



ALEKSANDRA CZERCHAWY



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Lodz University of Technology
Faculty of Chemistry
Institute of Organic Chemistry

Publications & Conference Contributions

- **Czerchawy A.** et al., *Searching for biologically active peptide fragments of hACE2 interacting with the S1 protein of the SARS-CoV-2 virus*, **37th European Peptide Symposium** (2024)
- **Czerchawy A.** et al., *Searching for biomarkers characteristic for severe stage of COVID-19*, **37th European Peptide Symposium** (2024)
- Rosiak P. et al., *Selection of Fragments of Collagen II Useful in Regenerative Medicine*, **36th European Peptide Symposium** (2022)



Skills

Laboratory skills

- Solid-Phase Peptide synthesis (SPPS)
- SPOT peptide synthesis
- Peptide purification (flash, semi-preparative)
- LC-MS, MALDI
- Peptide-protein interaction analysis (Dot-blot, MST, SPR)
- Circular Dichroism (CD)
- Technical skills
- ChemDraw
- Data analysis (UHPLC/MS)
- Microsoft Office

Data & Technical Skills

- LC-MS analysis
- Mascot database
- ChemDraw
- Microsoft Office

Soft skills

- Scientific communication and presentation
- Teaching and mentoring
- Teamwork and collaboration
- Organization and time management
- Critical thinking



Language

Polish ● ● ● ● ● ● ● ●
English ● ● ● ● ● ● ● ●
German ● ● ● ● ● ● ● ●
Deutsches Sprachdiplom II (C1) 2015

PROFESSIONAL PROFILE

Final-year PhD candidate specializing in peptide chemistry, identifying biologically active peptides with strong potential for biomedical applications. Brings international research at University of Florence and industrial exposure at Gyros Protein Technologies. Recipient of the European Peptide Society Mobility Fellowship, developing peptide-based solutions bridging fundamental research and practical biomedical applications.

Education

- **Doctoral Studies (PhD) in Chemical Sciences** Oct 2020 - Present
Lodz University of Technology
"Searching for peptide fragments of native proteins potentially useful in the diagnosis of COVID-19 disease"
Supervisor: Prof. Beata Kolesińska, Prof. Anna Maria Papini
- **Master Studies (MSc) in Chemical Technology** Mar 2019 - Sep 2020
Lodz University of Technology
speciality *Drugs and Plant Products Technology*
"Synthesis of selected in Dot-blot test fragments of filamin B potentially useful in regenerative medicine"
Supervisor: Prof. Beata Kolesińska
- **Bachelor Studies (BSc) in Chemistry** Oct 2015 - Feb 2019
Lodz University of Technology
speciality *Organic synthesis*
"Searching for active fragments of filamin B useful in regenerative medicine"
Supervisor: Prof. Beata Kolesińska



Honors & Funding

- **European Peptide Society Mobility Fellowship** 2024, 2025
Report 1 and 2 available on the EPS website
- **26th Polish Peptide Symposium** 03-07 Sep 2023
 - **Oral presentation award** in Young Scientist Minisymposium
 - **Travel grant** (Organizing Committee & Gyros Protein Technologies)



Research Experience

- **PhD Researcher** Oct 2020 - Present
Lodz University of Technology, Poland
 - Synthesis of peptides using SPOT method and manual/automated SPPS
 - Peptide characterization using LC-MS and MALDI
 - Evaluation of peptide-protein interactions via Dot-blot and Microscale Thermophoresis (MST) analyses
 - Supervision and mentoring of undergraduate students
 - Laboratory activities for outreach programs for high school students
 - Development of peptide-based diagnostic approaches for COVID-19
- **Visiting Researcher** short-term visits between June 2024 - Feb 2026
PeptLab, University of Florence, Italy
 - Peptide synthesis and purification (flash and semi-preparative methods)
 - Evaluation of peptide-protein interactions via Surface Plasmon Resonance (SPR)
 - Characterization of peptide structures using Circular Dichroism (CD)
- **Research Intern** 1 month, 2024
R&D of Gyros Protein Technologies, Germany
 - Peptide synthesis and purification using catch-and-release strategy
 - Experience with industrial peptide production workflow and quality control standards

