

CURRICULUM VITAE

Name: Zijad DŽEMIĆ
Date of birth: October 23, 1963
Place of birth: Sarajevo, Bosnia and Herzegovina
Address: Alipašina 2., Sarajevo, BiH
Nationality: BIH
Gender: Male
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Professional background:

- 2023 - date: Institute of Metrology of Bosnia and Herzegovina – Executive director for scientific metrology,
- 2010 – 2023: Institute of Metrology of Bosnia and Herzegovina – General director,
- 2019. – date: Faculty of Engineering and Natural Sciences, International Burch University Sarajevo, Teacher on the Undergraduate Level on the Courses: Electrical measurement and instrumentation, Probability and Statistics for Engineers, General Metrology.
Teacher on the Master Level on the Courses: Data Analysis, Metrological Traceability in Theory in Practice.
- 2014 – 2018: UNIDO - Senior Expert on Quality Infrastructure,
- 2007 - 2010: Institute of Metrology of Bosnia and Herzegovina – Executive director for scientific metrology,
- 2010 – President of Supervisory Board of Elektroprivreda Bosnia and Herzegovina (state Co. that owns hydro/thermo power plants, mines, transp./distrib. system of el. energy),
- 2002 – 2007.: Terminali Federacije, State Liquid Fuel Storage Co. – General Director,
- 1998 – 2002: Terminal Sarajevo, State Liquid Fuel Storage Co. - Technical director,
- 1989 – 2015: Sarajevo University, Faculty of Mechanical Engineering, Faculty of Electrical Engineering and Faculty of Civil Engineering – Teaching/Higher Teaching assistant on subjects: Fluid mechanics, Heat transfer, Hydro/thermal power plants,...
- 1995 – 1998: Institute of Hydrotechnics Sarajevo, Head of the Information Technology and Automation Sector
- 1988 – 1995: Energoinvest, IRCA Institute for Automation and Computer Science, Sarajevo, Research engineer on automation and computer science projects.

Engagement in international organizations:

- Member of Board of Directors of EURAMET (European Association of National Metrology Institutes), 2013-2019,
- Member of Executive Board of WELMEC (European Cooperation in Legal Metrology), from 2009 until today,
- Member of CIML Advisory Group on matters of Countries and Economies with Emerging Metrology Systems, from 2021 until today,
- Member of EURAMET General Assembly, 2004 - 2023,
- Member of WELMEC Committee from 2006 until today,
- Member (as associate) of COOMET Committee, 2013 - 2023,
- Member (as associate) of GULFMET, 2013 - 2023,
- UNIDO Senior Expert on Quality Infrastructure for Renewables and Energy Efficiency, 2014 - 2018,
- Certified Technical Assessor for accreditation processes, certified by Accreditation Body of Republic of Austria (Federal Ministry for Economics and Labor), 2008 - 2018.

Areas of specialization:

- Strategic management of state enterprises and institutions from 1992 until today;
- Management and development of the state independent administrative organization Institute for Metrology of BiH; establishment, management and development of the federal state company for the storage of

petroleum products Terminali Federacije d.o.o.; all within the framework of policies, strategies, regulations and requirements at the state level and strategies, arrangements, requirements and recommendations at the European and international level;

- Teacher, scientific and professional engagements in the fields of: fluid mechanics, heat transfer, hydro/thermal power plants, data science, applications of mathematics and statistics in database processing processes;
- Harmonization of technical regulations with EU requirements;
- Analysis of physical-mathematical models for the development of various fields;
- Research in the field of process engineering, energy, environmental protection and human health;
- Metering problems and measurement of energy and fuel transfer in storage, transport and distribution systems;
- Development of quality infrastructure methodology for renewable energy sources and energy efficiency;
- Technical evaluator for accreditation processes and procedures in connection with prescribed requirements and provisions of the New Legislative Framework in Europe;

Educational background:

- Doctorate of Science, Technical sciences, Faculty of Electrical Engineering, University of Ljubljana, Thesis: Traceability to international system of units (SI) of liquid and gas flow measurements – emphasis to specific and unsolved problems
- Master of Science, Technical sciences, Faculty of Mechanical Engineering, University of Sarajevo, Thesis: Calibration of gas flow meters in situ
- Two-months Specialization in Low flow-rate, LSTM - University of Nurnberg-Erlangen, 1996
- Bachelor of Science, Technical sciences, Faculty of Mechanical Engineering, University of Sarajevo, Thesis: Development of flow regulator for heat meter

Knowledge of languages:

- Bosnian - native
- English - fluent level
- French - limited knowledge

References:

