

Wireless Health 2011 Conference Agenda

October 10-13, 2011

La Jolla, CA | Hilton La Jolla Torrey Pines

Updated 9.29.2011 – Subject to Change

Monday, October 10 th Industry Tutorials	
Location: Rady School of Management at UCSD, MPR2 9500 Gilman Drive, La Jolla, CA 92093	
8:00 AM	Registration
8:45 AM	Welcome & Opening Remarks
9:00 AM	Challenges of ECG Design <i>William Crone - Analog Devices</i>
9:45 AM	Wireless Technology in Healthcare: Low Power Processors <i>Rajesh Verma - Texas Instruments</i>
10:30 AM	BREAK
10:45 AM	Conformal Electronics to Enable Novel Form Factors in Wireless Health Devices <i>Jeffrey Carbeck – mc10</i>
11:30 AM	Using MEMS Motion Sensing Technology to Differentiate Healthcare Device Designs <i>Tom O’Dwyer – Analog Devices</i> <i>Bob Scannell – Analog Devices</i>
12:15 PM	LUNCH
1:15 PM	Wireless Technology for Medical Telemetry Systems <i>Reghu Rajan - Zarlink</i>
2:00 PM	Wireless Technology in Healthcare: Radios and Protocols <i>Texas Instruments – Iboun Sylla</i>
2:45 PM	BREAK
3:00 PM	Optimizing Ultrasound Systems using Integrated Receivers <i>Gina Kelso – Analog Devices</i>
3:45 PM	Application Specific Lithium Cell Selection and Battery Pack Design <i>Eddie Forouzan – Artin Engineering & Consulting Group</i>
4:30 PM	Closing Remarks and Discussion

Tuesday, October 11th | Conference Sessions

Location: Hilton La Jolla Torrey Pines, Grande Ballroom
10950 N. Torrey Pines Road, La Jolla, CA 92037

7:00 AM	Registration & Continental Breakfast
8:45 AM	Welcome: Robert B. McCray – President & CEO, Wireless-Life Sciences Alliance Opening Remarks: Eric Topol, M.D. – Executive Chair, Wireless Health 2011; Director - Scripps Translational Science Institute; Chief Academic Officer - Scripps Health; Vice-Chairman of the Board & Chief Innovation Officer, West Wireless Health Institute; The Gary and Mary West Endowed Chair of Innovative Medicine
9:00 AM	Keynote: Dr. Paul Jacobs – Chairman & CEO, Qualcomm
9:45 AM	Keynote: Bruce Dobkin, MD – UCLA Medical Center <i>Developing and Testing Wireless Sensors Within Real-World Clinical Trials and Everyday Care</i>
10:30 AM	BREAK
11:00 AM	Paper Session #1: Wireless Health in the Field: Individual Condition Assessment 1.1 Enabling Longitudinal Assessment of Ankle-Foot Orthosis Efficacy for Children with Cerebral Palsy. <i>Shanshan Chen, Christopher L. Cunningham, Bradford C. Bennett, John Lach</i> 1.2 Wireless Monitoring of Postoperative Respiratory Complications. <i>Andrew Bates, D. K. Arvin, Janek Mann</i> 1.3 Continuous, Non-Invasive Assessment of Agitation in Dementia Using Inertial Body Sensors. <i>Azziza Bankole, Martha Anderson, Aubrey Knight, Kyunghui Oh, Tonya Smith-Jackson, Mark A. Hanson, Adam T. Barth, John Lach</i>
12:30 PM	LUNCH
1:45 PM	Panel: Innovations for Reduction in Heart Failure Readmission <i>Moderator: Majid Sarrafzadeh, PhD – Co-Director, UCLA Wireless Health Institute</i> <i>Panelists:</i> <ul style="list-style-type: none">• <i>Nathalie De Michelis, RN, BSN - Cardiovascular Program Manager, UC Irvine Healthcare</i>• <i>Patricia Hines, PhD, RN – Vice President, The Camden Group</i>• <i>Michael Ong, MD, PhD – UCLA Internal Medicine</i>
2:45 PM	Demo Presentation Session #1: Fast-Paced Presentations of Devices 1.1 Demo of the Medical Device Dongle: An Open-Source Standards-Based Platform for Interoperable Medical Device Connectivity. <i>Philip Asare, Danyang Cong, Santosh Vattam, BaekGyu Kim, Shan Lin, Oleg Sokolsky, Margaret Mullen-Fortino, Insup Lee</i> 1.2 A Wireless Biomedical Handheld Instrument for Evidence-Based Detection of Pressure Ulcers. <i>Frank Wang, Yeung Lam, Alireza Mehrnia, Barbara Bates-Jensen, Majid Sarrafzadeh, William Kaiser</i> 1.3 An ECG Patch Combining a Customized Ultra-Low-Power ECG SoC with Bluetooth Low Energy for Long Term Ambulatory Monitoring. <i>Marco Altini, Salvatore Polito, Julien Penders, Hyejung Kim, Nick Van Helleputte, Sunyoung Kim, Firat Yazicioglu</i> 1.4 Body-Worn, Non-Invasive Sensor for Monitoring Stroke Volume, Cardiac Output and Cardiovascular Reserve. <i>Isaac Henry, Don Bernstein, Matt Banet, Jane Mulligan, Steve Moulton, Greg Grudic, Victor Convertino</i> 1.5 A Micropower Integrated Platform for Wireless Multichannel Recording of ECoG Activity. <i>Mohsen Mollazadeh, Elliot Greenwald, Marc Schieber, Nitish Thakor, Gert Cauwenberghs</i> 1.6 PAMSys: Long-term Physical Activity Monitoring with Single Wearable Motion Sensor. <i>Bor-rong Chen, Bryan Kate</i> 1.7 Converting Body Heat Into Reliable Energy for Powering Physiological Wireless Sensors. <i>Ingo Stark</i> 1.8 Photoplethysmograph (PPG) Derived Heart Rate (HR) Acquisition Using Android Smart Phone. <i>Mathew Gregoski</i> 1.9 mobileSpiro: Portable Open-Interface Spirometry for Android. <i>Siddharth Gupta, Peter Chang, Nonso Anyigbo, Ashutosh Sabharwal</i> 1.10 Modeling Human Gait Using a Kalman Filter to Measure Walking Distance. <i>Kaushik Nagarajan; Nicholas Gans; Roozbeh Jafari</i>
3:45 PM	BREAK
4:15 PM	Panel: Health and Wellness Connectivity Services in Vehicles on the Go <i>Moderator: Robert B. McCray, Chairman & CEO, Wireless-Life Sciences Alliance</i> <i>Panelists:</i> <ul style="list-style-type: none">• <i>H. James Dallas – Sr Vice President, Quality and Operations, Medtronic</i>• <i>Anand Iyer, Ph.D. – President & COO, WellDoc</i>• <i>K. Venkatesh Prasad, Ph.D. – Group & Senior Technical Leader, Vehicle Design & Infotronics, Ford Research & Innovation</i>
5:00 PM	Reception in the Demo Pavilion hosted by UK Trade & Investment

