

Progetto Laurea Magistrale Plus

(Students enrolled for the first time in the Academic Year 2020/21, undertaking the internship in the company in 2021/2022)

University infos

Laurea degree: PHYSICS
University tutor / Thesis supervisor: Prof. Matteo Galli
Courses / Expertize of the university tutor: Integrated photonics for classical and quantum applications

Company infos

Company name: CEA-Leti
Company Tutor(s): Sylvain Guerber and Daivid Fowler
Role in the company of the tutor(s): R&D engineers in silicon photonics

Contents and infos on project and internship

Project title: Optical coupling between high power lasers and photonic integrated circuits for LIDAR
Activity scenario and targets of the internship - Area/Department/office/lab (where the trainee will be involved): CEA-LETI Grenoble/Department of optoelectronics (DOPT)/Silicon Photonics Laboratory First six months (2021) : The student will carry out coupling experiments using a high precision 6-axis alignment tool in order to characterize the coupling efficiency between current generation lasers and PICs. The student will actively participate in the improvement of the measurement bench and the understanding of the results via simulation. Last six months (2022): The second phase of the internship will involve the design of improved coupling structures and demonstrating simultaneous laser coupling and PIC operation.
Background / Expertize of the student required for the internship: Master studies including semiconductors, photonics, nanotechnologies, instrumentation.
Potential thesis topics: Highly integrated solid-state LIDAR systems based on integrated photonics
Company location and place of work: (Full address) CEA-Leti – Optics and Photonics Department – 17 rue des Martyrs – 38054 Grenoble - France
Time length of the internship: 12 MONTHS (6 Grenoble + 6 Grenoble)
Benefits provided by the company (at least reimbursement of 500€ per month): Reimbursement of >=500€ per month in Grenoble
Specific company requests: Strongly motivated students with good exam scores, team working and flexibility skills to work in a multi-disciplinary environment (photonic component design, optical characterization, instrumentation)
Other comments: The student will work with several highly-qualified people in the field of design and optical characterization, with state-of-the-art equipment. He/She will get a practical insight into various aspects of integrated silicon photonics technology in one of the largest technological R&D institutes in Europe.