

2016 IEEE Healthcare Innovation Point-Of-Care Technologies Conference (HI-POCT 2016)

**Cancun, Mexico
9-11 November 2016**



**IEEE Catalog Number: CFP16AMA-POD
ISBN: 978-1-5090-1167-4**

**Copyright © 2016 by the Institute of Electrical and Electronics Engineers, Inc
All Rights Reserved**

Copyright and Reprint Permissions: Abstracting is permitted with credit to the source. Libraries are permitted to photocopy beyond the limit of U.S. copyright law for private use of patrons those articles in this volume that carry a code at the bottom of the first page, provided the per-copy fee indicated in the code is paid through Copyright Clearance Center, 222 Rosewood Drive, Danvers, MA 01923.

For other copying, reprint or republication permission, write to IEEE Copyrights Manager, IEEE Service Center, 445 Hoes Lane, Piscataway, NJ 08854. All rights reserved.

******This publication is a representation of what appears in the IEEE Digital Libraries. Some format issues inherent in the e-media version may also appear in this print version.***

IEEE Catalog Number:	CFP16AMA-POD
ISBN (Print-On-Demand):	978-1-5090-1167-4
ISBN (Online):	978-1-5090-1166-7

Additional Copies of This Publication Are Available From:

Curran Associates, Inc
57 Morehouse Lane
Red Hook, NY 12571 USA
Phone: (845) 758-0400
Fax: (845) 758-2633
E-mail: curran@proceedings.com
Web: www.proceedings.com

CURRAN ASSOCIATES INC.
proceedings
.com

Program in Chronological Order

(Copyrighted Papers)

* Author Name – Corresponding Author • * Following Paper Title – Paper not Available

Thursday, November 10, 2016

ThV-PS: 09:30-10:45

Maya IV - V

Panel Session VI – Global Healthcare and POC Technologies (Oral Session)

09:30-10:45

ThV-PS.1

**Development of the VitalFlow® Magnetic Facial Nerve Stimulator as an
Emergency Treatment for Stroke**

1-4

Sacristan, Emilio* *Universidad Autónoma Metropolitana*; Borsody, Mark *Nervive, Inc*

ThPO: 12:00-14:00

Maya Ballroom Foyer

HI-POCT Poster Session and POC Technologies Demonstrations (Poster Session)

12:00-14:00

ThPO.1

A Novel Heart Rate Monitoring Method using a Smartphone

5-8

Zaman, Rifat* *Texas Tech University*; Cho, Chae Ho *Texas Tech University*; Kim, Yeesock *Civil Engineering and Construction Management at California Bapt*; Chong, Jo Woon *Texas Tech University*

12:00-14:00

ThPO.2

Total Variation Model based Speckle Noise Reduction for Digital Holography

N/A

Wan, lichao *Shenzhen Institute of Advanced Technology*; Qin, Wenjian* *Shenzhen Institutes of Advanced Technology, Chinese Academy*; Zhou, Xiaolan *Shenzhen University*; Gao, Weiming *Qianhai AnyCheck Information Technology Company*; Gu, Jia *Shenzhen Inst of Advanced Technology*; Li, Ling *Shenzhen Institutes of Advanced Technology, Chinese Academy*; Wen, Tiexiang *Shenzhen Institutes of Advanced Technology, Chinese Academy*

12:00-14:00

ThPO.3

**A Mathematical Framework for Analyzing Drug Combination Toxicity for
Personalized Medicine Applications**

13-16

Rahman, Raziur *Texas Tech University*; Pal, Ranadip* *Texas Tech University*

12:00-14:00

ThPO.4

A Wearable Carotid Ultrasound Assembly for Early Detection of Cardiovascular Diseases

17-20

Shomaji, Sumaiya* *University of Florida*; Basak, Abhishek *Case Western Reserve University*; Mandal, Soumyajit *Case Western Reserve University*; Karam, Robert *University of Florida*; Bhunia, Swarup *Case Western Reserve University*

12:00-14:00

ThPO.5

Gait Monitoring System for Patients with Parkinson's Disease Using Wearable Sensors

21-24

Perumal, Shyam Vignesh *University of South Florida*; Sankar, Ravi* *University of South Florida*

