

# Miodrag Bolic

*Curriculum vitae (December 11, 2015)*

## **Address**

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## **EDUCATION**

**Ph.D. in Electrical Engineering**, Stony Brook University, Stony Brook, NY, USA, 2004

**M.Sc. Electrical Engineering**, The University of Belgrade, Belgrade, Yugoslavia, 2001

**B.Sc. in Electrical Engineering**, The University of Belgrade, Belgrade, Yugoslavia, 1996

## **EMPLOYMENT HISTORY**

<b>Dates</b>	<b>Institution</b>	<b>Position</b>
2009-present	School of Electrical Engineering and Computer Science, University of Ottawa, Canada	Associate Professor
2004 - 2009	School of Information Technology and Engineering, University of Ottawa, Canada	Assistant Professor
2001-2004	Symbol Technologies, Inc., Holtsville, NY, USA	Part time DSP algorithm developer
2000-2004	Electrical Engineering Department, State University of New York at Stony Brook, USA	Research assistant
1996–2000	Electronic Department, Vinca, Nuclear Sciences Institute, Belgrade, Serbia	Researcher and design engineer

### Startups co-founded:

- Astraion LLC, NY, USA, 2007.
- Health Parametrics Inc., Ottawa, ON, Canada, 2010.

Consulting in last 5 years: Orica Canada, Amita Corporation, Braebon Corporation, Teslonix Inc.

### Director of the research groups:

- Computer Architecture Research Laboratory (CARG), EECS, University of Ottawa
- RFID research group, SITE, University of Ottawa
- Medical Device Research Group, Meddev, University of Ottawa

### Affiliation:

- Signal Processing Oriented Technologies (SPOT) Group, SITE, University of Ottawa
- Group for Instrumentation and Processing of Biosignals, SITE, University of Ottawa

## RESEARCH

### Active research projects

#### *Signal processing*

- Algorithms and systems for blood pressure measurement
- Processing of breathing signals using CW radars

#### *Computer architectures*

- Acceleration of LU Factorization on GPGPUs

#### *RFID*

- Localization with passive RFID tags
- Semipassive RFID system for Internet-of-things

#### *Brain Computer Interface*

- System for non-invasive brain stimulation

### Completed R&D projects (partial list):

#### *Signal processing*

- Detection of breathing signals through the wall using UWB radars (at OttawaU)
- Particle filters for speech enhancement (at OttawaU)
- Distributed particle filtering algorithms (in SUNY Stony Brook)

#### *Computer architectures*

- Software Acceleration on Embedded GPUs (at OttawaU)
- FPGA-based Hardware Accelerators in Cloud Computing (at OttawaU)
- Reducing jitter in real-time control systems (at OttawaU)
- Modifications of DSP algorithms for more efficient implementation (at OttawaU)
- Automated generation of configurable processors (at OttawaU)
- Parallel architectures for particle filters on FPGA platforms (in SUNY Stony Brook)

#### *RFID and wireless*

- Active RFID tags for eloping prevention (at OttawaU)
- Low-frequency RFID technology for detecting buried objects (at OttawaU)
- Algorithms for range estimation in radio-frequency identification (RFID) networks (in Symbol Technologies)
- Algorithm for improving coexistence between IEEE802.11b and Bluetooth networks (in Symbol Technologies)

#### *Brain Computer Interface*

- Tongue display unit (at OttawaU)
- Disposable electrodes for tDCS (at OttawaU)

#### *Instrumentation*

- Dedicated digital signal processor for improving energy resolution for nuclear spectroscopy (in Vinca, Belgrade)
- Internet-based systems for data acquisition (in Vinca, Belgrade)
- Radiation monitor for beta contamination (in Vinca, Belgrade)
- System for controlling preservation of human cells (in Vinca, Belgrade)
- PC based gamma radiation monitor as a virtual instrument (in Vinca, Belgrade)

## GRADUATE SUPERVISION

	Number of students who finished	Number of current full-time students
PDFs and visiting scholars	14	1
PhD (supervisor)	1	4
PhD (co-supervisor)	2	1
MS(supervisor)	8	2
MS (co-supervisor)	9	1
Total	32	9

### Research Scientists and Visiting Professors

- **Dr. Izmail Batkin (2009-2014)** Blood pressure measurements and bioimpedance measurements

### Post-doctoral fellows

- **Isar Nejadgholi (2013-2014)**, Topic: Biompedance measurements

### Current full-time students

- **Hershel Caytak (Ph.D.)** 2011-2014, Topic: Improving efficacy of transcranial direct current stimulation systems
- **Yu Wang (Ph.D – CSC scholarship from China)** 2012-2016, Instruction-level fault-tolerant computing techniques
- **Jing Wang (Ph.D. – CSC scholarship from China)** 2012-2016, RFID and Internet of things.
- **Gregory Somers (M.Sc.)** (2013-2015)
- **Gang Hao (M.Sc.)** (2013-2014)
- **Xinyang Zhang (M.Sc.)** (2014-2016)

### Current part-time students

- **Jonathan Parri (Ph.D. - OGS Scholar)** 2010-2015, Topic: Optimal allocation of hardware resources
- **Mira Vrbaski (Ph.D.)** 2013-2018

## Completed

### Visiting professors/scholars

- **Prof. Amir Rajabzadeh (2012-2014)** Computer Architecture research
- **Luo Wuming (2013-2014)** Active RFID systems – visiting scholar from China
- **Siqin Zhao (2013-2014)**, visiting scholar from China

### Research associates

- **Saif Ahmad, 2008-2013**, Topic: ECG-Assisted Blood Pressure Measurement Systems, (co-supervised with Prof. Voicu Groza and Prof. Hilmi Dajani)

- **Shan Zhao**, 2010-2011, Topic: Complex event processing for RFID systems (co-supervised with Prof. Voicu Groza)
- **Abeye Mekonnen (2012-2014)**, Topics: Simulation of the current propagation during non-invasive brain stimulation.

