**WEDNESDAY, OCTOBER 29TH | PRE-CONFERENCE WORKSHOP SESSIONS**

**LOCATION:** NIH CAMPUS, NATCHER CONFERENCE CENTER CONFERENCE ROOMS (UNLESS OTHERWISE NOTED)

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
</tr>
</thead>
</table>
| 8:00 AM| Workshop Registration Opens  
Location: Conference Center Lower Foyer |
| 9:00 AM| **Morning Workshop Sessions**  
*Session A:* Smart and Connected Health: Getting Support for Your Research  
Workshop Leaders: Mary Rodgers, NIH and Sylvia Spenglar, NSF  
*Session B:* Understand the Changing Regulatory Environment for Wireless Health: FDA/ONC – FDASIA  
Workshop Leaders: Bakul Patel, FDA and Rob McCray, WLSA  
*Session C:* Innovation in Research Design  
Workshop Leaders: TBA |
| 12:30 PM| LUNCH  
Location: Conference Center Atrium |
| 1:30 PM| **Afternoon Workshop Sessions**  
*Session A:* Smart and Connected Health: Getting Support for Your Research (Repeated)  
Workshop Leaders: Mary Rodgers, NIH and Sylvia Spenglar, NSF  
*Session B:* DESIGN THINKING + WIRELESS HEALTH  
Workshop Leaders: IDEO  
*Session C:* Health Data Consortium  
Workshop Leaders: TBA |
| 5:00 PM| **Close of Workshop Sessions**  
Move to Bethesda Hyatt Regency for Opening Reception |

**WEDNESDAY, OCTOBER 29TH | OPENING RECEPTION**

**LOCATION:** BETHESDA HYATT REGENCY

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>5:30 PM – 8:00 PM</td>
<td>Reception &amp; Networking Activities</td>
</tr>
</tbody>
</table>
## Thursday, October 30th | Conference Sessions

**Location:** NIH Campus, Natcher Conference Center, Ruth Kirschstein Auditorium (unless otherwise noted)

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
</tr>
</thead>
</table>
| **7:30 AM** | Registration Desk Opens & Continental Breakfast Served  
Poster Sessions on Display  
Location: Conference Center Atrium |
| **8:30 AM** | Welcome & Opening Remarks  
Francis S. Collins, MD, PhD, Director, NIH  
[http://www.nih.gov/about/director/](http://www.nih.gov/about/director/) |
| **8:45 AM** | Keynote: Bringing Health Information to Life: the Wireless Challenge  
David Blumenthal, MD, MPP, President of The Commonwealth Fund  
| **9:15 AM** | Technical Session #1: Chronic Care  
Session Chair: TBA  
*Paper 1.1:* Evaluating Pocket PATH®, an mHealth Intervention for Self-Management of Chronic Illness, Using a Rigorous Trial Design in a Real-World Clinical Setting  
Annette DeVito Dabbs; Mary Amanda Dew; Brad Myers; Mi-Kyung Song; Ruosha Li; Jill Aubrecht; Alex Begey; Rachelle Zomak; Joseph Pilewski; Christian Bermudez  
*Paper 1.2:* Identifying fall risk in the obese elderly using a wireless sensor and movement complexity  
Thurmon Lockhart; Chris Frames; Rahul Songra; John Lach  
*Paper 1.3:* Empowering clinicians to make high-quality decisions in chronic and serious illness through mobile health technologies  
Jonathan Nicolla; Arif Kamal; Amy Abernethy; Janet Bull; Howard Shang; C. Steve Stinson |
| **10:05 AM** | BREAK |
| **10:30 AM** | Panel Session #1: New Research Methods and Design in Wireless Health  
Moderator: TBA  
Panelists: TBA |
| **11:10 AM** | Technical Session #2: Quantification  
Session Chair: TBA  
*Paper 2.1:* A Framework for Predicting Adherence in Remote Health Monitoring Systems  
Nabil Alshurafa; Jo-Ann Eastwood; Mohammad Pourhomayoun; Jason J Liu; Suneil Nyamathi; Runhang Li; Majid Sarrafzadeh  
*Paper 2.2:* Quantifying energy expenditure of wheelchair-based physical activities in free-living environments  
Shivayogi Hiremath; Stephen Intille; Rory Cooper; Dan Ding  
*Paper 2.3:* MOBI-COG: A Mobile Application for Instant Screening of Dementia Using the Mini-Cog Test |
12:00 PM  LUNCH  Location: Conference Center Atrium

1:10 PM  Keynote:
Pedro Irazoqui, PhD, Associate Head of Biomedical Engineering; Showalter Faculty Scholar; Associate Professor of Electrical and Computer Engineering; Director, Center for Implantable Devices, Purdue University
https://engineering.purdue.edu/BME/People/viewPersonById?resource_id=20328

