

Table of Contents

DigitalBiomarkers'17 Organization List	vi
---	----

Keynote Address

Session Chair: Deborah Estrin (*Cornell NYC Tech*)

- **A Quantum of Solace: Digital Traces and Mental Health** 1
Vincent M. B. Silenzio (*University of Rochester School of Medicine & Dentistry*)

Session: Digital Biomarkers for Behavioral and Cognitive Health Session

Session Chair: Deborah Estrin (*Cornell NYC Tech*)

- **Designing Effective Movement Digital Biomarkers for Unobtrusive Emotional State Mobile Monitoring** 3
Abhinav Mehrotra, Mirco Musolesi (*University College London*)
- **Discovery of Behavioral Markers of Social Anxiety from Smartphone Sensor Data** 9
Yu Huang, Jiaqi Gong, Mark Rucker, Philip Chow, Karl Fua, Matthew S. Gerber, Bethany Teachman, Laura E. Barnes (*University of Virginia*)
- **Motion Biomarkers for Early Detection of Dementia-Related Agitation** 15
Ridwan Alam, Jiaqi Gong (*University of Virginia*), Mark Hanson (*George Washington University*), Azziza Bankole, Martha Anderson (*Virginia Tech Carilion School of Medicine*), Tonya Smith-Jackson (*North Carolina A&T State University*), John Lach (*University of Virginia*)

Session: Sensors

Session Chair: Tauhidur Rahman (*Cornell University*)

- **Exploring Symmetric and Asymmetric Bimanual Eating Detection with Inertial Sensors on the Wrist** 21
Edison Thomaz (*The University of Texas at Austin*), Abdelkareem Bedri (*Carnegie Mellon University*), Temiloluwa Prioleau (*Rice University*), Irfan Essa, Gregory D. Abowd (*Georgia Institute of Technology*)
- **MyoBuddy: Detecting Barbell Weight Using Electromyogram Sensors** 27
Bo-Jhang Ho, Renju Liu, Hsiao-Yun Tseng, Mani Srivastava (*University of California, Los Angeles*)

Session: Methodology

Session Chair: JP Pollak (*Cornell NYC Tech*)

- **Observation Time vs. Performance in Digital Phenotyping** 33
Thomas Quisel, Wei-Nchih Lee, Luca Foschini (*Evidation Health*)

Panel

Session Chair: JP Pollak (*Cornell NYC Tech*)

- **Panel: Designing Studies for Feasibility Testing, Refinement and Validation of Digital Biomarkers** 37
JP Pollak (*Cornell Tech*), Michael L. Birnbaum (*Feinstein Institute for Medical Research*), Tanzeem Choudhury (*Cornell University*), Frederick Muench (*Northwell Health*), Graeme Rimmer (*Google Fit*), Mirco Musolesi (*University College London*)

Author Index	38
---------------------------	----