

*Curriculum Vitae*  
**ALMIR BADNJEVIĆ, Ph.D.**

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Work Address 1.

Verlab Ltd Sarajevo  
Medical Devices Verification Laboratory  
Ferhadija 27/II, 71000 Sarajevo,  
Bosnia and Herzegovina  
Phone: +387 33 569 540  
e-mail: [almir@verlab.ba](mailto:almir@verlab.ba)

Work Address 2.

University of Sarajevo, Faculty of Pharmacy Sarajevo  
Zmaja od Bosne bb, 71000 Sarajevo  
Bosnia and Herzegovina  
Phone: +387 33 586 180  
Cell: +387 61 213 599  
e-mail: [almir.badnjevic@ffsa.unsa.ba](mailto:almir.badnjevic@ffsa.unsa.ba)

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## EDUCATION

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- 2012 – 2015      **University of Zagreb, Faculty of Electrical Engineering and Computing Zagreb, Croatia**  
Doctor of Philosophy in Electrical Engineering,  
THESIS TITLE: Integrated software system for asthma and chronic obstructive pulmonary disease classification (defended in Sept. 2015)
- 2008 – 2010      **University of Sarajevo, Faculty of Electrical Engineering Sarajevo, Bosnia and Herzegovina**  
Master of Engineering Science in Electrical Engineering,  
RESEARCH AREA: Automation Control and Electronics
- 2005 – 2008      **University of Sarajevo, Faculty of Electrical Engineering Sarajevo, Bosnia and Herzegovina**  
Bachelor of Engineering Science in Electrical Engineering

## BUSINESS AND ACADEMIC WORK EXPERIENCE

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- Jun 2021 - Present      **Executive Director of International Academy of Science and Arts in Bosnia and Herzegovina, Bosnia and Herzegovina**
- a. Responsible for overseeing the administration, programs and strategic plan of the Academy.
  - b. Responsible for fundraising, marketing, and community outreach.
- The position reports directly to the President and Board members of Academy.
- Nov 2019 – Present      **Assistant Professor at Faculty of Pharmacy Sarajevo, University of Sarajevo, Bosnia and Herzegovina**
- c. Teaching Course Pharmacy Informatics
  - d. Teaching Course Informatics at Faculty of Dentistry Sarajevo, University of Sarajevo
- March 2014 – Present      **Director of Verlab Ltd Sarajevo, Medical Devices Verification Laboratory of National Metrology Institute (NMI) of Bosnia and Herzegovina**
- Establishing for the first time Medical Devices Verification Laboratory in the Bosnia and Herzegovina for the independent verification according to legal metrology rules of ECG, defibrillators, patient monitors, infusion pumps,

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- perfusors, anesthesia machines, respirators, baby incubators, therapeutic ultrasound, dialysis machines and blood pressure devices.
  - Company managing and supervising.
  - Lobbying and signing contracts with Business Partners (all private and public healthcare institutions at national level), Banks and other institutions.
  - Reporting Business reports according to Company Management rules.
  - Implementation of laboratory in accordance with ISO 17020:2012 standard.
  - Certification of company by ISO 9001.
  - Establishing the first digital database eVerlab which contains medical devices verification results.
- Oct 2015 - Present     **Associate Professor at Genetics and Bioengineering Department and Electrical and Electronics Engineering Department**, Faculty of Engineering and Natural Sciences, International Burch University Sarajevo, Bosnia and Herzegovina
- From October 2015 to September 2018 was Head of Genetics and Bioengineering Department and at the position of Assistant Professor.
  - Teaching Courses at Undergraduate, Graduate and PhD programs:
    - e. GBE 323 – Biomedical Instrumentation
    - f. GBE 325 – Biomedical Signals and Systems
    - g. GBE 330 – Biosensors
    - h. GBE 321 – Intelligent Systems
    - i. GBE 525 – Laboratory Quality Management System
    - j. GBE 320 – Nanotechnology and Nanosensors
    - k. GBE 596 – Seminar II
- Jun 2013 – Mar 2014     **Expert Advisor for Biomedical Engineering and Measurements in Medicine**, Micom BH Ltd Sarajevo, Bosnia and Herzegovina (Fluke representative company for Balkan region).
- Research for Medical Devices with Measuring Function in all Healthcare Institutions in Bosnia and Herzegovina.
  - Working on projects with WHO.
  - Development of Biomedical Engineering in the Bosnia and Herzegovina.
  - Part of the project named: "Measurement in Medicine" for introducing Medical Devices in Legal Metrology System of Bosnia and Herzegovina.
  - The application of the Directives and Standards 93/42 EEC, IEC 60601 and IEC 62353 in Bosnia and Herzegovina.
  - Trainer for Fluke Biomedical Products in the Europe.
- Jun 2010 – Jun 2013     **Manager of Technical Department and Quality Manager of the Laboratory**, New Technology Ltd Sarajevo, Bosnia and Herzegovina
- Planning, evaluation and monitoring (technical, financial and organizational) for Technical Department in the Company (Offices in Sarajevo, Banja Luka, Tuzla and Bihac).
  - Preventive maintenance, service, independent testing and calibration of devices for blood gas analysis (manufacturer Radiometer), respiratory system