- As an institutional reference - as a General director of Institute of Metrology of Bosnia and Herzegovina (IMBIH) in last 12 years organized and managed development of IMBIH as National Metrology Institute and National Designation Authority both for Legal and Scientific Metrology of Bosnia and Herzegovina,
- In scientific metrology – under IMBIH established and developed internationally recognized and traceable national laboratories in 24 fields with 82 CMCs listed in official international Key Comparison Data Base,
- In research and innovation in metrology under European metrology program for innovation and research (EMPIR) in last 8 years organized and managed participation of IMBIH in consortiums of NMIs/DIs in about 60 different research projects co-finance by EC.
- In legal metrology – prepared and adapted 34 state bylaws in the scope of EU directives,

Papers (Bibliography)

Books (3):

1. Group of editors (4 in total): Inspection of Medical Devices. Series in Biomedical Engineering. Springer, Singapore, 2018
2. Co-author of Clinical Engineering Handbook, Second Edition, Elsevier, 2019
3. Group of editors (4 in total): Inspection of Medical Devices, Second Edition. Series in Biomedical Engineering. Springer, Singapore, 2024

Reviews for journals (5):

1. Dominik Pražák, Václav Sedlák, Ekrem Sınır, František Pluháček: Changing the status of mmHG: Accreditation and Quality Assurance, Springer Nature, 2019
- 2-5. Recognition for Completed 4 Reviewer Assignments since 2021, Journal: Measurement, Elsevier.

Journal publication (16):

1. Music M., Ahic-Dzokic M., Dzemic Z.: A New Approach to detection of vortices using ultrasound. SCIE Journal; Flow measurement and Instrumentation, Elsevier, 42, 2015, (40-46)

2. Džemić Z., Širok B., Bizjan B.: Turbine flow meter response to transitional flow regimes. SCIE Journal; Flow Measurement and Instrumentation, Elsevier, 59, 2018, (18-22)
3. Džemić Z., Širok B., Drnovšek J.: Traceability of Gas Flow Measurements in Complex Distribution Systems - Uncertainty Approach vs. Error Approach. SCIE Journal; Metrology and Measurement Systems, Polish Academy of Science, 2/2019
4. Group of authors (5 in total): Testing of Anaesthesia Machines and Defibrillators in Healthcare Institutions, SCIE Journal; Journal of Medical Systems, 2017, (41: 133)
5. Alen Bošnjaković, Zijad Džemić: Legal metrology: Medical devices, Proceedings of the International Conference on Medical and Biological Engineering, Springer 2017, (583-588)
6. Group of authors (4 in total):: Introduction 1-5, Inspection of Medical Devices, Springer, 2018
7. Group of authors (3 in total): Regulations and Directives—Past, Present, Future, 5-31, Inspection of Medical Devices, Springer, 2018
8. Group of authors (3 in total): Legal Metrology System — Past, Present, Future, 31-59, Inspection of Medical Devices, Springer, 2018
9. Group of authors (4 in total): Need for standards and their development, Clinical Engineering Handbook, Second Edition, Elsevier 2020
10. Group of authors (3 in total): Regulations and laws, Clinical Engineering Handbook, Second Edition, Elsevier 2020
11. Group of authors (3 in total): Healthcare quality and ISO/IEC 17020, Clinical Engineering Handbook, Second Edition, Elsevier 2020
12. Group of authors (4 in total): Testing of infusion pumps in healthcare institutions in Bosnia and Herzegovina. In: Eskola H., Väisänen O., Viik J., Hytinen J. (eds) EMBEC & NBC 2017. EMBEC 2017, NBC 2017. IFMBE Proceedings, vol 65. Springer, Singapore, Awarded as winners for Best Manuscript in 2018 by the International Federation for Medical and Biological Engineering (IFMBE) Clinical Engineering Division
13. Group of authors (4 in total): Testing of dialysis machines in healthcare institutions in Bosnia and Herzegovina. In: Eskola H., Väisänen O., Viik J., Hytinen J. (eds) EMBEC & NBC 2017. EMBEC 2017, NBC 2017. IFMBE Proceedings 2017, vol 65. Springer, Singapore, Awarded as winners for Best Manuscript in 2018 by the International Federation for Medical and Biological Engineering (IFMBE) Clinical Engineering Division (CED)
14. Group of authors (3 in total): Establishing Traceability Chain of Infusion and Perfusor Pumps Using Legal Metrology Procedures in Bosnia and Herzegovina, World Congress on Medical Physics and Biomedical Engineering. Springer proceedings, 2018, (45-49)
15. Group of authors (4 in total): Measurement in medicine – Past, present, future, Folia Med. Fac. Med. Univ. Saraeviensis 2015; 50(1): (43-46)
16. Group of authors (4 in total): Medical devices in legal metrology. In 2015 4th Mediterranean Conference on Embedded Computing (MECO). IEEE 2015, (365-367)