12:00-14:00

ThPO.7

**Towards the Evaluation of Force-Sensing Resistors for In Situ Measurement of
Interface Pressure during Leg Compression Therapy**

25-28

Rahimi, Mahan *Simon Fraser University*; Blaber, Andrew Philip *Simon Fraser University*; Menon, Carlo* *Simon Fraser University*

12:00-14:00

ThPO.8

Ankle Positions Classification using Force Myography: An Exploratory Investigation

29-32

Jiang, Xianta* *Simon Fraser University*; Chu, Hon Tang *Simon Fraser University*; Xiao, Zhen Gang *Simon Fraser University*; Merhi, Lukas-Karim *Simon Fraser University*; Menon, Carlo *Simon Fraser University*

12:00-14:00	ThPO.9
Early Diagnosis and Predictive Monitoring of Skin Diseases	33-36
Dhinagar, Nikhil* <i>Ohio University</i> ; Celenk, Mehmet <i>Ohio University</i>	
12:00-14:00	ThPO.10
Development and Thermal Assessment of a Blue Light Emitting Diode Phototherapy Device for Neonatal Jaundice Treatment in Kangaroo Mother Care	37-41
Jimenez, Luis* <i>Universidad Nacional de San Antonio Abad del Cusco</i> ; Vilcahuaman, Luis <i>Pontifical Catholic University of Peru</i> ; Galdos, Jorge <i>Hospital Regional Cusco</i>	
12:00-14:00	ThPO.11
EEG Recording Frontend Circuitry for Epileptic Seizure Detection Headband	42-45
Chen, Yu-Jui <i>National Chiao Tung University</i> ; Lin, Yu-Shan <i>National Chiao Tung University</i> ; Chiueh, Herming* <i>National Chiao Tung University</i>	
12:00-14:00	ThPO.13
Pilot Study on Strategies in Sensor Placement for Robust Hand/Wrist Gesture Classification based on Movement Related Changes in Forearm Volume	46-49
Sadeghi Chegani, Rana <i>Simon Fraser University</i> ; Delva, Mona Lisa <i>Simon Fraser University</i> ; Sakr, Maram <i>Simon Fraser University</i> ; Menon, Carlo* <i>Simon Fraser University</i>	
12:00-14:00	ThPO.14
Technology Platform for Tele-Rehabilitation Implementation in Mysathenia Gravis at the Point-of-Care	50-53
Hafer-Macko, Charlene <i>University of Maryland, Baltimore</i> ; Julia, Naumes <i>Pacific University</i> ; Macko, Richard <i>University of Maryland School of Medicine</i> ; Roy, Anindo* <i>University of Maryland Baltimore</i>	
12:00-14:00	ThPO.15
Smartphone Usage Contexts and Sensable Patterns as Predictors of Future Sedentary Behaviors	54-57
He, Qian* <i>Worcester Polytechnic Institute</i> ; Agu, Emmanuel <i>Worcester Polytechnic Institute</i>	
12:00-14:00	ThPO.16
A Phased Lag Index Study in Patients with Disorders of Consciousness	58-61
Blanco Mora, Diego* <i>INAOE</i> ; Díaz Méndez, José Alejandro <i>Instituto Nacional de Astrofísica, Óptica y Electrónica</i>	
12:00-14:00	ThPO.17
Characterization and Application of a Discrete Quart Extended-Gate ISFET for the Assessment of Tumor Cell Viability	62-65
Arafa, Hany <i>Arizona State University</i> ; Obahiagbon, Uwadiae <i>Arizona State University</i> ; Kullman, Dixie <i>Arizona State University</i> ; Dominguez, Fatima-Joyce <i>University of Portland</i> ; Magee, Abigail <i>University of Central Oklahoma</i> ; Blain Christen, Jennifer* <i>Arizona State University</i>	
12:00-14:00	ThPO.18
Smart Brace for Monitoring Patients with Scoliosis using a Multimodal Sensor Board Solution	66-69
Dehzangi, Omid* <i>University of Michigan-Dearborn</i> ; Mohammadi, Mehdi <i>University of Michigan-Dearborn</i> ; Li, Ying <i>University of Michigan</i>	
12:00-14:00	ThPO.19
Assessing Health Trends of College Students using Smartphones	70-73
Vhaduri, Sudip* <i>University of Notre Dame</i> ; Munch, Andrew <i>University of Notre Dame</i> ; Poellabauer, Christian <i>University of Notre Dame</i>	
12:00-14:00	ThPO.20
For Children's Sleep Assessment: Can we Obtain RR Intervals (RRI) and RRI Variation Parameters Close to Polygraph ECG using Small Wearable ECG Measuring Device?	N/A
Shirouzu, Shigenori* <i>Japanese Research Institute of Healthcare and Education</i> ; Seno, Yumeka <i>Nazareth Kindergarten</i> ; Yagi, Tomoko <i>Ota Memorial Sleep Center</i> ; Sasaki, Mitsuo <i>Ota Memorial Sleep Center</i> ; Takahashi, Toshiharu <i>Hosei University</i> ; Sugano, Hlsanobu <i>Emeritus professor of University of Occupational and Environment</i>	

