

Milena Šetka, Ph.D

Professional summary

Materials Scientist specializing in functional materials development and characterization, electrocatalysis, and sustainable energy technologies. Expertise in surface, chemical, and morphological analysis (using XPS, FTIR, Raman, SEM), nanomaterial synthesis, and microfabrication techniques, including thin-film deposition and etching. Experienced in multidisciplinary research and industry collaborations, translating materials research into practical and scalable applications. Principal Investigator of a research project focused on electrocatalysis.

Professional experience

Research

Fondazione Bruno Kessler (FBK), Trento, Italy (04/2026- Present)

- Operate advanced analytical techniques (XPS, TOF-SIMS), including the development of characterization methodologies.
- Conduct research and development of advanced materials and devices.
- Contribute to the conceptualization and development of new research initiatives and project proposals.

Principal investigator- MEGA-GREEN project

Institute of Metals and Technology, Ljubljana, Slovenia. (03/2026 – Present)

- Lead the research project Metal-Free Electrocatalysts for the Synthesis of High-Value Green Chemicals (MEGA-GREEN), funded by the Slovenian Research and Innovation Agency (ARIS; €450,000 project budget).

Postdoctoral Researcher | Principal Investigator – CHEMFELLS V and VII projects

University of Chemistry and Technology, Prague, Czech Republic (03/2021 - 03/2026)

- Developed functional porous carbon materials for fuel cells, electrocatalytic green chemical production, CO₂ capture and utilization, and photocatalysis.
- Conducted life cycle assessment (LCA) to evaluate the environmental sustainability of advanced materials.
- Mentored junior researchers and contributed to their scientific development.
- Led international academic and industrial collaborations and secured research funding.
- Conducted visiting research at the National Institute of Chemistry, Ljubljana, Slovenia, and Universitat Politècnica de València, Valencia, Spain.

Research scientist

Central European Institute of Technology, Brno University of Technology, Brno, Czech Republic (01/2017 - 02/2021)

- Synthesized and functionalized organic and inorganic nanomaterials, characterizing their structural and morphological properties using advanced microscopy and spectroscopy techniques.
- Operated XPS and UPS instruments for surface characterization of diverse materials, including data acquisition and analysis using CasaXPS software.
- Performed instrument troubleshooting and resolved technical issues to ensure reliable analytical measurements.

Internships and research collaborations

- *Instituto de Microelectrónica de Barcelona, Univesitat Autònoma de Barcelona, Barcelona, Spain (03/2018 - 07/2018)*
- *Universidad Nacional Autónoma de México, Mexico City, Mexico (11/2017 - 12/2017)*
- *Universitat Rovira and Virgili, Tarragona, Spain (02/2017 - 07/2017)*
- *Wanhua Chemical Group, Yantai, China (07/2015 - 09/2015)*

Education

Ph.D. in Advanced Materials and Nanoscience (2015 – 2020)

Central European Institute of Technology, Brno University of Technology, Brno, Czech Republic

Master's degree in chemical engineering (2013 - 2015)

Faculty of Technology and Metallurgy, University of Belgrade, Belgrade, Serbia

Bachelor's degree in chemical engineering (2008 – 2013)

Faculty of Technology and Metallurgy, University of Belgrade, Belgrade, Serbia

Technical skills

- **Analytical techniques:** XPS/UPS, FTIR, Raman, XRD, SEM, AFM, BET
- **Electrochemical testing:** CV and EIS
- **Microfabrication techniques:** CVD, spin coating, dry and wet etching
- **Data analysis/software:** Python, MATLAB, Origin, 3ds Max, XPS CASA, MS Office Suite

Languages

	Understanding		Speaking		Writing
	Listening	Reading	Spoken interaction	Spoken production	
Serbian			Native		
English	C2	C2	C2	C2	C1
Czech	B1	B1	B1	B1	A1
Spanish	A2	A2	A2	A2	A1

A1, A2- basic user; B1, B2- independent user; C1, C2- proficient user;

Personal skills

- **Communication:** Presenting complex scientific and technical concepts to diverse audiences.
- **Project Management:** Leading interdisciplinary teams, and securing research funding.
- **Problem-Solving:** Troubleshooting analytical and technical challenges.
- **Adaptability:** Experience working across academia, and industry in interdisciplinary and multicultural teams.

Personal interests

- Traveling, Surf, Athletics, Hiking, Gastronomy