#### Postdoctoral fellows

- **Mohammad Forouzanfar** (2014-2014): Topic: Classification of the human actions and breathing using CW radars
- **Crystal Villeneuve** (2012-2014), Topic: Clinical trial of opioid addiction to assess the extended viability of tDCS stimulation
- **Shiva Gholami** (2014-2014), Topic: Biop impedance measurements
- **Abid Muslim Malik** (Post-doctoral fellow), Nov 2008- Apr 2009, Topic, Compilers for multiprocessing systems on chip (co-supervised with Prof. Voicu Groza).
- **Pankaj K. Mishra** (Research associate), 2009 - 2010. Topic: RFID for underground detection (co-supervised with M. Yagoub) – now with Central Institute of Mining & Fuel Research, India
- **Subhasis Banerjee** (Post-doctoral fellow), 2009-2010, Computer architecture research
- **Balakumar Balasingam** (Post-doctoral fellow), 2008-2010, Topic: Complexity reduction of particle filters.
- **Soojeong Lee**, 2009-2010, Topic: Confidence levels for blood pressure measurement (co-supervised with Prof. Voicu Groza and Prof. Hilmi Dajani)

#### Ph.D students

- **Mohamed Mabrouk** (Ph.D.) – Scholarship from Egypt) 2012-2015, Topics: Signal Processing of Ultra-Wideband Radar Signals for Human Detection behind Walls (main supervisor, co-supervised with Dr. Sreeraman Rajan).
- **Frédéric Mustière**, (Ph.D.) 2006-2010, Topic: Speech enhancement in real-world environments using state-space based algorithms (co-supervised with Prof. Martin Bouchard) – now with National Research Centre, Ottawa, Canada
- **Brady Laska** (Ph.D.) 2007-2010, Topic: Transform Domain Model-Based Wideband Speech Enhancement with Hearing Aid Applications (co-supervised with Prof. Rafik Goubran) – now with Research in Motion, Ottawa, Canada

#### M.Sc. Students

- **Ovidiu Draghici** (M.Sc.) 2010-2014, Topic: The MouthPad – a Tongue Interface for Hands-Free Computer Control
- **Hassan Ahmad Roshan** (M.Sc.) 2012-2013, Topic: Elop ing Prevention, Occupancy Detection and Localizing System for Smart Healthcare Applications
- **Iype Joseph** (M.Sc.) 2012 -2013, Acceleration of Java programs on embedded GPUs (co-supervised with Prof. Groza)
- **Majed Rostamian** (M.Sc.) 2011-2014, Topic: Localization and Proximity Detection in the Internet of Things Based on an Augmented UHF RFID System
- **Josip Popovic** (M.Sc.) 2009-2013, FPGA-Based Coprocessors for Clouds.

- **Chamira Perera (M.Sc.)** 2010-2013, Topic: Improving Digital Control System Performance Through a Novel Jitter Compensating Method (Co-supervised with Prof. Trevor Pierce)
- **Bardia Bandali (M.Sc.)** 2011-2013, Topic: Steady-State Analysis of Nonlinear Circuits using the Harmonic Balance on GPU (cosupervised with Emad Gad)
- **Wei Wang (M.Sc.)**, 2012-2013, Topic: Accessing an FPGA-based Hardware Accelerator in a Paravirtualized Environment
- **Alexey Borisenko (M.Sc.)** 2010-2012, Topic: Augmented RFID system with localization capabilities
- **Majid Mafi (MS)**, 2009-2011, Topic: Blood Pressure Estimation using Oscillometric Pulse Morphology (co-supervised with Prof. Voicu Groza)
- **Tzu Hao Li (MS)**, 2008-2011, Topic: Open Platform Semi-Passive Ultra High Frequency Radio Frequency Identification Tag.
- **Michael Montcalm (MS)** 2008-2011, Topics: An ILP-based Task and Instruction Scheduling Algorithm for Instruction Set Extended Symmetrical Homogeneous Multiprocessor Systems-on-Chip (co-supervised with Prof. Voicu Groza) – now with Alcatel.
- **Vishal Thareja (MS)** 2007-2010, Topic: Design space exploration for RISC Processors- now with Synopsys.
- **Silu Chen (MS)** 2008-2010, Topic: Improving Algorithms for Oscillometric Blood Pressure Estimation by Suppressing Breathing Effects (co-supervised with Prof. Voicu Groza).
- **Jonathan Parri (MS)** 2008-2010, Topic: Effective Modeling for Selection and Integration of Custom Instructions for Hybrid System-on-Chips (co-supervised with Prof. Voicu Groza)
- **Daniel Shapiro (M.Sc.)** 2007-2008, Title: Design and Implementation of Instruction Set Extension Identification for a Multiprocessor System-on-chip Hardware/Software Co-design Toolchain.
- **Frédéric Mustière, (M.Sc.)** 2004-2006, Title: Particle Filter methods for Speech Processing (co-supervised with Prof. Martin Bouchard)
- **Haseeb Syed, (MS of Science)** 2005-2008, Title: Radio Frequency Identification and its Application in Tracking Vehicles.

**Graduate students and Post-docs that I collaborated with and published (but did not supervise)**

- Patrick Longa (M.Sc. student of Dr. Ali Miri)
- Karen Soueidan (M.Sc. student of Dr. Dajani)
- Bahareh Taji (M.Sc. student of Dr. Groza and Dr. Shirmohammadi)
- Seddigeh Baktash (M.Sc. student of Dr. Dajani)
  
- Mohammad Forouzanfar (Ph.D. student of Dr. Groza and Dr. Dajani)
- Nazish Irfan (Ph.D. student of Dr. Yagoub)
- Neda Nabavi (Ph.D. student of Dr. Hall)
  
- Hongbo Guo (Post-doc of Dr. V. C.M. Leung)
- Hai Liu (Post-doc of Dr. Stojmenovic and Dr. Nayak)
- Vladimir Savic (Post-doc of Dr. Erik G. Larsson and Dr. Fredrik Gustafsson)
- Tiancheng Li (Post-doc, Northwestern Polytechnical University, China)

### **Undergraduate students**

Supervised following undergraduate students: Daniel Shapiro 2005, Vishal Thareja 2005, Peter Farkas 2005, Fan Hu 2005, Hassan Zaki 2005, Srivatsan Vijayakumar 2008, Aly Shoukry 2008, John-Marc Desmarais 2009, Mukul Tewary 2009, Alexey Borisenko 2009-2010, Ovidiu Dragichi 2009, Lukash Monczak 2010, Patrick Santos 2011, John Earl 2011 and Kyle Moncrief 2011.

### **Internship students**

- Guillaume Chanas, Feb-July 2008, RFID, from ESISAR France.
- Julien David, Feb-July 2008, RFID, from ESISAR France.
- Gabriella Esteves, May –August 2014, Controlling Tongue Display Unit from Android Phone, Exchange student from Brazil.
- Filipe Landerdahl Albanio, May –August 2014, Blood pressure monitoring and ECG using Freescale embedded platform, Exchange student from Brazil.

