ETHzürich University of Zurich[UZH] University of St.Gallen

Guest Lecture

Linda M. Collins

Optimization of interventions: Improving effectiveness, efficiency, economy, and scalability

Tuesday, October 1, 2019, 4:15pm - 6:00pm

University of Zurich, Binzmühlestrasse 14, BIN1-B.01, 8050 Zürich

About Linda M. Collins

Linda M. Collins, Ph.D., is Distinguished Professor of Human Development & Family Studies at the Pennsylvania State University. She is also Director of The Methodology Center, an interdisciplinary research center devoted to the advancement and dissemination of quantitative methods for applications in drug abuse prevention and treatment, as well as other areas in the behavioral sciences. Dr. Collins's research interests include the multiphase optimization strategy (MOST), an engineering-inspired methodological framework for optimizing and evaluating behavioral, biobehavioral, and biomedical interventions. The objective of MOST is to improve intervention effectiveness, efficiency, economy, and scalability. Dr. Collins is currently collaborating on research applying MOST to develop optimized behavioral interventions in the areas of smoking cessation, weight loss, prevention of excessive drinking and risky sex in college students, and HIV services. Her research has been funded by NIDA, NCI, NIDDK, and NIAAA. Dr. Collins is a Fellow of the American Psychological Association, the Association for Psychological Science, the Society of Behavioral Medicine, and the Society for Prevention Research. She is a past president of the Society of Multivariate Experimental Psychology and the Society for Prevention Research. Dr. Collins has delivered more than 140 invited presentations and workshops on MOST around the world.

About the Lecture

Multicomponent behavioral and biobehavioral interventions are used widely for prevention and treatment of health problems, improvement of academic achievement, and promotion of health. These interventions are typically developed and evaluated using a treatment package approach, in which the intervention is assembled a priori and evaluated by means of a two-group randomized controlled trial (RCT). I will describe an alternative methodological framework for developing, optimizing, and evaluating behavioral and biobehavioral interventions. This framework, called the Multiphase Optimization Strategy (MOST), is a principled approach that has been inspired by ideas from engineering. MOST includes the RCT for intervention evaluation, but also includes other steps prior to the RCT that are aimed at intervention optimization. Using MOST, behavioral and biobehavioral interventions can be optimized using criteria chosen by the intervention scientist. The goal may be to develop a cost-effective intervention; an intervention that achieves a specified level of effectiveness; the briefest intervention that achieves a minimum level of effectiveness; or any other reasonable goal. The MOST framework relies heavily on resource management by strategic choice of highly efficient experimental designs. I propose that MOST offers several benefits, including more rapid long-run improvement of interventions, without requiring a dramatic increase in research resources.

You are invited to join this lecture by Prof. Dr. Urte Scholz (University of Zurich), Dr. Tobias Kowatsch (ETH Zurich & University of St.Gallen), Prof. Dr. Elgar Fleisch (ETH Zurich & University of St.Gallen), and Prof. Dr. Florian von Wangenheim (ETH Zurich).