ThPO: 12:00-14:00		Maya Ballroom Foyer
HI-POCT Poster Session and POC Technologies Demonstrations (Poster Session)		
12:00-14:00		ThPO.21
Detection of Lamivudine and Emtricitabine in Urine using a Modified Pyrimidine Assay		78-80
Woodman Pratt, George <i>Boston University</i> ; Fan, Andy <i>Boston University</i> ; Klapperich, Catherine M.* <i>Boston University</i>		
12:00-14:00		ThPO.22
Two-Dimensional, Error-Corrected Barcode Readout for Point-of-Care Colorimetric Assays		81-84
Hall, Harrison <i>Dartmouth College</i> ; Syed, Abeer <i>Dartmouth College</i> ; Zhang, John* <i>Dartmouth College</i>		
12:00-14:00		ThPO.23
Miniaturized Planar RTIL-Based Eletrochemical Gas Sensor for Real-Time Point-of-Exposure Monitoring		85-88
Yin, Heyu* <i>MSU</i> ; Wan, Hao <i>MSU</i> ; Lin, Lu <i>Oakland University</i> ; Zeng, Xiangqun <i>Oakland University</i> ; Mason, Andrew <i>Michigan State University</i>		
12:00-14:00		ThPO.24
Portable Centrifugal Microfluidic System for Diagnostics in Resource-Limited Settings		89-91
Koh, Chung-Yan <i>Sandia National Laboratories</i> ; VanderNoot, Victoria* <i>Sandia National Laboratories</i> ; Phaneuf, Christopher <i>Sandia National Laboratories</i>		
12:00-14:00		ThPO.25
A Cancer Detection Device Utilizing Multi-Tiered Neural Networks for Improved Classification		92-96
Shell, John* <i>NOVASCAN LLC</i> ; Gregory, William <i>NovaScan LLC</i>		
12:00-14:00		ThPO.26
Comfortable and Washable ECG Electrode Baby Clothes for Newborn Infants Monitoring System to Decrease their Sudden Death		N/A
Shirouzu, Shigenori* <i>Japanese Research Institute of Healthcare and Education</i> ; Seno, Yumeka <i>Nazareth Kindergarten</i> ; Sugano, Hlsanobu <i>Emeritus professor of University of Occupational and Environment</i> ; Kawano, Kazuko <i>Yokohama Nazareth Nursery School, Educational Foundation Shion G</i> ; Nozaki, Ryoko <i>Shion Gakuen</i> ; Furutsu, Etsuko <i>Shion Gakuen</i> ; Urabe, Junko <i>Shion Gakuen</i>		
12:00-14:00		ThPO.27
Computer Aided Detection of Cavernous Malformation in T2-Weighted Brain MR Images		101-104
Wang, Huiquan <i>University of Alberta</i> ; Mandal, Mrinal* <i>University of Alberta</i> ; Ahmed, Nizam <i>University of Alberta</i> ; Xu, Hongming <i>University of Alberta</i>		
ThAT4: 14:00-15:30		Mexico-Cozumel
Student Paper Competition (Oral Session)		
14:00-14:15		ThAT4.1
Intelligent Fractional-Order PID (FOPID) Heart Rate Controller for Cardiac Pacemaker		105-108
Poigai Arunachalam, Shivaram* <i>Mayo Clinic</i> ; Kapa, Suraj <i>Mayo Clinic</i> ; Mulpuru, Siva <i>Mayo Clinic</i> ; Friedman, Paul <i>Mayo Clinic</i> ; Tolkacheva, Elena <i>University of Minnesota</i>		
14:15-14:30		ThAT4.2
Comparison of Kinematic and Dynamic Sensor Modalities and Derived Features for Human Motion Segmentation		109-112
Lin, Jonathan Feng-Shun* <i>University of Waterloo</i> ; Bonnet, Vincent <i>Tokyo University of Agriculture and Technology</i> ; Joukov, Vladimir <i>University of Waterloo</i> ; Venture, Gentiane <i>Tokyo University of Agriculture and Technology</i> ; Kulic, Dana <i>University of Waterloo</i>		
14:30-14:45		ThAT4.3
A Fabric-Based Wearable Band for Hand Gesture Recognition based on Filament Strain Sensors: A Preliminary Investigation		113-116
Ferrone, Andrea <i>Università degli Studi "Roma Tre"</i> ; Jiang, Xianta <i>Simon Fraser University</i> ; Maiolo, Luca <i>Institute of Microelectronics and Microsystems</i> ; Consiglio Nazion; Pecora, Alessandro <i>Institute of Microelectronics and Microsystems</i> ; Consiglio Nazion; Colace, Lorenzo <i>Università degli Studi Roma Tre</i> ; Menon, Carlo* <i>Simon Fraser University</i>		

