

PERSONAL INFORMATION



Senad Smaka

 Srebrenicka 2, Stari Grad, 71000 Sarajevo, Bosnia and Herzegovina

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 ssmaka@etf.unsa.ba

Sex Male | Date of birth 30/05/1969 | Nationality Bosnia and Herzegovina

WORK EXPERIENCE

November 2017 - to date

Associate professor

University of Sarajevo, Faculty of Electrical Engineering, Department of Electrical Power Engineering, Zmaja od Bosne bb, University Campus, 71000 Sarajevo, Bosnia and Herzegovina

- Head of Department,
- Lecturer – courses (first, second and third study cycle): Fundamentals of Electrical Engineering, Electrical Machines, Electrical Drives, Generation of Electrical Energy, Electrical Machines 2, Dynamics of Electrical Machines, Electrical Power Systems 2, Power Quality, Industrial and Distribution Electrical Power Systems, Advanced Technologies in Generation of Electrical Energy

Business or sector Higher Education

October 2019 - to date

Associate professor

University of Sarajevo, Faculty of Mechanical Engineering, Department of Engines and Vehicles, Vilsonovo šetalište 9, 71000 Sarajevo, Bosnia and Herzegovina

- Lecturer – course (second study cycle): Electrical and Electronic Systems in Vehicles

Business or sector Higher Education

November 2012 - November 2017

Assistant professor

University of Sarajevo, Faculty of Electrical Engineering, Department of Electrical Power Engineering, Zmaja od Bosne bb, University Campus, 71000 Sarajevo, Bosnia and Herzegovina

- Lecturer – courses (first, second and third study cycle): Electrical Circuits 1, Electrical Machines, Generation of Electrical Energy, Electrical Power Systems 2, Power Quality, Industrial and Distribution Electrical Power Systems, Advanced Technologies in Electrical Energy Generation

Business or sector Higher Education

January 2006 - November 2012

Senior teaching assistant

University of Sarajevo, Faculty of Electrical Engineering, Department of Electrical Power Engineering, Zmaja od Bosne bb, University Campus, 71000 Sarajevo, Bosnia and Herzegovina

- Courses (first and second study cycle): Fundamentals of Electrical Engineering, Electrical Circuits 1, Electrical Machines, Electrical Drives, Electrical Machines 2, Dynamics of Electrical Machines, Power Quality

Business or sector Higher Education

September 2004 - September 2006

Teaching assistant/Senior teaching assistant

University of Sarajevo, Faculty of Transport and Communications Zmaja od Bosne bb, University Campus, 71000 Sarajevo, Bosnia and Herzegovina

- Courses: Electrical Power Systems in Transportation, Energy in Communications

Business or sector Higher Education

October 1999 - January 2006

Teaching assistant

University of Sarajevo, Faculty of Electrical Engineering, Department of Electrical Power Engineering, Zmaja od Bosne bb, University Campus, 71000 Sarajevo, Bosnia and Herzegovina

- Courses: Fundamentals of Electrical Engineering, Electrical Circuits 1, Electrical Machines, Electrical Drives, Electrical Machines 2, Special Measurements

Business or sector Higher Education

December 1996 - October 1999

Electrical engineer

Unimont Plc., Adila Grebe 6, 71000 Sarajevo, Bosnia and Herzegovina

- Independent designer of electrical installation and head of the attestation group

Business or sector Construction

EDUCATION AND TRAINING

- May 2012EQF level 8

Doctor of technical sciences

University of Sarajevo, Faculty of Electrical Engineering, Department of Electrical Power Engineering, Zmaja od Bosne bb, University Campus, 71000 Sarajevo, Bosnia and Herzegovina
 Title of dissertation: Design Optimization of Electrical Motor for Hybrid Electric Vehicle Propulsion (In Bosnian language)
- January 2004EQF level 7

Master of science

University of Zagreb, Faculty of Electrical Engineering and Computing, Unska 3, 10000 Zagreb, Croatia
 Title of master's thesis: Laboratory automated system for testing of electrical motors (In Bosnian language)
- November 1996EQF level 6

