



GWENDOLINE LAFAYE

From France to Sweden



Project: **Catalysis phenomenon**

Research topic: **Chemistry**

Swedish Institution: **University of Stockholm, Chalmers University**

French Institution: **Université de Poitiers**

Dates of mobility: **06/11/2019 to 13/11/2019**

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



PRESENTATION

[Gwendoline Lafaye](#) is an Associate Professor at the Department of Chemistry, [Université de Poitiers](#). Her current research aimed to produce high value-added chemicals from platform chemicals derived from biomass and no longer from unsustainable fossil resources. Various “acids” are promising “building block” chemicals that can be cheaply produced from biomass, rather than fossil fuels. Biomass-based “building block” chemical’s catalytic hydrogenation leads to high value-added chemicals (tetrahydrofuran or 1,4-butanediol...). Catalysts designed for such reactions must be active, highly selective to desired products, long-term stable in acidic environment and in water. Bimetallic catalysts could meet this challenge. In recent years, her research group have shown that some binary alloys can effectively been used for selective hydrogenation of bio-based organic acids.

ACTIVITIES IN SWEDEN

During her stay in Sweden, Gwendoline Lafaye visited [Adam Slabon](#), Assistant Professor at the Department of Materials and Environmental Chemistry, [University of Stockholm](#). His research group synthesises materials (e.g. mössbauerite) of interest for its catalytic reactions for the removal of organic compounds from water (Catalysed Wet Oxidation, CWO) and for the valorisation of biomass (selective hydrogenation of platform molecules to obtain high added value products). In addition, Adam Slabon is an expert in electron microscopy. The French research group will send him samples of bimetallic catalysts prepared by redox reaction for in-depth characterisation. To start their scientific collaboration, Adam Slabon was scheduled to come to France to give seminars to French students. In addition, they discussed Erasmus exchanges between students.

She also met [Magnus Skoglundh](#), Professor and Director of the [Competence Center for Catalysis \(KCK\), Chalmers University of Technology](#), Göteborg. They discussed the catalytic reactions implemented in his team, which are only in the gas phase, whereas his research is essentially in the liquid phase. They exchanged some of their catalytic materials for testing in their different processes, including a copper-based zeolite.