

University of Houston - Biomedical Engineering Seminar

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Via Zoom

Zoom: <https://uh-edu-cougarnet.zoom.us/j/91584753211?pwd=YUY3Q3puekZ5THljNjFoU2dCTjNuQT09>

Regenerative Medicine for Pelvic Floor Disorders: the Hope and Hype



Margot S. Damaser, PhD

Abstract

Pelvic floor disorders include urinary incontinence, fecal incontinence and pelvic organ prolapse. They are prevalent among the elderly, particularly among older women who have delivered children vaginally. Regenerative medicine and tissue engineering have great potential for treating pelvic floor disorders. Much has been made of the potential for stem cells, in particular, to permanently regenerate injured and atrophied tissues (the hype), leading to great hope for a cure. However, results have been disappointing. Translating results from animal models to successful clinical trials is particularly difficult in regenerative medicine since humans are unique in their poor regenerative capacity as they tend more toward scarring than regeneration after injury. Scarring prevents regeneration, as well as vascularization and innervation of the newly regenerated or tissue engineered structures or organs. In this talk, I will summarize the hope and hype of regenerative medicine for pelvic floor disorders. I will also discuss possible regenerative solutions to the challenging situation of regeneration for pelvic floor disorders with examples from our research.

Biosketch

Dr. Margot Damaser has a PhD in Bioengineering from Berkeley. For over 25 years, she has led a research lab conducting research on the causes of and treatments for pelvic floor disorders, including stress urinary incontinence, pelvic organ prolapse, and fecal incontinence. Dr. Damaser and her team have developed several novel wireless catheter-free devices for improved diagnosis and treatment of incontinence. She has also developed and used animal models to test novel therapeutics with a focus on applying techniques from regenerative medicine to pelvic floor disorders. Dr. Damaser has nearly 200 publications and funding from VA and NIH. Dr. Damaser is a member of AIMBE and has won several awards for her research and mentoring and in June she will be inducted as a Senior Member of the National Academy of Inventors.