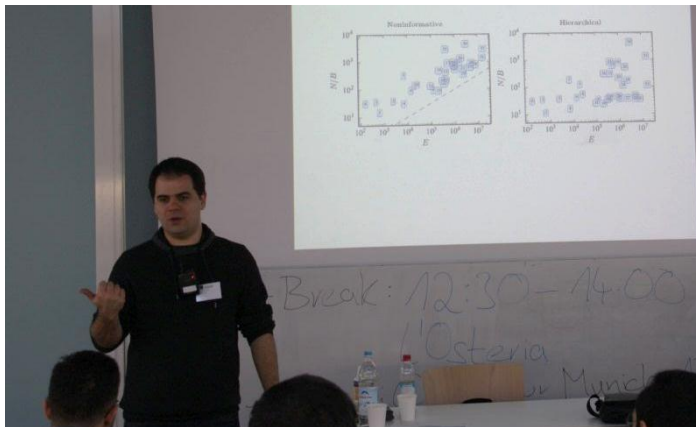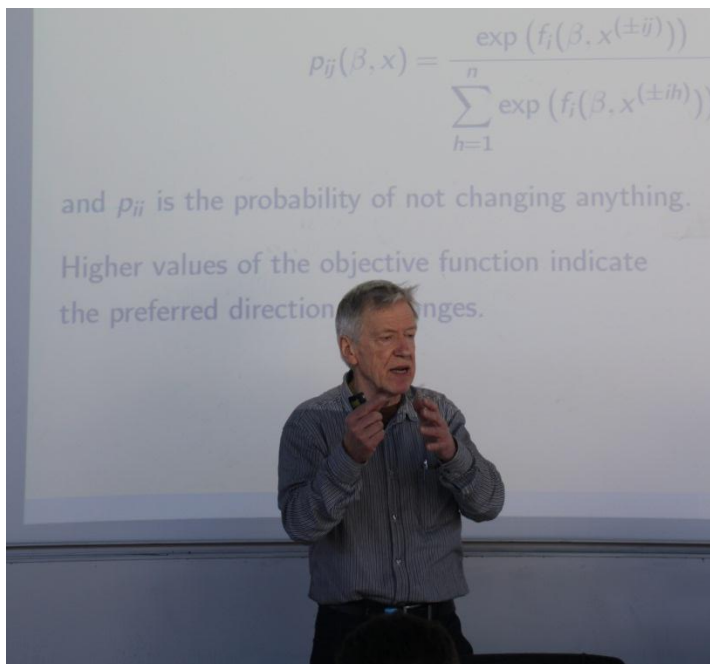# Report for the COSTNET Early Career Training Event (ECI)

On behalf of the European Cooperation for Statistics of Network Data Science (COSTNET) a three-day Early Career Training Event was held in Munich from Monday (February 11, 2019) until Wednesday (February 13, 2019). The main intention of the event was to provide PhD students and Postdocs the opportunity to participate in two short courses. Furthermore, the participants had the opportunity to present and discuss their own research with posters and research talks. All in all, 34 Early Career Members of COSTNET participated as well as two senior researchers (one of them being a member of COSTNET). Roughly one quarter (26%) of the participants were female and more than one quarter (26%) of all participants originates from ITC countries. Besides scientific exchange, the workshop enabled networking among young scientists and improved the transfer of cutting edge research within COSTNET. The social program involved a guided city tour through Munich on Monday and a workshop dinner on Tuesday.

Tiago de Paula Peixoto was the trainer on the first day, proving the participants with an informative and extensive overview over stochastic block models (SBMs) including Bayesian inference, model selection and link prediction. Furthermore, he showed many extensions and generalizations based on his own research.

Our second trainer, *Tom Snijders*, guided us through models for longitudinal networks with a special focus on Stochastic Actor Oriented Models (SAOMs). The lecture started with a presentation of typical questions posed by social scientists when confronted with networks, together with an outline of actor-oriented models. After a general discussion of this model several estimation procedures where presented together with an overview of the R package RSiena that allows to implement those methods. Finally, some extensions were discussed.

Furthermore, the junior researchers had the possibility to present their research on Tuesday. This included 12 talks and a poster session. The talks covered many of the very diverse views and approaches toward network analysis including dynamic network analysis, neural networks, statistical physics and multilevel networks. Among the many great posters, two best poster awards were handed out by Göran Kauermann and Tom Snijders to Luca del Core and Clement Lee for their outstanding posters.