



Habilitation Antrittsvortrag zum Thema

A General Framework for Regression with Functional Data, with Applications

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We present a general framework and two related inference methods for regression of (correlated, non-Gaussian) functional responses on multiple scalar and functional covariates. By representing the associated inference in terms of a generalized additive mixed model for scalar responses, we are able to make use of established algorithms to fit complex and versatile models for functional responses under a large variety of distributional assumptions. We discuss approaches to model spatial, temporal, spatio-temporal and hierarchical correlation of functional responses in this framework and describe some applied results, as well as related applications of these ideas to scalar responses in distributed lag models and cumulative, time-varying effects of time-varying covariates in time-to-event models.