Longitudinal modeling when response and time-dependent covariates are measured at different timepoints

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In this talk, we will discuss a flexible method to handle both association and temporal sequencing of distinct longitudinal measures, where the measures may be of mixed type (e.g., one continuous, the other binary) and recorded on non-uniform grids and different time points from one another. A smoothing step will be involved. The approach will be demonstrated on a dataset of hemodialysis patients, where longitudinal measures of health outcomes (e.g., infection) were recorded at different time points than longitudinal physiologic measures such as serum C-reactive protein levels (a marker for inflammation). An interesting scientific question to answer is whether experiences of infection follow or predate inflammation. Some simulation results will also be provided, time permitting.