


PERSONAL INFORMATION

Dijana Dujak



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Gender Female | **Date of birth** 20/09/1981 | **Nationality** Bosnia and Herzegovina

JOB POSITION

Associate Professor at University of Sarajevo, Faculty of Electrical Engineering

RESEARCH AREAS

Solid state physics, Disordered Systems, Percolation, Random Sequential Adsorption

EMPLOYMENT HISTORY

2023 - Associate Professor

University of Sarajevo – Faculty of Electrical Engineering, Sarajevo, Bosnia and Herzegovina, <http://www.ef.unsa.ba/>; Lecturer on courses (first and third cycle of studies): Engineering Physics 1, Engineering Physics 2, Electrical Materials and Advanced Technologies in the Field of Electric Power Generation

2019 - 2023 Assistant Professor

University of Sarajevo – Faculty of Electrical Engineering, Sarajevo, Bosnia and Herzegovina, <http://www.ef.unsa.ba/>

2015-2019 Assistant Professor

University of Zenica – Faculty of Metallurgy and Technology, Zenica, Bosnia and Herzegovina.

2011-2015 Senior Assistant

University of Zenica – Faculty of Metallurgy and Technology, Zenica, Bosnia and Herzegovina.

2005-2011 Teaching Assistant

University of Zenica – Faculty of Metallurgy and Technology, Zenica, Bosnia and Herzegovina.

EDUCATIONAL BACKGROUND

2011-2015 PhD in Physics.

University of Sarajevo – Faculty of Science, Sarajevo, Bosnia and Herzegovina.

EQF level 8

2007-2011 MSc in Technical science - Metrology

University of Zenica, Faculty of Mechanical Engineering, Zenica, Bosnia and Herzegovina.

EQF level 7

2000-2005 BSc in Physical science

University of Sarajevo, Faculty of Science, Sarajevo, Bosnia and Herzegovina.

EQF level 6

PERSONAL SKILLS

Mother tongue(s) Bosnian

Other language(s)	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
English	B2	B2	B2	B2	B2
German	B1	B1	B1	B1	B1

Levels: A1/2: Basic user - B1/2: Independent user - C1/2 Proficient user
Common European Framework of Reference for Languages

Communication skills ▪ good communication skills gained through my experience as assistant professor and teaching assistant.

Computer skills ▪ good command of Microsoft Office™ tools, Xmgrace, Matlab, LaTeX

ADDITIONAL INFORMATION

- Projects
- "Numerical simulations of rapid flows of granular materials", Federal Ministry of Education and Science of the Bosnia and Herzegovina, 2011-2012 (role: researcher).
 - "Influence of external and internal forces on the rapid flow of granular materials", Federal Ministry of Education and Science of the Bosnia and Herzegovina, 2012-2013 (role: researcher).
 - "Numerical modelling and analysis of the compactification of granular systems", Federal Ministry of Education and Science of the Bosnia and Herzegovina, 2014-2015 (role: researcher).
 - COST Action MP1305, Flowing Matter, 2014.-2018. (role: MC member).
 - "Dynamical heterogeneity of soft glassy materials", Federal Ministry of Education and Science of the Bosnia and Herzegovina, 2017-2018 (role: researcher).
 - COST Action CA17120 Chemobrionics, 2018-2022. (role: member).
 - "Simulation of growing objects near the percolation threshold", University of Zenica Polytechnic faculty, 2021- (role: researcher).

Publications, Supervisions and Reviews ▪ **Publications:** 2 scientific books, 14 refereed journal publications, 10 conference papers.
▪ **Supervisions completed:** 3 MSc

Technical review ▪ Bulletin of the chemists and technologists of Bosnia and Herzegovina

Membership in Professional Societies ▪ Physical Society in Federation of Bosnia and Herzegovina

Research Profiles ▪ ORCID: <https://orcid.org/my-orcid?orcid=0000-0003-0645-476X>
▪ ResearchGate: <https://www.researchgate.net/profile/Dijana-Dujak-2>
▪ Google scholar: <https://scholar.google.com/citations?user=1JnJqpkAAAAJ&hl=en&authuser=1>

Conference Organization ▪ Member of Organizing committee of the Physics Conference in Bosnia and Herzegovina, (PHYCONBA 2018) 2018.
▪ Member of Scientific committee of the Physics Conference in Bosnia and Herzegovina, (PHYCONBA 2020) 2020.

