ETH zürich

University of Zurich[UZH]

Institute of Technology Management
University of St.Gallen

Guest Lecture 1

Catherine Stanger

Incentives, Cognitive Training, and Internet Therapy for Adolescents with Poorly Controlled Type 1 Diabetes

Tuesday, August 28, 2018, 4:00pm - 4:45pm

ETH Zurich, Weinbergstrasse 56/58, Room F109-111

Center for Digital Health Interventions
CSS Health Lab | Health IS Lab

www.c4dhi.org

About Catherine Stanger

Dr. Catherine Stanger is an Associate Professor at the Geisel School of Medicine at Dartmouth. Her academic appointment is in the Department of Psychiatry, and she is also a faculty member in the Center for Technology and Behavioral Health (www.c4tbh.org) .She received her PhD in Clinical Psychology from Rutgers University, and she is a licensed clinical child psychologist. Over the last 25 years, in collaboration with Dr. Alan Budney, she has conducted extensive research on the development and evaluation of innovative family based interventions, specializing in parenting interventions for diverse populations including substance abusing parents, and adolescents with substance use problems, and most recently youth with Type 1 diabetes. Dr. Stanger's work has been funded by the National Institute on Drug Abuse, the National Institute on Alcohol Abuse and Alcoholism, and the National Institute on Child Health and Human Development. Her clinical research has focused on innovative ways to use incentives to motivate behavior change in both teens and parents, and she has collaborated with groups across the U.S. to use her interventions. In addition, she has integrated research on decision making and brain processes into her work in order to understand risk factors and to improve treatment outcomes. Her current work is focused on adapting her intervention models for digital delivery.

About the Lecture

Type 1 diabetes is associated with significant mortality and economic cost. Management of type 1 diabetes involves completing multiple daily adherence behaviors, and many adolescents struggle with self-management and show poor glycemic control. I will present results from a randomized controlled study of a web-delivered multi-component intervention targeting self-monitoring of blood glucose, working memory, and parent supervision of diabetes care among adolescents with type 1 diabetes. Intervention components included financial incentives for adolescents and parents, motivational and cognitive behavioral therapy and working memory training for the adolescent, and training in contingency contracting for parents. The comparison condition was usual medical care. Results showed that at the end of treatment, adolescents who received the intervention had higher self-monitoring of blood glucose (d=0.58), better visual spatial working memory (d=0.48) and inhibition (d=0.98), and lower HbA1c (d=0.45) than those in usual care. Intervention parents reported more frequent review of the adolescent's glucometer (d=1.30), and reduced family conflict (d=0.56). Between condition differences were maintained 6 months later in self-monitoring of blood glucose (d=0.42), visual spatial working memory (d=0.76), family conflict (d=0.50), and HbA1c (d=0.44). Results showing sustained effects on self-monitoring of blood glucose and HbA1c support moving forward with a larger trial to test this innovative web-delivered and multicomponent intervention. I will also describe our current plans to automate many aspects of this intervention via an app developed on the MobileCoach platform that will link to a unique diabetes data visualization hub (www.Tidepool.org) that can upload data from diverse proprietary diabetes devices. You are invited to join this guest lecture by

Prof. Dr. Elgar Fleisch, Prof. Dr. Urte Scholz, Prof. Dr. Florian von Wangenheim & Dr. Tobias Kowatsch

Center for Digital Health Interventions, University of St.Gallen, ETH Zurich & University of Zurich

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Guest Lecture 2

Stavroula G. Mougiakakou

AI meets Züri Gschnätzlets. Here comes the future of food recognition and multimedia-assisted dietary management

Tuesday, August 28, 2018, 4:45pm - 5:30pm

ETH Zurich, Weinbergstrasse 56/58, Room F109-111

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About Stavroula Georgia Mougiakakou

Dr Stavroula G. Mougiakakou is a senior lecturer and holds a Ph.D. degree in Computer Engineering from the National Technical University of Athens. Since 2008 she is affiliated with the Faculty of Medicine, University of Bern and Head of the Diabetes Technology Research Group at the ARTORG Center for Biomedical Engineering Research Bern, Switzerland. Her current research interests include artificial intelligence, machine learning, computer vision and advanced data analysis for the prevention and treatment optimization of diabetes and related chronic diseases. From 2005 to 2008, she worked in the Institute of Communication and Computer Systems, as a senior Research Scientist From 2003 to 2005, she was responsible for the Command and Decision Support Sub-Systems for the 2004 Athens Olympic Games Security Systems. She has published more than 70 papers in international peer-reviewed scientific journals, book chapters, and conferences proceedings and has served as an Associate Editor in several high ranked journals in her field and is the organizer of the international workshop on multimedia assisted dietary assessment (madima). Dr. Mougiakakou has supervised more than 16 PhD and MSc students and is a member of the IEEE Engineering in Medicine and Biology Society, the IEEE Computational Intelligence Society, the IEEE Computer Society and the Swiss Society of Biomedical Engineering. For more information see www.artorg.unibe.ch

About the Lecture

Non-Communicable Diseases (NCD), namely diabetes mellitus, cardiovascular diseases (e.g. heart attacks and stroke), chronic respiratory diseases and cancer, account for a massively increasing proportion of the global health burden. A number of behavioral and physiological factors are related to the rising onset of these NCD worldwide, with unhealthy eating playing a key role. A balanced nutrition and proper diet is the cornerstone in the prevention of onset and progression of diet-related acute and chronic diseases. The recent advances in artificial intelligence, machine learning, computer vision, and smartphone technologies bring the applications of nutrition informatics closer to the individuals and enable them to make better decisions regarding their daily food consumption. The first systems have already emerged, aiming at real-time, automatic, accurate and personalized dietary recommendations by monitoring, analyzing and assessing food intake in terms of energy and nutrient intake. But how close are we towards "real world food scanners"? How long is the road from science fiction to science? Will intelligent data translation improve dietary assessment? What is my experience within and beyond the GoCARB project?

You are invited to join this guest lecture by

Prof. Dr. Elgar Fleisch, Prof. Dr. Urte Scholz, Prof. Dr. Florian von Wangenheim & Dr. Tobias Kowatsch
Center for Digital Health Interventions, University of St.Gallen, ETH Zurich & University of Zurich