

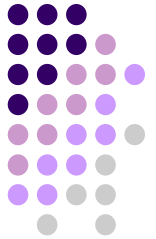
# Medical Physics Seminar

## Monday, November 23, 2015

### 1345 HSLC ~ 4:00 P.M.

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### Development and Validation of Quantitative MR Techniques for Abdominal Imaging

Emerging Magnetic Resonance-based quantitative imaging biomarkers have the potential to enable improved tissue characterization, with general application in the detection, staging and treatment monitoring of diffuse and focal disease. In abdominal imaging, specific applications of these techniques include quantification of fat and iron deposition in tissue, and assessment of lesions in multiple organs. Importantly, valid quantitative imaging biomarkers should be accurate and reproducible. However, the inherent sensitivity of MRI to a variety of different effects (eg: motion, relaxation, chemical composition, magnet imperfections, etc) introduces significant challenges for quantitative techniques, often resulting in poor or unknown accuracy and reproducibility, and precluding their widespread dissemination. In this talk, I will provide an overview of recent efforts at the University of Wisconsin to address these challenges in order to develop and validate quantitative MRI techniques, with a specific focus on fat and iron quantification, and diffusion MRI in the abdomen. The scope of the presentation will include mature projects as well as early stage ideas and opportunities.

**1345 Health Sciences Learning Center 4:00-5:00 PM**