

The Medical College of Wisconsin

Division of Biostatistics

Proudly Presents:
A Statistical Research Seminar
Talk By:



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Title: Online Forecasting of Lung Tumor Motion

ABSTRACT: Lung tumor tracking for radiotherapy requires real-time, multiple-step ahead forecasting of a quasi-periodic time series recording instantaneous tumor locations. We introduce a location-mixture autoregressive (LMAR) process that admits multimodal conditional distributions, fast approximate inference using the EM algorithm, and accurate multiple-step ahead predictive distributions. LMAR outperforms several commonly used methods in terms of out-of-sample prediction accuracy using clinical data from lung tumor patients. With its superior predictive performance and real-time computation, the LMAR model could be effectively implemented for use in current tumor tracking systems.

Tuesday, October 2, 2018

3:30 PM – 4:30 PM

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M2050

Light refreshment provided 3:10 PM