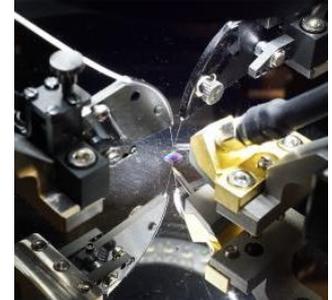


## Master thesis / industrial internship

### Integrated silicon photonic structures

#### Background

Over the years, we developed a unique technology to bring a material with extremely strong Pockels coefficients into a scalable silicon photonic platform. Having such physical effect available in integrated photonics circuits has been a scientific and technological breakthrough, which enables the realization of advanced photonic structures and completely new applications, e.g. for photonic AI networks and quantum computing. At Lumiphase, we are bringing this new technology to market, while at the same time developing new scientific and technological concepts. The internship project is placed in the heart of our R&D activities and covers topics related to optical design and simulations, having the designs fabricated, and perform photonic characterization on them.

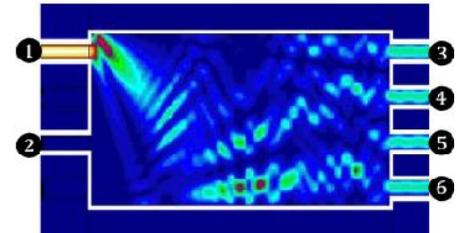


#### Details about the project

During this master or internship project, you will work in tight interaction with the Lumiphase R&D team to develop a waveguide-based, passive photonic component in an advanced, integrated photonic platform. You will perform theoretical and practical work, giving you a broad background into industrial driven R&D activities in the field of integrated photonics for optical communication.

The work during the internship is technology driven, and includes

- Simulations of photonic structures using advanced simulation tools (e.g. COMSOL, Lumerical, ...)
- Generation of photonic mask designs
- Performing optical measurements using fiber-optical characterization setups and photonic chips fabricated by the Lumiphase team
- Analyzing experimental data, including the development of scripts, data visualization, and error analysis.



The duration of the project work will be 6 months. Your main work location will be in the Zurich area.

#### What we are looking for

We are seeking for a highly motivated candidate with strong interest in difficult topics in the field of micro- and nano-scale photonics. What you should bring

- Scientific and technological interest in simulation and experimental work in cutting-edge integrated photonics
- Good programming knowledge
- Drive to solve difficult technological challenges with practical applications in industry
- Excellent communication skills and the desire to contribute within a dynamic deep tech startup
- A superior academic record

To start your thesis with us, you need to be enrolled in a master's program in physics, electrical engineering, micro- and nano-systems, materials science, or a similar department and ready to start your master's thesis or an internship.



#### About us

With our recently founded startup with roots at IBM Research – Zurich, we create a new photonic platform with unprecedented electro-optical performance for data- and telecom applications. At Lumiphase, our young and highly skilled technical team offers an open, international, diverse, agile and very dynamic working environment. Our track record in supervising and educating master thesis, PhD students, and postdocs is long, with previously many awarded theses (e.g. ETH medal). To perform cutting edge R&D, we have access to state-of-the-art laboratories. At Lumiphase, we are dedicated to creating a superior technology to solve hard problems in the field of communication – jointly as a huge team effort. Be part of our team and our adventure!

#### How to apply

Please send your application containing a cover letter, CV, and transcripts to Stefan Abel ([students@lumiphase.com](mailto:students@lumiphase.com)).