Ing. David Roesel

Date of birth:	14. 02. 1993
Nationality:	Czech
Address:	Hálkova 11, Praha 2, 12000, Prague, Czechia
Phone:	+420 775 320 692
email:	roesel@gmail.com
web:	http://david.roesel.cz/

Education

2018 – Photonics Ph.D., **École polytechnique fédérale de Lausanne**, Switzerland
Laboratory for fundamental BioPhotonics, under supervision of Prof. Sylvie Roke
Second-harmonic generation microscopy imaging of fluid interfaces

2015 – 2018 Optics and Nanostructures MSc., **Czech Technical University in Prague**, Czechia
Graduated with Distinction
Master's Thesis Topic: Electrical characterization of ZnO nanorods by a scanning probe: Measurement of I–V curves using conductive AFM and a nanomanipulator module in SEM.

Jan – Aug 2016 Physics and Astronomy, **University of Waterloo**, Ontario, Canada
Two semesters of MSc. studies, international exchange program of CTU.

2012 – 2015 Physical Electronics BSc., **Czech Technical University in Prague**, Czechia
Graduated with Distinction
Bachelor's Thesis Topic: Synthesis of embedded nanoparticles using ion implantation: Synthesis of Ag nanoparticles in glass plates using Ag and Ar ion implantation techniques.

2004 – 2012 **PORG — Gymnázium a zakladní škola**, Prague, Czechia
Top of class, final year GPA equivalent: 95%, school ranked no. 1 in the country.

Mar – May 2011 **St. Christopher's School**, Richmond, Virginia, USA

Aug – Mar 2010 **Tellkampfschule**, Hannover, Germany

Feb – May 2009 **University High School**, Irvine, California, USA

Internships

Summer 2017 | **5th Summer School in Molecular Biophysics and Systems Biology**, Nové Hrady, Czechia
Study of voltage sensitive trans–membrane proteins through molecular dynamics (GROMACS, VMD).

Summer 2015 | **Summer Research at University of Puget Sound**, Washington, USA
Computer reconstruction of surface morphology of ice crystals from SEM micrographs (CUDA, Python).

Summer 2014 | **Summer Research at Paul Scherrer Institute**, Villigen, Switzerland
Investigation of the interaction of H_2O_2 with ice surfaces (MATLAB).

Summer 2013 | **Summer Research at University of Puget Sound**, Washington, USA
Imaging of surface morphology of rough ice crystals using a variable pressure SEM with a cooled stage.

Summer 2012 | **Summer School at Institute of Nanobiology and Structural Biology**, Nové Hrady, Czechia
Study of protein docking within human hormones via QM/MM simulations (Schrödinger Suite).

Publications

Butterfield et al. (2017). Quantitative three-dimensional ice roughness from scanning electron microscopy. *Journal of Geophysical Research: Atmospheres*, 122(5), 3023–3041.

Workshops and conferences

June 2017 International Summer School on **Physics at Nanoscale**, Devět Skal, Czechia
Characterization of Electronic Properties of ZnO Nanorods by C-AFM (presented poster)

Programming Skills

Proficient: Python, PHP, HTML, CSS
Advanced: MySQL, GNUplot, Git, Qt, LaTeX, MATLAB
Familiar: Java, Go, C, C++, Maple, Javascript

Software: Microsoft Office (Word, Excel, PowerPoint, Outlook), LyX, Inkscape, VMD, Gwyddion, OpenSCAD

Languages

English: Proficient (certified CEFR level C2)
German: Intermediate (certified CEFR level B2)
Slovak: Native understanding
Czech: Native

Interests and Activities

Snowboarding, mountain biking, hiking, geocaching, ultimate frisbee, programming, 3D printing, reading, photography, playing piano and the ukulele.