14:45-15:00	ThAT4.4
Characterization of a Compact and Highly Sensitive Fluorescence-Based Detection System for Point-of-Care Applications	117-120
Obahiagbon, Uwadiae <i>Arizona State University</i> ; Kullman, Dixie <i>Arizona State University</i> ; Smith, Joseph <i>Arizona State University</i> ; Katchman, Benjamin <i>Arizona State University</i> ; Anderson, Karen S. <i>Arizona State University</i> ; Blain Christen, Jennifer* <i>Arizona State University</i>	
15:00-15:15	ThAT4.5
Dynamic Remote Control through Service Orchestration of Point-of-Care and Surgical Devices based on IEEE 11073 SDC	121-125
Kasparick, Martin* <i>University of Rostock</i> ; Schmitz, Malte <i>Institute for Software Engineering and Programming Languages, Un</i> ; Golatowski, Frank <i>University of Rostock</i> ; Timmermann, Dirk <i>University of Rostock</i>	
15:15-15:30	ThAT4.6
The Lab-on-PCB Framework for Affordable, Electronic-Based Point-of-Care Diagnostics: From Design to Manufacturing	126-129
Vasilakis, Nikolaos* <i>University of Southampton</i> ; Papadimitriou, Konstantinos <i>University of Southampton</i> ; Evans, Daniel <i>University of Southampton</i> ; Morgan, Hywel <i>University of Southampton</i> ; Prodromakis, Themis <i>Nano, ECS, University of Southampton</i>	
ThBT1: 15:45-17:15	Maya I - II
Biosensors and POCT in Rehabilitation (Oral Session)	
Chair: Chon, Ki <i>University of Connecticut</i>	
15:45-16:00	ThBT1.1
CryoPen, a Gasless Cryotherapy System Adapted for Low-Resource Settings	130-133
Cremer, Miriam* <i>Cleveland Clinic</i> ; Garai, Jillian <i>Basic Health International</i> ; Taxa, Luis <i>National Institute of Neoplastic Diseases</i> ; Felix, Juan <i>University of Southern California</i> ; Alfaro, Karla <i>Basic Health International</i> ; Haas, Michael <i>CryoPen, Inc.</i> ; Zevallos, Albert <i>National Institute of Neoplastic Diseases</i> ; Salinas, Manuel <i>Salvadoran Social Security Institute</i>	
16:00-16:15	ThBT1.2
Autonomously Sensing Loneliness and Its Interactions with Personality Traits using Smartphones	134-137
Pulekar, Gauri <i>Worcester Polytechnic Inst</i> ; Agu, Emmanuel* <i>Worcester Polytechnic Institute</i>	
