

# **2012 IEEE Topical Conference on Biomedical Wireless Technologies, Networks, and Sensing Systems**

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## TU1D: Wireless Technologies for Biosignals and Modeling in Medical Applications

Chair: Jung-chih Chiao, University of Texas Arlington

Venue: California 8-9 (tentative), 08:00 - 09:40, Tuesday, 17 January 2012

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PAGE 1 TU1D-1	<b>RF Based Feedback System for Cardiopulmonary Resuscitation</b> <i>(M. Hofmann, J.C. Edelmann, A. Bolz, Robert Weigel, Georg Fischer, Dietmar Kissinger)</i>
PAGE 5 TU1D-2	<b>Breathing Rate Estimation from a Non-Contact Biosensor Using an Adaptive IIR Notch Filter</b> <i>(Tarig Ballal, Redmond B. Shouldice, Conor Heneghan, Anding Zhu)</i>
PAGE B#5 TU1D-3	<b>Using Audio to Enhance Trustworthiness in Wireless Localization for Medical Environments</b> <i>(E. Martin, R. Bajcsy)</i>
PAGE 13 TU1D-4	<b>Antenna Evaluation of a Non-Contact Vital Signs Sensor for Continuous Heart and Respiration Rate Monitoring</b> <i>(Vighneshrudra Das, Alex Boothby, Royce Hwang, Tam Nguyen, Jerry Lopez, Donald Y.C. Lie)</i>
PAGE 17 TU1D-5	<b>Detection Sensitivity and Power Consumption vs. Operation Modes Using System-on-Chip Based Doppler Radar Occupancy Sensor</b> <i>(Chenyan Song, Ehsan Yavari, Aditya Singh, Olga Boric-Lubecke, Victor Lubecke)</i>

## TU3D: Remote Patient Monitoring

*Chair: David Ricketts, Carnegie Mellon University*

*Venue: California 8-9 (tentative), 13:30 - 14:50, Tuesday, 17 January 2012*

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PAGE 21  
TU3D-1

**Antenna Array Technology for Radar Respiration Measurement in Motion-Adaptive Lung Cancer Radiotherapy**

*(Changzhan Gu, Zeeshan Salmani, Hualiang Zhang, Changzhi Li)*

PAGE 25  
TU3D-2

**AC/DC Coupling Effects on CW and Pulse Transmission Modes in Doppler Radar Physiological Monitoring System**

*(Ehsan Yavari, Victor Lubecke, Olga Boric-Lubecke)*

PAGE 29  
TU3D-3

**VitalTrack: A Doppler Radar Sensor Platform for Monitoring Activity Levels**

*(Gabriel Reyes, Di Wang, Rakesh Nair, Changzhi Li, Xiaolin Li, Jenshan Lin)*

## TU5D: Micro-Sensors and In-vivo Microsystems

Chair: Rizwan Bashirullah, University of Florida

Venue: California 8-9 (tentative), 16:00 - 17:20, Tuesday, 17 January 2012

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|-------------------|--|
| PAGE 33<br>TU5D-1 | <b>Smart Instruments: Wireless Technology Invades the Operating Room (Invited)</b><br><i>(Mohamed R. Mahfouz, Gary To, Michael J. Kuhn)</i>  |
| PAGE 37<br>TU5D-2 | <b>Implantable Wireless Microcoils for 7Tesla Magnetic Resonance Imaging of the Rat Brain: Optimization of the PDMS Packaging</b><br><i>(Magdaléna Couty, Anne Rubin, Marion Woytasik, Jean-Christophe Ginefri, Luc Darrasse, Fawzi Boumezbeur, Franck Lethimonnier, Michael Tatoulian, Elisabeth Dufour-Gergam)</i> |
| PAGE 41<br>TU5D-3 | <b>Miniaturized Antenna and Integrated Rectifier Design for Remote Powering of Wireless Sensor Systems</b><br><i>(Onur Kazanc, Francesco Mazzilli, Norbert Joehl, Franco Maloberti, Catherine Dehollain)</i>   |
| PAGE 45<br>TU5D-4 | <b>Low-Cost Electrodes for Acutely Implanted Neural Recording and Stimulation Systems</b><br><i>(Alper Bozkurt)</i>  |

## WE1C: Wireless Position and Localization in Medicine

Chair: Mohamed Mahfouz, University of Tennessee Knoxville

Venue: California 7 (tentative), 08:00 - 09:40, Wednesday, 18 January 2012

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| PAGE 49<br>WE1C-1  | <b>Design of Wireless Inertial Trackers for Human Joint Motion Analysis</b><br><i>(Gary To, Mohamed R. Mahfouz)</i>   |
| PAGE 53<br>WE1C-2  | <b>SFCW Microwave Radar for In-Door Fall Detection</b><br><i>(M. Mercuri, D. Schreurs, P. Leroux)</i>   |
| PAGE 57<br>WE1C-3  | <b>Ultra Wideband 3-D Tracking of Multiple Tags for Indoor Positioning in Medical Applications Requiring Millimeter Accuracy</b><br><i>(Michael J. Kuhn, Mohamed R. Mahfouz, Nathan Rowe, Essam Elkhoully, Jonathan Turnmire, Aly E. Fathy)</i> |
| PAGE 61<br>WE1C-4  | <b>Localization of a Functional Capsule for Wireless Neuro-Endoscopy</b><br><i>(Dirk Manteuffel, Markus Grimm)</i>  |
| PAGE B#5<br>WE1C-5 | <b>Leveraging Bluetooth and Wireless Accelerometers to Enhance Gait Analysis and Positioning in Medical Environments</b><br><i>(E. Martin, R. Bajcsy)</i>   |

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## WE2C : RF/Microwaves in Biological Applications and Interaction with Biological Tissues

*Chair: Changzhi Li, Texas Tech University*

*Venue: California 7 (tentative), 10:10 - 11:50, Wednesday, 18 January 2012*

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| PAGE 69<br>WE2C-1 | <b>Advances in Bioelectromagnetics for Implantable Systems (Invited)</b><br><i>(Carlos J. Cela, Anil K. RamRakhyani, Sundar Srinivas, Gerard Hayes, Michael Dickey, Gianluca Lazzi)</i>        |
| PAGE 73<br>WE2C-2 | <b>Physical Phantoms for Microwave Imaging of the Breast</b><br><i>(Yona Baskharoun, Aastha Trehan, Natalia K. Nikolova, Michael D. Noseworthy)</i>  |
| PAGE 77<br>WE2C-3 | <b>SAR Assessment and Analysis of Cumulative Body Exposure to Multi Transmitters from a Mobile Phone</b><br><i>(Zaher Mahfouz, Azeddine Gati, David Lautru, Joe Wiart, Victor Fouad Hanna)</i> |
| PAGE 81<br>WE2C-4 | <b>Analysis of Passive Electromagnetic Exposure to Multisource Distributed in Outdoor Places</b><br><i>(Cláudio P. Costa, Glauco Fontgalland, Silvio E. Barbin)</i>                            |
| PAGE 85<br>WE2C-5 | <b>An Empirical Investigation of the Capacitive Body Coupled Communications Channel for Body Area Networks</b><br><i>(Simon Attard, Saviour Zammit)</i>  |