### **Prizes that students received:**

- I. Nejadgholi, Young Investigator Award, Merit Prize (4<sup>th</sup> place) by International Federation for Medical and Biological Engineering for the paper: “Classification of responders versus non-responders to tDCS by analyzing voltage between anode and cathode during treatment session,” presented at the World Congress on Medical Physics and Biomedical Engineering (WC 2015), Toronto, Canada, June, 2015.
- J. Parri, D.C. Shapiro, A. Borisenko, L. Monczak, O. Draghici, Supervisor M. Bolic, Second prize, Graduate Business case competition, University of Ottawa, 2010.
- A. Borisenko, L. Monczak, O. Draghici, I. Singh, Supervisor M. Bolic, 5<sup>th</sup> place, North America Altera FPGA Competition, 2010.
- B. Laska, Winner of University Senate Medal for Academic Achievement at the PhD Level, Carleton University, Ottawa, May 2010.
- A. Borisenko, L. Monczak, O. Draghici, I. Singh, Supervisor M. Bolic, First prize, Undergraduate Business case competition, University of Ottawa, 2010.
- B. Laska, Award for best presentation, Canadian Acoustics Conference, Sept. 2009.
- D. Shapiro, Ranked 3<sup>rd</sup> place poster in Electrical and Computer Engineering, Annual Graduate Studies and Research Day, University of Ottawa, 2009.
- D. Shapiro, V. Thareja, 1<sup>st</sup> prize for the research poster competition at the Faculty of Engineering, University of Ottawa 2008.
- D. Shapiro, V. Thareja, S. Ratti, S. Vijayakumar, M. Yang, Supervisor M. Bolic, ISE for LEON processor, 2<sup>nd</sup> Prize in the Canadian Altera FPGA Competition, 2008.
- T. Burton, G. Green, Supervisor M. Bolic, Hardware implementation of a wavelet - based image compression algorithm, 3<sup>rd</sup> Prize in the Canadian Altera FPGA Competition, 2008.

### **FUNDING**

Role	Source	Amount	Term	Title	Type	Co- Investigators and partners
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PI	NSERC Engage	25,000	2015-2016		Research and development	-
PI	Correctional Services Canada	\$99,600	2015-2016	Doppler Radar-Based Life Sign Monitoring System, Phase 2	Research and development	H. Dajani, V. Groza, S. Rajan
PI	NSERC Discovery	\$125,000	2015-2019	Automated Monitoring and Localization of People	Research and development	-
PI	Correctional Services Canada	\$98,000	2014-2015	Doppler Radar-Based Life Sign Monitoring System	Research and development	H. Dajani, V. Groza, S. Rajan
PI	Mitacs, IRAP, KG Spectrum	\$15,000	2014	Classification and signal processing of radar signals to detect stop of breathing	Research and development	-
PI	OCE and Connect Canada	\$25,000	2014	Electrodes for Noninvasive Brain Stimulation Capable of Maintaining Constant Temperature	Research and development	Nuraleve
PI	Mitacs Cluster, Nordocs	\$80,667 from Mitacs \$66,000 from Nordocs	2013-2014	Addiction Neuromodulation System	Research and development	Industrial partner: Nordocs
R	Mitacs Cluster Phase 2b	\$125,000	2013	ECG Assisted Blood Pressure Measurement	Industrial	Industrial partner: Health Parametrics PI: Saif Ahmad
PI	NSERC CRD	\$55,000	2013-2014	Surface electrodes and models for controlled current delivery and bioimpedance measurements	Research	H. Dajani, A. Adler
PI	NRC-IRAP	\$30,000	2013	Development of a Method for Electrocardiogram R-Peak Controlled Stepwise Cuff Deflation	Industrial	Industrial partner: Health Parametrics S. Ahmad, S. Fanjoy
PI	OCE TPS Light	\$25,000	2013	Clinical Trial Management Software for Non-invasive Brain Stimulation	Research and Development	Industrial partner: Nordocs Industrial partner: Nordocs
PI	NSERC Engage	\$25,000	2012-2013	Software acceleration on embedded GPUs	Research	Industrial partner: You1 Labs
PI	OCE Market Readiness Phase 1	\$75,000	2012	ECG Assisted Blood Pressure Measurement	Industrial	H. Dajani, V. Groza
PI	FedDev SME4SME	\$125,000	2012-2013	Diagnostic medical device using tDCS electrodes	Research and Industrial	Industrial partner: Nordocs
PI	NSERC Engage	\$25,000	2012	RFID System for Eloping Prevention	Research	Industrial partner: Zodiac Light Inc.
PI	Mitacs Accelerate Program	\$90,000	2012	Requirements Investigation and Practical Application of Neural Interface for Treatment of Cognitive Impairment.	Research	Industrial partner: Nordocs Technologies
PI	Mitacs Accelerate Program	\$15,000	2011	Investigation of optimal AES mapping on FPGA hardware	Research	Industrial partner: Elliptic Technologies
PI	OCE	\$25,000	2011	IACP - Technical Problem Solving – Light: Neuro-Electrode Array Research	Research	V. Groza Industrial partner: Nordocs
PI	Nordocs Technologies	140,000	2011-2012	Brain Human Computer Interface	Industrial	
PI	NSERC	130,000	2010-2015	NSERC Discovery: System for Localization and Tracking	Research	
EC	NSF SBIR	100,000	2009	SBIR Phase 1	Research	PI: P.M.Djuric
PI	NSERC	73,290	2009-2010	NSERC Collaborative Research and Development grant, Title: Using RFID technology for mining services applications	Research	M. Yagoub, Industrial partner: Orica