International Conference publications (10):

1. Alen Bosnjakovic, Vedran Karahodzic, Ehlimana Jugo, Zijad Dzemic: The role of the measurement uncertainty in the decision making process of conformity assessment, Mathematical and Statistical Methods for Metrology, Joint Workshop of itENBIS and INRIM, Torino, 2019
2. Zijad Džemić, Vedran Karahodžić, Alen Bosnjakovic: Measurement uncertainty evaluation and correlation analysis of gas flow measurements in a system of three parallel pipes, Mathematical and Statistical Methods for Metrology, Joint Workshop of itENBIS and INRIM, Torino, 2019
3. M.Music, M.Ahich-Djokic, O.Music, Z.Dzemic: Improvement of vortex Flow meters based on Ultrasonic Detection of Vortices. 13th International flow measurement conference FLOMEKO, Glasgow, Scotland, 2005
4. Group of authors (4 in total): Legal Metrology Procedures for Increasing Safety and Performance Characterists with Cost Benefits Analysis: Case Study Dialysis Machines. In: Lhotska L., Sukupova L., 2018
5. Group of authors (5 in total): Testing of therapeutic ultrasound in healthcare institutions in Bosnia and Herzegovina. 2nd EAI International Conference on Future Access Enablers of Ubiquitous and Intelligent Infrastruct, Belgrade, Serbia, 2016
6. Group of authors (4 in total): Implementation of requirements of standard ISO/IEC 17020 in authorized bodies for verification of measuring instruments risk analysis. 7. znanstveni skup Hrvatskog društva za kvalitetu, Poreč, Hrvatska, 2016.
7. Zijad Džemić, Keynote speaker: Metrology - Demand driven science, International Metrology Day Conference, Teheran, 2019

8. Zijad Džemić, Keynote speaker: Conformity Assessment of Medical Devices in the Frame of Legal Metrology, 14th MeMeA - IEEE International Symposium on Medical Measurements and Applications (IEEE MeMeA), Istanbul, 2019
9. Bošnjaković Alen, Karahodžić Vedran, Čaušević Merima, Jugo Ehlimana, Džemić Zijad: Implementation Of Gum Principles In Western Balkan Countries. Proceedings of the International Mathematical and Statistical Methods for Metrology MATHMET 2019, Lisbon, 2019
10. Sani Šarčević, Osman Šibonjić, Zijad Džemić: Time and frequency distribution system via fiber optic links using WR-PTP protocol. 19th International Symposium INFOTEH-JAHORINA, East Sarajevo, Bosnia and Herzegovina, 2020

Studies realized as UNIDO Senior Expert (5):

1. Development of a Full-scale Proposal on Increased use of Low-carbon Technologies and development of quality Infrastructure in economic sectors in Bosnia and Herzegovina, 2014
2. Methodology for evaluation of Quality Infrastructure for renewable energy technologies and energy efficiency (QI for RE and EE), 2015
3. Methodology for evaluation of Quality Infrastructure for Small Hydro Power-plants, 2017
4. Methodology for evaluation of Quality Infrastructure for Photovoltaics, 2017
5. Methodology for evaluation of Quality Infrastructure for Wind farms, 2017

In research and innovation in metrology within the European metrology program for innovation and research, worked, organized, supervised the implementation and managed the work of the Institute's projects as part of a consortium with the institutes of European countries, in more than 60 different research projects, co-financed by the European Commission, including the following, which contain the application of information, machine learning and communication technologies:

1. ENG59 - NNL Sensor development and calibration method for non-Newtonian fluids, od 2014 – 2017;
2. 15RPT04 - Traceability routes for electrical power quality measurements, od 2016 – 2019;
3. 17IND12 – Met4FoF Metrology for the Factory of the Future, od 2018 – 2022;
4. 17NRM05 – EMUE Advancing measurement uncertainty (comprehensive examples), od 2018 – 2022 godine;
5. The European Metrology Cloud (Funded by PTB), od 2018 – 2022;
6. 18HLT05 - QUIERO Quantitative MR-based imaging of physical biomarkers, od 2018 – 2022;
7. 18HLT07 - MedalCare Metrology of automated data analysis for cardiac arrhythmia anagement, od 2019 – 2022;
8. 18NET05 - MATHMET European metrology network for mathematics and statistics, od 2019 – 2022;
9. 18NET03 - SEG-Net European metrology network on smart electricity grids, od 2019 – 2022;
10. 19ENG01 - Metrology for emerging PV applications, 2020 – still active;
11. 20IND03 - RF Measurements for future communications applications, 2021 – still active;
12. 20NRM05 - Improved metrology for quantitative MRI, 2021 – still active.

Dr sc. Zijad Džemić, Dipl.-Ing.
Sarajevo, January, 2024