

# Biomedical Discussion Group

## Engineering Nanomaterials for Applications in Regenerative Medicine and Cancer Immunotherapy

Friday, May 31, 2019

2-3pm, Engineering 6 Room 4022 (E6-4022)

**Dr. Blanka Sharma**

Assistant Professor, Biomedical Engineering, University of Florida



### Abstract:

Biomaterials have the potential to improve therapeutic options for a wide range of clinical problems. Dr. Sharma's laboratory investigates fundamental cell-material interactions to guide the development of targeted drug and cell delivery systems for applications in regenerative medicine and cancer. The first part of this talk will focus on osteoarthritis (OA), a prevalent, debilitating joint disease that has no cure or disease modifying treatment. OA is highly complex with maladaptive processes occurring within different tissues in the joint, each with their own unique drug delivery barriers and considerations.

The second part of this talk will focus on the application of biomaterials to cancer, where a critical challenge in treating solid tumors is overcoming the immunosuppressive microenvironment that diminishes immune surveillance and facilitates tumor progression.

### Bio:

Dr. Sharma is an Assistant Professor of Biomedical Engineering at the University of Florida. Her research focuses on the development of biomaterials and targeted therapies that direct the functions of stem and immune cells for applications ranging from tissue repair to cancer therapy. Dr. Blanka Sharma received her undergraduate degree in Chemical Engineering from the University of Waterloo (Waterloo, Ontario, Canada), her Ph.D. from Johns Hopkins University (Baltimore, MD) in the Department of Biomedical Engineering, and her postdoctoral training at the Cleveland Clinic (Cleveland, OH). Dr. Sharma served as Director of Research for Cartilix Inc. from 2005-2009, a start-up company based on her doctoral research, where she worked towards clinical translation of a hydrogel technology for cartilage repair in the knee. After starting her faculty position in 2014 at the University of Florida, Dr. Sharma was featured by the American Society for Engineering Education as one of "20 Under 40" Outstanding Junior Faculty in the U.S. In 2016, Dr. Sharma received the Faculty Teaching Excellence Award from the Department of Biomedical Engineering, and the award for "Outstanding Service to Graduate Students" by the UF Graduate Student Council. Dr. Sharma is also a recipient of the National Science Foundation Faculty Early Career Development Program (CAREER) award in 2019, one of the NSF's most prestigious awards for junior faculty. Her research program is also supported by the National Institutes of Health, the Department of Defense, and the State of Florida.

This event is supported by the Chemical Engineering Department and CBB



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