PI	OCE	350,000	2008-2010	Ontario Centres of Excellence. Title: Remote Objective Monitoring of Bio-Signals (ROMOBS),	Research	Co-investigators: H. Dejani, W.Almuhtadi, Industrial partner: Biosign Inc.
PI	NSERC	198,000	2008-2009	NSERC Strategic grant. Title: Modular Design of Configurable/Reconfigurable systems	Research	V. Groza
PI	Industry: Orica Inc.	62,700	2008-2009	Orica Inc. Title: Using Rubee Technology in Mining Service Applications	Industrial	M. Yagoub
PI	NSERC	100,000	2005-2010	NSERC Discovery grant. Title: A System for Automated Implementation of Algorithms for Positioning, Tracking and Navigation	Research	-
PI	U. of Ottawa	25,000	2004-2005	Start-up grant Type of funding: G	Research	-
R	CFI	62,864	2006	CFI: Leaders Opportunity Fund, Title: Infrastructure for Smart Autonomous Mobile Robots for Rescue Missions (SAMRRM), Type of funding: G	Infrastructure	W. Gueaieb
R	ORF	62,864	2006	Ontario Research Fund (ORF)– matching for CFI Type of funding: G	Infrastructure	W. Gueaieb
R	NSERC	75,000	2006	NSERC Research Tools and Instruments grant, Title: Infrastructure for Advanced Research in Wireless Sensor Networks with Realistic Physical Layer, Type of funding: G	Infrastructure	PI: I. Stojmenovic, Co-investigators: Amiya Nayak.
R	OCE	37,500	2007	Ontario Centres of Excellence: Proof of Concept, Title: Robust Blood Pressure Monitoring System, Type of funding: G	Research	PI: V. Groza Industrial Partner: Biosign Inc.
R	NSERC	450,000	2006-2008	NSERC Collaborative Research and Development grant, Title: Intelligent Signal Processing for Environment-Sensitive Hearing Devices, Type of funding: G	Research	PI: T. Aboulnasr, Co-investigators: M. Bouchard, C. Giguere, R. Goubran, and W. Gueaieb, Industrial partner: Siemens.
<b>Total as a PI</b>		<b>\$2,123,257</b>				
<b>Acronyms used in the table above.</b>						
NSERC: Natural Science and Engineering Research Council CFI: Canada Foundation for Innovation OCE: Ontario Centres of Excellence ORF: Ontario Research Fund PI – principal investigator R – researcher EC – external collaborator						

### Undergraduate research funding

- “Multiprocessor generation with Leon 3 processor,” NSERC USRA, 2008, \$5,000, Srivatsan Vijayakumar, supervisor: Miodrag Bolic.
- “*Designing RFID Printer and Entrance Control System*,” OCE Connection Program, 2007, \$10,500, Principal Investigator: Miodrag Bolic, Collaborator: Zodioptics Inc.
- “*Implementation of the Arctangent Functions: A comparative study*,” NSERC USRA, 2006, \$5,000, Hussein Al Osman, supervisor: M. Bolic.



## **INDUSTRY PARTNERS**

- Astraion LLC, NY
- Nuraleve (Nordocs Inc.), Ottawa
- Siemens, Germany
- Biosign Inc., Toronto, Canada
- Zodioptics Inc., Ottawa, Canada
- Orica Inc.
- Larus Technologies, Ottawa
- Biopeak Technologies, Ottawa
- YouI Labs, Ottawa
- Amita Corporation
- Correctional Services Canada
- K & G Spectrum
- Braebon Corporation

## **COLLABORATORS**

- External: P.M. Djuric, A. Athlaye, V. Drndarevic, Hong-Zhou Tan, Guan Yong Liang, P. Mishra, J. Miguez, R. Goubran, A. Adler, T. Pearce, D. Holder, S. Rapuano, V. Savic, T. Li
- University of Ottawa: A. Nayak, V. Groza, H. Dajani, S. Rajan, F. Tremblay, M. Bouchard, M. Yagoub, R. Abielmona, X. Cao

## **TEACHING EXPERIENCE**

### Undergraduate

- CEG4136 “Computer Architecture III”, fall 2004, 2005, 2006, 2007, 2008, 2010, 2011, 2012, 2013, 2014
- CEG3156 “High-Level Computer System Design”, winter 2005 – 2012
- ELG4172 “Digital Signal Processing”, winter 2007 – 2009, 2014
- CEG3155 “Digital Design II”, fall 2014

### Graduate

- ELG6163 “Digital Signal Processing Microprocessors, Software and Applications”, winter 2006, 2007
- ELG6158 “Digital systems architectures”, Fall 2007, Winter 2010, 2012
- ELG7177 “Topics in Communications: Radio Frequency Identification (RFID) Systems”, Fall 2009, 2011, 2012
- ELG7187 “Topics in Computers: Multiprocessor Systems on Chip,” Fall 2010, Winter 2012.
- BIOM 5100 / BMG 5103 / SYSC5302 / ELG 6321 “Bioinstrumentation/Principles & Design of Advanced Biomedical Instrumentation,” Fall 2013, 2014.

### Directed study courses:

- ELG 7199           Parallel multiprocessing systems on the chip
- ELG 7199           Radio Frequency Identification
- ELG 7199           Internet-of-things

### Short courses

- “Introduction to RFID systems,” Short course (6 hours), sponsored by GS1 Serbia.

### **HONOURS**

- 2014 *George S. Glinski Award for excellence in research* (Category: Emerging Professors), Faculty of Engineering, University of Ottawa.
- 2013 *IEEE Ottawa Section Outstanding Engineering Educator Award*.
- *Paper selected for Highlights in Physiological Measurements Journal for 2012*: K. Soueidan, S. Chen, H. R. Dajani, M. Bolic and V. Groza, “Augmented blood pressure measurement through the noninvasive estimation of physiological arterial pressure variability,” accepted for publication in *Physiological Measurement*, 2012.
- *Best paper award* in The 3rd International Conference on Advances in Multimedia, April 2011 for the paper: C. Perera, D. Shapiro, J. Parri, M. Bolic, V. Groza, "Accelerating Image Processing in Flash using SIMD Standard Operations".
- Stony Brook University scholarship, US, 2000-2004.
- A National Fellowship for most prospective graduate students, Yugoslavia 1996-1998.
- Winner of the Belgrade Chamber of Commerce annual Award for undergraduate diploma thesis, Serbia, 1996.

### **PROFESSIONAL ACTIVITIES**

#### *Professional activities*

- Organizing a special session in MeMea 2016: Recent advances in Non-invasive Blood Pressure Measurement.
- Associate editor for the journal *Telecommunication Systems*, Springer (2008-2010)
- Associate editor for the *International Journal of Reconfigurable Computing* (2011-), Hindawi
- Chair of the joint chapter of signal processing, oceanic engineering, and geoscience and remote sensing for IEEE Ottawa section (2004-2007). Organized seminars and invited distinguished lecturers.
- Guest editor for the special issue of *IEEE Transactions on Instrumentation and Measurements* (2010) based on the papers from Memea workshop.
- TPC Chair – Memea 2013.
- Co-chair of the *Signal and Multimedia Processing Symposium (CCECE 2009)*, publication chair for Memea Workshop 2010.
- Program Committee Member for several conferences including *Mobile Ad-hoc and Sensor Networks (MSN 2006)* and *IEEE Canadian Conference on Electrical and Computer Engineering 2006 (CCECE'06)*, *2007 International Conference on Complex Open Distributed Systems*, *SensID workshop 2007*, *IEEE International Workshop on Medical Measurement and Applications*, 2008, *IEEE/IFIP International Conference On Embedded and Ubiquitous Computing (EUC 2008)*, *2nd Workshop on Convergence of RFID and Wireless Sensor Networks and their Applications (SenseID 2009)*, TPC member of *IEEE RFID 2010*, TPC member of *The IEEE International Conference on RFID-Technology and Applications 2010*,

