

# Dr. Emil Jovanov

URL: <http://www.ece.uah.edu/~jovanov>

## ADDRESS

Electrical and Computer Engineering  
The University of Alabama in Huntsville, EB213  
Huntsville, AL 35899  
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## ACADEMIC SPECIALTY

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- Wearable health monitoring, IoT, wireless and sensor networks, ubiquitous and mobile computing, biomedical signal processing, and parallel and distributed processing.

## GOOGLE SCHOLAR PROFILE

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- <http://scholar.google.com/citations?hl=en&user=4x3lOT8AAAAJ>

## ORCID PROFILE

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- <https://orcid.org/0000-0001-6754-3518>

## SCOPUS PROFILE

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- <https://www.scopus.com/authid/detail.uri?authorId=6603887656>

## EDUCATION

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- Ph.D. 1993. University of Belgrade, Faculty of Electrical Engineering/Computer Engineering  
*"The Architecture of Accelerator for Database Operations"*
- M.Sc. 1989. University of Belgrade, Faculty of Electrical Engineering
- Dipl.Ing. 1984. University of Belgrade, Faculty of Electrical Engineering

## EMPLOYMENT

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### March 2021 – Present

Professor, ECE Dept., The University of Alabama in Huntsville.

### May 2001 – March 2021

Associate Professor, ECE Dept., The University of Alabama in Huntsville.

### June 2011 – July 2013

Associate Dean for Graduate Education and Research, College of Engineering,  
The University of Alabama in Huntsville.

August 2010 – May 2011

Computer Engineering Program Committee Chair, The University of Alabama in Huntsville.

July 1999 – June 2001

Assistant Professor, ECE Dept., The University of Alabama in Huntsville.

August 1998 – June 1999

Visiting Assistant Professor, ECE Dept., The University of Alabama in Huntsville.

December 1996 – August 1998

Program Director for Image Processing and Multimedia, Institute "Mihajlo Pupin."

September 1995 – December 1996

Board Member, Institute "Mihajlo Pupin."

September 1994 – July 1998

Part time Assistant Professor, School of Electrical Engineering, University of Belgrade.

August 1984 – December 1996

Research Scientist, Institute "Mihajlo Pupin," Belgrade.

## AWARDS

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- 2020 International Journal of Software Engineering (IJSE) Paper of the Year Award, for paper: M. T. Shrove, E. Jovanov, "Software Defect Trend Forecasting in Open Source Projects using A Univariate ARIMA Model and FBProphet," *International Journal of Software Engineering (IJSE)*, Vol. 8, May 2020.
- Outstanding Senior Faculty Member, Huntsville Engineer's Week, 2020
- IEEE Fellow, 2020.
- 2018 PROSE Award in Clinical Medicine for book "Principles of Gender-Specific Medicine, Gender in the Genomic Era. Third Edition," Elsevier 2017, Marianne J. Legato, Ed.; Book Chapter E. Jovanov, K. H. Frith, P. Madhushri, A. Hunter, S. S. Coffey, A. Milenkovic, "Gender differences in mobility of elderly: Measurements and interventions to improve mobility."
- 2018 The American Journal of Nursing Book of the Year "Applied Clinical Informatics for Nurses," Second Edition 2017, S. Aleksander, K. H. Frith, and H. Hoy, Eds. Burlington, MA: Jones and Bartlett Learning; Book Chapter M. Milosevic, E. Jovanov, A. Milenkovic, and S. Alexander, "Mobile Health Applications."
- 2017 IEEE Outstanding Educator Award
- 2016 UAH College of Engineering Outstanding Faculty Research Award
- 2014 Innovator of the Year Award, Economic Development Partnership of Alabama
- 2014 - 2019 Exhibit: 101 Rocket City Inventions, US Space and Rocket Center, Huntsville, AL
- 2010 UAHuntsville College of Engineering Outstanding Faculty Award
- 2009 Outstanding Paper Award, IEEE Transactions of Information Technology in Biomedicine for paper: R.S.H. Istepanian, E. Jovanov, Y.T. Zhang, "Introduction to the Special Section on M-Health: Beyond Seamless Mobility and Global Wireless Health-Care Connectivity," *IEEE Transactions on Information Technology in Biomedicine*, Vol.8, Issue 4, Dec. 2004, pp. 405 - 414.
- IEEE Senior Member, December 2004.

## CONSULTING

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- AdhereTech, 2013-2017.
- Medtronic, 2013-2014.
- Q-track, Huntsville, AL, 2012-2014.
- Advisory Board at Soligie, Savage, MN, 2008-2009
- Infinite Biomedical Technologies, Baltimore, MD, 2008-2009.
- Pearl Research, 2007-2009.
- Chairman, Academic and Medical Advisory Board, Senior Vitals, Inc, Herndon, VA, 2006-2008.
- PM Investigations, Inc., Atlanta, GA, 2006-2008.
- Continental Controls & Design, Huntington Beach, CA, 2001-2002.
- Professor Thomas Kessler, Music Academy, Basel, Switzerland, 2001.