Electrical engineer

University of Sarajevo, Faculty of Electrical Engineering, Department of Electrical Power Engineering, Zmaja od Bosne bb, University Campus, 71000 Sarajevo, Bosnia and Herzegovina
 Title of graduate thesis: Impact of tower's wave impedance and footing resistance on the surge arrester's stress due to lightning overvoltages (In Bosnian language)
- May 1988EQF level 4

Technician for electrical installation

Secondary school of electrical power engineering, Zmaja od Bosne 37, 71000 Sarajevo, Bosnia and Herzegovina

PERSONAL SKILLS

Mother tongue(s) Bosnian

Other language(s)

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
English language	B2	B2	B1	B1	B1

Communication skills

- Good communication skills gained through my professional work

Organisational / managerial skills

- Leadership (currently responsible for a team of 20 people)

Digital skills

SELF-ASSESSMENT				
Information processing	Communication	Content creation	Safety	Problem solving
Independent user	Independent user	Independent user	Independent user	Independent user

Other computer skills:

- good command of office suite (word processor, spread sheet, presentation software)
- good command of graphics software packages (AutoCAD, CorelDraw)
- good knowledge of programming in Matlab & Simulink environment
- good knowledge of visual programming in LabVIEW
- good knowledge of electromagnetic field simulation software Ansys Maxwell & Ansys Workbench