16:15-16:30	ThBT1.3
Facial Nerve Stimulation in Healthy Human Subjects	138-141
García, Andrea <i>Universidad Autónoma Metropolitana-Iztapalapa</i> ; Castro-Prado, Fernando <i>Hospital Central Norte PEMEX</i> ; Perez, Miriam <i>Universidad Autonoma Metropolitana</i> ; Lara, Rafael <i>Universidad Autonoma Metropolitana</i> ; Sanchez, Olivia <i>Universidad Autonoma Metropolitana</i> ; Ramirez, Martin <i>Universidad Autonoma Metropolitana</i> ; Godinez, Montserrat <i>Innovamedica S.A. de C.V.</i> ; Coco, Michael L <i>NeuroSpring, Inc</i> ; Azpiroz-leeahan, Joaquin <i>Universidad Autonoma Metropolitana</i> ; Borsody, Mark* <i>Nervive, Inc.</i> ; Sacristan, Emilio <i>Universidad Autónoma Metropolitana</i>	
16:30-16:45	ThBT1.4
An Intelligent System to Assist the Diagnosis of Epilepsy Disorder in Children: A Case of Study	142-145
Singh-Múgica, Sunaina <i>Instituto Politécnico Nacional, UPIITA</i> ; Tovar, Blanca <i>UPIITA-IPN</i> ; Silva-Ramirez, Martin Arturo <i>Unidad Médica de Alta Especialidad (UMAE) Hospital General Centr</i> ; Garay-Jiménez, Laura-Ivoone* <i>Instituto Politécnico Nacional, UPIITA</i>	
16:45-17:00	ThBT1.5
Evaluation of QoS in Data Mobile Network for Vital Signs Transmission	146-149
Chandy, David <i>Universidad Politécnica Salesiana</i> ; Soto, Angel <i>Universidad Politécnica Salesiana</i> ; Huerta, Mónica* <i>Simon Bolivar University</i> ; Bermeo, Juan Pablo <i>Universidad Politécnica Salesian</i> ; Clotet, Roger <i>Simón Bolívar University</i> ; Sagbay, Giovanni <i>Universidad Politécnica Salesiana</i> ; Avila, Rene <i>Universidad Politécnica Salesiana</i>	
17:00-17:15	ThBT1.6
Interactive Video Exercise Tele-Rehabilitation (IVET) for Stroke Care in Jamaica	150-153
Macko, Richard <i>University of Maryland School of Medicine</i> ; Forrester, Terrence <i>University of West Indies</i> ; Francis, Patrice <i>University of West Indies</i> ; Nelson, Gail <i>University of West Indies</i> ; Hafer-Macko, Charlene <i>University of Maryland, Baltimore</i> ; Roy, Anindo* <i>University of Maryland Baltimore</i>	