## VISITING SCIENTIST

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- Berkeley Wireless Research Center, University of California Berkeley, Fall 2014.
- University of Oulu, Finland, May 2010.
- Royal Melbourne Institute of Technology, Australia, September-November 2005.
- Indian Institute of Technology, Kanpur, India, February-April 1997.
- University of Ulster, Belfast, Great Britain, June 1996.
- Penn State University, January 1992.

## PATENTS

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1. Emil Jovanov, Robert Gold, Sreca Jovanov, "Systems and methods for drug compliance monitoring," U.S. 7,928,835, April 2011.
2. Emily Wang, Leonard Verhagen Metman, Emil Jovanov, "Method and device to manage freezing of gait in patients suffering from a movement disorder," U.S. 8,409,116, April 2013.
3. Joshua Stein, John Langhauser, Michael Morena, Emil Jovanov, "Systems and methods for determining container contents, locations, and surroundings," U.S. 8,754,769, June 2014.
4. Joshua Stein, John Langhauser, Michael Morena, Emil Jovanov, "Systems and methods for reminding a patient to consume a medication," U.S. 9,125,798, September 2015.
5. Joshua Stein, John Langhauser, Michael Morena, Emil Jovanov, "Systems and methods for determining container contents, locations, and surroundings," U.S. 9,358,183, June 2016.
6. Emil Jovanov, Mladen Milosevic, Aleksandar Milenkovic, "Systems and Methods for Automatically Quantifying Mobility", U.S. 9,706,949, July 2017.
7. Joshua Stein, John Langhauser, Michael Morena, Emil Jovanov, "Systems and methods for determining container contents, locations, and surroundings," U.S. 10,071,023, September 2018.
8. Emil Jovanov, "Liquid container systems and methods for monitoring user hydration," U.S. 10,433,666, October 2019.
9. Emil Jovanov, "Systems and Methods for Multi-modal and Non-invasive Stimulation of the Nervous System," U.S. 10,688,274, June 2020.

- Patent Pending
  - Emil Jovanov, “Systems and Methods for Monitoring User’s Mobility and Fitness Using Smartwatch”
  - Emil Jovanov, “System and Method of Physiological Monitoring Using Capacitive Sensing”
  - Emil Jovanov, Nenad Filipovic, “A System and Method of Multi Modal Assessment of Heart Function”

## TEACHING

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### Short courses:

- Body Sensor Networks
  - University of Oulu, Finland (May 2010)
  - University of Kragujevac, Technical Faculty in Cacak (May 2010)

### At the University of Alabama in Huntsville (1998 - present):

- ENG101: Introduction to Computing for Engineers
- CPE 647: Ubiquitous Computing
- CPE 621: Advanced Embedded Systems
- CPE 690/EE 610: ST: Power Sources for Portable, Automotive, and Renewable Energy Systems
- CPE 612: Parallel Algorithms
- CPE 610: ST: DSP Architecture
- EE 691/692 Graduate Seminar
- CPE 512: Parallel Processing
- CPE 648: Computer Networks
- CPE 610: ST: Programming for Communication
- CPE 381: Fundamentals of Signals and Systems for Computer Engineers
- CPE 495: Computer Engineering Design I
- CPE 496: Computer Engineering Design II
- CPE/EE 468/548: Introduction to Computer Networks
- CPE/EE 421/521: Microcomputers
- CPE 410/510: Computer Networks
- EE 412 Undergraduate Project: Wireless Intelligent Sensors
- CPE 355: Software Support for Real Time Systems
- CPE 302: Computer Design
- EE 202: Introduction to Digital Logic Design
- ENG 101: Introduction to Computing for Engineers

### Teaching duties at the University of Belgrade (1994 - 1998):

- *Medical Informatics*
- *Hardware Support for Multimedia Systems*
- *Real Time Programming*

