



## Undergraduate and Master's Thesis Studentships at VPIphotonics

### WHAT WE OFFER

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Student trainee positions are currently available at VPIphotonics in Berlin, Germany, for final-year Bachelor's and Master's students. Students will be supervised by experienced industrial researchers and will have the opportunity to carry out work on the design and simulation of cutting-edge optical communication components and systems, toward the completion of their degree thesis. The duration is expected to be between 3-6 months.

The work to be carried out will be agreed upon prior to commencement of the studentship. Potential areas of interest include, but are not limited to, the following:

- Digital Signal Processing (DSP) demodulation algorithms for coherent and direct-detection optical links for telecom and datacom applications
- Equalization of transmission- and component-induced impairments, including linear/nonlinear filters
- Multiple-Input Multiple-Output (MIMO) equalization techniques for Spatial Division Multiplexed (SDM) systems
- Creation and reception of advanced modulation formats for coherent systems (e.g. digital subcarrier multiplexing, probabilistic shaping, and N-dimensional modulation)
- Investigation and characterization of nonlinear interference noise in Wavelength Division Multiplexed (WDM) systems
- Design of photonics integrated components for circuit-level simulation
- Design and simulation of integrated photonic waveguides and fibers

### WHAT WE EXPECT

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We value individuals possessing a team-oriented work style, the ability to adapt quickly to new challenges and a strong motivation to learn. Only candidates with a valid EU Work Permit and the willingness to work in our office in Berlin, Germany will be considered. Furthermore, we value the following skills and abilities:

- Enrollment in a Bachelor's or Master's (or equivalent) university degree program with an excellent academic track record in one of the following (or related) subjects: Electrical Engineering, Communications Engineering, Physics, Computer Science, Information Theory, Applied Mathematics
- Exposure to the basics of optical and digital communications as evidenced by academic courses followed
- Fluency in English
- MATLAB and/or Python knowledge is a plus
- Knowledge of VPIphotonics simulation tools is a plus

To be considered, please send a cover letter and detailed CV to [jobs.GmbH@VPIphotonics.com](mailto:jobs.GmbH@VPIphotonics.com).