Driving licence

B

ADDITIONAL INFORMATION

Published papers

- [1] N. Delić, S. Grebović, S. Smaka, H. Kartal, "Study of Lightning Overvoltages Protection of 400 kV Gas Insulated Substation", *Proceedings of the 21st International Symposium Infoteh-Jahorina*, pp. 1-5, 16 March - 18 March 2022, Bosnia and Herzegovina.
- [2] A. Džanan, S. Grebović, S. Smaka, V. Helać, "Analysis of Power Distribution Line Outage Based on Measurements and Simulations", *Proceedings of the 21st International Symposium Infoteh-Jahorina*, pp. 1-5, 16 March - 18 March 2022, Bosnia and Herzegovina.
- [3] A. Kokor, S. Smaka, S. Grebović, V. Helać, "Effects of Neutral Point Grounding Methods on Single-Phase Short Circuit Fault Characteristics", *Proceedings of the 21st International Symposium Infoteh-Jahorina*, pp. 1-5, 16 March - 18 March 2022, Bosnia and Herzegovina.
- [4] V. Bećirović, S. Smaka, A. Smajkić, "Calculation of the rated power of a photovoltaic solar power plant to be connected to a low-voltage network", *Proceedings of the 2021 Selected Issues of Electrical Engineering and Electronics Conference WZEE*, pp. 1-5, 13 September - 15 September 2021, Rzeszow, Poland.
- [5] A. Čerkez, S. Smaka, S. Hanjalić, V. Helać, M. Hanjalić, "Power quality improvement of small hydropower plant located in the industrial area", *Proceedings of the 2021 Selected Issues of Electrical Engineering and Electronics Conference WZEE*, pp. 1-5, 13 September - 15 September 2021, Rzeszow, Poland.
- [6] R. Aličić, S. Smaka, "A New Approach to Optimal Placement of Power Quality Monitors for Voltage Sag Detection", *Proceedings of the 2019 IEEE PES Innovative Smart Grid Technologies Conference Europe – ISGT-Europe*, pp. 1-5, 29 September - 02 October 2019, Bucharest, Romania.
- [7] R. Aličić, S. Smaka, "A New Approach to Determine the Optimal Number and Arrangement of Power Quality Monitors for Voltage Sag Detection", *Proceedings of the 2019 IEEE 5th International forum on Research and Technology for Society and Industry (RTSI)*, pp. 12-17, 9 September - 12 September 2019, Florence, Italy.
- [8] V. Bećirović, F. Karić, K. Ligata, S. Smaka, "Analysis of slow voltage variations and losses in LVN with integrated PV power plants and ESS", *Proceedings of the 2018 IEEE PES Innovative Smart Grid Technologies Conference Europe – ISGT-Europe*, pp. 1-6, 21 October - 25 October 2018, Sarajevo, BH.
- [9] H. Ačkar, S. Huseinbegović, Š. Mašić, S. Smaka, A. Tahirbegović, "Voltage Control of a Switched Reluctance Generator Using Discrete Sliding Mode Technique", *Proceedings of the XIII International Conference on Electrical Machines - ICEM 2018*, pp. 1731-1737, 03 September - 06 September 2018, Alexandroupoli, Greece.
- [10] V. Bećirović, S. Smaka, R. Jerčić, S. Hanjalić, V. Helać, "A New Simple Algorithm for Power System Harmonics' Phasors Estimation", *Proceedings of the International Symposium on Power Electronics, Electrical Drives, Automation and Motion - Speedam 2018*, pp. 661-666, 20 June - 22 June 2018, Amalfi, Italy.
- [11] V. Bećirović, V. Helać, S. Hanjalić, S. Smaka, H. Šamić, "Power Quality Problems in Autonomous Photovoltaic System with Energy Storage", *Proceedings of the International Symposium on Power Electronics, Electrical Drives, Automation and Motion - Speedam 2018*, pp. 871-876, 20 June - 22 June 2018, Amalfi, Italy.
- [12] Š. Mašić, S. Huseinbegović, S. Smaka, L. Buljubašić, "Model of the Stand-Alone Self-Excited Induction Generator with Saturation Effects and Terminal Voltage Regulation", *Proceedings of the International Symposium on Power Electronics, Electrical Drives, Automation and Motion - Speedam 2018*, pp. 330-335, 20 June - 22 June 2018, Amalfi, Italy.
- [13] M. Čosović, S. Smaka, "Design of initial topology of interior permanent magnet synchronous machine for hybrid electric vehicle", *Proceedings of the International Electrical Machines and Drives Conference IEMDC 2015*, pp. 1658-1664, 10 May - 13 May 2015, Coeur d'Alene, USA.
- [14] S. Smaka, "Fast Analytical Model for Switched Reluctance Machine", *IEEE Journal of Industry Applications*, Vol. 4 (2015), No. 4, pp. 352-359, The Institute of Electrical Engineers of Japan.
- [15] S. Smaka, Š. Mašić, M. Čosović, "Fast Analytical Model of Switched Reluctance Machine", *Proceedings of the 2014 International Power Electronics Conference - ECCE Asia - IPEC Hiroshima 2014*, pp. 1148-1154, 18 May - 21 May 2014, Hiroshima, Japan.
- [16] S. Smaka, Š. Mašić, "A Novel Approach to Analytically Modeling Switched Reluctance Machine", *Proceedings of the XXIV International Symposium on Information, Communication and Automation Technologies - ICAT 2013*, 30 October - 01 November 2013, Sarajevo, BH.
- [17] S. Smaka, M. Čosović, Š. Mašić, "The Effects of Magnetic Circuit Geometry on Torque Generation of 8/14 Switched Reluctance Machine", *Proceedings of the XXIV International Symposium on Information, Communication and Automation Technologies - ICAT 2013*, 30 October - 01 November 2013, Sarajevo, BH.
- [18] N. Oprašić, Š. Mašić, S. Smaka, "Excitation parameters and stability of open loop operated self-excited switched reluctance generator", *Proceedings of the International Electrical Machines and Drives Conference IEMDC 2013*, pp. 409-414, 12 May - 15 May 2013, Chicago, USA.
- [19] S. Smaka, S. Konjicija, Š. Mašić, M. Čosović, "Multi-objective design optimization of 8/14 switched reluctance motor", *Proceedings of the International Electrical Machines and Drives Conference IEMDC 2013*, pp. 468-475, 12 May - 15 May 2013, Chicago, USA.