## GRADUATE STUDENT SUPERVISION

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- Ph.D. dissertation advisor:
  - **Michael T. Shrove**, “Predicting Software-Based Project Outcomes using Supervised Machine Learning on Multivariate Time Series Datasets,” October 2020, TPG Inc, Huntsville, AL.
  - **Priyanka Madhushri**, “*A Model based Framework for the Wearable Mobility Assessment of Older Adults*,” May 2017. Stanley Black & Decker, Atlanta, GA.
  - **Mohammad Deylami**, *Dynamic Management of Coexistence in IEEE 802.15.4-based Health Monitoring Wireless Body Area Networks*, September 2013. Broadcom, San Jose, CA.
  - **Mladen Milosevic**, *Energy-Efficient Distributed Wearable Physiological Monitoring: Framework and Implementations*, May 2013. Director, Data Science & Machine Learning at Liberty Mutual Insurance, Boston, MA.
  - **Kai Riterbusch** (co-advisor), *A Framework for Optical Inspection Applications in Life-Science Automation*, University of Rostock, Germany, 2012. Rolls-Royce Deutschland, Berlin, Germany.
  - **Kenneth LeSeuer**, *Real-Time Hardware In The Loop Testing For Tactical Wireless Sensor Networks*, October 2009. Chief Technologist, Subsystem Test and Analysis, Redstone Technical Test Center, Huntsville, Alabama.
  - **Milena Milenkovic**, *Architectures for Run-Time Verification of Code Integrity*, March 2005. Sonos, Boston, MA.
  - **Dejan Raskovic**, *Energy-Efficient Hierarchical Processing in the Network of Wireless Intelligent Sensors (WISE)*, August 2003. Associate Professor, University of Alaska, Fairbanks.
- M.S. Thesis advisor:
  - **Ian Small**, “*Additively Manufactured Low Power Wireless Sensors for Environmental and Respiration Monitoring in Space Applications*,” December 2021.
  - **Amirahmad Ramezani**, “*An Implementation of Embedded Software for Real Time Monitoring of Bioimpedance*,” December 2020.
  - **Harsha Ganegoda**, “*An Implementation of the Wireless Body Area Network of Synchronized Inertial Sensors for Balance Testing*,” June 2020.
  - **Jonathan Pryor**, “*Feasibility of Physiological Monitoring Embedded in Smart Stuff*,” University of Alabama in Huntsville, June 2017.
  - **Jesse Craig Frye**, “*An Implementation of a High Accuracy Sensor for Distributed Sensor Network Applications*,” October 2016.
  - **Vindya Reddy Nallathimreddygari**, “*Performance Analysis of Smart Water Bottle as IoT device*,” October 2016.
  - **Samjith Wasim Abdul Majeeth**, “*A Smartphone Based Wearable System for Monitoring of Parkinson’s Patients*,” July 2013.
  - **Chris A. Otto**, *An Implementation of a Wireless Body Area Network for Ambulatory Health Monitoring*, 2006.
  - **John Price**, *An Implementation of a Wireless Network of Intelligent Sensors (WISE)*, 2002.

- **Yoshito Kanamori**, *Reliability and Security in Wireless Body Area Network of Intelligent Sensors*, 2002.
- **Ken LeSueur**, *A Novel Technique for Real-time Non-uniformity Correction of Infrared Scene Projectors*, 2002.
- **Bryan Wheelock** (co-advisor), *Autonomous Real-Time Detection of Silent Ischemia*, 1999.
- **Dejan Raskovic** (co-advisor), *One Realization of the ATM Routing Table*, 1996.
- **Aleksandar Samardzic** (co-advisor), *Visualization of Brain Electrical Activity*, 1996.
  
- Postdocs:
  - **Prof. Angelo Jose Goncalves Bos**, Pontifical Catholic University of Rio Grande do Sul, Brazil, 2018-2019.
  - **Dr. Aleksandar Peulic**, University of Kragujevac, 2009.
  
- Dipl.Ing. thesis advisor at the University of Belgrade (the tenth semester students working closely with advisor full time for one semester on dedicated project).
  - **Milos Mikovic**, *EEG Band Power Analysis*, 1997.
  - **Igor Milovanovic**, *Hearing Aid Noise Reduction*, 1996.
  - **Mirjana Mihajlovic**, *Automatic Speech Analysis in Contemporary Multimedia Systems*, 1995.
  - **Miodrag Rakic**, *Integrated Information System for EEG Analysis in Windows Environment*, 1995.
  - **Dusan Kusic**, *Implementation of Programming Environment for EEG Analysis*, 1994.
  
- Mentor of Computer Society International Design Competition CSIDC 2001.
- Mentor of TI DSP Challenge 2001 UAH team.

## RESEARCH GRANTS

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- F/NASA/MSFC/ 23453V: (6/15/2020 – 12/15/2020)  
Principal Investigator: **Emil Jovanov**  
Title: *Process Development for Flexible Hybrid Electronics Related to In-space Manufacturing Applications*
- UAH 234395: UAH Charger Innovation Fund (4/15/2020 – 3/15/2021)  
Principal Investigator: **Emil Jovanov**  
Title: *Hydration Sensor*
- NASA/MSFC 23453J: (8/15/2019 – 12/15/2019)  
Principal Investigator: **Emil Jovanov**  
Title: *Energy Efficient Firmware for the Flexible Sensor Platform*
- NASA/MSFC 23453D: (5/15/2019 – 9/15/2019)  
Principal Investigator: **Emil Jovanov**  
Title: *Development and Implementation of Printed Sensors*
- NASA/MSFC 80MSFC18N0001: (5/1/2018 – 4/30/2019)  
Principal Investigator: **Emil Jovanov**  
Title: *Evaluation of Intelligent Sensor Platforms for 3D Printed Electronics for Space Applications*
- UAH 602079: UAH Charger Innovation Fund (5/1/2018 – 12/31/2018)  
Principal Investigator: **Emil Jovanov**  
Title: *Real-Time Processing of Physiological Signals*
- UAH 602079: UAH Charger Innovation Fund (4/1/2017 – 12/15/2017)  
Principal Investigator: **Emil Jovanov**  
Title: *Advanced Sensing and Human Computer Interfaces*
- UAH 234360: UAH Charger Innovation Fund (4/1/2015 – 9/30/2016)  
Principal Investigator: **Emil Jovanov**  
Title: *liquidTrac: A Smartphone based monitoring of liquid intake*
- NPRP#5-1327-2-568 Qatar National Research Fund (1/1/2013 – 12/31/2015)  
Principal Investigator: **Beena Ahmed**  
Title: *The development of a clinician's aide to monitor and screen for insomnia*
- 1205439 NSF (8/15/2012 – 12/31/2014)  
Principal Investigator: **Aleksandar Milenkovic**  
Title: *II-NEW: mHealth - Computing Infrastructure for Mobile Health and Wellness Monitoring*