Wednesday, October 12th | Conference Sessions

7:00 AM	Registration & Continental Breakfast
8:30 AM	Opening Remarks: Robert B. McCray – President & CEO, Wireless-Life Sciences Alliance
8:45 AM	Keynote: Farnam Jahanian, PhD – Director, National Science Foundation Directorate for Computer & Information Science & Engineering (NSF CISE)
9:30AM	<p>Paper Session #2: Advances in Biomedical Sensing for Wireless Health</p> <p>2.1 Motion Artifact Reduction in Ambulatory ECG Monitoring: An Integrated System Approach. <i>Iñaki Romero, Sunyoung Kim, Torfinn Berset, Nick Van Helleputte, Dilpreet S Buxi, Lindsay Brown, Hyejung Kim, Chris Van Hoof, Firat Yazicioglu, Julien Penders</i></p> <p>2.2 Filters That Remember: Duty Cycling Analog Circuits for Long Term Medical Monitoring. <i>Zainul M Charbiwala, Jonathan Friedman, Benjamin Kuris, Mani B. Srivastava</i></p>
10:30 AM	BREAK
11:00 AM	<p>Paper Session #3: Context Guided Wireless Health Monitoring and Classification</p> <p>3.1 Context Guided and Personalized Activity Classification System. <i>James Y. Xu, Yuwen Sun, Zhao Wang, William Kaiser, Gregory J. Pottie</i></p> <p>3.2 Rejection of Irrelevant Human Actions in Real-time Hidden Markov Model Based Recognition Systems for Wearable Computers. <i>Jerry J Mannil, Mohammad-Mahdi Bidmeshki, Roozbeh Jafari</i></p> <p>3.3 Grammar-Based, Posture- and Context-Cognitive Detection for Falls with Different Activity Levels. <i>Qiang Li, John A. Stankovic</i></p>
12:30 PM	LUNCH
1:45 PM	Keynote: Chris Van Hoof, PhD – Director HUMAN++, IMEC <i>Game-changing opportunities for the future of medicine: Will you still need your Doctor?</i>
2:30 PM	<p>Demo Presentation Session #2: Fast-Paced Presentations of Systems</p> <p>2.1 A Multi-modal Emotion Recognition System for Persistent and Non-invasive Personal Health Monitoring. <i>Xiaoqing Liu, Lei Zhang, Jacob Yadegar</i></p> <p>2.2 Sensor Fusion for Remote Health Assessment. <i>Tejaswi Tamminedi, Lei Zhang, Priya Ganapathy</i></p> <p>2.3 StressBar: A System for Stress Information Collection. <i>Dajun Lu, Guoxing Zhan, Shinan Wang, Weisong Shi, Clairiy Wiholm, Bengt B. Arnetz</i></p> <p>2.4 Long-term Monitoring of COPD Using Wearable Sensors. <i>Bor-rong Chen, Shyamal Patel, Luca Della Toffola, Paolo Bonato</i></p> <p>2.5 Energy-efficient Long Term Physiological Monitoring. <i>Ayan Banerjee, Sidharth Nabar, Sandeep Gupta, Radha Poovendran</i></p> <p>2.6 Gaming for Upper Extremities Rehabilitation. <i>Ming-Chun Huang, Ethan Chen, Wenyao Xu, Majid Sarrafzadeh, Belinda Lange, Chein-Yen Chang</i></p> <p>2.7 Demonstration of Sleep Monitoring and Caregiver Displays for Depression Monitoring. <i>Robert F Dickerson, Timothy W Hnat, Enamul Hoque, John Stankovic</i></p> <p>2.8 Rehabilitation Exercise Feedback on Android Platform. <i>Brian Caulfield, Jason Blood, Barry Smyth, Daniel Kelly</i></p> <p>2.9 LEGSys: Wireless Gait Evaluation System Using Wearable Sensors. <i>Bor-rong Chen</i></p> <p>2.10 In Home Assessment and Management of Health and Wellness with BeClose Ambient, Artificial Intelligence. <i>Mark A Hanson, Adam Barth, Christopher Silverman</i></p> <p>2.11 Fault Tolerant Glucose Sensor Readout and Recalibration. <i>Zeljko Zilic; Katarzyna Radecka</i></p>