(Drager, GE, CareFusion, Maquet, Siemens, Acoma, Hamilton, SLE), anesthesia machine's (Drager, GE, TMS), baby incubators (Drager, GE, Ertunc Ozcan), spirometers (Jaeger, Medicon, Schiller), ergospirometers(CareFusion, GE), infusion and perfusion pumps (Alaris, BBraun) on all Bosnia and Herzegovina area.

- Contract negotiations with new costumers.
- Implementation of laboratory in accordance with ISO 17025 standard.
- Certification of company by ISO 9001.

## NON-GOVERNMENT AND PROFESSIONAL WORK EXPERIENCE

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### Undergraduate teaching

2020 - Present

**Steering Committee Member**, IEEE Standards

- recommends standards of engineering practices to be followed in the field of Engineering in Medicine and Biology by the electrical, electronic, and allied industries, and by health care providers. In relevant areas this Committee shall coordinate its activities with the IEEE Standards Board and other appropriate standards committees.
- responsible for the development and coordination of standards projects, including their maintenance after their approval as standards by the IEEE Standards Association Standards Board (IEEE-SASB) for which EMB-SC has been identified or assigned as either the sole technical sponsor or the primary sponsor to oversee its standards Working Groups.

2019 - Present

**Member of Supervisory Board**, Privredna Banka Sarajevo dd Sarajevo

2018 - Present

**Board Member**, IFMBE Clinical Engineering Division

- To advance worldwide learning, research, knowledge, deployment and communication of healthcare technology management within the clinical engineering community and its understanding by other stakeholders.
- To promote global communication, networking, and understanding of challenges related to healthcare technology management.
- To define and promote an international body of knowledge, skills and competences on which the profession of clinical engineering can be practiced in various clinical settings.
- To advance and disseminate worldwide safety tools and effective decision-making processes within the healthcare technology management system.
- To define and promote quality standards in clinical engineering practices worldwide.
- To stimulate innovation and efficient use of technology-related resources in healthcare worldwide.
- To internationally represent and advocate the interests of the profession of clinical engineers and their global exchange.
- To encourage, through education and training, clinical engineering practices and processes worldwide.

- 2018- Present **Treasurer and Councillor for Regulatory Affairs**, EAMBES (European Alliance for Medical and Biological Engineering & Science) (2018-2021)
- Serve and promote MBES at the European and International levels,
  - Foster, co-ordinate and provide added value to the activities of member organizations in MBES and collaborating, where appropriate, with national and international organisations, particularly the International Federation for Medical and Biological Engineering (IFMBE),
  - Support and promote MBES education, training and accreditation programmes,
  - Support and promote MBES research and development,
  - Establish recommendations for the general responsibilities, organizational relationships and roles of those engaged in the field of MBES,
  - Establish and maintain liaison with national and European governments and agencies
  - Improve intersociety relations and co-operation in Europe within MBES and related fields,
  - Encourage and assist in the formation of organizations in MBES where such organizations do not exist,
  - Recognize individual and group achievements and contributions to the field of MBES
- 2016 – Present **Board Member**, IEEE International Technical Committee for Cardiopulmonary Systems
- 2016–2020 **Board Member**, ESEM (European organization for Education Students in Engineering and Medicine)
- Enhance the education in Biomedical Engineering in Europe
  - Help to develop new generations of Biomedical Engineers in Europe.
- Mar 2014 – Present **President**, Bosnia and Herzegovina Medical and Biological Engineering Society (IFMBE and EAMBES country representative)
- Founder of Society and creator of idea for starting activities in the Biomedical Engineering and Clinical Engineering field in the country
  - Representing the Society officially and legally.
  - Organizing IEEE/IFMBE International Conference on Medical and Biological Engineering in Bosnia and Herzegovina (CMBEBIH).
  - Organizing Summer Schools for Biomedical Engineering in the region.