- ATP 26957 Digital Medical Technologies (12/12/2011 – 2/12/2012)  
Principal Investigator: **Emil Jovanov**  
Title: *SmartBottle – Drug Compliance Monitoring*
- UAHuntsville (234343) (5/9/2011 – 5/8/2012)  
Principal Investigator: **Emil Jovanov**  
Title: *Real-Time Monitoring of Occupational Stress*
  - Development of a wearable system for real-time monitoring of occupational stress of nurses.
- UAHuntsville (236338) (5/9/2011 – 5/8/2012)  
Principal Investigator: **Nathan Slegers**  
Title: *Intuitive Remote Control of Robots Using Gestures*
  - Development of intuitive human-computer interface for control of robots and vehicles using gestures.
- NR IT01071540312 Nuvon, Italy (6/29/2011 – 10/31/2011)  
Principal Investigator: **Emil Jovanov**  
Title: *Analysis and Testing of Wireless Connectivity of the Wireless Mobile Device IDM-MG-1000*
- MNT 041007 Ministry of Science and Technological Development of Serbia  
(1/1/2011 – 12/31/2014)  
Principal Investigator: **Nenad Filipovic**  
Title: *Applied Biomedical Engineering in Pre-clinical and Clinical Practice*
- UAHuntsville (234343) (5/17/2010 – 5/10/2011)  
Principal Investigator: **Emil Jovanov**  
Title: *Development of a Real-time Physiological Monitoring Lab*
  - Development of a Real-time Physiological Monitoring Lab for collaborative research and multidisciplinary education at the University of Alabama in Huntsville.
- Northrop Grumman (NG234566) (1/29/2009 – 3/31/2009)  
Principal Investigator: **Emil Jovanov**  
Title: *Avatar: A Wearable, Real-Time, Avatar Control System*
  - Development of a wearable monitoring system for real-time control of avatars in the virtual simulation world.
- UAHuntsville (8/15/2008 – 5/1/2009)  
Principal Investigator: **Emil Jovanov**  
Title: *Resolving freezing gait of Parkinson's patients with real time detection and auditory verbal cue activation*
  - Preliminary investigation of the freezing gate of Parkinson's patients.



- NASA (9/1/2007 – 8/30/2010)  
Principal Investigator: **John Gregory**  
Title: *Device Realization for Sensor and Health Monitoring of Space Transportation Systems*
  - Research and development of Nano and Micro Electromechanical Sensors and Energy-Efficient Wireless Sensor Platforms for Deeply Embedded Systems.
  
- National Science Foundation (NSF#0434156) – Supplement (8/1/2006 – 7/31/2007)  
Principal Investigator: **Dejan Raskovic**  
Title: *IIS: Energy Efficiency in Distributed Sensor Networks*
  
- National Science Foundation (NSF#0434156) – Supplement (8/1/2005 – 7/31/2006)  
Principal Investigator: **Dejan Raskovic**  
Title: *IIS: Energy Efficiency in Distributed Sensor Networks*
  
- National Science Foundation (NSF#0434156) (8/1/2004 – 31/7/2005)  
Principal Investigator: **Dejan Raskovic**  
Title: *IIS: Energy Efficiency in Distributed Sensor Networks*
  - Establishing an environment for energy-efficiency and performance evaluation of reconfigurable hierarchical networks of sensors, and system support for delivery of hardware and software components in distributed reconfigurable sensor networks.
  
- The US Army Medical Research and Materiel Command (USAMRMC #01145005) (8/9/2001 – 12/9/2002) Principal Investigator: **Amanda O'Donnel**
  - Subcontract C/CST, Inc. (DP2-TO-23) (5/1/2002 – 4/30/2003)  
Title: *The War fighter's Stress Response: Telemetric and Noninvasive Assessment*
    - Developed distributed system of personal wireless intelligent sensors communicating with the mobile gateway for stress monitoring based on heart rate variability. The system is currently in use at Navy Aviation Medical Research Laboratory in Pensacola Florida to estimate stress level and stress resistivity as a part of Aviation Selection Process.
  
- University of Alabama in Huntsville (UAH 387716) (2/1/2001 – 9/30/2001)  
Principal Investigator: **Emil Jovanov**  
Title: *Distributed Processing in a Wireless Network of Intelligent Sensors*
  - Developed wireless intelligent sensors platform and wireless gateway using 900 MHz off-the-shelf technology. The system is still being used as a low-power computing platform for undergraduate and graduate student projects.
  
