Basel Biometric Society

Workshop/Seminar, 2024

FIRST ANNOUNCEMENT

Controlling the chances of false discoveries in exploratory analysis of clinical trials

Date: 29th August 2024
Time: 14:00-17:00 CET
Venue: Virtual
Costs: Free
Registration: LINK
Note: Dial-in details will be communicated to registered participants

Organizers: Kostas Sechidis (Novartis), Frank Bretz (Novartis)

While the primary focus of clinical trials is to estimate causal effects, the collected data can also be invaluable for additional research, such as identifying variables and/or groups of patients with desirable characteristics. Some common exploratory analysis activities focus on using clinical trial data for variable selection. For example, we may want to identify baseline variables that are strongly associated with the disease outcome, irrespective of the treatment assignment (i.e., prognostic variables) or baseline variables that influence the treatment effect (i.e., predictive variables). Clinical trial data can also be used for subgroup discovery, where, for example, we aim to identify groups of patients that experience a significant treatment effect. In all these selection problems, it is critical to control the chances of false discoveries (type-I errors) to provide guarantees concerning the replicability of our results. The focus of this session is on recent methodologies for performing this type of selection by controlling the type-I error rate.

We hope that many of you can attend this exciting seminar!

→ See the next page for the Program

Program

14.00-14.15	**Welcome remarks and setting the scene**	Dominic Magirr (Novartis, BBS board member) and Frank Bretz (Novartis)
	Part 1: Controlled variable selection	
14.15-14.40	**Using knockoffs for type-I error controlled prognostic and predictive variable selection**	Kostas Sechidis (Novartis)
14.40-15.05	**Statistical Interpretation of High-Dimensional Prediction Models using Conditional Permutation Importance**	Denis Engemann (Roche)
15.05-15.30	**Controlled Discovery and Localization of Signals via Bayesian Linear Programming**	Asher Spector (Stanford University)
15.30-15.45	**Break**	
	Part 2: Controlled subgroup discovery	
15.45-16.10	**Overview of modern approaches for identifying and evaluating heterogeneous treatment effects from clinical trials**	Ilya Lipkovich (Elli Lilly)
16.10-16.35	**Subgroup selection with strong type-I error control under monotonicity constraints**	Manuel M. Müller (University of Cambridge)
16.35-17.00	**Interactive identification of individuals with positive treatment effect while controlling false discoveries**	Aaditya Ramdas (Carnegie Mellon University)