREER award from the National Science Foundation to study cell-ECM interactions in pulmonary fibrosis.

Industry Expertise

Research, Education/Learning

Areas of Expertise

Lung injury, Pulmonary regenerative medicine, Mechanobiology, Tissue Engineering, Smooth muscle cell signaling, Cellular biomechanics

Education

University of Pittsburgh
Ph.D. Bioengineering

Carnegie Mellon University
B.S. Biomedical and Health Engineering

Carnegie Mellon University
B.S. Chemical Engineering

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