- University of Alabama in Huntsville (UAH 387705) (6/1/2000 – 12/31/2000)  
Principal Investigator: **Emil Jovanov**  
Title: *Development of Microcontroller-based Testbed Environment for Microcomputer Laboratory (CPE429, EE 429/509)*
  - Developed a custom educational microcontroller board for Microcomputer Laboratory (CPE/EE 421/521). The board is equipped with keypad, LCD, analog inputs for on-chip AD converter, external DA converter, RS232 link to PC, and adjustable power supply and connectors for power supply measurements. The board is currently used for 3 out of 4 Laboratory assignments in CPE/EE 421 Microcomputers course.

- Texas Instruments (TI-99-01) (7/1/99 – 9/15/99)  
Principal Investigator: **Reza Adhami**  
Title: *Real Time Monitoring of Heart Electrical Activity Using Low Power DSP*
  - Developed and delivered real time monitoring system for ECG monitoring based on a low power DSP for Texas Instruments, Houston, TX. The system is used for algorithm performance analysis and power consumption measurement and optimizations.
  
- MNT (Ministry of Science and Technology of Serbia) (1996)  
Principal Investigator: **Emil Jovanov**  
Title: *Automatic quality control prototype*
  - Developed real time prototype for quality control for Krusik, Valjevo. The system uses real-time image processing to detect mechanical properties of manufactured parts in Krusik factory, and remove defective parts.
  
- MNT (Republic Ministry of Science and Technology of Serbia) (1995)  
Principal Investigator: **Emil Jovanov**.  
Title: *A Prototype Glass Viscosity Measurement System*
  - Invented and developed an original approach for estimation of viscosity of the hot glass at the production line. Developed prototype analyzes in real-time morphology of liquid glass drops and determines relative viscosity of the glass mass. The prototype has been tested in Serbian Glass Factory (SFS), Paracin, Yugoslavia.
  
- Title: *Professional Driving Simulator* (1990-1996)  
Principal Investigator: **Emil Jovanov** (1994-1996)
  - Developed high performance driving simulator integrated with the mockup cabin. Dedicated visual system performing parallel real-time interpolation and image enhancements was the third implemented system in the world capable of performing more than 4 billion operations per second in 1991.
  
- Title: *Flight Simulator* (1988-1991)  
Principal Investigator: **Marko Hrasovec**
  - High performance full flight simulator with 6 DOF motion system. Responsible for microcomputer control and interface subsystems. Personally developed and implemented dedicated interface board (1990), and high-speed Parallel Differential Bus board (PDB) in 1991.
  
- MNT (Ministry of Science and Technology of Serbia) (1988-1989)  
Principal Investigator: **Tihomir Aleksic**  
Title: *Acceleration of Database Operations*
  - Investigation of new algorithms for hardware acceleration of database operations. Personally designed and implemented a prototype hardware accelerator as hardwired dedicated accelerator on MULTIBUS system bus. Implemented complete hardware and low-level software drivers.

## OTHER PROFESSIONAL ACTIVITIES

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- Chair, Joint International Conference 2022 IEEE EMBS International Conference on Wearable and Implantable Body Sensor Networks (BSN) & IEEE EMBS International Conference on Biomedical and Health Informatics, Athens, Greece, September 2022.
- Chair, Joint International Conference 2021 IEEE EMBS International Conference on Wearable and Implantable Body Sensor Networks (BSN) & IEEE EMBS International Conference on Biomedical and Health Informatics, Athens, Greece, September 2021.
- Program Board Member of the IEEE International Conference on Internet of Things and Intelligent Applications, 2020.
- Program Board Member of the Science Fund of the Republic of Serbia, Special Research Program on COVID-19.
- Conference Editorial Board and Theme 7 Editor (Biomedical Sensors and Wearable Systems), IEEE Engineering in Medicine and Biology Society, 2011-2021.
- Associate Editor
  - *IEEE Transactions on Information Technology in Biomedicine* (2002-2012)
  - *IEEE Transactions on Biomedical Circuits and Systems (TBCAS)* (2012 - )
  - *IEEE Journal of Biomedical and Health Informatics (JBHI)* (2012 - )
  - *IEEE Access* (2019 - )
  - *IEEE Open Access Journal of Engineering in Medicine and Biology (OJEMB)* (2019 - )
- IEEE EMBS Technical Committee on Wearable Biomedical Sensors and Systems  
<https://tc-wearable-sensors.embs.org/>
- IEEE P1708 Working Group Member: Standard for Wearable Cuffless Blood Pressure Measuring Devices
- Panel “Discovery and Innovation in Smart and Pervasive Health,” Computing Community Consortium, Washington, DC, December 2016.
- Panel “Challenges in Health Monitoring and Analytics in Extreme Environments,” International Conference on Biomedical and Health Informatics, Las Vegas, NV, February 2016.
- Workshop “Smart Watches for Medicine: Hype or Revolution,” Wireless Health 2015, Bethesda, MD, October 2015.
- Expert Panel “Innovative Medicines Initiative,” Brussels, Belgium, May and October 2015.
- Conference Editorial Board and Theme 3 Editor (Biomedical Sensors and Wearable Systems), IEEE Engineering in Medicine and Biology Society, 2011-2014.
- Workshop “Aging in Place; on the Use and Development of Assistive Technology for the Aging Population and People with Chronic Disabilities,” National Institutes of Health, Bethesda, MD, September 2014.
- IEEE Medical Technology Policy Committee (MTPC) – Corresponding Member (2006 – 2013)
- Conference Co-Chair, *1st IEEE EMBS Unconference on Wearable & Ubiquitous Technology for Health and Wellness*, Boston, MA, August 30, 2011.
- Scientific Advisory Board of the *Energy Efficient Digital Signal Processing* project, Science Foundation Ireland, 2010.

