

THE 1ST ACM WORKSHOP ON DIGITAL BIOMARKERS 2017

Collocated with MobiSys 2017 | Date: June 23 2017 | Venue: Niagra Falls, NY

Website

<http://pac.cs.cornell.edu/wdb2017/>

Important Deadlines

- Submission: April 12 2017
- Notification: April 19 2017
- Camera-ready: April 26 2017
- Workshop date: June 23 2017

Organizers

- Deborah Estrin, Cornell Tech
- JP Pollak, Cornell Tech
- Tauhidur Rahman, Cornell University

Program Committee

- Tanzeem Choudhury, Cornell University and Health Rhythms
- Andrew Campbell, Dartmouth College
- Anind Dey, Carnegie Mellon University
- Nic Lane, University College London and Bell Labs
- Mirco Musolesi, University College London
- Mayank Goel, Carnegie Mellon University
- Cecilia Mascolo, University of Cambridge
- Miah Wander, Microsoft Research
- Graeme Rimmer, Google
- Hane Aung, Cornell University



Call for Papers

The 1st ACM Workshop on Digital Biomarkers, collocated with MobiSys 2017 offers a unified forum that brings academics, industry researchers and medical practitioners together and seeks novel, innovative and exciting submissions broadly related to the modeling, testing, and validation of new digital biomarkers for predicting incidence of diseases, health conditions, effects of treatments, and interventions. The workshop aims to facilitate a systematic discussion among experts from different knowledge domains including mobile sensing, systems, machine learning, medicine and health sciences in order to (i) identify new digital biomarkers capturing behavioral health, chronic and degenerative diseases, (ii) identify the key shortcomings of the existing mobile and wearable sensor systems, and research study software platforms (e.g., ResearchKit and ResearchStack) for digital biomarker inference in terms of scalability, customizability, and sensing affordances, (iii) find realistic solutions towards building new digital biomarker evidence engine leveraging sensor data from a variety of mobile systems (e.g., smartphones, wearables, IoT devices, or any novel sensor systems), (iv) identify key data



About Digital Biomarkers

A biological marker (biomarker) can be defined by any substance, structure, or process of the body, its actions or products that can influence or predict the incidence of disease, health conditions, effects of treatments, and interventions. Digital biomarkers are the user generated physiological and behavioral measures collected via connected digital devices or wearable and mobile computing systems that can be used to explain, influence or predict the health related outcomes. The digital biomarkers do not include genetic information or data collected through traditional medical instruments. Examples of digital biomarkers include everything from geo-location and physical activity traces through internal physiological processes like vital signs to chemical makeups of skin, blood and other tissues collected by IoT devices, smartphones, wearables or novel digital computational platforms.

collection, labeling, testing and validation methodologies of the new biomarker evidence engine.

Topics of interest (NOT an exhaustive list):

- Predicting the incidence of disease, health conditions, effects of treatments, and interventions with digital biomarkers.
- Design and implementation of mobile phone, wearable and/or novel embedded systems based computational platforms.
- Integration of multimodal data from different sensor streams for digital biomarker modeling.
- Using existing IoT infrastructure for new digital biomarker modeling.
- Improved data collection, labeling, testing and Validation methodologies for digital biomarker modeling.
- Novel signal processing or machine learning techniques for digital biomarker modeling.
- Developing robust biomarker models that can handle data sparsity and mis-labeling issues.
- Energy and resource efficient implementation of biomarker models.
- Designing and implementing data feedback and visualization for both participants and caregivers.
- Development of smartphone based automated health interventions with digital biomarkers.

Submission Guidelines: All submissions must be original work not under review at any other workshop, conference, or journal. While the workshop will accept work-in-progress papers. Submissions must be no greater than 6 pages in length and must be a PDF file.

Contact us: If you have any questions, please contact Tauhidur Rahman (tr266@cornell.edu).