Model risk has a huge impact on any financial or insurance risk measurement procedure and its quantification is therefore a crucial step. In this paper, we introduce three quantitative measures of model risk when choosing a particular reference model within a given class: the absolute measure of model risk, the relative measure of model risk and the local measure of model risk. Each of the measures has a specific purpose and so allows for flexibility. We illustrate the various notions by studying some relevant examples, so as to emphasize the practicability and tractability of our approach.

The lecture is part of the focal topic “Reproducibility, Prediction, Relevance” of the fellow period 2009–2016 at Collegium Helveticum.