- Local host for the Linux Symposium 2011 and 2012.
- Reviewer for several journals including the IEEE Transactions on Signal Processing, the EURASIP Journal of Applied Signal Processing, the IEEE Tran. on Instrumentation and Measurements, Int. Journal of Ad Hoc & Sensor Wireless Networks, EURASIP Journal of Wireless Communications and Networking, and IET Circuits, Devices & Systems and others.
- Reviewer for Ontario Centres of Excellences and NSERC
- Reviewer for Israel and Serbian Science Foundation
- OGS panel reviewer

*Administrative activities at the University of Ottawa*

- University of Ottawa IEEE Student Branch Liaison (2006-2007)
- Coordinator for Cooperative education program for computer engineering at SITE, University of Ottawa (2007-2015)
- Cooperative education program marking (2005-2015)
- CEG Curriculum committee member at the University of Ottawa (2004-)
- Examiner for Ph.D. and MS theses at Carleton University and University of Ottawa (2005-)
- University of Ottawa representative for CMC Microsystems

**SELECTED PUBLICATIONS**

Life-time summary according to the following categories:

Papers in magazines and reviews:	8
Papers in refereed journals:	51
Papers in refereed conference proceedings:	85
Books and monographs	2
Chapters in books	4
Patents: granted/applications	2/4
Abstracts:	6

**Selected reviews and papers in magazines**

- [M8] **M. Forouzanfar**, S. Rajan, I. Batkin, H. R. Dajani, M. Bolic, and V. Groza, "Oscillometric Blood Pressure Estimation: Past, Present, and Future," accepted for publication in *Reviews in Biomedical Engineering*, 2015.
- [M7] **H. Caytak**, **D. Shapiro**, A. Borisenko and M. Bolic, "Advances in tDCS could provide a mainstream clinical tool for noninvasive neuromodulation," *IEEE Pulse*, Vol 6, Issue 2, pp. 21-24, 2015.
- [M6] M. Bolic, **M. Rostamian**, P.M. Djuric, "A Novel UHF RFID System for Proximity Detection in the Internet of Things," *IEEE Pervasive Computing*, Issue 2, pp. 70-76, 2015.
- [M5] T. Li, M. Bolic and P.M. Djuric, "Resampling Methods for Particle Filtering," *IEEE Signal Processing Magazine*, Vol. 32, Issue 3, pp. 70-86, 2015.
- [M4] **P.K. Mishra**, R.F. Stewart, M. Bolic, M. Yagoub, "RFID in Underground-Mining Service Applications," *IEEE Pervasive Computing*, Volume 13, Issue 1, pp.72-79, January 2014.
- [M3] **J. Parri**, **D. Shapiro**, M. Bolic and V. Groza, "Returning Control to the Programmer: SIMD Intrinsics for Virtual Machines," *ACM Queue*, Vol. 9 Issue 2, February 2011. The same paper was published in *ACM Communications*.

- [M2] **P.K. Mishra**, R.F. Stewart, M. Bolic, M. Yagoub, “RFID Technology for Tracking and Tracing Explosives and Detonators in Mining Services Applications,” accepted for publication in *Journal of Applied Geophysics*, Elsevier, 2011.
- [M1] **H. Liu**, M. Bolic, A. Nayak, I. Stojmenović, “Taxonomy and Challenges of Integration of RFID and Wireless Sensor Networks,” *IEEE Network*, vol. 22, no. 6, pp. 26-32, 2008.

### **Selected journal papers**

- [J42] **M. Mabrouk**, S. Rajan, M. Bolic, M. **Forouzanfar**, H. R. Dajani and I. Batkin, “Human breathing rate estimation from radar returns using harmonically related filters,” accepted with major corrections in *Journal of Sensors*, Hindawi Publishing Corporation, 2016.
- [J41] H. Guo, C. He, M. Bolic, “PSR: A Novel High Efficiency and Easy-to-Implement Parallel Algorithm for Anticollision in RFID Systems,” accepted with minor corrections in *IEEE Transactions on Industrial Informatics*, 2015.
- [J40] **W. Wang**, M. Bolic, **J. Parri**, “pvFPGA: Paravirtualizing an FPGA-based Hardware Accelerator towards General Purpose Computing,” accepted in *International Journal of High Performance Computing and Networking* (IJHPCN), InderScience Publishers, 2015.
- [J39] T. Li, S. Sun, M. Bolić and J. M. Corchado, “Algorithm Design for Parallel-Processing Implementation of the SMC-PHD Filter,” accepted in *Signal Processing, Elsevier*, 2015.
- [J38] F. Tremblay, A. Remaud, **A. Mekonnen**, **S. Gholami-Boroujeny**, K.É. Racine, M. Bolic, “Lasting Depression in Corticomotor Excitability associated with Local Scalp Cooling,” *Neuroscience Letters*, Elsevier, vol. 600, pp. 127–131, 23 July 2015.
- [J37] **Sh. Gholami-Boroujeny**, M. Bolic, “Extraction of Cole parameters from the electrical bioimpedance spectrum using bacterial foraging optimization algorithm,” conditionally accepted in *Medical & Biological Engineering & Computing*, Springer, 2015.
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### Selected conference papers