## PROFESSIONAL/ACADEMIC HONOURS AND AWARDS

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2016	International Burch University Sarajevo, Bosnia and Herzegovina, Rector's Academic Award
2016	CV included in Marquis Who's Who in the World
2018	IFMBE, Clinical Engineering the Best Manuscript Award
2018	IEEE, Senior Member
2018	SNL Magazine Person of the year in Bosnia and Herzegovina
2020	Ladies IN Magazine "The Man" in Bosnia and Herzegovina
2021	Full member of International Academy of Science and Arts in Bosnia and Herzegovina

## SCHOLARLY AND PROFESSIONAL AFFILIATIONS

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- Conference Chair, IEEE/IFMBE CMBEBIH Conference
- Member, Institute of Electrical and Electronics Engineers (IEEE)
- Member, IEEE Engineering in Medicine and Biology Society
- Member, IEEE Standards Association
- IEEE Region 8 Standards Coordination Committee Member (2019 – 2020)
- Member of National Technical Committee for Health protection technology in Institute for standardization of Bosnia and Herzegovina
- Associate at Applied Biomedical Signal Processing and Intelligent eHealth Lab, University of Warwick, UK
- Associate Editor in IOS Press Technology and Health Care Journal
- Associate Editor in Springer's Health and Technology Journal
- Associate Editor in Springer Nature BioMedical Engineering OnLine Journal
- Editorial Board Member, IEEE Open Journal of Engineering in Medicine and Biology
- Medical Devices Technical Assessor for ISO/IEC 17020 in Accreditation Body of Serbia
- Full member of International Academy of Science and Arts in Bosnia and Herzegovina

## PROFESSIONAL SCIENTIFIC SERVICES

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| <b>Expert Referee</b>  | <ol style="list-style-type: none"> <li>1. EURAMET EMPIR Call</li> <li>2. HORIZON 2020</li> <li>3. COST</li> </ol>  |
| <b>Editorial Board</b> | <ol style="list-style-type: none"> <li>1. Technology and Health Care Journal, IOS Press</li> <li>2. Health and Technology Journal, Springer</li> <li>3. BioMedical Engineering OnLine, Springer Nature</li> <li>4. IEEE Open Journal of Engineering in Medicine and Biology</li> </ol> |

## RESEARCH INTERESTS

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| <ul style="list-style-type: none"> <li>• Biomedical Engineering</li> <li>• Biomedical signals and Instrumentation</li> <li>• Artificial Neural Network</li> <li>• Fuzzy Logic</li> <li>• Expert Systems</li> </ul> | <ul style="list-style-type: none"> <li>• Medical Devices</li> <li>• Standards</li> <li>• Accreditation</li> <li>• Testing and verification</li> <li>• Metrology</li> </ul> |
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## RESEARCH GRANTS, PROJECTS AND CONTRACTS

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1. Measurement in Medicine: Introduction of Medical Devices with Measuring Function into Legal Metrology Framework of Bosnia and Herzegovina. Contributors (with H. Memić, D. Franjić, A. Šabeta, O. Šibonjić). Institute of Metrology of Bosnia and Herzegovina. (2013-2014).

2. Mutual future based on mutual interests. Project leader (Bosnia and Herzegovina Medical and Biological Engineering Society). United Nations in Bosnia and Herzegovina. Program Dialogue for the Future: Promoting Coexistence and Diversity in B&H. (2014-2017).
3. QSAR and neural network in design pharmacological active xanthenes. Contributor (with E. Veljovic, D. Završnik, S. Spirotovic – Halilovic, S. Muratovic, A. Osmanovic, S. Filipic, K. Novakovic, T. Bego, M. Malenica). Federal Ministry of Education and Science Bosnia and Herzegovina. Financing /co-financing of scientific research and research- development projects in FBiH in 2016 (2016 – Present).
4. Bosnia and Herzegovina MC Member at COST Action BM1309, Biomedicine And Molecular Biosciences  
European network for innovative uses of EMFs in biomedical applications (EMF-MED) (2014 – 2018).
5. Bosnia and Herzegovina MC Member at COST Action CA15120, COST Association Open Multiscale Systems Medicine (OpenMultiMed) (2016-2020).
6. Bosnia and Herzegovina MC Member at COST Action CA15110, COST Association Harmonising standardisation strategies to increase efficiency and competitiveness of European life-science research (CHARME) (2016-2020).
7. Co-financing the organization of scientific conferences in the Sarajevo Canton in 2016. „International Conference on Medical and Biological Engineering – CMBEBIH 2017“. Ministry of Education, Science and Youth of Sarajevo Canton.
8. Support to technical culture and innovation in Bosnia and Herzegovina for 2017. “Development of telemetry system for diagnostic patients with asthma and COPD in rural areas of Bosnia and Herzegovina”. Ministry of Civil Affairs of Bosnia and Herzegovina grant. (January to April 2018).
9. Programs for preparing projects and potential applicants for H2020 funding for 2017., “*SRT-r03MedUlt: Development of expanded metrological capability for medical ultrasound*”. Ministry of Civil Affairs of Bosnia and Herzegovina
10. Co-financing science projects. „CMBEBIH 2017“. Ministry of Education and Science of Federation of Bosnia and Herzegovina.
11. Support to technical culture and innovation in Bosnia and Herzegovina in 2018., “*Development of expert system based on neural networks for performances predication and preventive maintenance planning of medical devices*”. Ministry of Civil Affairs of Bosnia and Herzegovina
12. Co-financing the organization of scientific conferences in the Sarajevo Canton in 2018. “*Regional school of Biomedical Engineering*”. Ministry of Education, Science and Youth of Sarajevo Canton.
13. Programs for preparing projects and potential applicants for H2020 funding for 2018., “H2020 TraceHTA - Evidence-based multivariable Health Technology Assessment (HTA) method for improving diagnosis and treatment of patients“. Ministry of Civil Affairs of Bosnia and Herzegovina
14. TAIEX Regional Workshop on Biomedical Engineering (Biomedical Signals, Medical Physics, Nanotechnology, Biosensors, Genetics, Renewable Energy Sources). European Commission. (February – December 2018)
15. “Innovating quality assessment tools for pharmacy studies in Bosnia and Herzegovina”. Erasmus+ Capacity Building (2020)
16. “Investigation of the optimal trajectory of a mobile robot for space disinfection from coronaviruses”. Ministry for Education, Science and Youth of Canton Sarajevo.

