Invitation

In Prof. Dr. Stephan Huckemann's Oberseminar on statistics on non-euclidean spaces

Christof Schötz

(Ruprecht-Karls-Universität Heidelberg, DFG Graduiertenkolleg1953)

will give a talk about

Rates of Convergence of the Fréchet Mean Estimator

Time and venue

Thursday, 09.05.2019, 2.15 pm

IMS, **CIP-Pool 4.101**, Goldschmidtstr. 7, 37077 Göttingen

Abstract

For a metric space (Q, d) and a random variable Y with values in Q the Fréchet mean is a element q in Q that minimizes $E[d(Y,q)^2]$. We derive rates of convergence for the plug-in estimator of the Fréchet mean via a chaining technique under general conditions. In particular, we do not necessarily require Q to have a finite diameter; instead we assume a less restrictive condition that is fulfilled in so-called Hadamard spaces, which are of particular interest in Evolutionary Biology. Furthermore, we give an outlook on two-sample testing and regression approaches in metric spaces using the Fréchet mean.