- [C66] I. Batkin, M. Bolic, “Mathematical analysis of dermal absorption rate of heavy metals,” accepted for presentation at EMBC, 2015.
- [C65] **H. Caytak, I. Nejadgholi**, I. Batkin, M. Bolic, “Bioimpedance spectroscopy method for investigating changes to intracranial dose during tDCS,” accepted for presentation at EMBC, 2015.
- [C64] **J. Wang**, M. Bolic, “Reducing Phase Cancellation Effect with ASK-PSK Modulated Stamp in Augmented UHF RFID Indoor Localization System,” the second International Workshop on the Future of the Internet of Things, FOIOT 2015.
- [C63] I. **Nejadgholi**, M. Bolic, T. Davidson, F. Tremblay, C. **Blais**, “Classification of responders versus non-responders to tDCS by analyzing voltage between anode and cathode during treatment session,” to be presented at World Congress on Medical Physics and Biomedical Engineering (WC 2015), Toronto, Canada, June, 2015.
- [C62] M. Bolic, **M. Rostamian**, P. Djuric, “Proximity Detection with RFID in the Internet of Things,” 48th Asilomar Conference on Signals, Systems and Computers, 2014.
- [C61] **M. Mabrouk**, S. Rajan, M. Bolic, I. Batkin, H. R. Dajani, V. Z. Groza, “Model of Human Breathing Reflected Signal Received by PN-UWB Radar,” EMBC 2014.
- [C60] **J. Wang**, M. Bolic, “Exploiting Dual-Antenna Diversity for Phase Cancellation in Augmented RFID System,” accepted for publication at SaCoNet 2014.
- [C59] P.K. Mishra, M. Bolic, M. Yagoub, “A simulation study of loop antennas for RFID readers used for underground caverns,” accepted for publication in XXXI General Assembly of the International Union of Radio Science, 2014.
- [C58] **O. Draghici**, I. Batkin, I. Chapman, M. Bolic, “Performance Evaluation of the MouthPad,” MeMea 2014.
- [C57] **M. Forouzanfar**, H. R. Dajani, V. Groza, M. Bolic, “Model-Based Oscillometric Blood Pressure Estimation,” MeMea 2014.
- [C56] **I. Joseph, Y. Wang**, M. Bolic, A. Rajabzadeh, J. Parri, V. Groza, “Performance and Energy Consumption Analysis of Java Code utilizing Embedded GPU,” accepted for publication at CCECE 2014.
- [C55] **C. Perera**, T. Pierce, M. Bolic, “Reducing Negative Effects of Jitter in Digital Control Systems Through a Jitter Compensating PID Controller,” International Conference of Control, Dynamic Systems, and Robotics (CDSR'14).
- [C54] **M. Mabrouk**, S. Rajan, M. Bolic, I. Batkin, H. R. Dajani, V. Z. Groza, “Detection of Human Targets behind the Wall Based on Singular Value Decomposition and Skewness Variations,” pp. 1466 – 1470, IEEE Radar Conference 2014.
- [C53] S. Banerjee, K. Kaushik and M. Bolic. “Threadguide: profiler assisted application adaptation on CMP”. Proceedings of the 5th IBM Collaborative Academia Research Exchange Workshop, 2013. (I-CARE 13) New Delhi, India.
- [C52] **W. Wang**, M. Bolic, **J. Parri**, “pvFPGA: Accessing an FPGA-based Hardware Accelerator in a Paravirtualized Environment,” CODES+ISSS, Montreal, 2013.
- [C51] **N. Nabavi**, M. Bolic, “Modified phase-only correlator for pileup correction for gamma-ray spectrometry,” pp. 1227 – 1231, I2MTC 2013.
- [C50] **B. Tahi**, S. Shirmohammadi, V. Groza, M. Bolic, “An ECG Monitoring System Using Conductive Fabric,” MeMeA 2013.
- [C49] **O. Draghici**, I. Batkin, I. Chapman, M. Bolic, “The MouthPad: a Tongue-Computer Interface,” MeMeA 2013.

- [C48] **H. Caytak**, I. Batkin, **A. Mekonnen**, **D. Shapiro**, S. Hassoun, G. Li, H. R Dajani, M. Bolic, "Superabsorbent Polymer Electrode for Transcranial Direct Current Stimulation," accepted for publication at MeMeA 2013.
- [C47] **T. H. Li**, **A. Borisenko**, M. Bolic, "Open Platform Semi-passive RFID Tag," Ad-hoc, Mobile, and Wireless Networks, Lecture Notes in Computer Science, Springer, vol. 7363, 2012, pp. 249-259.
- [C46] **M. Forouzanfar**, **B. Balasingam**, H. R. Dajani, V. Groza, M. Bolic, S. Rajan, E. M. Petriu, "Mathematical Modeling and Parameter Estimation of Blood Pressure Oscillometric Waveform," Proceedings of *IEEE International Symposium on Medical Measurement and Applications*, pp. 208-213, Budapest, Hungary, May 18-19, 2012
- [C45] **M. Mafi**, M. Bolic, V. Z. Groza, H. R. Dajani, S. Rajan, "Blood Pressure Estimation using Maximum Slope of Oscillometric Pulse," EMBS 2012.
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- [C43] **M. Mafi**, M. Bolic, V. Z. Groza, H. R. Dajani, S. Rajan, "Oscillometric Blood Pressure Pulse Morphology," IEEE International Workshop on Medical Measurement and Applications (MeMeA 2011), Bari, Italy, May 30, 2011.
- [C42] V. Savic, A. Athalye, M. Bolic, P. M. Djuric, "Particle Filtering for Indoor RFID Tag Tracking," Statistical Signal Processing Workshop, Nice, France, 2011.
- [C41] **C. Perera**, **D. Shapiro**, **J. Parri**, **M. Bolic**, V. Groza, "Accelerating Image Processing in Flash using SIMD Standard Operations," The 3rd International Conference on Advances in Multimedia, April 2011 – *Best paper award*.
- [C40] **P. Santos**, **D. Ouellet-Poulin**, **D. Shapiro**, and M. Bolic, "Artificial Neural Network Acceleration on FPGA using Custom Instruction," accepted for publication in CCECE 2011.
- [C39] **S. Lee**, S. Rajan, H. R. Dajani, V. Z. Groza, M. Bolic "Determination of Blood Pressure Using Bayesian Approach," accepted for publication in I<sup>2</sup>MTC 2011.
- [C38] **B. Balasingam**, J. Miguez, M. Bolic, P.M. Djuric, "Efficient distributed resampling for particle filters," to appear in IEEE Proc. of ICASSP 2011, May 2011.
- [C37] A. Athalye, V. Savic, M. Bolic, P. M. Djuric, "A radio frequency identification system for accurate indoor localization", to appear in IEEE Proc. of ICASSP 2011, May 2011.
- [C36] M. Forouzanfar, H. R. Dajani, V. Z. Groza, M. Bolic, S. Rajan, "Comparison of Feed-Forward Neural Network Training Algorithms for Oscillometric Blood Pressure Estimation," 4th IEEE International Workshop on Soft Computing Applications - SOFA, ISBN: 978-1-4244-7982-5, pp. 119-124, Arad, Romania, July, 2010
- [C35] **K. Soueidan**, H. Dajani, M. Bolic, V. Groza, S. Chen, "Characterization of the statistical variability of systolic and diastolic blood pressure," Canadian Medical and Biological Engineering Conference (CMBEC'33), Vancouver, 2010.
- [C34] **F. Mustière**, M. Bouchard, and M. Bolic, "Real-world Particle Filtering-based Speech Enhancement", Proceedings of 2nd International Workshop on Cognitive Information Processing (CIP) 2010, Elba Island, Italy, June 2010
- [C33] **F. Mustière**, M. Bouchard, and M. Bolic, "Efficient SNR-based subband post-processing for residual noise reduction in speech enhancement algorithms", *Proceedings of 2010*



