IAESTE FRANCE

INTERNSHIP OFFER

Ref. No. FR-2024-002

Internship Host Information

Internship Host: Institut Lumière Matière Lyon I

10 Rue Ada Byron, 69100 Villeurbanne

Villeurbanne
France

Website:

Location of placement: Villeurbanne
Nearest airport:
Working hours per week: 35.0
Working hours per day: 7.0

Number of employees: 300
Business or products: Education & research

Student Required

General Discipline: MATERIAL SCIENCES AND ENGINEERING

Field of Study: .Materials Science.

Completed years of study: 4

Student status requirements: The student should not have resided in France for more than one year during the last three years

Language required: English Excellent (C1, C2)

Required Qualifications and Skills:

Physics

Physics, photonics

Other requirements:

Master M2 internship, The student should not have resided in France for more than one year
during the last three years to continue the work with a PhD

Internship Offered

For this internship, the candidate will be in charge of the lithography step in the NanoLyon clean room managed by the Institute of Nanoscience in Lyon (INL) and the PLD growth at the Institute Light Matter (ILM). The different growth and lithography parameters will be studied in order to develop high aspect ratio micro-structures. The fabricated devices will be measured mainly by atomic force and secondary electron- microscopies and by photoluminescence measurement. In this project, we want to develop new integrated materials on Si substrate made by Pulsed Laser Deposition and liftoff processing. PLD is a high quality growth technique commonly used for many applications in photonics which can provide for instance low loss waveguides grown at room temperature. In PLD, an intense pulsed laser beam is focused through an optical window on a solid or liquid target under vacuum. If the target absorbs enough energy, the laser-material interaction leads to the formation of a plasma consisting of partially ionized species directed perpendicularly to the target surface, which can deposit on the substrate facing the target. It has the advantage that the molecules reaching the surface have an energy which can exceed
the thermal energy which allows to envision lift-off processing for a fast integration. Recently, we have shown that rare earth doped waveguides and grattings can be made by combining PLD and liftoff processing. Such results are extremely promising since they open a way to new materials integration on Si platform. However, we want now to optimize the material and processing to improve the device resolution for practical applications.

Number of weeks offered: 20 - 20

Within the months: 01-MAR-2024 - 31-JUL-2024

Or within: -

Company closed within: -

Latest possible start date: 01-MAR-2024

Working environment: Research and development

Gross pay: 630 EUR / Month

Deduction to be expected: no

Payment method / time of first payment: Bank Transfer / End of month

Accommodation

Canteen at work: No

Expected type of accommodation: Room/studio

Accommodation will be arranged by: Trainee with help of IAESTE

Estimated cost of lodging: 500 EUR / Month

Estimated cost of living incl. lodging: 500 EUR / Month

Additional Information

- Please don't forget the enrollment certificate in the nomination, with a precise end date of the certificate (Month + Year) which should be later than the desired end date of internship.
- Each student can ask for a financial help for accommodation of 90-130 € to the French administration (APL from CAF).
- You can get in touch with your school if you are eligible to any Erasmus funding or other grants (from 410€ to 690€). Please visit https://www.aide-sociale.fr/bourse-europeenne-erasmus/ and https://erasmus-plus.ec.europa.eu/opportunities/opportunities-for-individuals/students/traineeships-for-students-abroad

Nomination Information

Deadline for nomination: 15-APR-2024

Date: 28-MAR-2024

On behalf of receiving country: IAESTE France