- [20] M. Čosović, S. Smaka, I. Salihbegović, Š. Mašić, "Design optimization of 8/14 switched reluctance machine for electric vehicle", *Proceedings of the 20th International Conference on Electrical Machines - ICEM 2012*, pp. 2654-2659, 2 September - 5 September 2012, Marseille, France.
- [21] S. Smaka, Š. Mašić, N. Hadžimejlić, M. Čosović, "Design considerations for novel 8/14 and comparison with conventional 8/6 and 8/10 switched reluctance machines", *Proceedings of the International Symposium on Power Electronics, Electrical Drives, Automation and Motion - Speedam 2012*, pp. 614-619, 20 June - 22 June 2012, Sorrento, Italy.
- [22] S. Smaka, Š. Mašić, M. Čosović, S. Konjicija, "Multidimensional Performance Optimisation of Switched Reluctance Machines", *Proceedings of the XXIII International Symposium on Information, Communication and Automation Technologies - ICAT 2011*, 27 October - 29 October 2011, Sarajevo, BH.
- [23] M. Čosović, S. Smaka, Š. Mašić, I. Salihbegović, H. Steinhart, "Design of Wound Rotor Low-Voltage Synchronous Generator", *Proceedings of the XXIII International Symposium on Information, Communication and Automation Technologies - ICAT 2011*, 27 October - 29 October 2011, Sarajevo, BH.
- [24] S. Galijašević, Š. Mašić, S. Smaka, A. Akšamović, D. Balić, "Parameter Identification and Digital Control of Speed of a Permanent Magnet DC Motors", *Proceedings of the XXIII International Symposium on Information, Communication and Automation Technologies - ICAT 2011*, 27 October - 29 October 2011, Sarajevo, BH.
- [25] Š. Mašić, S. Smaka, I. Salihbegović, M. Čosović, "The Effects of Magnetic Circuit Geometry on Characteristics of Switched Reluctance Motor", *Proceedings of the International Electrical Machines and Drives Conference IEMDC 2011*, pp. 1427-1432, 15 May - 18 May 2011, Niagara Falls, Canada.
- [26] A. Bosović, Š. Mašić, S. Smaka, "Computing and Measuring Dynamic Characteristics of the Induction Motor", *Proceedings of the 19th International Conference on Electrical Machines - ICEM 2010*, art. no. 5608196, 6 September - 8 September 2010, Rome, Italy.
- [27] S. Smaka, Š. Mašić, I. Salihbegović, M. Čosović, "Switched Reluctance Machines for Hybrid Electric Vehicles", *Proceedings of the 19th International Conference on Electrical Machines - ICEM 2010*, art. no. 5608220, 6 September - 8 September 2010, Rome, Italy.
- [28] Z. Hasković, Š. Mašić, S. Smaka, "Visualization and animation of transformer, electrical machines and electrical drives working principles", *Proceedings of the International Symposium on Power Electronics, Electrical Drives, Automation and Motion - Speedam 2010*, pp. 709-712, 14 June - 16 June 2010, Pisa, Italy.
- [29] Š. Mašić, M. Čosović, S. Smaka, "Proračun karakteristika sinhronog generatora za rad na vlastitoj mreži korištenjem metode konačnih elemenata", *Zbornik radova sa 9. Savjetovanja BH komiteta CIGRE*, R.A1.03., pp. 35-44, 27. Septembar - 01. Oktobar 2009., Neum, BiH.
- [30] Š. Mašić, I. Salihbegović, S. Smaka, "Proračun karakteristika prekidačko-reluktantnog motora korištenjem metode konačnih elemenata", *Zbornik radova sa 9. Savjetovanja BH komiteta CIGRE*, R.A1.00., 27. Septembar - 01. Oktobar 2009., Neum, BiH.
- [31] M. Hajro, K. Sokolija, S. Smaka, "Uvođenje novih standardnih napona u distributivnim elektroenergetskim mrežama", *Zbornik radova sa 6. Savjetovanja BH komiteta CIGRE*, R.C6.14., 28. Septembar - 02. Oktobar 2003., Neum, BiH.
- [32] M. Hajro, K. Sokolija, S. Smaka, "Uspostavljanje novog naponskog nivoa 20 (kV) u elektroenergetskoj distributivnoj mreži", *Stručno informativni list JP Elektroprivreda BiH*, br. 76 - 78, Maj 2003, Sarajevo, BiH.
- [33] Š. Mašić, J. Čorda, S. Smaka, "Computation of Static, Steady State and Dynamic Characteristics of the Switched Reluctance Motor" - Original Scientific Paper, *Korema žurnal Automatika*, br. 34, pp. 109-117, Srpanj 2002., Zagreb, Hrvatska.
- [34] Š. Mašić, Z. Avdagić, S. Smaka, "Mathematical Model for Switched-Reluctance Motor Based On Matlab/Simulink Package", *Proceedings of the 15th International Conference on Electrical Machines - ICEM 2002*, 25 August - 28 August 2002, Bruges, Belgium.
- [35] Š. Mašić, N. Isabegović, S. Smaka, "Stacionarne, kvazistacionarne i dinamičke karakteristike prekidačko-reluktantnog motora", *Zbornik radova sa 5. Savjetovanja BH komiteta CIGRE*, R.11.06., pp. 11-43 - 11-48, 23. Septembar - 27. Septembar 2001., Neum, BiH.
- [36] Š. Mašić, S. Smaka, "Static, quasistatic and dynamic characteristics of the switched reluctance motor", *Proceedings of the 11th International Conference of Electrical Drives and Power Electronics - EDPE*, pp. 178-183, 9 October - 11 October 2000, Dubrovnik, Croatia.
- [37] Š. Mašić, R. Gačanović, N. Isabegović, S. Smaka, "Computation and experimental determination of flux linkage and static torque in switched-reluctance motor", *Proceedings of the 14th International Conference on Electrical Machines - ICEM 2000*, pp. 1586-1589, 28 August - 30 August 2000, Helsinki, Finland.
- [38] Š. Mašić, S. Smaka, "Simulacija zaleta sinhronog motora pomoću programa Matlab/Simulink", *Zbornik radova sa 4. Savjetovanja BH komiteta CIGRE*, R.11.01., pp. 11-5 - 11-12, 12. Septembar - 16. Septembar 1999., Neum, BiH.