REFERENCES

Monographies and Scientific Books

1. Elvedin Hasović, Dijana Dujak – **Mehanika kroz primjere i zadatke** (the title in English: Mechanics Through Examples and Problems) Faculty of Science University of Sarajevo, ISBN: 978-9926-453-70-1
2. Dijana Dujak, Maja Đekić, **Fizika - Termodinamika, optika, atomska i nuklearna fizika**, (the title in English: Physics - Thermodynamics, Optics, Atomic and Nuclear Physics) Faculty of Science University of Sarajevo, ISBN: 978-9926-453-34-3, 2021

Refereed Journal Publications

1. D. Dujak, A. Karač, Z. Jakšić, D. Vasiljević, S. Vrhovac: **“Detecting a Structure in Two Dimensions Combining the Voronoi Tessellation and a Shape Factor”**, Military Technical Review, Vol.64, No.1, pp.13-20 (2014), ISSN 1820-0206.
2. D. Dujak, I. Lončarević, Lj. Budinski-Petković, A. Karač, S. Vrhovac: **“Adsorption-desorption processes of polydisperse mixtures on a triangular lattice”**, Phys. Rev. E **91**, 032414 (2015).
3. Lj. Budinski-Petković, I. Lončarević, D. Dujak, A. Karač, J. R. Šćepanović, Z. M. Jakšić, S. B. Vrhovac: **“Particle morphology effects in random sequential adsorption”**, Phys. Rev. E **95** 022114 (2017).
4. I. Lončarević, Lj. Budinski-Petković, D. Dujak, A. Karač, Z. M. Jakšić, S. B. Vrhovac: **“The study of percolation with the presence of extended impurities”**, J. Stat. Mech.-Theory Exp. 93202 (2017)
5. I. Lončarević, D. Dujak, Z. M. Jakšić, A. Karač, L. Budinski-Petković, S. B. Vrhovac, **“Anomalous tracer diffusion in the presence of extended obstacles on a triangular lattice”**, Physica A: Statistical Mechanics and its Applications, 121258, (2019)
6. D. Dujak, A. Karač, Lj. Budinski-Petković, I. Lončarević, Z. M. Jakšić, S. B. Vrhovac, **“Percolation in random sequential adsorption of mixtures on a triangular lattice”**, J. Stat. Mech.-Theory Exp. 113210 (2019)
7. I. Lončarević, Lj. Budinski-Petković, D. Dujak, A. Karač, Z. M. Jakšić, S. B. Vrhovac, **“Percolation in irreversible Deposition on a Triangular Lattice: Effects of Anisotropy”**, J. Stat. Mech.-Theory Exp. 2020, 033211(2020)
8. D. Dujak, M. Đekić, D. Ćubela, **“Temporal evolution of electrical resistance through the granular packing of Ni beads”**, Bulletin of the Chemists and Technologists of Bosnia and Herzegovina 58, 33-38, (2022)
9. D. Dujak, A. Karač, Lj. Budinski-Petković, Z. M. Jakšić, S. B. Vrhovac: **“Percolation and jamming properties in particle shape-controlled seeded growth model”**, Eur. Phys. J. B 95:143, (2022)
10. Nedis Dautbašić, Dijana Dujak: **“Estimation of two-Layer soil parameters using gradient method accelerated with Atkin’s $\square 2$ method”**, B&H Electrical Engineering, vol.16, no.s1, pp.7-11 (2022)
11. D. Dujak, A. Karač, Lj. Budinski-Petković, Z. M. Jakšić, S. B. Vrhovac: **“Percolation and jamming properties in limited grain growth of linear objects”**, Bulletin of the Chemists and Technologists of Bosnia and Herzegovina 59, 37-42, (2022)
12. D. Dujak, M. Đekić, D. Ćubela, **“Electrical resistance through the metallic granular packings”**, Journal of Physics: Conference Series 2415 012007, (2022)
13. D. Dujak, A. Karač, Lj. Budinski-Petković, Z. M. Jakšić, S. B. Vrhovac: **“Percolation and jamming properties in object growth model on a lattice with impurities”**, J. Stat. Mech.-Theory Exp., 023204, (2023)
14. Maja Đekić, Ajla Karić, Amra Salčinović Fetić, Melisa Baždar, Belma Husković, Dijana Dujak, Diana Ćubela, **“Electrical properties of granular metals”**, 14th Scientific/Research Symposium with International Participation „METALLIC AND NONMETALLIC MATERIALS“, B&H, 27 th -28 th April 2023, 14(2023)

