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# RNDr. Ondřej Novák

## Professional Summary

*Ph.D. candidate in Quantum Optics with a robust background in numerical simulations, photonic structures, and optimization. Experienced in electronic circuit development and scripting in scientific tools. Currently expanding skills in IT automation with Python. Interested in applying interdisciplinary physics and computational methods to real-world R&D challenges in automotive technologies.*

## Education

### Ph.D. 2021–2025

Universitat Autònoma de Barcelona – Joint Ph.D. degree

**Charles University Prague** – Quantum Optics and Optoelectronics

*Topics: Light-matter interaction, numerical modeling, photonics*

• Publications • Conferences • Patents

### Master's Degree 2019–2021

Charles University Prague – Quantum Optics

*Focus on numerical simulations and optimization techniques*

### Bachelor's Degree 2015–2019

Charles University Prague – General Physics

### High School Diploma

Highschool of Electrotechnical Engineering, Pardubice

*Specialization: Automation, weak current circuits design*

## Courses & Work Experience

- 2017–2018: **Internship at Meopta** – Development department: thin-film design, metrology, production technology
- 2018–now: **Researcher at Magneto-Optics Group, Charles University** – Numerical simulations, structure modeling
- 2022: **Machine Learning Specialization** – DeepLearning.AI (Coursera)
- 2023: **FDTD Certificate** – Lumerical / Ansys
- 2023: **Ansys Scripting Certificate** – Lumerical scripting
- 2025 (ongoing): **Google IT Automation with Python** – 4/6 courses completed

## Experience

- Development of logical and low-current electronic circuits in Eagle
- SPIE member since 2019 – Active in optics popularization
- Principal Investigator – Grant Agency of Charles University

## Skills

### Languages

• **English:** C1 • **Czech:** Native

### Scientific Topics

• Photonic Crystals • Automation • Optimization

### Programming and Tools

• Python (advanced) • Mathematica • LabVIEW

• Ansys/Lumerical • Eagle

### Software Skills

•  $\LaTeX$  • Excel