

## MISSION TITLE

**IPVF Postdoc: In-situ optical spectroscopy for Atomic Layer Deposition**  
*instrument performance qualification, setup adaptation and growth material study*

## POSITION DESCRIPTION

<b>Function</b>	Postdoctoral Researcher	<b>Reference</b>	IPVF-2020-R008
<b>Contract type</b>	COD (or CDD)	<b>Duration</b>	36 months (or 2 x 18 months)
<b>Starting date</b>	From 2020, Oct 1st	<b>Education</b>	PhD in Material Science, Physics, or other relevant fields
<b>Working Place</b>	Palaiseau, Paris area	<b>Salary</b>	Profile dependent

## IPVF IN BRIEF

Become an actor of the Energy Transition by joining a team driven by innovation and impact to address today's most decisive challenges.

**IPVF** - Institut Photovoltaïque d'Île-de-France, is a global Research, Innovation and Education center, which mission is to **accelerate energy transition through science & technology**.

Gathering industrial PV leaders (EDF, Total, Air Liquide, Horiba and Riber) and world-renowned academic research teams (CNRS, Ecole Polytechnique), multi-disciplinary and international IPVF teams conduct research for clean energy technologies. Supported by the French State, IPVF is labelled Institute for Energy Transition (ITE).

*IPVF at a glance:*

- *An ambitious Scientific and Technological Program: from tandem solar cell technologies to economy & market assessment, state-of-the-art characterization, photocatalysis and concepts breakthrough.*
- *A state-of-the-art technological platform: more than 100 tools, located in cleanrooms (advanced characterization, materials deposition, prototypes for fabrication, modelling...).*
- *A high-standard Education program (M.S. and PhD students).*

## JOB CONTEXT

IPVF has launched the Program VI PROOF to explore breakthrough approaches for future photovoltaic innovations. Within PROOF, the MAP project aims at developing new functional materials to reduce the risks associated with materials and processes. Atomic Layer Deposition (ALD) has been selected as the method of choice to address these challenges, by coordinated efforts in molecular chemistry, surface chemistry, material science, modelisation and instrumentation. HORIBA has pioneered the SNIPER system, a new optical spectroscopy characterization tool with unique capabilities in terms of time and spatial resolution. Its specificities are well adapted to develop the new generation of in-situ characterization system for ALD. The post-doctoral researcher will benefit from IPVF and HORIBA expertise and unique capabilities in ALD and spectroscopy.

More information about the research program and IPVF here:

IPVF Research Program involving this postdoc position: <https://ipvf.fr/jean-francois-guillemoles-and-nathanaelle-schneider-introducing-programme-6-proof-of-concept-for-pv-innovation-breakthrough/>

Website: <https://www.ipvf.fr>

## MAIN MISSIONS

The candidate will directly report to the Deputy Programs Director of IPVF.

She/he will integrate a dynamic and talented team driven by innovation and results.

Her/his main missions will consist in:

- Master SNIPER characterization tool performance “ex-situ” and contribute to the publication of reference on this new instrument family
- Adapt and implement SNIPER for *in-situ* use in ALD at IPVF research equipments (design, mechanical adaptation, supply, interface, model writing, training)
- Study transitory phenomena by SNIPER *in-situ* system
- Study ALD material growth mechanism.

Depending on the candidate profile and/or motivation, a 18-month contract (CDD) rather than a 36-month contract (COD) may be offered.

## SOUGHT PROFILE

Knowledge	Know-how	Self-management skills
<ul style="list-style-type: none"> <li>▪ Materials science</li> <li>▪ Optical instrumentation</li> <li>▪ Thin film characterization</li> </ul>	<ul style="list-style-type: none"> <li>▪ Hands-on experience with ALD/CVD would be a plus</li> <li>▪ Knowledge of Python and/or Labview</li> <li>▪ Communication of results</li> </ul>	<ul style="list-style-type: none"> <li>▪ Curious and enterprising</li> <li>▪ Autonomous</li> <li>▪ Organizational and collaborative skills</li> <li>▪ Results-oriented</li> </ul>

## CONTACT

Cover letter and résumé to be sent to: [n.schneider@cnrs.fr](mailto:n.schneider@cnrs.fr), [olivier.acher@horiba.com](mailto:olivier.acher@horiba.com) and [rh@ipvf.fr](mailto:rh@ipvf.fr)