International Conferences

1. S. Bikić, D. Dujak, S. Sulejmanović, T. Mihać, N. Bajrović: **“Investigation of response to DC excitation in amorphous and relaxed binary ZrCu systems”**, 13th International Research/Expert Conference „Trends in the Development of Machinery and Associated Technology“ Hammamet, Tunisia, October 16-21, p. 673- 677 (2009), **ISSN 1840-4944**.
2. S. Bikić, D. Dujak, S. Sulejmanović, T. Mihać, I. Gazdić: **“Response to DC excitation binary ZrCu systems”**, 13th International Research/Expert Conference „Trends in the Development of Machinery and Associated Technology“, Hammamet, Tunisia, October 16-21, p. 677- 681 (2009), **ISSN 1840-4944**.
3. L. Torlaković, D. Dujak: **“Analiza uticaja gustoće granularnih materijala na njihovu evoluciju pomoću numeričkih simulacija”**, Techno-Educa, 2011, Zenica
4. D. Dujak, A. Karač, S. Vrhovac: **„Effects of the inelasticity of granules and the density of granular systems on the cooling process”**, 43 International October Conference on Mining and Metallurgy, Kladovo, Serbia, October 12-15, p.59-62 (2011), **ISBN 978-86-80987-87-3**.
5. D. Dujak, A. Karač, S. Vrhovac: **“The influence of the coefficient of restitution on deviation from the Haff’s law for granular materials”**, 43 International October Conference on Mining and Metallurgy, IOC 2011, Kladovo, Serbia, October 12-15, p. 63-66 (2011), **ISBN 978-86-80987-87-3**.
6. D. Dujak, I. Lončarević, Lj. Budinski-Petković, A. Karač, Z. Jakšić, S. Vrhovac: **“Reversible Random Sequential adsorption of polydisperse mixtures on a triangular lattice”**, Sixteenth Annual Conference YUCOMAT 2014, Septembar 2014.
7. D. Dujak, A. Karač, I. Lončarević, Lj. Budinski-Petković, Z. M. Jakšić, S. B. Vrhovac: **“Modeling transport through an environment crowded by obstacles of different shapes and sizes”**, Twentieth Annual Conference YUCOMAT 2018, Septembar 2018.
8. D. Dujak, A. Karač, I. Lončarević, Lj. Budinski-Petković, Z. M. Jakšić, S. B. Vrhovac: **“Random sequential adsorption on a discrete substrate”**, Physics Conference in Bosnia and Herzegovina, PHYCONBA 2018, October 2018.
9. D. Dujak, M. Đekić, D. Čubela, **“Temporal evolution of electrical resistance through the metallic granular packings”**, Physics Conference in Bosnia and Herzegovina, PHYCONBA 2022, June 2022.
10. Maja Đekić, Ajla Karić, Amra Salčinović Fetić, Melisa Baždar, Belma Husković, Dijana Dujak, Diana Čubela, **“Electrical properties of granular metals”**, 14th Scientific/Research Symposium with International Participation „METALLIC AND NONMETALLIC MATERIALS“, B&H, 27 th -28 th April 2023