1:40 PM  Technical Session #3: Tools
Session Chair: TBA

Paper 3.1: Zero-Effort Camera-Assisted Calibration Techniques for Wearable Motion Sensors
Jian Wu; Roozbeh Jafari

Paper 3.2: Wirelessly Observed Therapy (WOT) compared to Directly Observed Therapy (DOT) for the treatment of tuberculosis
Sara Browne; Richard Haubrich; Heather McClendon; Lorenzo DiCarlo; Ronelle Campbell; Charles Peloquin; Kathleen Moser; Constance Benson

2:20 PM  Demo & Poster Presentation Session #1
Session Chair: TBA

1.1: Demonstration Paper: Wirelessly Sensing Medication Administration - Cyber-Physical Event Detection and Notification Utilizing Multi-Element Chipless RFID
Xiaofu Ma; Thaddeus Czauski; Taeyoung Yang; Jeffrey Reed

Hongsheng He; Jindong Tan

1.3: Demonstration Paper: A Comparative Study of Surgical Skills Assessment in a Physical Laparoscopy Simulator Using Wireless Inertial Sensors
Robert Evans; Roland Partridge; DK Arvind

1.4: Poster: Machine Learning-Based Analysis of Smartphone Usage Pattern and Its Association with Negative Human Emotion
Galen Chin-Lun Hung; Pei-Ching Yang; Chia-Chi Chang; Jung-Hsien Chiang

1.5: Poster: Maximizing the Potential of mHealth Heart Failure Management: Integrating mHealth with Grand AidesGrand-Aides®
Gurusher Panjrath; Robert Schwarzberg; Arthur Garson; Richard Katz

Sarah Hales; Brie Turner-McGrievy; Arjang Fahim; Andrew Freix; Michael Huhns; Sara Wilcox; Homayoun Valafar
1.7: Poster: Motion Assessment for Robotic Surgery Education using Inertial Body Sensors

Jiaqi Gong; John Lach; Yanjun Qi; Rebecca Zee; Sierra Seaman; Noah Schenkman

1.8: Poster: Time Series Analysis of medication adherence and physiologic data from early user-experience of novel ingestible micro-sensor in diabetics

Sara Browne; Yashar Behzadi; Gwen Littlewort

1.9: Poster: Reasons for Declining Participation in Wireless Health Trials

Lauren Ariniello; Debra Boeldt; Melissa Peters; Judith Sheard; Ravi Komatireddy; Paddy Barrett; Nathan Wineinger; Eric Topol; Cinnamon Bloss

1.10: Poster: Three City Demonstration of Smartphone-based Video Directly Observed Therapy among Tuberculosis Patients

Richard Garfein; Kelly Collins; Jazmine Cuevas-Mota; Fatima Munoz; Kathleen Moser; Christine Chuck; Julie Higashi; Allison Flick; Phillip Rios; Fredric Raab; Jose Luis Burgos; Kevin Patrick

3:05 PM  Break

3:25 PM  Demo & Abstract Presentation Session #2

Session Chair: TBA

2.1: Poster: Exploring Walking Activity at Large: Patterns Revealed and Lessons Learned

Yuichi Fujiki; Ilyas Uyanik; Ioannis Pavlidis

2.2: Poster: Remote patient monitoring with wearable and implantable devices in heart failure: meta-analyses of randomized controlled trials

Sanjeev Bhavnani; Jill Waalen

2.3: Poster: Continuous Vital Sign Monitoring During Meditation Using Multiple Biosensors: Participant Impacts and Lessons Learned

Debra Boeldt; Cinnamon Bloss; Lauren Ariniello; Nathan Wineinger; Judith Sheard; Eric Topol; Steven Steinhubl

**Late Breaking Research Abstract Presentations To Be Announced in September**

4:10 PM  Technical Session #4: Smartphone Solutions

Session Chair: TBA

Paper 4.1: Vocal-Diary: A Voice Command Based Ground Truth Collection System for Activity Recognition

Enamul Hoque; Robert F Dickerson; John Stankovic


Adam Samaniego; Vivek Boominathan; Ashutosh Sabharwal; Ashok N Veeraraghavan

Paper 4.3: Efficacy of a Smartphone System to Support Groups in Behavior Change Programs

Honglu Du; Michael Youngblood; Peter Pirolli
<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>5:00 PM</td>
<td><strong>Keynote: Open Innovation Accelerating Digital Health</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Young Sohn</strong>, President and Chief Strategy Officer, Samsung Electronics</td>
</tr>
<tr>
<td>5:30 PM</td>
<td><strong>Reception, Demo &amp; Poster Sessions</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Location:</strong> Conference Center Atrium</td>
</tr>
</tbody>
</table>