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- [C31] **S. Lee**, M. Bolic, V. Groza, H. Dajani, **S. Rajan**, “Confidence Interval Estimation for Blood Pressure Measurements with Nonparametric Bootstrap Approach,” Accepted for publication, IEEE International Workshop on Medical Measurements and Applications (MeMea), 2010.
- [C30] **M. Forouzanfar**, H. Dajani, V. Groza, M. Bolic, **S. Rajan**, “Adaptive Neuro-Fuzzy Inference System for Oscillometric Blood Pressure Estimation,” Accepted for publication, IEEE International Workshop on Medical Measurements and Applications (MeMea), 2010.
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- [C27] **S. Ahmad**, **S. Chen**, **K. Soueidan**, I. Batkin, M. Bolic, H. Dajani, V. Groza, A Prototype of an Integrated Blood Pressure and Electrocardiogram Device for Multi-Parameter Physiologic Monitoring, accepted for publication in I2MTC 2010.
- [C26] **S. Chen**, M. Bolic, V. Z. Groza, H. R. Dajani, I. Batkin, S. Rajan, “Improvement of Oscillometric Blood Pressure Estimates Through Suppression of Breathing Effects,” accepted for publication in I2MTC 2010.
- [C25] **T. H. Li**, M. Bolic, “Performance of passive and semi-passive UHF RFID systems,” CCECE 2010.
- [C24] **F. Mustiere**, M. Bouchard, M. Bolic, “Bandwidth Extension for Speech Enhancement,” Proceedings of 23rd IEEE Canadian Conference on Electrical and Computer Engineering (CCECE) 2010, Calgary, Canada, May 2010.
- [C23] **B. Balasingam**, M. Bolic, S. Shahbazpanahi and T. Kirubarajan, “Performance Analysis of Channel Tracking for Blind Adaptive MIMO-OFDM Receivers”, accepted for publication in ICASSP 2010.
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- [C20] **B. Laska**, M. Bolić, and R. Goubran “Subband Adaptive Filtering for Acoustic Feedback Compensation in Hearing Aids,” Canadian Acoustics, vol. 37, no. 3, pp. 134 – 135, Sept. 2009. Winner of student presentation award.
- [C19] **M. Forouzanfar**, H. R. Dajani, V. Z. Groza, M. Bolic, S. Rajan, “Oscillometric Blood Pressure Estimation Using Principal Component Analysis and Neural Networks,” IEEE TIC-STH 2009
- [C18] **B. Balasingam**, M. Bolic, “A Novel Blind Adaptive Receiver for MIMO-OFDM Systems,” in IEEE Workshop on Statistical Signal Processing, pp. 505–508, Sept. 2009.

- [C17] **S. Ahmad**, M. Bolic, H. Dajani, V. Groza, "Wavelet Estimation of Pulse Rate Variability from Oscillometric Blood Pressure Measurements," accepted for publication, MeMea, 2009.
- [C16] **S. Chen**, V. Z. Groza, M. Bolic, H. R. Dajani, "Assessment of Algorithms for Oscillometric Blood Pressure Measurement," Instrumentation and Measurement Technology Conference Proceedings, I2MTC, May 2009.
- [C15] **B. Balasingam**, M. Bolic, "Efficient blind decoding of MIMO using sequential Monte Carlo," ICASSP 2009, pp. 2453–2456, April 2009.
- [C14] **F. Mustiere**, M. Bolic, M. Bouchard, "Improved colored noise handling in Kalman filter based speech enhancement algorithms," *IEEE Canadian Conference on Electrical and Computer Engineering (CCECE) 2008*, Niagara Falls, Ontario, May 2008.
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- [C10] **F. Mustiere**, M. Bouchard, M. Bolic, "Quality Assessment Of Speech Enhanced Using Particle Filters," *IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)*, 2007.
- [C9] **F. Mustiere**, M. Bolic and M. Bouchard, "Rao-Blackwellised Particle Filters: examples of applications," *IEEE Canadian Conference on Electrical and Computer Engineering (CCECE) 2006*, Ottawa, Canada, May 2006.
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- [C1] M. Bolic, S. Hong, P. M. Djuric, "Performance and Complexity Analysis of Adaptive Particle Filtering for Tracking Applications," *Proceedings of the Conference on Signals,*

*Systems and Computers*, CA, pp. 853-857, 2002.

### **Books and Monographs**

- [M1] M. Bolic, D. Simplot-Ryl, I. Stojmenovic, *RFID Systems: Research trends and challenges*, edited book, Wiley, 2010.
- [M2] M. Bolic, *Implementation of Particle filters: Algorithms and Hardware Architectures*, VDM Verlag Dr. Muller, ISBN: 978-3-639-03167-6, 2008.

### **Chapters in books**

- [B1] **H. Liu**, M. Bolic, A. Nayak, I. Stojmenović, Integrating of RFID and Wireless Sensor Network, Book chapter, *Encyclopedia on Ad Hoc and Ubiquitous Computing*, World Scientific Press, Singapore, Editor Dharma P. Agrawal, 2009.
- [B2] M. Bolic, A. Athalye, **T. Li**, “Performance of passive UHF RFID systems in practice,” in M. Bolic, D. Simplot-Ryl, I. Stojmenovic, *RFID Systems: Research trends and challenges*, edited book, Wiley, 2010.
- [B3] **J. Parri, J.-M. Desmarais, D. Shapiro**, M. Bolic and V. Groza, “A Case Study on Hardware/Software Codesign in Embedded Artificial Neural Networks,” to appear in “Applied Computational Intelligence in Engineering and Information Technology,” Editors: Radu-Emil Precup, Szilveszter Kovacs, Stefan Preitl and Emil M. Petriu, Springer-Verlag, 2012.

