Process data refers to log files generated by human-computer interactive items. They contain detailed keystrokes and mouse clicks as well as their timestamps. Our research shows that process data contain substantially more information than classic item responses. They bring great opportunities and at the same time great challenges to the psychometrics community. In this course, we summarize our research methods and empirical findings and provide hands-on training for these methods via real and simulated data.

Course Outline:

Session 1: Overview of process data analyses—methodological development and key empirical results

Session 2: Introduction to R package ProcData: feature extraction methods, recurrent neural network based models (hands-on practice included)

Session 3: Partial scoring and differential item functioning correction via process data (hands-on practice included)