- Editorial Board *International Journal of Telemedicine and Application and Applied Psychophysiology and Biofeedback*. (2004 - )
- IEEE Senior Member, December 2004.
- Guest Editor, Special Issue on “Human Computer Interaction in Engineering Education,” *The International Journal of Engineering Education*, Vol. 29, Number 3, 2013.
- Guest Editor, Special Issue on “Recent Advances in WBANs for Pervasive Healthcare, Consumer Electronics, and Entertainment Applications: Issues & Challenges,” *KSIIT Transactions on Internet and Information Systems*, 2013.
- Guest Editor, special issue of the IEEE Transactions on Information Technology in Biomedicine: “Body Sensor Networks: From Theory to Emerging Applications,” *IEEE Transactions on Information Technology in Biomedicine*, November 2009.
- Guest Editor, special issue of the IEEE Transactions on Information Technology in Biomedicine: *mHealth Emerging Mobile Technologies for Health Applications*, December 2004.
- Track Chair, “Wireless biomedical and health technologies, body sensor networks, RFID in health,” IEEE Engineering in Medicine and Biology Conference, Buenos Aires, Argentina, 2010.
- Program Committee Chair, *Digital Healthcare Mini-symposium*, HSEMB 2007, Houston, 2007.
- Program Secretary of the National **Medical Informatics** Symposium (Arandjelovac, 1996).
- Program Secretary of the International Symposium and Workshop on **Scientific Bases of Consciousness** (Belgrade, 1997) (<http://www.etf.bg.ac.yu/Nauka/consc97/>)
- Program committee: Body Sensor Networks BSN 2008-2017, Body Area Networks 2007, 2013-2017, Biomedical and Health Informatics (BHI) 2017-2018, Wireless Health 2010-2017, 15th International Conference on BioInformatics and BioEngineering (BIBE), Pervasive Health 2010-2012, uHealthcare 2012 (ubiquitous Healthcare 2012), International Symposium on Applied Sciences in Biomedical and Communication Technologies Isabel 2009-2010, International Conference on Biomedical Engineering and Informatics CISP-BMEI 2009, 5th IEEE EMBS International Summer School and Symposium on Medical Devices and Biosensors (ISSS-MDBS 2008), Frontiers on Communications and Networking (FCN) Symposium of ChinaComm 2008, 4th IEEE EMBS International Summer School and Symposium on Medical Devices and Biosensors (ISSS-MDBS 2007), International Symposium on Medical Information and Communication Technology ISMICT07, International Workshop on Health Pervasive Systems (HPS06), Pervasive Computing Technologies for Healthcare (2006), Scientific Bases of Consciousness (1995-1996), Information Technology YU INFO TEH (1995-1998), Medical Informatics (1997-1998).
- Reviewer: Reviews in Biomedical Engineering, IEEE Access, Nature Flexible Electronics, Serbian Archive of Medicine, Smart Materials and Structures, Future Internet, IEEE Journal of Biomedical Health Informatics, IEEE Transactions of Biomedical Circuits and Systems, IEEE Transactions on Computers, IEEE Transactions on Information Technology in Biomedicine, IEEE Transactions on Biomedical Engineering, Biomedical Engineering/Biomedizinische Technik, IOP Physiological Measurement, Applied Psychophysiology and Biofeedback, IEEE Transactions on Mobile Computing, IEEE Transactions on Circuits and Systems, IEEE Transactions on Affective Computing, IEEE Transactions on Pervasive Computing, ACM Transactions on Embedded Computing Systems, Medical & Biological & Engineering &

Computing, Medical Engineering and Physics, British Journal of Sports Medicine, KSII Transactions on Internet and Information Systems, Physiological Measurement, Wireless Communications and Mobile Computing.

- Reviewer: International Symposium on Wearable Computers (ISWC), IEEE Pervasive Computing, Workshop on Health Pervasive Systems, Information Technology Applications in Biomedicine (ITAB), Pervasive Computing Technologies for Healthcare, Pervasive Healthcare, International Conference on Ubiquitous Healthcare, International Conference on Body Sensor Networks, Wireless Health, Parallel and Distributed Computing and Systems Conference (PDCS), Virtual Medical Worlds, Disease Management and Health Outcomes, Yugoslav Journal of Operations Research (YUJOR), and Info Science.
- Panelist and Reviewer: National Science Foundation (NSF), National Institute of Health (NIH), NASA, U.S. Army Medical Research and Materiel Command/Telemedicine and Advanced Technology Research Center (TATRC)/American Institute of Biological Sciences (AIBS), Kentucky Science and Engineering Foundation, Netherlands Research Council for Applied and Technical Science
- External Dissertation Reviewer: Rostock University, Rostock, Germany; University of Oulu, Oulu, Finland; University College Cork, Cork, Ireland; University of New South Wales, Sydney, Australia; Royal Melbourne Institute of Technology, Melbourne, Australia; Nanyang Technological University, Singapore.
- Member, Governing Board Institute "Mihajlo Pupin" (1995-1996).
- Senior Member IEEE, IEEE Engineering in Medicine and Biology Society, ASSC.

