



KATHOLIEKE UNIVERSITEIT LEUVEN

Statistics Seminar

Joint organization statistics research groups Faculty of Science and Faculty of Economics and Applied Economics
Leuven Statistics Research Centre (LSTAT)

Professor Dr Yves Tillé

Institut de statistique, Université de Neuchâtel, Switzerland

“Foundations of inference and optimality in survey sampling”

Thursday November 26, 2009
12:00—13:00

Location: Room B00.05, Department of Mathematics, Celestijnenlaan 200B, Heverlee.
Supporting research project: GOA-project 2007/04

Abstract:

In surveys sampling, two paradigms can be used to conduct statistical inference. In the design based-inference, the sample is selected randomly by means of a sampling design. One can then construct unbiased estimators with respect to the sampling design. Next, these estimators can eventually be improved by a calibration method on auxiliary information. In model-based inference, the sample is used to estimate a parameter of a model. Next, the model can be used to forecast the unobserved values of the population. With the observed values and the predicted unobserved values, any parameter of the population can then be estimated. In both cases, the main questions are: How to select the sample and how to estimate the parameters? We will discuss the interests of these approaches and show that under some models, the optimal strategies can be the same for the design-based and model-based approaches.