17. Programs for preparing projects and potential applicants for H2020 funding for 2020., “Capacity building for development of innovative system for prediction of Medical Device performances “. Ministry of Civil Affairs of Bosnia and Herzegovina
18. “Improved metrology for quantitative MRI”. European Metrology Programme for Innovation and Research (EMPIR)

## INVITED LECTURES

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1. Invited Lecture: “Metrology in Medicine” at Balkan Health Forum 2013, Sarajevo, Bosnia and Herzegovina
2. Invited Lecture: “Metrology in Medicine” at Healthcare Days of Bosnia and Herzegovina 2013, Sarajevo, Bosnia and Herzegovina
3. Invited Lecture: “Traceability of medical measurement” at Balkan Health Forum 2014, Belgrade, Serbia
4. Invited Lecture: “Towards new medical device regulations in Bosnia and Herzegovina” at 6th European Conference (MBEC) of IFMBE, 07-11. September 2014., Dubrovnik, Croatia
5. Invited Lecture: “Metrology in Medicine – past, present, future” at Multitechnic Symposium 2014, Faculty of Mechanical Engineering, University of Sarajevo
6. Invited Lecture: “Classification of respiratory diseases using integrated software suite” at the 1st International Medical Student Congress (SAMED) 2015, Sarajevo, Bosnia and Herzegovina
7. Invited Lecture: “Diagnosis of respiratory diseases using neuro-fuzzy expert systems” at Faculty of Electrical Engineering Podgorica and University of Podgorica 2015, Podgorica, Montenegro
8. Invited Lecture and Motivation Speech at CEO (Career and Entrepreneurship Opportunities) Conference 2015, Sarajevo, Bosnia and Herzegovina
9. Invited Lecture: “Possible medical diagnostic and treatment errors caused by nonverified medical devices” at 2nd International Medical Student Congress (SAMED) 2016, Sarajevo, Bosnia and Herzegovina
10. Invited Lecture: “New approaches to maintenance procedures of Medical Devices with measuring functions” for IEEE Croatia Section and CROMBES at Faculty of Electrical Engineering and Computing, University of Zagreb, 2016, Zagreb, Croatia
11. Invited Lecture: “Legal Metrology Framework for Medical Devices” for representatives of Ministry of Health of Serbia, Technical engineers from healthcare institution and private companies in the field of medical devices in Serbia, 2016, Belgrade, Serbia
12. TEDx Talk Sarajevo, TEDxStarigrad Speaker, Sarajevo, Bosnia and Herzegovina, 2016
13. Invited Lecture: “Technology and Innovation for a brighter future”, BiH IEEE Student and Young Professional Congress, 2016, Sarajevo, Bosnia and Herzegovina

