

Martin Pačesa

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Education

Sep 2016 – Sep 2021 **Ph.D. Program Biomolecular Structure and Mechanism**, Life Science Graduate School, Department of Biochemistry, University of Zurich, Zurich, Switzerland
Sep 2014 – Jun 2016 **MSc. in Virology**, Dept. of Mol. Life Sciences, University of Zurich Switzerland
Sep 2011 – Aug 2014 **BSc. in Biochemistry**, Faculty of Science, Masaryk University, Brno, Czechia

Research Experience & Professional Roles

Jan 2026 – present **Department of Pharmacology, University of Zurich (UZH), Zurich, Switzerland**
Role: Assistant Professor of Advanced Biological Therapeutics
Mechanism and design of protein-nucleic acid interactions. Deep learning tools for structure determination and design. High throughput X-ray crystallography and cryoEM methods. Treatment of rare diseases using gene editing and protein design approaches.

Dec 2025 – present **Umbra Bio**
Role: Co-founder
Design of high specificity de novo protein binders for therapeutic applications.

Apr 2022 – Sep 2025 **Laboratory of Protein Design and Immunoengineering, EPFL, Lausanne, Switzerland**
Role: Postdoc; *Advisor:* Prof. Dr. Bruno Correia
Computational design of targeted protein binders. Deep learning-based solubilization of membrane proteins. Development of novel genome editing tools.

Sep 2016 – Mar 2022 **Department of Biochemistry, University of Zurich, Zurich, Switzerland**
Role: PhD Student, Postdoc; *Advisor:* Prof. Dr. Martin Jinek
Biochemical and structural characterisation of CRISPR-Cas systems. Investigation of substrate specificity of Cas9 using X-ray and cryoEM methods.

Sep 2014 – Jun 2016 **Institute of Molecular Life Sciences, University of Zurich, Zurich, Switzerland**
Role: MSc. Student; *Advisors:* Prof. Dr. Urs Greber, PD Dr. Silvio Hemmi
Generation of new adenoviral gene therapy vectors. Generation of recombinant adenoviral capsid fragments for the production of rare strain-specific antibodies.

Oct 2012 – Aug 2014 **National Centre for Biomolecular Research, Masaryk University, Brno, Czech Republic**
Role: BSc. Student; *Advisors:* Prof. Dr. Lumir Krejci, Dr. Marek Sebesta
Characterisation of protein factors involved in DNA repair and homologous recombination.

Jun 2012 – Aug 2012 **Department of Organic Chemistry, Masaryk University, Brno, Czech Republic**
Role: Intern; *Advisors:* Prof. Dr. Milan Potacek, Dr. Juraj Galeta
Synthesis procedures of Modafinil and its derivatives. Synthesis of novel caged proton sponges.

Feb 2008 – May 2011 **KXDesign, Slovakia**
Role: Founder
Description: Established a company focusing on web design and backend programming.

Grants & Fellowships

Jul 2026	AstraZeneca Research Grant	UZH, Switzerland
Jul 2026	Innovative Therapies in Rare Diseases Consortium	UZH, Switzerland
Jan 2026	ERC Starting Grant	UZH, Switzerland
May 2025	DARPA RIDDL Program Grant	EPFL, Switzerland
Jul 2025	NovoNordisk Project Grant	EPFL, Switzerland
Oct 2022	Peter und Traudl Engelhorn Postdoctoral Fellowship	EPFL, Switzerland
Apr 2022	AstraZeneca Research Fellowship	EPFL, Switzerland

Awards and Distinctions

Jul 2026	Eppendorf Award for Young European Investigators 2026	Heidelberg, Germany
May 2026	PEGS Boston 2026 Young Scientist Keynote	Boston, USA
Mar 2026	Swiss Institute of Bioinformatics Remarkable Outputs 2025 Award	EPFL, Switzerland
Nov 2025	Peter und Traudl Engelhorn Research Prize 2026	Neuried, Germany
Jan 2025	ESRF Article Highlights 2024	Grenoble, France
May 2022	PhD thesis distinction for excellent thesis	UZH, Switzerland
Jan 2019	Dean's Award for scientific achievements and publications	Brno, Czechia

Scientific Committees and Memberships

Jun 2026	Member of the Swiss Institute of Bioinformatics network (SIB)
Mar 2026	Member of the University of Zurich Research Commission for grants and funding
Jan 2026	Co-founder of Pharmaceutical Engineering graduate program within LSZGS
Jan 2026	Voting member of Rosetta Commons protein design network

Teaching

Jul 2026	Lecture: Protein and Peptide-based Therapeutics (PGCPT, FS26), University of Zurich
Jun 2026	Lecture: Computational Biology in Drug Discovery (PGCPT, FS26), University of Zurich
Mar 2026	Lecture: Protein Therapeutics (BME305, FS26), University of Zurich
Nov 2025	Lecture: Protein Structure Prediction & Design, University of Fribourg
Feb 2018	Course: PCR analysis for 2 nd year medical students, University of Zurich, Switzerland
Nov 2017	Course: enzymes for 2 nd year biochemistry students, University of Zurich, Switzerland
Feb 2017	Course: PCR analysis for 2 nd year medical students, University of Zurich, Switzerland
May 2014	Course: EMSA for 1 st year medical students, Masaryk University, Czech Republic
May 2013	Course: EMSA for 1 st year medical students, Masaryk University, Czech Republic