**FRIDAY, OCTOBER 31ST | CONFERENCE SESSIONS**

**LOCATION:** NIH CAMPUS, NATCHER CONFERENCE CENTER, RUTH KIRSCHSTEIN AUDITORIUM (UNLESS OTHERWISE NOTED)

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>7:30 AM</td>
<td>Registration Desk Opens &amp; Continental Breakfast Served</td>
</tr>
<tr>
<td></td>
<td>Poster Sessions on Display</td>
</tr>
<tr>
<td></td>
<td><strong>Location:</strong> Conference Center Atrium</td>
</tr>
<tr>
<td>8:30 AM</td>
<td><strong>Welcome Remarks</strong></td>
</tr>
<tr>
<td>8:40 AM</td>
<td><strong>Keynote: Science, Technology and Services to accelerate transformation of Medicine</strong></td>
</tr>
<tr>
<td></td>
<td><strong>John Lach, PhD</strong>, Professor and Chair, Charles L. Brown Department of Electrical and Computer Engineering, University of Virginia</td>
</tr>
<tr>
<td></td>
<td><a href="http://www.ece.virginia.edu/~jcl7d/home.html">http://www.ece.virginia.edu/~jcl7d/home.html</a></td>
</tr>
<tr>
<td>9:10 AM</td>
<td><strong>Panel Discussion: Design Thinking from the Research Perspective</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Moderator:</strong> IDEO</td>
</tr>
<tr>
<td></td>
<td><strong>Panelists:</strong> TBA</td>
</tr>
<tr>
<td>9:50 AM</td>
<td><strong>Technical Session #5: Users in the Loop</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Session Chair:</strong> TBA</td>
</tr>
<tr>
<td></td>
<td><strong>Paper 5.1:</strong> Design and Usage of an Ozone Mapping App</td>
</tr>
<tr>
<td></td>
<td><em>Ilyas Uyanik; Ashik Khatri; Panagiotis Tsiamyrtzis; Ioannis Pavlidis</em></td>
</tr>
<tr>
<td></td>
<td><strong>Paper 5.2:</strong> A Pilot Study of an Inspection Framework for Automated Usability Guideline Reviews of Mobile Health Applications</td>
</tr>
<tr>
<td></td>
<td><em>Jing Xu; Xiang Ding; Ke Huang; Guanling Chen</em></td>
</tr>
<tr>
<td></td>
<td><strong>Paper 5.3:</strong> User-centered Design of Virtual Sprouts: A Mobile Device-Based Gardening and Cooking Game for Promoting Dietary Behavior Change among Minority School Children</td>
</tr>
<tr>
<td></td>
<td><em>Cheng Kun Wen; Daniel Auerbach; David Turpin; Yasaman Hashemian; Marientina Gotsis; H Chad Lane; Gillian O’Reilly; Jaimie Davis; Gisele Ragusa; Donna Spruijt-Metz</em></td>
</tr>
<tr>
<td>10:40 AM</td>
<td><strong>BREAK</strong></td>
</tr>
<tr>
<td>11:00 AM</td>
<td><strong>Technical Session #6: Global</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Session Chair:</strong> TBA</td>
</tr>
</tbody>
</table>
Paper 6.1: Know Your Audience: Predictors of success for a patient-centered SMS application to augment HIV linkage to care in rural Uganda
Mark Siedner; Data Santorino; Jessica Haberer; David Bangsberg

Paper 6.2: Can Point-of-Care mHealth Diagnostic Devices be Deployed in Resource Limited Areas of Rural Africa?
Sanjeev Bhavnani; Ankita Kadakia; Rakhi Sharma; Elizabeth Ekirapa-Kiracho; James Saturday; Peterson Kyebambe

Paper 6.3: Evaluating The Use Of Mobile Technology To Improve Health Worker Adherence To Protocols For Newborn Care In Tanzania
Genna Panucci; Marc Mitchell; Kim Wilson; Augustine Massawe

Paper 6.4: Smartphone-Platform Survey-Scale Heart Rate Collection - a Performance Evaluation in Ethiopia
James Heathers

12:10 PM LUNCH
Location: Conference Center Atrium

1:20 PM Panel Discussion: Big Data: Opportunities and Implications for Wireless Health
Moderator: Noshir Contractor, PhD, Northwestern University
http://nosh.northwestern.edu/
Panelists: Richard Bakalar, MD, Partner, KPMG Global Center of Health Excellence
Additional Panelists TBA

2:10 PM Awards Presentations

2:30 PM Closing Keynote:
Bonnie J. Spring, PhD, Director, Center for Behavior and Health - Institute for Public Health and Medicine, Feinberg School of Medicine; Professor in Preventive Medicine-Behavioral Medicine, Center for Behavior and Health - Institute for Public Health and Medicine, Psychiatry and Behavioral Sciences and Weinberg College of Arts and Sciences, Northwestern University
https://fsmweb.northwestern.edu/faculty/FacultyProfile.cfm?id=16136

3:00 PM Closing Remarks

3:00 PM Close of Conference