Published books

- [1] S. Hanjalić, S. Smaka, V. Helać, "Generation of electric energy 1", *publisher: University of Sarajevo, Faculty of Electrical Engineering*, Sarajevo 2019. godine, ISBN: 978-9958-629-76-1, COBISS.BH-ID: 26961414. (In Bosnian language)
- [2] S. Smaka, Š. Mašić, "Small and special electrical machines", *publisher: University of Sarajevo, Faculty of Electrical Engineering*, Sarajevo 2017. godine, ISBN: 978-9958-629-65-5, COBISS.BH-ID: 24271110. (In Bosnian language)
- [3] N. Behlilović, M. Hajro, S. Smaka, "Electrical circuits 1", *publisher: University of Sarajevo, Faculty of Electrical Engineering*, Sarajevo 2011. godine, ISBN: 978-9958-629-32-7, COBISS.BH-ID: 18036742. (In Bosnian language)
- [4] Š. Mašić, S. Smaka, "Electrical drives", *publisher: University of Sarajevo, Faculty of Electrical Engineering*, Sarajevo 2011. godine, ISBN: 978-9958-629-44-0, COBISS.BH-ID: 18983430. (In Bosnian language)
- [5] Š. Mašić, S. Smaka, "Dynamic of electrical machines", *publisher: University of Sarajevo, Faculty of Electrical Engineering*, Sarajevo 2011. godine, ISBN: 978-9958-629-45-7, COBISS.BH-ID: 18983174. (In Bosnian language)