### **Patents and patent applications**

1. I. Batkin, S. Ahmad, M. Bolic, V. Groza, H. Dajani, M. Forouzanfar, “Apparatus and Method for ECG Assisted Blood Pressure Measurement,” Canada patent, Application number: 2,276,204, 2014.
2. O. Dragichi, I. Batkin, I.S. Chapman, M. Bolic, et al, “Neurostimulation System, Device, and Method,” US 8,874,220 B2, 2014.
3. H. Caytak at al, Method and Device for Determining Brain and Scalp State, US patent application, 2013.
4. W. Wang, J. Parri and M. Bolic, Virtualization of hardware accelerator, PCT Patent application, 2013.
5. M. Mabrouk at al., Remote sensing of human breathing at a distance, US patent application, 2014.

### **Invited talks and short courses**

1. Miodrag Bolic, ”Biomedical and wireless research in pervasive healthcare,” SYSU-CMU Shunde International Joint Research Institute, Shunde, Guangdong, China
2. Miodrag Bolic, “Wearable Devices: Everything that We Wear. Handheld Devices: Everything that We Hold,” BioMed Partnering Forum, Heart Institute, Ottawa, 2015.
3. Miodrag Bolic, “RFID Applications in Society,” E-Business Doctoral Seminar, University of Ottawa, February, 2015.
4. Miodrag Bolic, “RFID systems: present and future,” Internet of Things, October 2014.
5. M. Bolic and V. Groza, “Innovative Blood Pressure Measurements,” invited presentation during the workshop “Emerging Methods for Blood Pressure Measurements and Calibration” at EMBC 2013.
6. Miodrag Bolic, “Short course on UHF RFID,” about 8 hours of lectures, Sun Yat-Sen

University, Guangzhou, China, 2010.

7. Miodrag Bolic, "Embedded Multicores," Sun Yat-Sen University, Guangzhou, China.
8. Miodrag Bolic, "Short course on RFID," GS1 Serbia, Belgrade, Serbia, 2010.
9. M. Bolic, "Introduction to RFID Technology," Wisense, University of Ottawa, 2009.
10. Miodrag Bolic, "Automated design of configurable embedded systems" IBM Ottawa, 2009.
11. Miodrag Bolic, "Modular Design of Configurable Systems on Chip," IEEE Computer Society Chapter, Ottawa, 2009.
12. Miodrag Bolic, "Radio Frequency Identification (RFID) Technology," Defense Research and Development Canada, 2006.
13. Miodrag Bolic, "Particle Filters," Defense Research and Development Canada, 2005.
14. Miodrag Bolic, "Theory and implementation of particle filters," IEEE SP Ottawa Section, 2004.

### Application Notes

- Robert Stevenson, Miodrag Bolic, Bahareh Taji, and Saif Ahmad, "Assisted Blood Pressure Monitoring Based On the CMC Microsystems Compact Wireless Platform," CMC Microsystems, 2012.

### Technical reports

- **D. Shapiro, M. Montcalm, J. Parri, M. Bolic,** "[Tunable Instruction Set Extension Identification](#)," Computer Architecture Research Group, University of Ottawa, Ottawa, Ont., Report No. TR-2012-02, December. 2011.
- **D. Shapiro, J. Parri, J.-M. Desmarais, A. Kouri, J.-P. Bergeron, M. Bolic,** "[Soft Co-Processor Based Hardware Acceleration for Image Blending](#)," Computer Architecture Research Group, University of Ottawa, Ottawa, Ont., Report No. TR-2011-2, March. 2011.
- **D. Shapiro, M. Bolic,** "[Improved ISE Identification Under Hardware Constraint](#)," Computer Architecture Research Group, University of Ottawa, Ottawa, Ont., Report No. TR-2011-1, Jan. 2011.
- **M. Branchaud, D. Shapiro, V. Thareja, S. Vijayakumar** and M. Bolic, "[SING: A multiprocessor system-on-chip design and system generation tool](#)," Computer Architecture Research Group, University of Ottawa, Ottawa, Ont., Report No. TR-2010-3, Jan. 2009.
- **M. Montcalm, D. Shapiro, V. Groza,** and M. Bolic, "[ITS: An ILP-based combined instruction/task static scheduling algorithm](#)," Computer Architecture Research Group, University of Ottawa, Ottawa, Ont., Report No. TR-2010-2, Jan. 2010.
- **D. Shapiro, M. Montcalm, M. Bolic,** and V. Groza, "[Static task scheduling for configurable multiprocessors](#)," Computer Architecture Research Group, University of Ottawa, Ottawa, Ont., Report No. TR-2010-1, Jan. 2010.

### Abstracts

1. H. Abderahman, H. Dajani, M. Bolic, V. Groza, "An integrated system to improve robustness of non-invasive blood pressure estimation with motion artifacts," Late breaking research posters paper, EMBC 2015.

2. M. Cheng, T. Venkatesh, H. Dajani, M. Bolic, “A practical device to warn on impending syncopal episodes,” to be presented at World Congress on Medical Physics and Biomedical Engineering (WC 2015), Toronto, Canada, June, 2015.
3. S. Ahmad, I. Batkin, M. Bolic, H. R. Dajani, and V. Groza, S. Chander, “Robust Blood Pressure Monitoring in Atrial Fibrillation Patients,” to be presented at World Congress on Medical Physics and Biomedical Engineering (WC 2015), Toronto, Canada, June, 2015.
4. I. Nejadgholi, I. Batkin, M. Bolic, A. Adler and S. Shirmohammadi, “Segmental Spectral Decomposition as a Time Persistent Method of BioImpedance Spectroscopy Feature Extraction,” EIT conference 2014.
5. S. Ahmad, I. Batkin, M. Bolic, H. R. Dajani, and V. Groza, S. Chander, “Electrocardiogram-Assisted Blood Pressure Estimation in Patients with Atrial Fibrillation and other Chronic Conditions,” Canadian Hypertension Congress, Gatineau, Quebec, October 2014.
6. T. Davidson, F. Tremblay, M. Bolic, “Modulation of transcallosal inhibition in the motor cortex by transcranial direct current stimulation (tDCS),” Neuroscience 2014.

### **Media releases**

- Improving blood pressure measurement, published in Medical Physics Web, <http://medicalphysicsweb.org/cws/article/research/49863>
- OCE Mind to Market Award Finalist Video 2014, <https://www.youtube.com/watch?v=B0-r9EfnqY&feature=youtu.be>

### **OTHER ACTIVITIES**

#### **Courses and workshops attended from 2012:**

- Xilinx DSP Workshop, 2 day workshop, Ottawa, June, 2012.
- Canada GCP (Good Clinical Practice) course, CITI Collaborative Institutional Training Initiative, May 2012
- Platform 2012, 1 day workshop, Canadian Microelectronics Corporation, May 2012.
- Recent advances in Brain Stimulation (RABS) 2012, September 2012.