14. Keynote Lecture: “New approaches to maintenance procedures of Medical Devices with measuring functions” at IEEE 5th Mediterranean Conference on Embedded Computing (MECO), 2016, Bar, Montenegro
15. Technical University of Vienna, COST Action, EMC and Safety of Medical Devices, 2017
16. Invited Lecture: “Legal Metrology Framework for Medical Devices”, China and Central Eastern Europe Innovation Forum 2017, Bratislava, Slovakia, 2017
17. Training for Inspection and Calibration of Patient Monitors with Fluke Biomedical Equipment, employees of SIQ (Slovenian Institute of Quality and Metrology) Ljubljana, Slovenia, 2017
18. Invited Lecture: “Establishing traceability of medical devices and expert system development for automated respiratory diseases diagnosis”, University of Pittsburgh, USA, 2018
19. Invited Lecture: “Application of Neural Networks in diabetes diagnosis”, Tuzla Brain Week, Tuzla, Bosnia and Herzegovina, 2018
20. Invited Lecture: “Regulation of medical measurements for sustainable healthcare”, International Week MDH University Vasteras, Sweden, 2018
21. Invited Lecture: “Medical Devices Post-Market Surveillance Experiences”, IEEE Croatia Section, Zagreb, Croatia, 2018
22. Invited Lecture: “Legal Metrology Framework for Medical Devices”, IEEE Standards Summit Istanbul, Medipol University Istanbul, Turkey, 2018
23. Invited Lecture: “Medical Devices: Legal Metrology Framework”, Emirates International Accreditation Center, Dubai, UAE, 2018
24. Invited lecture and workshop: “Management of Medical Equipment in Eastern Europe”, WHO 4<sup>th</sup> Global Forum on Medical Devices, Visakhapatnam, India, 2018
25. Invited lecture and workshop: “Medical Devices Post-market surveillance experiences”, WHO 4<sup>th</sup> Global Forum on Medical Devices, Visakhapatnam, India, 2018
26. Invited lecture and workshop: “Artificial Intelligence and design of medical devices for Low Resource Settings”, WHO 4<sup>th</sup> Global Forum on Medical Devices, Visakhapatnam, India, 2018
27. Keynote Speaker at International Clinical Engineering and Health Technology Management Congress, Rome, Italy, 2019
28. Invited Speaker at IUPESM Early Career Chapter, Rome, Italy, 2019
29. Keynote Speaker at European Forum: “Biomedical Engineering from Research to Commercialization”, Warsaw, Poland, 2019
30. Invited Speaker and Moderator of EAMBES Joint Session: “Medical Device Regulations, Standards, Accreditation and Certification” at 54<sup>th</sup> Annual Conference of the German Society for Biomedical Engineering, Germany 2020

31. MyEMBS Webinar Distinguished Lecturers Program & Professional Talk: “Legal Metrology Framework for Medical Devices”, IEEE EMBS Malaysia Chapter 2021
32. Invited Lecturer at World Metrology Day 2021: “Legal metrology framework for medical devices”, Croatian Metrology Society 2021

## SCHOLARLY CONTRIBUTIONS

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### Books:

1. Omanović – Mikličanin E., Badnjević A. (2017), “Uvod u nanotehnologiju”, Univerzitet u Sarajevu, ISBN 978-9958-597-56-5
2. Badnjevic A., (2017), „CMBEBIH 2017: Proceedings of the International Conference on Medical and Biological Engineering 2017“, Springer, ISBN: 978-981-10-4166-2
3. Badnjević A., Cifrek M., Magjarević R., Džemić Z. (eds) “Inspection of Medical Devices.” Series in Biomedical Engineering. 2018, Springer, Singapore
4. Maksimović M., Omanović-Mikličanin E., Badnjević A. “Nanofood and Internet of Nano Things.” Springer International Publishing. 2019., eBook ISBN: 978-3-030-15054-9
5. Badnjevic Almir, Škrbić Ranko, Gurbeta Pokvić Lejla (Eds.), (2019), „CMBEBIH 2019: “Proceedings of the International Conference on Medical and Biological Engineering“, Springer, ISBN: 978-3-030-17971-7
6. Almir Badnjevic, Lejla Gurbeta Pokvić (Eds.), (2021), „CMBEBIH 2021: “Proceedings of the International Conference on Medical and Biological Engineering“, Springer, ISBN: 978-3-030-73908-9

### Book Chapters

1. Badnjevic A., Cifrek M., Gurbeta L., Feric E., „Classification of Chronic Obstructive Pulmonary Diseases Based on Neuro-Fuzzy Software“ in the Book: „Chronic Obstructive Pulmonary Disease (COPD): Clinical Symptoms, Emerging Treatment Strategies and Impact on Quality of Life“, 2016, Nova Science Publisher, ISBN: 978-1-63484-500-7, 2016.
2. Granulo E, Becar L, Gurbeta L, Badnjevic A., „Telemetry System for Diagnosis of Asthma and Chronical Obstructive Pulmonary Disease (COPD)“, Internet of Things Technologies for HealthCare. Mobyen Uddid Ahmed, Shahina Begum, Wasim Raad. Springer International Publishing, 2016, pp. 113-118, DOI:10.1007/978-3-319-51234-1\_18
3. Badnjević A., Cifrek M., Magjarević R., Džemić Z. (2018) Introduction. In: Badnjević A., Cifrek M., Magjarević R., Džemić Z. (eds) Inspection of Medical Devices. Series in Biomedical Engineering. Springer, Singapore
4. Memić H., Badnjević A., Džemić Z. (2018) Regulations and Directives—Past, Present, Future. In: Badnjević A., Cifrek M., Magjarević R., Džemić Z. (eds) Inspection of Medical Devices. Series in Biomedical Engineering. Springer, Singapore
5. Bošnjaković A., Badnjević A., Džemić Z. (2018) Legal Metrology System—Past, Present, Future. In: Badnjević A., Cifrek M., Magjarević R., Džemić Z. (eds) Inspection of Medical Devices. Series in Biomedical Engineering. Springer, Singapore

