



DANIEL LUNDIN

From France to Sweden



Project: **Thin Film Plasma Deposition Method of HiPIMS**

Research topic: **Physics**

Swedish Institution: **Linköping University**

French Institution: **University Paris-Saclay**

Dates of mobility: **19/09/2017 to 22/09/2017**

Program: **SFVE-A (ex-TOR)**



PRESENTATION

[Daniel Lundin](#) is a senior researcher at the [CNRS](#), based at the Laboratory of Gas and Plasma Physics ([LPGP](#)) at [University Paris-Saclay](#). His research aims at understanding low-pressure plasma discharges with a particular focus on the new technique for thin plasma deposition using High Power Impulse Magnetron Sputtering (HiPIMS) as a new surface coating technique. He obtained his PhD in Plasma and Coatings Physics in 2010 from [Linköping University](#) (LiU).

ACTIVITIES IN SWEDEN

Daniel Lundin spent his mobility meeting and working with [Prof. Ulf Helmersson](#), with whom he discussed the ongoing research collaboration between Lundin's research group at Paris-Saclay (Paris-Sud University at the time) and Helmersson's research group at LiU on the deposition of titanium dioxide coatings for Li-ion batteries using High Power Impulse Magnetron Sputtering (HiPIMS) and the latter's measurement on ion energies.

He also met and worked with post-doctoral [Researcher Julien Keraudy](#), discussing the details of the [joint publication](#) that they were writing on depositions of crystalline titanium dioxide in its anatase phase. They also deliberated over additional measurements to characterize ion energies observed in HiPIMS. They also discussed funding strategies for titanium dioxide films.

On top of that, a research proposal for a new ANR project on the use of crystalline titanium dioxide in its anatase phase for Li-ion batteries was developed and a potential joint publication on tuning ion energies in HiPIMS was discussed.