

Kolloquium „Statistische Methoden in der empirischen Forschung“

Wann: 06. November 2018, 17:00 – 18:30 Uhr

Wo: Robert Koch-Institut | Nordufer 20 | 13353 Berlin (Wedding),
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From start to finish: A framework for the production of small area official statistics

Small area estimation is a research area in official and survey statistics of great practical relevance for national statistical institutes and related organisations. Despite rapid developments in methodology and software, researchers and users would benefit from having practical guidelines for the process of small area estimation. In this talk we propose a general framework for the production of small area statistics that is governed by the principle of parsimony and is based on three broadly defined stages namely, specification, analysis/adaptation and evaluation. Emphasis is given to the interaction between a user of small area statistics and the statistician in specifying the target geography and parameters in light of the available data. Model-free and model-dependent methods are described with focus on model selection and testing, model diagnostics and adaptations such as use of data transformations. Uncertainty measures and the use of model and design-based simulations for method evaluation are also at the centre of the talk. We illustrate the application of the proposed framework using real data for the estimation of non-linear deprivation indicators. Linear statistics, for example averages, are included as special cases of the general framework.