6. Magjarević R., Badnjević A. (2018) Inspection and Testing of Electrocardiographs (ECG) Devices. In: Badnjević A., Cifrek M., Magjarević R., Džemić Z. (eds) Inspection of Medical Devices. Series in Biomedical Engineering. Springer, Singapore
7. Vuković D., Badnjević A., Omanović – Mikličanin E. (2018) Cost Effectiveness and Increasing of Accuracy of Medical Devices In Legal Metrology System: Case Study Bosnia and Herzegovina. In: Badnjević A., Cifrek M., Magjarević R., Džemić Z. (eds) Inspection of Medical Devices. Series in Biomedical Engineering. Springer, Singapore
8. Badnjević A. (2020) Medical device standards, regulations, and the law. In: Iadanza E. Clinical Engineering Handbook (Second Edition), Pages 713-714, Academic Press, Elsevier.
9. Džemić Z., Memić H., Vitt MP., Badnjević A. (2020) Chapter 100: Need for standards and their development. In: Iadanza E. Clinical Engineering Handbook (Second Edition), Pages 715-721, Academic Press, Elsevier.
10. Džemić Z., Memić H., Badnjević A. (2020) Chapter 101: Regulations and Laws. In: Iadanza E. Clinical Engineering Handbook (Second Edition), Pages 722-727, Academic Press, Elsevier.
11. Džemić Z., Bošnjaković A., Badnjević A. (2020) Chapter 103 - Healthcare quality and ISO/IEC 17020. In: Iadanza E. Clinical Engineering Handbook (Second Edition), Pages 731-735, Academic Press, Elsevier.
12. Badnjević A., Gurbeta Pokvić L. (2020) Chapter 108 - Legal metrology framework for medical devices. In: Iadanza E. Clinical Engineering Handbook (Second Edition), Pages 774-779, Academic Press, Elsevier.
13. Badnjević A., Vuković D. (2020) Chapter 109 - Improving the accuracy and efficiency of medical devices in the legal metrology system of Bosnia and Herzegovina. In: Iadanza E. Clinical Engineering Handbook (Second Edition), Pages 780-786, Academic Press, Elsevier.
14. Badnjević A. (2020) Medical devices: Utilization and service. In: Iadanza E. Clinical Engineering Handbook (Second Edition), Pages 477, Academic Press, Elsevier.
15. Badnjević A., Gurbeta Pokvić L., Spahić L. (2020) Chapter 72 - Anesthesia. In: Iadanza E. Clinical Engineering Handbook (Second Edition), Pages 478-483, Academic Press, Elsevier.
16. Badnjević A., Gurbeta Pokvić L., Spahić L. (2020) Chapter 73 - Cardiovascular techniques and technology. In: Iadanza E. Clinical Engineering Handbook (Second Edition), Pages 484-490, Academic Press, Elsevier.
17. Badnjević A., Gurbeta Pokvić L., Spahić L. (2020) Chapter 74 - Inspection of medical devices. In: Iadanza E. Clinical Engineering Handbook (Second Edition), Pages 491-497, Academic Press, Elsevier.
18. Badnjević A., Gurbeta Pokvić L. (2020) Chapter 75 - Hospital beds. In: Iadanza E. Clinical Engineering Handbook (Second Edition), Pages 498-502, Academic Press, Elsevier.
19. Badnjević A., Gurbeta Pokvić L. (2020) Chapter 76 - Intensive care unit. In: Iadanza E. Clinical Engineering Handbook (Second Edition), Pages 503-508, Academic Press, Elsevier.
20. Badnjević A., Gurbeta Pokvić L. (2020) Chapter 77 - Imaging. In: Iadanza E. Clinical Engineering Handbook (Second Edition), Pages 509-513, Academic Press, Elsevier.
21. Badnjević A., Gurbeta Pokvić L., Spahić L. (2020) Chapter 78 - Pediatric and neonate incubators. In: Iadanza E. Clinical Engineering Handbook (Second Edition), Pages 514-519, Academic Press, Elsevier.
22. Badnjević A., Gurbeta Pokvić L. (2020) Chapter 79 - Medical devices maintenance. In: Iadanza E. Clinical Engineering Handbook (Second Edition), Pages 520-526, Academic Press, Elsevier.
23. Lejla Gurbeta Pokvic, Lemana Spahic, Almir Badnjevic. Implementation of Industry 4.0 in Transformation of Medical Device Maintenance Systems. in: Isak Karabegović, Ahmed Kovačević, Lejla

Banjanović-Mehmedović, Predrag Dašić, Editors. Handbook of Research on Integrating Industry 4.0 in Business and Manufacturing. Hershey: IGI Global; 2020.: p. 512-532.

