



Izabela Bujak-Ozga

Address: Birmensdorf ZH, Switzerland

Swiss residence permit: B (valid until 2030)

Email: hydrology@izabelabujak.com

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Professional experience

Field work

- Design and planning of regional monitoring campaigns
- Sampling of surface water, groundwater, soil, rainwater
- Installation and maintenance of field equipment (automatic samplers, sensor)

Laboratory work

- Silver nitrate method
- Denitrifier methods
- Nessler reagent test
- Ammonium molybdate test

Data analysis

- Kriging & geostatistics
- Time-series analysis
- Hydrological data analysis
- Large spatiotemporal datasets handling

Knowledge

- Hydrology & hydrogeology
- Applied statistics and geostatistics
- Spatial data analysis, big data management

Programming

- R, Python
- MySQL
- Git

Software

- ArcGIS (Pro, Desktop), QGIS
- AI Claude, ChatGPT
- MS Office

Soft skills

- Teamwork
- Project management
- Critical thinking
- Self-organization

Languages

- English, German, Polish

Environmental Incident Investigation Specialist

Dec 2025 – July 2025 | Department of Construction and Environment, Canton of St. Gallen | St. Gallen, Switzerland

- Processing and investigating environmental and water protection reports.
- Conducting sampling and water and wastewater analyses.
- Investigating the causes of malfunctions at wastewater treatment plants (WWTPs).
- Evaluating measurement data and preparing technical reports.
- Supporting wastewater inspections at industrial and commercial facilities.
- Researching industrial processes and environmentally relevant chemicals.
- Collaborating with technical specialists and authorities in environmental and water protection.

Postdoctoral Researcher: Catchment hydrology.

July 2024 – September 2024 | ECHO – Laboratory of Ecohydrology, École Polytechnique Fédérale de Lausanne - EPFL | Lausanne, Switzerland

- Statistical data analysis (R, MySQL).
- Curation and open-access publication of data, in line with FAIR principles.
- Preparation of scientific manuscripts and technical documentation.

Research Assistant: Spatiotemporal dynamics of flow and hydrochemistry in drainage networks.

April 2020 – June 2024 | ECHO – Laboratory of Ecohydrology, École Polytechnique Fédérale de Lausanne - EPFL | Lausanne, Switzerland

- Statistical data analysis of large spatiotemporal datasets (R, MySQL).
- Maintenance of spatial data (ArcGIS, R).
- Usage of Git & reproducible workflow tools (Github, R, Markdown).
- Hydrological monitoring of five Swiss catchments, including monitoring design, installation and maintenance of field equipment (e.g., wireless sensor network, remotely controlled automatic water samplers), water sample collection.
- Stream mappings using self-developed mobile app.
- Project management - coordination of team of 4 people during fieldwork and data analysis, training new project members.
- Scientific writing: 3 scientific publications.
- Presenting at international conferences.

Research Assistant: Nitrate and discharge dynamics in mesoscale river catchments.

November 2016 - January 2020 | Catchment Hydrology Department, Helmholtz Zentrum für Umweltforschung - UFZ | Halle (Saale), Germany

- Working with large spatial data sets (hydrological, hydrochemical, stable isotope).
- Data analysis in R (Bayesian mixing models, time-series analysis, usage of genetic algorithms, geostatistics and kriging) and handling spatial data (R, ArcGIS, and Python).
- Cooperation with project partners from various countries, including secondment at ULg in Liege.
- Writing scientific papers, periodical reports, and deliverables.
- Presentation at international conferences and co-chairing the session at GQ2019 conference.
- Designing and conducting 14 hydrological monitoring campaigns in 4 EU countries (AT, BE, SLO, DE), including installation and maintenance of field equipment and discharge measurements.
- 24 courses attended (for detailed description, please visit my web page www.izabelabujak.com).

Regional GIS Consultant

July 2015 - December 2015 | SmallGIS Sp. z o.o. | Cracow, Poland

Major skills and tasks:

- Advising Polish municipalities in solving problems related to the GIS usage covering technical and legal aspects.
- Providing training on GIS software usage and spatial data handling including seminars, presentations, and courses for Polish municipalities.
- Strengthened communication skills through direct and virtual interactions with clients.
- Software: QGIS, Team Viewer.

Spatial Data Verifier

October 2015 - December 2015 | SmallGIS Sp. z o.o. | Cracow, Poland

Major skills and tasks:

- Verification of municipalities work in the area of spatial development and GIS usage using QGIS and Microsoft Excel (VBA scripts).
- Technical support for municipalities on GIS usage and geospatial data handling.

Education

Doctor of Science, EPFL Switzerland

April 2020 - June 2024 | ECHO – Laboratory of Ecohydrology, École Polytechnique Fédérale de Lausanne - **EPFL** | Lausanne, Switzerland

Research focus: catchment hydrology

Thesis: 'Spatiotemporal dynamics of flow and hydrochemistry in drainage networks'

Master's degree in Environmental Protection

March 2014 - May 2016 | AGH University of Science and Technology | Cracow, Poland

Specialization: Hydrogeology

Thesis: 'Combined aquifer thermal energy storage and groundwater remediation.'

Selected courses:

- Software: hydrogeological modeling (MODFLOW); GIS in water management and water protection (ArcGIS, QGIS).
- Analytical methods in investigation of the water quality; sampling methodology; migration of organic contaminants in the soil-water environment; determination of the contaminant migration parameters in the soil-water environment.
- Fieldwork: field practice in water protection; hydrogeochemistry of contaminated water course including field practice; oxidation and reduction reactions in the water environment course including field practice.

Bachelor's degree in Environmental Protection

October 2010 - February 2014 | AGH University of Science and Technology | Cracow, Poland

Thesis: 'The use of selected groups of microorganisms in biofuel production.'

Selected courses:

- Geographical Information Systems I (ArcGIS, QGIS).
- Hydrology and water resources management; hydrogeology and formation of water resources; geology; ecology; geomorphology; meteorology and climatology.
- Fieldwork: cartography field practice; geology field practice.

Postgraduate Diploma in Environmental, Health and Safety (EHS) Management

October 2015 - July 2016 | Tadeusz Kościuszko University of Technology | Cracow, Poland

Further deepened expertise in environmental science, while gaining additional skills in management, psychology, and teaching through a pedagogical course.

Instrumentalist musician

September 2006 - October 2016 | State Music School | Cracow and Tarnów, Poland

Acquired skills: Performing on stage in front of a broad audience; excellent time management; coping with stressful conditions; teamwork skills; creative thinking.

Referees

Dr. Massimiliano Zappa, WSL Switzerland

Dr. Ilja van Meerveld, UZH Switzerland

Prof. Andrea Rinaldo, EPFL Switzerland