ThBT2: 15:45-17:15	Maya III
Innovative Technologies in Healthcare (Oral Session)	
Chair: Sacristan, Emilio <i>Universidad Autónoma Metropolitana</i>	

15:45-16:00	ThBT2.1
Low-Cost, Disposable Fluorescence-Based Biorecognition System Architecture for Multiplexed Point-of-Care Molecular Diagnostics	154-157
Smith, Joseph <i>Arizona State University</i> ; Obahiagbon, Uwadiae <i>Arizona State University</i> ; Ewaisha, Radwa <i>Arizona State University</i> ; Katchman, Benjamin <i>Arizona State University</i> ; Kaftanoglu, Korhan <i>Arizona State University</i> ; Arafa, Hany <i>Arizona State University</i> ; Kullman, Dixie <i>Arizona State University</i> ; Anderson, Karen S. <i>Arizona State University</i> ; Blain Christen, Jennifer* <i>Arizona State University</i>	
16:00-16:15	ThBT2.2
Surface Enhanced Raman Spectroscopy as a Tool for Rapid and Inexpensive Diagnosis and Antibiotic Susceptibility Testing for Urinary Tract Infections	158-161
Hadjigeorgiou, Katerina <i>University of Cyprus</i> ; Kastanos, Evdokia <i>University of Nicosia</i> ; Pitris, Costas* <i>University of Cyprus</i>	
16:15-16:30	ThBT2.3
Comparing Machine Learning Clustering with Latent Class Analysis on Cancer Symptoms' Data	162-166
Papachristou, Nikolaos* <i>University of Surrey</i> ; Miaskowski, Christine <i>University of California, San Francisco</i> ; Barnaghi, Payam <i>University of Surrey</i> ; Maguire, Roma <i>University of Surrey</i> ; Farajidavar, Nazli <i>University of Surrey</i> ; Cooper, Bruce <i>University of California, San Francisco</i> ; Hu, Xiao <i>University of California, San Francisco</i>	
16:30-16:45	ThBT2.4
An Instrumented Glove for Improving Spasticity Assessment	167-170
Jonnalagedda, Saisri Padmaja, Padmaja <i>University of California, San Diego</i> ; Deng, Fei <i>University of California, San Diego</i> ; Douglas, Kyle <i>UCSB</i> ; Chukoskie, Leanne <i>University of California, San Diego</i> ; Yip, Michael Yip <i>University of California, San Diego</i> ; Ng, Tse Nga <i>UCSD</i> ; Nguyen, Truong <i>University of California, San Diego</i> ; Skalsky, Andrew <i>Rady Children's Hospital</i> ; Garudadri, Harinath* <i>University of California, San Diego</i>	
16:45-17:00	ThBT2.5
A Complex Systems Framework Approach towards Multidisciplinary Tumor Boards	171-174
Salla, Rahul* <i>Arizona State University</i> ; Pahle, Robert <i>Arizona State University</i> ; Amresh, Ashish <i>Arizona State University</i>	
17:00-17:15	ThBT2.6
Automated Nuclear Segmentation in Skin Histopathological Images using Multi-Scale Radial Line Scanning	175-178
Xu, Hongming <i>University of Alberta</i> ; Berendt, Richard <i>University of Alberta</i> ; Jha, Naresh <i>University of Alberta</i> ; Mandal, Mrinal* <i>University of Alberta</i> ; Wang, Huiquan <i>University of Alberta</i>	

ThBT3: 15:45-17:15	Maya VI - VII
mHealth and POC Monitoring (Oral Session)	

15:45-16:00	ThBT3.1
An Mhealth Hybrid App for Self-Reporting Pain Measures for Sickle Cell Disease	179-182
Gary, Kevin* <i>Arizona State University</i> ; Rallabhandi, Pooja <i>Arizona State University</i> ; Walek, Elizabeth <i>Children's National Medical Center</i> ; Nettleton, Margaret <i>Children's National Medical Center</i> ; Ahmed, Ishrat <i>Arizona State University</i> ; Wang, Jichuan <i>Children's National Health System</i> ; Cleary, Kevin <i>Georgetown University</i> ; Quezado, Zena <i>Children's Research Institute, Children's National Medical Center</i>	
16:00-16:15	ThBT3.2
An Android based Wireless ECG Monitoring System for Cardiac Arrhythmia	183-187
Wahane, Varsha* <i>Terna Engineering College, Nerul, Navi Mumbai</i> ; Ingole, Dr. P.V G.H. <i>Raisoni College of Engineering and Management, Anjangaon, Ba</i>	
16:15-16:30	ThBT3.3
Continuous Blood Pressure Prediction from Pulse Transit Time using ECG and PPG Signals	188-191
Ghosh, Shrimanti <i>University of Alberta, Canada</i> ; Banerjee, Ankur <i>University of Alberta</i> ; Ray, Nilanjan <i>University of Alberta</i> ; Wood, Peter William <i>University of Alberta</i> ; Boulanger, Pierre* <i>University of Alberta</i> ; Padwal, Raj <i>University of Alberta</i>	

