
Swiss Statistics Seminar – Autumn 2018

Friday, November 9, 2018

University of Bern

14:15 - 14:30 Welcome coffee/tea

14:30 – 15:30

Thordis Thorarinsdottir – Norwegian Computing Center, Oslo

Post-processing climate model output to obtain accurate high-resolution climate projections

15:30 - 16:30 **Poster session** with apéro

We warmly encourage everyone, and in particular PhD students and postdocs, to take advantage of the poster session to present their work.

Please just send an email to office@stat.unibe.ch by October 31, 2018.

15:30 – 16:30

Richard Samworth – University of Cambridge, Cambridge, UK

Classification with imperfect training labels

Registration for attendance is not required.

Location:

Institut für Exakte Wissenschaften, Sidlerstrasse 5, Lecture Hall B

See also: www.imsv.unibe.ch/research/talks/swiss_statistics_seminars_live/index_eng.html

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Thordis Thorarinsdottir

Post-processing climate model output to obtain accurate high-resolution climate projections

High-resolution unbiased information on future climate change is commonly required for local impact assessment and adaptation decision-making. Climate models are our primary source of knowledge about future climate development. However, global and regional climate models are generally biased and their resolution is often lower than desired, resulting in biases in the subsequent impact simulations. When downscaling the climate model output to finer grid resolutions or individual locations, it is imperative to include stochastic components to model local variability not accounted for by the lower resolution model. This involves developing space-time models that are consistent with observational data over historical periods while also being computationally feasible. We discuss this conundrum and propose an approach that is applied to daily mean temperature projections for Norway.

Joint work with Qifen Yuan, Wai Kwok Wong, Stein Beldring, Shaochun Huang and Chong-Yu Xu.

Richard Samworth

Classification with imperfect training labels

Supervised classification is one of the fundamental problems in statistical learning. However, it is frequently the case that the class labels in the training data are inaccurate, either due to a coding error, or because the true labels are difficult or expensive to determine. We will present both general theory to characterise the effect of label noise on an arbitrary classifier. We will then specialise to three popular approaches to classification, namely the k-nearest neighbour classifier, support vector machines and linear discriminant analysis, and show that, under stronger conditions, more detailed asymptotic properties may be derived. Our conclusions act as a counterpoint to much of the folklore in the computer science/machine learning literature.