

# COLLOQUIUM

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## DIGITAL TOMOSYNTHESIS: CURRENT BIOMEDICAL IMAGING RESEARCH AND FUTURE PROMISING DIRECTIONS

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10-31-13

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Abstract: Digital tomosynthesis refers to a three-dimensional low-dose X-ray imaging technique that allows reconstruction of an arbitrary set of planes in the object from limited-angle series of projection images. In breast imaging fields, compared with standard mammography, digital breast tomosynthesis (DBT) improves conspicuity of structures by removing the visual clutter associated with overlying anatomy. In chest imaging fields, the technique has been commercially available. This talk focuses on image reconstruction algorithms and optimization for the digital breast tomosynthesis imaging technique to improve early breast cancer detection. Applications with pulmonary nodule detection and other potential clinical and industrial applications will also be discussed.