16:30-16:45	ThBT3.4
ITO-Free 3D MEMS Photodetector for Point-of-Care Biosensing Devices	192-195
Mirza, Ahmad Hassan <i>University College of South East Norway and Chongqing Engineer;</i> Pires, Nuno M. M. <i>University College of Southeast Norway - HBV, TekMar, IMST;</i> Dong, Tao* <i>University College of Southeast Norway</i>	
16:45-17:00	ThBT3.5
Point-of-Care Neurophysiology: Assessing Neural Function in the Acute Stroke Patient	196-199
Kostiuk, Andrew Roman* <i>University of Saskatchewan;</i> Bui, Francis Minhthang <i>University of Saskatchewan;</i> Norton, Jonathan <i>University of Saskatchewan</i>	
17:00-17:15	ThBT3.6
Assessment of Pulse Transit/Arrival Time as Noninvasive Blood Pressure Predictors in Finger and Earlobe Sites	200-203
Selvaraj, Nandakumar* <i>Vital Connect Inc</i>	
ThBT4: 15:45-17:15	Mexico-Cozumel
POCT Monitoring and Diagnosis (Oral Session)	
15:45-16:00	ThBT4.1
Evaluating and Improving the Robustness of a Video-Based PR/RR Monitoring System for a Clinical Environment	204-207
Xu, Beilei <i>Xerox Corporation;</i> Madhu, Himanshu <i>Xerox Research Center India;</i> Kulkarni, Rakesh <i>Xerox;</i> Mestha, Lalit, K.* <i>GE Global Research;</i> Kyal, Survi <i>Xerox Corporation;</i> Pennington, Graham <i>Xerox Corporation</i>	
16:00-16:15	ThBT4.2
Musculoskeletal Treatments using Intense Therapy Ultrasound: Clinical Studies for Chronic Plantar Fasciitis and Lateral Epicondylitis	208-211
Slayton, Michael* <i>Guided Therapy Systems, LLC;</i> Amodei, Richard <i>Guided Therapy Systems, LLC;</i> Compton, Keegan <i>Guided Therapy Systems;</i> Latt, Daniel <i>University of Arizona, School of Medicine;</i> Kearney, Jr., John <i>The Core Institute</i>	
16:15-16:30	ThBT4.3
Mobile All-in-One Malaria Molecular Diagnosis for Field Deployment in Resource-Limited Areas	212-215
Choi, Gihoon <i>Pennsylvania State University;</i> Song, Daniel <i>Pennsylvania State University;</i> Miao, Jun <i>Pennsylvania State University;</i> Cui, Liwang <i>Pennsylvania State University;</i> Guan, Weihua* <i>Pennsylvania State University</i>	
16:30-16:45	ThBT4.4
A System for Semi-Automated Management of Blood Loss during Surgery: Preliminary Results	216-219
Asare, Philip <i>Bucknell University;</i> Chowdhury, Mahmood Arifin <i>1993;</i> Rajah, Taimoore <i>NIH Department of Perioperative Medicine;</i> Poler, S. Mark <i>Geisinger Health System;</i> Shah, Mohammad <i>National Institutes of Health Clinical Center;</i> Guion, Peter <i>National Cancer Institute;</i> Martin, Jeffrey <i>NIH Clinical Center;</i> Driscoll, Kevin <i>NIH Department of Perioperative Medicine;</i> Wu, Qianhong <i>Villanova University;</i> Mannes, Andrew <i>NIH Department of Perioperative Medicine;</i> Nataraj, C.* <i>Villanova University</i>	
16:45-17:00	ThBT4.5
Breast Cancer Triage CAD for Low Resource Countries using Low-Cost Ultrasound and Minimally-Trained Operators	220-223
Love, Susan Dr. <i>Susan Love Research Foundation;</i> Berg, Wendie <i>University of Pittsburgh School of Medicine, Magee-Women's Hospital;</i> Podilchuk, Christine* <i>Clearview Diagnostics Inc.;</i> Lopez Aldrete, Ana Lilia <i>Hospital Valentín Gómez Farías;</i> Gaxiola Mascareño, Aarón <i>Hospital Valentín Gómez Farías;</i> Jairaj, Ajit <i>Clearview Diagnostics Inc.;</i> Barinov, Lev <i>Clearview Diagnostics Inc.;</i> Hulbert, William <i>Clearview Diagnostics Inc.;</i> Mammone, Richard <i>Rutgers University</i>	
17:00-17:15	ThBT4.6
Point-of-Care HIV-1 Diagnostic with Integrated Nucleic Acid Extraction and Amplification from Whole Blood	224-227
Borysiak, Mark <i>University of Washington;</i> Bender, Andrew <i>University of Washington;</i> Boyle, David <i>PATH;</i> Posner, Jonathan* <i>University of Washington</i>	