

MICHAL PTÁČEK

michal.ptacek@matfyz.cuni.cz

* 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



2009–2017 **Grammar School**
Gymnasium, Pilsen, Mikulášské náměstí 23, Czechia


IT Skills & Programming Experience

- Programming: Python (development of packages and apps with GUI), T_EX (typesetting, customisation of packages and BIBT_EX styles), Bash, Astro, HTML, JavaScript, TypeScript (web development, scripting), Visual Basic (MS Excel macros), R (statistics), beginner with C++, C#
- Computer graphics: Blender, Inkscape, DaVinci Resolve, Gimp, CAD, etc.

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

Work Experience

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 for secondary school students)
Chief typesetter and graphics editor, author of educational and examination texts

- 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 JavaScript plugin
A TamperMonkey injective script for integrating ReadCube Papers citation software support into Overleaf (online TeX editor) UI. 
- 2023 Python package `track_vis`
Easy-to-use set of tools for graphical processing of GPS data from e.g. sport trackers, supporting custom maps via MapBox API. 
- 2022 Exam project: Hermitian and non-Hermitian theory of scattering and resonances
Derivation, implementation of equations from scratch, and benchmarking using Python language and various accelerators.  
- 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 analysing excited states' calculations from quantum chemical software.  
- 2021 Exam project: Classical molecular dynamics from scratch
Implementation of equations from scratch using Python language and various accelerators.  
- 2016 Algological survey
A three year project of studying seasonal dynamics of alga in a freshwater natural reserve. A student project cooperated with the University of West Bohemia. (in Czech) 

Interest & Hobbies

- Computers and technology, programming
- Art and architecture, photography, graphic arts & printmaking, music
- History & historic vehicles
- Botany and algology

References

Dr Tomáš Mančal, *Associate Professor*

e-mail: mancal@karlov.mff.cuni.cz

personal web: mama-group.cz/mancal

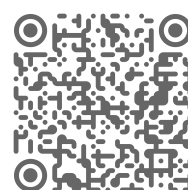
Institute of Physics – Theoretical Division, Faculty of Mathematics and Physics, Charles University
Ke Karlovu 5, 121 16 Prague 2, Czechia

Prof Jaroslav Burda, *Professor*

e-mail: burda@karlov.mff.cuni.cz

personal web: physics.mff.cuni.cz/kchfo/burda/

Department of Chemical Physics and Optics, Faculty of Mathematics and Physics, Charles University
Ke Karlovu 3, 121 16 Prague 2, Czechia



If the in-text hyperlinks are unavailable, use this QR code to access the Dropbox shared folder with all the files.