On Modeling and Forecasting Time Series of Curves

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Abstract: Our work is motivated by the need for interday and dynamic intraday forecasting of call arrival rates of a telephone call center. The forecasts are useful for staffing and agent scheduling purpose. Our approach combines a dimension reduction through smoothed functional principal comments analysis and time series modeling. Using simulation and real data, we shall show that (i) smoothing is beneficial and (ii) our dynamic intraday forecasting method is effective in producing good forecasts.

This is joint work with Haipeng Shen of UNC.