



Basel Biometrics Society seminar Basel, 21 February 2022

BBS Seminar: Machine Learning in clinical drug development

Date: Monday, 21st February 2022, 14:00 – 18:00 CET

Venue: Virtual event

There is tremendous interest and excitement surrounding the application of Machine learning (ML) in drug development. ML tools can process information much faster, cheaper and more accurately than any human, and some people expect no less than a change to the clinical drug development paradigm.

In this seminar, the participants will get up to speed with the opportunities of ML in drug development. The statistical details behind the ideas, the implementation using software (R) as well as the interpretation of the results will be discussed. Any examples will be inspired by real problems.

Markus Lange and Lorenz Uhlmann (both Novartis) will provide an overview of machine learning and artificial intelligence and its application in the pharmaceutical industry. They will illustrate key elements and principles for building and assessing machine learning methods, discuss different types of algorithms (e.g. supervised and unsupervised learning) and provide examples of the types of problems where they might be applied.

The seminar is free of charge. However, if you wish to attend, we kindly ask you to fill out the registration form below by 17.2.2022 for organisational reasons. Attendance / log-in details will be shared with you.

For registration please use the following [link](#) .

Slides will be made available after the event on the BBS webpage.

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Basel, 21 February 2022

Program:

14:00 – 14:30	Introduction to Machine Learning (Markus Lange)
14:30 – 15:00	Model performance evaluation (Markus Lange)
15:00 – 15:30	Bias-Variance Tradeoff (Markus Lange)
15:30 – 16:00	The Bootstrap (Markus Lange)
16:00 – 16:15	Break
16:15 – 16:45	Penalized regression (Lorenz Uhlmann)
16:45 – 17:15	Trees, Bagging, Random forests, and Boosting (Lorenz Uhlmann)
17:15 – 17:40	Finding subgroups (Lorenz Uhlmann)
17:40 – 18:00	Unsupervised learning (Lorenz Uhlmann)

We look forward to your participation!