

From: [Blanco, Rochelle Hartwig](#)
Subject: This Thurs. at 3pm: MacArthur Fellow Susan Murphy, PhD -- SMART Study Designs for Developing Adaptive Interventions -- 10/24, 50 Beale St., 13th Fl., McKusick Conf. Rm. -- presented by CAPS Methods Core/Town Halls
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CAPS Methods Core Town Hall: Susan Murphy, PhD



SMART Study Designs for Developing Adaptive Interventions

Thursday, Oct. 24, 2013
3:00 – 4:00 p.m.

50 Beale Street/13th floor/McKusick Conference Room

For building entrance at 50 Beale St., please bring photo ID and mention “Town Hall” at the security desk.

The effective treatment and management of many behavioral and health disorders often requires individualized, sequential decision making, in which the intervention is dynamically adapted over time based on an individual's changing course. In this talk, we discuss how a novel, experimental design-sequential multiple assignment randomized trials (SMART) can be used in the development and optimization of adaptive interventions. We introduce Q-learning, a data analysis method which can be used to inform and improve sequential clinical decision making. The data analysis method is illustrated using data from the “Adaptive Interventions for Children with ADHD” trial (W. Pelham, PI).

Dr. Murphy is an H.E. Robbins Professor of Statistics and Professor of Psychiatry and Social Research at the University of Michigan. She was recently awarded a MacArthur Foundation “genius” fellowship for her work on new methodologies to evaluate courses of treatment for individuals coping with chronic or relapsing disorders such as depression or substance abuse (see <http://www.macfound.org/fellows/898/>). Her research focuses on improving sequential decision

making in health, in particular on clinical trial design and data analysis, to inform the development of adaptive interventions. In the past 5 years she has been funded by NIDA and NIMH. She is a leading developer of the Sequential Multiple Assignment Randomized Trial (SMART) design which has been and is being used by clinical researchers to develop adaptive interventions in depression, alcoholism, treatment of ADHD, substance abuse, HIV treatment, obesity, diabetes, autism and drug court programs. She collaborates with clinical scientists, computer scientists and engineers, and she mentors young clinical scientists on developing adaptive interventions. Dr. Murphy is presently working with computer scientists and engineers to generalize the adaptive intervention trial design and data analysis methodology to settings in which patient information is collected in real time (e.g. via smart phones or other wearable devices), allowing interventions to be individualized and delivered in real time.

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