MEDICAL PHYSICS SEMINAR SERIES

Peter Ferjancic

Probabilistic incorporation of uncertainties in radiation therapy

Current radiotherapy planning guidelines were established by ICRU reports and prescribe accounting for uncertainties by expanding target volume by margins – a simple to use approach, but with several limitations. An alternative is using robust optimization (RO) and probabilistic robust planning (PRP). In this work we will be looking at the uncertainties affecting planning, how can we incorporate them using RO, and the differences in dose plans created using the classical, RO and PRP.

Ping Ni Wang

Accelerated radical imaging with compressed sensing reconstruction for time-resolved breast DCE-MRI

Dynamic contrast-enhanced (DCE) MRI plays an essential role in the diagnosis and staging of breast cancer. Current breast DCE-MRI strategies provide high sensitivity for cancer detection but are known to be insufficient to fully capture rapidly changing contrast kinetics at high spatial resolution across both breasts. Advanced acquisition and reconstruction strategies aim to improve spatial and temporal resolution and increase specificity for disease characterization. Here, we evaluated the spatial and temporal fidelity of a modified data-driven low-rank based (MOCCO) compressed sensing reconstruction compared to compressed sensing with temporal total variation (CS-TV) with radial acquisition for high spatial-temporal breast DCE-MRI.

Monday, April 5
4:00PM (CT)

Email Questions: ladewerd@wisc.edu

Seminar Link: https://bit.ly/3jF4fj8

School of Medicine and Public Health
UNIVERSITY OF WISCONSIN–MADISON