

MICHAL PTÁČEK

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* 1997 in Pilsen, Czechia

Education

since 2023 **PhD in Biophysics, Chemical and Macromolecular Physics**
Faculty of Mathematics and Physics, Charles University, Prague, Czechia
Topic: Nonlinear optical spectroscopy of electron-phonon coupling
in small molecules
Supervisor: Tomáš Mančal

2020–2023 **MSc in Theoretical Biophysics and Chemical Physics**
Faculty of Mathematics and Physics, Charles University, Prague, Czechia
Thesis: Theory of ultrafast relaxation and internal conversion
in chlorophyll molecules
Supervisor: Tomáš Mančal

transcript



2017–2020 **BSc in Molecular Biology and Biochemistry of Organisms**
Faculty of Science, Charles University, Prague, Czechia
Thesis: Excitation energy transfer in photosynthetic reaction centres
Supervisor: Tomáš Mančal

transcript



Programming & IT Experience

- Programming: Python (development of packages and apps with GUI); T_EX (typesetting, customisation of packages and BIBT_EX styles); Bash (scripting & scheduling on PBS-based HPC servers); Astro framework, HTML, JavaScript, TypeScript (web development, scripting); former experience with Visual Basic, R, C++, C#
- Computer graphics: Blender, Inkscape, DaVinci Resolve, Gimp, CAD

Language Skills

	listening	reading	speaking	writing
Czech		native language		
English	C1	C1	C1	C1
French	A2	B1	A1	A2
German	A1	A1	A1	A1

Certificates

- **Cambridge C1 Advanced (CAE)**
grade C, overall score of 187
exam date: October 26, 2019

Grants, Scholarships & Awards

- 2026 National Science Foundation & University of Texas at Austin
a scholarship to attend the Texas Quantum Winter School in Wimberley, TX, USA
- 2025 Grant Agency of Charles University
grant No. 432225 – Nonadiabatic Energy Dissipation in Large Molecular Complexes: Theory and Spectral Signatures

Work Experience

- since 2022 Charles University;
Researcher at the Molecular Open Quantum Systems group of Dr. T. Maňcal
Programmer in Python, editor of study materials (especially educational videos)
- since 2017 Charles University (since 2021), Czech University of Life Sciences (2017–2021);
Member of the Biology Olympiad organising team for the Czech Republic
(international competition in biology-related sciences for secondary/high schoolers)
Chief typesetter and graphics editor, author of educational and examination texts

Selected Projects

 MichalPt

- 2025 Python package **quantarhei** (owner & main developer: Tomáš Maňcal)
Contributions to the ongoing development of the package for simulating open quantum system dynamics and various spectroscopy methods (including multidimensional ones). 
- 2025 Web development: research group website (mama-group.cz)
A development of a new website for our research group. Created using Astro JavaScript framework. 
- 2023 Overleaf–ReadCube Papers integration
A JS script for ReadCube Papers citation software integration into Overleaf GUI (online $\text{\TeX}$ editor). 
- 2023 Python package **track_vis**
Set of tools for graphical processing of GPS data from sport trackers using MapBox API. 
- 2022 Exam project: Hermitian and non-Hermitian theory of scattering and resonances
Derivation & implementation of the theory using Python language and various accelerator libraries.  
- 2022 Exam project: CI method for solving He atom using iterative approach
Derivation and implementation of equations from scratch using Python language. 
- 2022 Exam project: *Ab initio* molecular dynamics
Implementation of equations using Python language and various quantum chemical libraries.  
- 2021 Python package **colour_of_molecule**
A tool-set for analysis and graphical processing of excited states' calculations from various quantum chemical software.  

Interest & Hobbies

- Computers and technology, programming
- Art and architecture, analogue photography, graphic arts & printmaking, music
- Botany, algology & microbiology

References

Dr Tomáš Maňcal, *Associate Professor*

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personal web: mama-group.cz/mancal

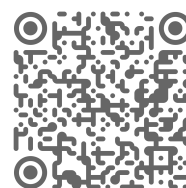
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Prof Jaroslav Burda, *Professor*

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