



# Medical Physics Seminar



Monday, December 3rd 2018

1345 HSLC ~ 4:00 P.M.



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## **Characterizing the Microstructure of the Uterine Cervix using Model-Based Quantitative Ultrasound Parameters**

Our group has been developing methods to objectively characterize the collagen microstructure of soft tissues. Lately we have been applying these methods to study of the uterine cervix throughout pregnancy. This is motivated by the lack of understanding of the biomechanics this gatekeeper undergoes through gestation as well as misconceptions about the tissue's constituents. In addition to parameters that objectively quantify tissue softness/stiffness, which have great clinical relevance to physicians, there is a need to understand why these stiffness changes occur. This work will focus on use of parameters derived from the acoustic backscatter coefficient to address questions related to structural remodeling, highlighting their utility in studying both structure and function of the cervix. This work represents foundations of novel parameters that may be used for monitoring the cervix in vivo during pregnancy.

**1345 Health Sciences Learning Center (HSLC) 4:00 - 5:00 P.M.**