Speaker: Rhian Daniel (University of Cardiff)

Date: 13:15 on 03/05/2022 in 8 West 2.20

Title: Regression by composition

Abstract:
We introduce regression by composition (RBC), a class of flexible parametric regression models that includes many standard regression models as special cases. The RBC form allows, for example, more general maps between conditional outcome distributions than can be expressed using any generalised linear model (GLM) link function, as well as allowing predictors (or groups of predictors) each to have their own link function.

RBCs have the particular advantage of admitting models for binary outcomes with parameters that can be interpreted as switch relative risks. The switch relative risk has many attractive properties such as closure and collapsibility and its use is motivated by a large and growing body of psychological and philosophical work on what causal objects human reasoners expect to be stable between different subgroups. We also discuss an extension of the switch relative risk to survival analysis.

This talk is based on joint work with Daniel Farewell, Mats Stensrud and Anders Huitfeldt.