Projects

- [1] "Staff Mobility for Training - Poznan University of Technology, Faculty of Control, Robotics and Electrical Engineering", Erasmus + Programme Agreement Number 2020-1-PL01-KA107-080120, 2022.
- [2] "Data acquisition and analysis of the existing state and proposal for the implementation of energy efficiency measures in tram traffic in Sarajevo", *University of Sarajevo - Faculty of Electrical Engineering and Ministry of Education, Science and Youth of Sarajevo Canton*, 2019/2020. (In Bosnian language)
- [3] "Staff Mobility for Teaching - Technological University Dublin, School of Electrical and Electronic Engineering", Erasmus + Programme Agreement Number 2018-1-IE02-KA107-000592, 2019.
- [4] "Staff Mobility for Training - Dublin Institute of Technology, School of Electrical and Electronic Engineering", Erasmus + Programme Agreement Number 2016-1-IE02-KA107-000462, 2018.
- [5] "Expert examination in the legal matter of plaintiff Građenje d.o.o. Bihać, against the defendant JP Elektroprivreda BiH d.d. Sarajevo - Elektrodistribucija Bihać branch", *University of Sarajevo - Faculty of Electrical Engineering*, 2015/2016. (In Bosnian language)
- [6] "Electrical powertrains for electric and hybrid vehicles", *University of Maribor - Faculty of Electrical Engineering and Computer Science; University of Sarajevo - Faculty of Electrical Engineering*, 2012/2013. The project was implemented with the approval of the Joint Committee for Scientific and Technological Cooperation between Bosnia and Herzegovina and the Republic of Slovenia.
- [7] "External accreditation of the first cycle study program Electrical Power Engineering at the accreditation agency ASIIN", *University of Sarajevo - Faculty of Electrical Engineering*, 2011/2012.
- [8] "Pilot external accreditation of the first cycle study program Electrical Power Engineering", *Project ESABIH Tempus SMGR 158853-1-2009-1-BE*, 2010/2011.
- [9] "Optimal distribution of loads between electrical power generation units of the Elektroprivreda BiH in a competitive environment", *Public utility Elektroprivreda BiH d.d. Sarajevo, University of Sarajevo - Faculty of Electrical Engineering*, 2010. (In Bosnian language)
- [10] "Methods and tools for electrical energy transportation pricing", *Public utility Elektroprivreda BiH d.d. Sarajevo, University of Sarajevo - Faculty of Electrical Engineering*, 2005. (In Bosnian language)
- [11] "Electrical equipment maintenance strategy", *Public utility Elektroprivreda BiH d.d. Sarajevo, University of Sarajevo - Faculty of Electrical Engineering*, 2003. (In Bosnian language)
- [12] "Preparation of 10(kV) network for transition to 20(kV) voltage in the branches of Elektrodistribucija Tuzla; Selection of priority areas, dynamics of investments and time schedule for transition of certain areas", *Public utility Elektroprivreda BiH d.d. Sarajevo, University of Sarajevo - Faculty of Electrical Engineering*, 2002. (In Bosnian language)
- [13] "Transition to a new standardised voltage level in low voltage power distribution network", *Public utility Elektroprivreda BiH d.d. Sarajevo, University of Sarajevo - Faculty of Electrical Engineering*, 2002. (In Bosnian language)
- [14] "UTMC based management of transportation systems", *City of Sarajevo Government Office, University of Sarajevo - Faculty of Electrical Engineering*, 2000. (In Bosnian language)

Memberships

IEEE (Magnetics Society, Industry Applications Society, Smart Grid Community, Transportation Electrification Community)

Links to Google Scholar, Scopus, Publon, ORCID profile and ResearchGate

<https://scholar.google.com/citations?hl=en&user=B9V--uoAAAAJ>
<https://www.scopus.com/authid/detail.uri?authorId=36515691500>
<https://publons.com/researcher/2454704/senad-smaka/>
<https://orcid.org/0000-0002-5272-847X>
<https://www.researchgate.net/profile/Senad-Smaka>