3:30 PM	BREAK
4:00 PM	<p>Paper Session #4: Inference-Guided Wireless Health</p> <p>4.1 Empath: a Continuous Remote Emotional Health Monitoring System for Depressive Illness <i>Robert F Dickerson, Eugenia I. Gorlin, John A. Stankovic</i></p> <p>4.2 mConverse: Inferring Conversation Episodes From Respiratory Measurements Collected in the Field <i>Md Mahbubur Rahman, Amin A Ali, Kurt Plarre, Mustafa al'Absi, Emre Ertin, Santosh Kumar</i></p>
5:00 PM	Keynote: Gene Frantz – TI Principal Fellow & Business Development Manager, Digital Signal Processing, Semiconductor Group, Texas Instruments <i>Health – Don't Leave Home Without It</i>
5:45 PM	Reception in the Demo Pavilion

Thursday, October 13th | Conference Sessions

7:00 AM	Registration & Continental Breakfast
8:30 AM	Opening Remarks & Award Presentations
9:00 AM	<p>Panel: New Initiatives and Program Opportunities in Wireless Health Research <i>Moderator: John Lach, PhD - Associate Professor, Charles L. Brown Department of Electrical and Computer Engineering, University of Virginia</i></p> <p><i>Panelists:</i></p> <ul style="list-style-type: none"> • <i>Helen Gill, PhD – Program Director, Cyber-Physical Systems, National Science Foundation (NSF)</i> • <i>Wendy Nilsen, PhD – Health Science Administrator, National Institutes of Health (NIH)</i> • <i>Misha Pavel, PhD – Program Director, Smart Health & Wellbeing, National Science Foundation (NSF)</i>
10:00 AM	<p>Paper Session #5: Energy, Computing, and Bandwidth Resource Efficiency in Wireless Health Systems</p> <p>5.1 Resource-efficient and Reliable Long Term Wireless Monitoring of the Photoplethysmographic Signal. <i>Sidharth Nabar, Ayan Banerjee, Sandeep Gupta, Radha Poovendran</i></p> <p>5.2 Lightweight Power Aware and Scalable Movement Monitoring for Wearable Computers: a Mining and Recognition Technique At the Fingertip of Sensors. <i>Vitali Loseu, Jerry J. Mannil, Roozbeh Jafari</i></p>
11:00 AM	BREAK
11:30 AM	<p>Wireless Health Vanguard Papers</p> <p>1.1 Feature Extractors: Flexible Integration of Cameras and Sensors for End-User Programming of Assistive Monitoring Systems. <i>Alex Edgcomb, Frank Vahid</i></p> <p>1.2 Collaborative Virtual Rehabilitation Interface with Home Treatment Integration. <i>Sai Moturu; John Moore; Franklin Moss</i></p>
12:00 PM	<p>Keynote: William Riley, PhD – Program Director, National Heart, Lung and Blood Institute & Chair, NIH mHealth Inter-Institute Interest Group (IIIG)</p> <p><i>Where's the Output? Challenges in Evaluating and Implementing Wireless Health Solutions</i></p>
12:45 PM	Closing Remarks & Conference Adjourn