INTERNSHIP PROGRAM FOR INTERNATIONAL STUDENTS

INTERNSHIP SUBJECT FORM

Name of the Host Laboratory	Institut Photovoltaïque d'Ile de France
Website of the Host Laboratory	https://ipvf.fr/
Research Group	Alternative chalcogenide technology
Internship Supervisor	Alexandre Crossay
Internship Subject	Barrier layers for tandem Silicon / CIGS solar cells
Student's level	X☐ Master's students (1st or 2nd year)
Proposed Duration	X☐ 6 months
Prerequisites	Good knowledge on solid state physics and semiconductors. Know-how: experimental work; written and oral communication.
Internship description (max. 15 lines)	The internship will be involved in a research project focusing on tandem Silicon / Cu(In,Ga)S2 (CIGS) solar cells. The two solar cells are superimposed, each cell absorbing a specific part of the solar spectrum to maximize the overall efficiency. Presentation of the programme : https://ipvf.fr/jean-francois-guillemoles-and-nathanaelle-schneider-introducing-programme-6-proof-of-concept-for-pv-innovation-breakthrough/ Main missions: ☐ Fabrication of CIGS solar cells on silicon for tandem application: deposition of materials via thin film deposition methods involving chemical processes (electrodeposition, CBD) and/or physical processes (vacuum evaporation) ; sulfur annealing. The work will be focused on the study of barrier layers between silicon and CIGS, to prevent diffusion between the two layers during the high temperature deposition process. ☐ Characterization: XRD, IV, GD-OES, XRF.

The boxes marked with cross implies eligible