## INVITED TALKS AND PRESENTATIONS

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1. *"Seamless Health Monitoring: Opportunities and Challenges,"* Serbian Academy of Sciences and Arts, June 2022, Belgrade, Serbia.
2. *"Synergistic Personal Area Networks (SPANs) in IoT Environment: Opportunities and Challenges,"* Keynote speech at the 21th IEEE International Conference on BioInformatics and BioEngineering, October 2021, Kragujevac, Serbia.
3. *"Use of Wearables and IoT Technology in the Fight Against the COVID-19 and Future Pandemics,"* Keynote speech at International Conference Infotech 2021, Arandjelovac, Serbia, June 2021.
4. *"The Fields of Life,"* The University of Kragujevac, Serbia, April 2020.
5. *"Health Monitoring: New Opportunities and Synergies,"* Diagnostics, Prognostics and Health Management (PHM): PHM for Human Health and Performance panel at IEEE Aerospace, Big Sky, Montana, March 2020.
6. *"Wearables + IoT = New Opportunities in Personalized Healthcare,"* The Advanced Study Institute on Global Healthcare Education, Chania, Greece, June 2019.
7. *"Monitoring Physiological Signals from Objects of Everyday Use,"* Symbiosis Institute of Technology, Pune, India, March 2019.

8. *"Do you know how I feel? Sensing physiological signals from objects of everyday use,"* Keynote speech at 13th International Conference on Body Area Networks (BODYNETS 2018), Oulu, Finland, October 2018.
9. *"Wearables meet IoT: Signal Processing Issues and Applications,"* Tutorial speaker at IEEE Signal Processing Society Summer School "Signal Processing for IoT in Biomedical and Healthcare" in Xiamen, China, July 2018.
10. *Integrated Sensing and Processing for 3D Printed Electronics,* NASA In-Space Manufacturing Printed Electronics Workshop, April 2018, Huntsville, AL.
11. *Opportunities in Personalized Healthcare,* Decatur Entrepreneurial Center, March 2018, Decatur, AL.
12. *Design of Ubiquitous Medical Devices, Case Studies of Smart Stuff,* User Centered Design class, University of Alabama in Huntsville, April 2017, Huntsville, AL.
13. *SmartStuff and Wearable Monitoring,* Keynote Speech, 2nd EAI International Conference on Future Access Enablers of Ubiquitous and Intelligent Infrastructures, October 2016, Belgrade, Serbia.
14. *Physiological Monitoring in Extreme Environments,* BHI-2016 International Conference on Biomedical and Health Informatics, Las Vegas, NV, February 2016.
15. *The Role of Smartwatches in Health Revolution,* Wireless Health 2015, Washington, DC, October 2015.
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18. *Can Ambient Intelligence and Wearable Monitoring Facilitate Aging in Place?,* Philips Research, Briarcliff, NY, September 2014.
19. *From Research to Startups, A Case Study,* Mayo Graduate School, Rochester, MN, August 2014.
20. *SmartBottle, A Drug Compliance System,* UAH Alumni Lunch & Learn, Huntsville, Alabama, September 2013.
21. *Wireless Health,* Tutorial, Arab Health Congress, Dubai, UAE, January 2013.
22. *r u stressed?* Honors Forum, UAHuntsville, Huntsville, Alabama, March 2012.
23. *Real-time Monitoring of Occupational Stress,* University College Cork, Cork, Ireland, December 2011.
24. *Rise of the Machines: Autonomous Vehicles at UAHuntsville,* Honors Forum, UAHuntsville, Huntsville, Alabama, April 2011.
25. *Body Sensor Networks: System Design Issues,* Wireless Health Conference, San Diego, California, October 2010.
26. *Sensors, System Architectures, System Integration, and Implementation of Personal Motion Technologies,* NIH Workshop "Personal Motion Technologies for Healthy Independent Living," Bethesda, Maryland, June 2010.
27. *Advanced Embedded Systems,* Technical Faculty in Cacak, University of Kragujevac, sponsored by World University Service (WUS), Graz, Austria, May 2010.