### Refereed Journal Publications

1. Koruga D., Plavec G., Kopitovic I., Cekerevac I., Badnjevic A. „Clinical evaluation of lung function with impulse ocellometry – clinical acting and interpretation results“, *Respirom Journal* (2014) Vol 51, No 1-2
2. Badnjevic A, Gurbeta L, Boskovic D, Dzemic Z. „Measurement in medicine – Past, present, future“, *Folia Medica Facultatis Medicinae Universitatis Saraeviensis Journal* (2015) 50(1): 43-46
3. Badnjevic – Cengic A, Kovacevic P, Dragic S, Momcicevic D, Badnjevic A, Gurbeta L, Hasanefendic B. „Serum nitric oxide levels in patients with acute myocardial infarction with ST elevation (STEMI)“, *Respirom Journal* (2015) Vol 5, No 1-2
4. Badnjevic A, Cifrek M, Koruga D, Osmankovic D. „Neuro-fuzzy classification of asthma and chronic obstructive pulmonary disease,“ *BMC Medical Informatics and Decision Making Journal* (2015) 15 (Suppl 3):S1; doi: 10.1186/1472-6947-15-S3-S1
5. Gurbeta L, Badnjević A., „Inspection process of medical devices in healthcare institutions: software solution,“ *Health Technol.* (2017) Volume 7, Issue 1, pp 109–117, doi:10.1007/s12553-016-0154-2
6. Badnjevic A, Gurbeta L, Jimenez E.R., Iadanza E. „Testing of mechanical ventilators and infant incubators in healthcare institutions“ *Technology and Health Care* (2017) vol. 25, no. 2, pp. 237-250
7. Dogan S, Nalcaci N, Dogan S, Badnjevic A, Kurtovic A, et al. (2017) Changes in Blood Pressure and Heart Rate Measurement Undergraduate Students During Exam Period. *J Biom Biostat* (2017) 8:347. doi: 10.4172/2155-6180.1000347
8. Gurbeta, L., Dzemic, Z., Bego, T., Sejdic, E., Badnjevic, A. „Testing of Anesthesia Machines and Defibrillators in Healthcare Institutions“, *J Med Syst* (2017) 41: 133. <https://doi.org/10.1007/s10916-017-0783-7>
9. Hodzic J, Gurbeta L, Omanovic-Miklicanin E, Badnjevic A. „Overview of Next-generation Sequencing Platforms Used in Published Draft Plant Genomes in Light of Genotypization of Immortelle Plant (*Helichrysum Arenarium*)“, *MED ARCH.* (2017) 71(4): 288-292, doi: 10.5455/medarh.2017.71.288-292
10. Catic A., Gurbeta L., Kurtovic-Kozaric A., Mehmedbasic S., Badnjevic A. “Application of Neural Networks for classification of Patau, Edwards, Down, Turner and Klinefelter Syndrome based on first trimester maternal serum screening data, ultrasonographic findings and patient demographics”, *BMC Medical Genomics* (2018) 11:19, <https://doi.org/10.1186/s12920-018-0333-2>
11. Lejla Gurbeta, Almir Badnjevic, Mirjana Maksimovic, Enisa Omanovic-Miklicanin, Ervin Sejdic; A telehealth system for automated diagnosis of asthma and chronic obstructive pulmonary disease, *Journal of the American Medical Informatics Association* Volume 25, Issue 9, 1 September 2018, Pages 1213–1217, <https://doi.org/10.1093/jamia/ocy055>
12. A. Badnjevic, L. Gurbeta, E. Custovic. An Expert Diagnostic System to Automatically Identify Asthma and Chronic Obstructive Pulmonary Disease in Clinical Settings. *Nature Scientific Reports* 8, 11645 (2018), <https://doi.org/10.1038/s41598-018-30116-2>
13. M. Avdić, N. Džuzić, O. Hasanić, A. Spahić, L. Smajlović Skenderagić, A. Badnjević, M. Hukić. Development of a novel biofilm classification tool and comparative analysis of result interpretation methodologies for the evaluation of biofilm forming capacity of bacteria using tissue culture plate method. *Med Glas (Zenica)*. 2019 Feb 1;16(1):13-21. doi: 10.17392/997-19

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### Refereed Conference Abstracts

1. Badnjevic A, Kreso S, Music O. „Remote control and meter reading using the MORSE network“, 10th Conference BH K CIGRE, 25 – 29 September 2011., Sarajevo Bosnia and Herzegovina.
2. Badnjevic A, Sehic G, Gvozdenovic V, Beganovic E. „The efficiency of using membrane electrodes for the analysis of gases in the blood of on the real device“, Collected papers of "May pulmological days" in Republic Srpska – 2011; 11(1):175-180.
3. Badnjevic A, Beganovic E, Gvozdenovic V, Sehic G. „Automatic system with closed-loop control of oxygen to improve mechanical ventilation in neonates“, Collected papers of "May pulmological days" in Republic Srpska – 2011; 11(1): 266-270.

