NSF-NIH Smart and Connected Health Aspiring PI Workshop

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Learning Objectives:
1. Upon completion of the workshop, participants will be able to identify key criteria of the NSF-NIH jointly funded SCH program, the transdisciplinary scientific process, and the SCH review process
2. As part of participation, attendees will be able to gain valuable mentorship from current SCH PIs
3. Upon completion, participants will have the knowledge to work towards developing quality proposals for submission

Abstract:
This workshop will be an informational and interactive opportunity for Smart and Connected Health (SCH) Aspiring Investigators to develop skills and address the knowledge gaps necessary to submit a successful SCH proposal. The goal of the SCH program is to accelerate the development and use of innovative approaches that would support the much needed transformation of health and healthcare. The mission of the Smart and Connected Health program is the development of next generation health and healthcare research through high-risk, high-reward advances in the understanding of applications in information science, computer science, behavior, cognition, sensors, robotics, bioimaging, and engineering. Realizing the promise of disruptive transformation in health and healthcare will require well-coordinated, multi-disciplinary approaches that draw from the computer and information sciences, engineering, medical, health and social behavioral sciences. The Aspiring Investigator workshop will support the development of researches interested in submitting research to the SCH program. The workshop will accomplish this through mentorship and didactic sessions to acquaint Aspiring investigators with the key issues associated with SCH, the joint NSF-NIH review process, and the breadth of existing projects funded by the SCH program.

Seminar Outline
I. Introduction and overview of Smart and Connected Health -- 20 min – SCH Program Staff
Discussion of the types of research supported through Smart and Connected Health, common challenges that PIs encounter with proposals to SCH, and tips for improving SCH proposals.
II. Small group mentoring -- 45 min -- Program Staff and Current SCH PIs
SCH PIs will work as pairs to lead discussions: Wendy+Jennifer, Maria+Misha, Omer+Brad
SCH grantees and program staff will mentor Aspiring PIs on developing research proposals appropriate for the SCH program.
III. SCH Experts Roundtable and Conclusions – 25 Min -- SCH PI Experts
The roundtable includes topics, such as, Topics include: Engaging multidisciplinary teams; Evaluation plans? What stands out in panel?

Speakers:

Wendy Nilsen, Ph.D.
Wendy Nilsen, Ph.D. is a Program Director for the Smart and Connected Health program at the National Science Foundation. Her work focuses on the intersection of technology and health. This includes a wide range of methods for data collection, data analytics and turning data to knowledge. More specifically, her efforts in technology and health research include: serving as the lead for the NSF/NIH Smart and Connected Health announcement, convening meetings to address methodology in mobile technology research; serving on numerous federal technology initiatives; and, leading training institutes.

Jennifer Blain Christen, Ph.D.
Jennifer Blain Christen received a B.S. (1999), M.S. (2001) and Ph.D. (2006) in electrical and computer engineering from Johns Hopkins University. Her dissertation focused on hybrid systems for life science applications exemplified through the development of a micro-incubator for cell culture. Blain Christen held a Graduate Research Fellowship and a G K-12 fellowship both from the National Science Foundation. In her post-doctoral work at the Johns Hopkins School of Medicine in the Immunogentics Department, she developed a microfluidic platform for homogeneous HLA (human leukocyte antigen) allele detection. Her research interests involve design of analog and mixed-mode integrated electronics for direct interface via innovative fabrication techniques to aqueous environments with special emphasis on biological materials. Her most recent work focuses on point of care devices and neural interface including optogenetics.

Maria Brunette, Ph.D.
Global health disparities have been the primary focus of Dr. Brunette's research agenda. Her current research interests lie in the use of mobile tools and technologies under the umbrella of the complex social, economic, and cultural context of underserved and marginalized populations. Her approach to mobile health (mHealth), anchored in health systems engineering, aims at designing sustainable socio-technical systems to address the most pressing health concerns and needs of socially excluded populations in resource poor communities in the developing world.

Brad Hesse, Ph.D.
Bradford (Brad) Hesse was appointed Chief of the National Cancer Institute's (NCI) Health Communication and Informatics Research Branch (HCIRB) in November, 2006. Dr. Hesse's professional focus is bringing the power of health information technologies to bear on the problem of eliminating death and suffering from cancer, a cause to which he remains steadfastly dedicated. While at the NCI, he has championed several initiatives that evaluate and progress the science of cancer communication and informatics, including the Health Information National Trends Survey (HINTS) and the Centers of Excellence in Cancer Communication (CECCR). As director of NCI's biennial Health Information National Trends

Survey (HINTS), Dr. Hesse is responsible for leading a team of scientists in the development and execution of this nationally representative, general population survey of American adults. HINTS systematically evaluates the public's knowledge, attitudes and behaviors relevant to cancer control in an environment of rapidly changing communication technologies.

Dr. Hesse also serves as the program director for NCI's Centers of Excellence in Cancer Communication Research (CECCR). This initiative supports the research of four centers aimed at increasing the knowledge of, tools for, access to, and use of cancer communications by the public, patients, survivors, and health professionals.

Omer Inan, Ph.D.
Omer T. Inan in an Assistant Professor of Bioengineering at Georgia Tech. He received his B.S., M.S., and Ph.D. degrees in Electrical Engineering from Stanford University in 2004, 2005, and 2009, respectively.

He worked at ALZA Corporation in 2006 in the Drug Device Research and Development Group. From 2007-2013, he was chief engineer at Countryman Associates, Inc., designing and developing several high-end professional audio products. From 2009-2013, he was a visiting scholar in the Department of Electrical Engineering at Stanford. In 2013, he joined the School of ECE at Georgia Tech as an assistant professor.

Dr. Inan is generally interested in designing clinically relevant medical devices and systems, and translating them from the lab to patient care applications. One strong focus of his research is in developing new technologies for monitoring chronic diseases at home, such as heart failure.

Misha Pavel, Ph.D.
Professor Pavel holds a joint faculty appointment in the College of Computer & Information Science and Bouvé College of Health Sciences. His background comprises electrical engineering, computer science and experimental psychology, and his research is focused on multiscale computational modeling of behaviors and their control, with applications ranging from elder care to augmentation of human performance. Professor Pavel is using these model-based approaches to develop algorithms transforming unobtrusive monitoring from smart homes and mobile devices to useful and actionable knowledge for diagnosis and intervention. Under the auspices of the Northeastern-based Consortium on Technology for Proactive Care, Professor Pavel and his colleagues are targeting technological innovations to support the development of economically feasible, proactive, distributed, and individual-centered healthcare. In addition, Professor Pavel is investigating approaches to inferring and augmenting human intelligence using computer games, EEG and transcranial electrical stimulation. Previously, Professor Pavel was the director of the Smart and Connected Health Program at the National Science Foundation, a program co-sponsored by the National Institutes of Health. Earlier, he served as the chair of the Department of Biomedical Engineering at Oregon Health & Science University, a Technology Leader at AT&T Laboratories, a member of the technical staff at Bell Laboratories, and faculty member at Stanford University and New York University. He is a Senior Life Member of IEEE.