28. *Wireless Sensor Networks – Issues and Applications*, Centre for Sensor Web Technology, Dublin City University, February 2010.
29. *Controlling Avatars and Robots: from Gesture Input to Mind-Control*, Mechanical and Aerospace Engineering Seminar, UAHuntsville, Huntsville, Alabama, January 2010.
30. *iSense: Real Time Monitoring of Body Activity*, Honors Forum, UAHuntsville, Huntsville, Alabama, September 2009.
31. *Real time detection and unfreezing of gait of Parkinson's patients*, Parkinson Support Group, Crestwood Medical Center, Huntsville, Alabama, September 2009.
32. *System Architecture of Wireless Body Sensor Networks*, Keynote Speech, The 6<sup>th</sup> International Workshop on Wearable Micro and Nano Technologies for Personalized Health *pHealth 2009*, Oslo, Norway, June 2009.
33. *Wireless Body Area Networks Based Medical Devices: Issues and Applications*, Design of Medical Devices Conference, Minneapolis, Minnesota, April 2009.
34. *Ubiquitous Health Monitoring: Issues and Applications*, Invited Lecture, First International Workshop on Mobile Computing Technologies for Pervasive Healthcare, Melbourne, Australia, December 2007.
35. *Ubiquitous Vital Sign Monitoring*, Invited Lecture, First International Conference on Biomedical and Health Engineering (IS3BHE), Shenzhen, China, August 2007.
36. *mHEALTH – Issues and Applications*, Invited Lecture, Mini-Symposium on Digital Healthcare at 24th Annual Houston Conference on Biomedical Engineering Research, Houston, TX, February 2007.
37. *mHealth Systems for Ambulatory Monitoring, Issues and Applications*, NSF Workshop “Wearable and Implanted Device/Systems for Health Monitoring & Diagnostics,” November 2006.
38. *Wireless System Integration Issues*, 3<sup>rd</sup> IEEE EMBS International Summer School and Symposium on Medical Devices and Biosensors (ISSS-MDBS 2006), Boston, MA, September 2006.
39. *Brainwave Entrainment and Beyond: Toward Holistic Approach*, Brainwave Entrainment to External Rhythmic Stimuli: Interdisciplinary Research and Clinical Perspective, Stanford University, May 2006.
40. *Ubiquitous Physiological Monitoring: Applications and Challenges*, University of New South Wales, Sydney, Australia, November 2005.
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43. *Automation and Monitoring Using Wireless Intelligent Sensors*, Technical Faculty Cacak, University of Kragujevac, sponsored by World University Service (WUS), Graz, Austria, May 2005.

44. *Design of Computer Systems with Extremely Low Power Consumption*, Technical Faculty Cacak, University of Kragujevac, sponsored by World University Service (WUS), Graz, Austria, May 2005.
45. *Wireless Body Area Network for Health Monitoring*, 2<sup>nd</sup> TinyOS Technology Exchange Conference, University of Berkeley, Berkeley, CA, February 2005.
46. *Wireless Intelligent Sensors: Issues and Applications*, School of Electrical Engineering, University of Belgrade, sponsored by World University Service (WUS), Graz, Austria, May 2004.
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48. *Ubiquitous Physiological Monitoring: Issues and Applications*, Institute for Human and Machine Cognition (IHMC), University of West Florida, Pensacola, Florida, March 2004.
49. *Stress Monitoring Using a Distributed Wireless Intelligent Sensor System*, U.S. Army Research Institute of Environmental Medicine (USARIEM), Natick, Massachusetts, April 2003.
50. *Physiological Monitoring Using a Distributed Wireless Intelligent Sensor System*, Motion Analysis Laboratory, Spaulding Rehabilitation Hospital, Harvard Medical School, Boston, Massachusetts, April 2003.
51. *Signal Processing Workshop*, Oakwood University, Huntsville, Alabama, June 2003.
52. *Application of Signal Processing to Electrical Signals in Green Plants*, Oakwood University, Huntsville, Alabama, April 2003.
53. *Future Directions in Wireless Intelligent Sensors*, Texas Instruments, Dallas, Texas, November 2002.
54. *Wireless Network of Intelligent Sensors (WISE)*, IEEE Computer Society Huntsville Chapter Meeting, Huntsville, Alabama, October 2002.
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57. *Portable Telemedical Monitoring Using Wireless Sensors on the Edge of the Internet (WISE)*, The City University of New York, New York, March 2001.
58. *Hierarchical Digital Signal Processing using Wireless Intelligent Sensors*, Computer Information Technology at Computer Science, University of Alabama in Huntsville, February 2001.
59. *A VRML based 3D EEG Visualization and Sonification*, The First International Conference on the Telemedical Information Society ITIS'98, Amsterdam, April 1998.
60. *Computer Technology Applications in Medicine*, Annual Pediatric Society Meeting, Belgrade, October 1997.
61. *A Model of Consciousness: Engineering Approach*, Indian Institute of Technology, Kanpur, India, March 1997.
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63. *Multimedia Trends*, New Technologies in Informatics '97, May 1997.
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Citations	10,762	3,442
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- 1.1. Gabriela Guimarães Oliveira, Cristina Loureiro Chaves Soldera, Emil Jovanov, Angelo José Gonçalves Bós, “Relationship Between Performance in the Timed Up and Go Test and Participation of Body Balance Maintenance Systems in Older Adults,” *Temas em Saúde*, January 2020
- 1.2. C. Adans-Dester *et al.*, "Can mHealth Technology Help Mitigate the Effects of the COVID-19 Pandemic?" in *IEEE Open Journal of Engineering in Medicine and Biology*, doi: 10.1109/OJEMB.2020.3015141, <https://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=9162431>
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