4. Badnjevic A, Beganovic E, Sehic G, Badnjevic A. „Advantages and Disadvantages of impulse oscillometry in comparison to spirometry for diagnosis of asthma and other damages of smaller airways“, Collected papers of "May pulmological days" in Republic Srpska – 2012;
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6. Huskic V, Vardo A, Begic E, Hrvat E, Gurbeta L, Dzubur M, Badnjevic A, Dajic A, Kadic A., „Localization and 2D imaging of ST elevation myocardial infarction using software differentiation“, 1st Conference on Medical and Biological Engineering in Bosnia and Herzegovina (CMBEBIH 2015), 13 – 15 March 2015., Sarajevo, Bosnia and Herzegovina
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8. Badnjevic A, Pallikarakis N, Clark T, Ameel M, Basil A., “Medical Devices post-market surveillance experiences“, WHO 4<sup>th</sup> Global Forum on Medical Devices, 13 – 15 December 2018., Visakhapatnam, India
9. Badnjevic A, Judd T, Garcia A, Bergamasco S, Hussein A, Ameel M., “Management of Medical Equipment“, WHO 4<sup>th</sup> Global Forum on Medical Devices, 13 – 15 December 2018., Visakhapatnam, India
10. Pecchia L, Hussein A, Badnjevic A, De Maria C., “3D printing, artificial intelligence and design of medical devices for low resource settings“, WHO 4th Global Forum on Medical Devices, 13 – 15 December 2018., Visakhapatnam, India
11. Badnjevic A., “Software for tracking and prediction of performances of MDs. Planning maintenance“, WHO 4th Global Forum on Medical Devices, 13 – 15 December 2018., Visakhapatnam, India

## THESIS SUPERVISION

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### Undergraduate thesis supervision

2015 – 2016	Berina Alić, International Burch University Sarajevo, “Classification of metabolic syndrome patients using implemented expert system”
2015 – 2016	Layla Abden-Ilah, International Burch University Sarajevo, “Breast cancer classification using artificial neural networks”
2015 – 2016	Dijana Sejdinović, International Burch University Sarajevo, “Classification of prediabetes and diabetes type 2 using artificial neural network”
2015 – 2016	Almir Aljović, International Burch University Sarajevo, “Artificial neural networks in the discrimination of Alzheimer's disease using biomarkers and cognition data”
2016 – 2017	Alma Jakupović, International Burch University Sarajevo, “Developing of expert systems for diagnostic of metabolic syndrome patients”
2016 – 2017	Ahmed Hasanagić, International Burch University Sarajevo, “Recording, acquisition and signal processing of ECG signals using Pasco sensor and Matlab”
2017 – 2018	

- Emina Kurta, International Burch University Sarajevo, "Electromagnetic Compatibility Effect on Medical Devices"
- 2017 – 2018 Lamija Hafizović, International Burch University Sarajevo, "Research tools for complex physiologic signals analysis"
- 2017 – 2018 Lejla Hadzic, International Burch University Sarajevo, "Recording, acquisition and signal processing of blood pressure signals using Pasco sensor and Matlab"
- 2017 – 2018 Maida Avdic, International Burch University, "A comparative study of Hemoglobin measurement technology"
- 2019 – 2020 Dina Kastali, International Burch University, "Biosensors: An overview of use in clinical practice"

### Graduate thesis supervision

- 2017 – 2018 Berina Alić, International Burch University Sarajevo, „Application of ISO/IEC 17025 accreditation of autosomal and Y-chromosome STR typing"
- 2017 – 2018 Layla Abdel Ilah, International Burch University Sarajevo, „Quantitative structure activity relationship and artificial neural networks in design of benzimidazoles as antiproliferative agents"

### Postgraduate thesis supervision

- 2018 – 2019 Lejla Gurbeta, International Burch University Sarajevo, „Determination and experimental validation of the uncertainty and documentation of traceability chain in measurements of temperature, humidity and sound in infant incubator"
- 2019 - 2020 Živorad Kovačević, International Burch University Sarajevo, "Development of new methods and experimental validation of machine learning algorithms for prediction of output parameters and service management of manual defibrillators"

## REFERENCES

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