



DN-MSCA-Horizon Europe
Grant n°101119277

In the frame of the Doctoral Network MSCA Horizon Europe “ChimSep” dedicated to the integration of membrane separations (Organic solvent nanofiltration and membrane distillation) in fine chemistry, 13 PhD projects are funded for 36 months: 8 dealing with membrane science and 5 dealing with homogeneous catalysis.

See all the 13 projects at <https://theses.doctorat-bretagne.fr/dn-chimsep>

Title - PhD#6 - New olefin metathesis catalysts designed for efficient Organic solvent nanofiltration (OSN) and membrane distillation (MD) separation and lactone synthesis.

Joint doctorate

Offer description

The project will develop tailor-made catalysts containing polar functional groups (e.g. ammonium) or chemically inert large fragments (such as polyoctahedral silsesquioxanes-POSS) that will allow easy separation of the product from the catalyst in the organic solvent nanofiltration process.

The resulting complexes will be tested in selected ring-closing metathesis reactions using environmentally friendly solvents (such as dimethyl carbonate and ethyl acetate) selected for their compatibility with OSN membrane and with appropriate boiling points for Membrane Distillation separation. The project will be carried out with cooperation with University of Rennes.

Keywords:

Chemistry; molecular chemistry; organometallic chemistry

PhD starting date: 01/11/2023

Application deadline: 31/08/2023 (23:59:00, Paris)

<https://theses.doctorat-bretagne.fr/dn-chimsep>

Work location: Warsaw, Poland (22 months) & Rennes, France (12 months)

The Doctoral Candidate will be enrolled in a joint doctorate between two partners of the network. He/she will spend 22 months with the hosting partner (University of Warsaw, Poland) of the present application and then a mobility of 12 months at University of Rennes, France

During the doctoral period, the PhD will also spend 2 months at Mane-France working on homogeneous catalysis and process at industrial scale and training on private sector.

Contacts

Thesis main supervisors (Poland)

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Required Education Level: Master degree or equivalent

At University of Warsaw it is required that all PhD students have to be a participant of Doctoral School.

Skills/Qualifications

Knowledge of organic synthesis and organometallic chemistry

- Experience in organometallic synthesis
- Knowledge of analytical techniques utilised in organic chemistry: NMR, MS, IR
- Fast learning ability
- Enthusiasm, autonomy, scientific curiosity and ability to communicate are required qualities.

Required Language: English, level: Good

Required research experience

An internship of several months in a research laboratory involved in molecular organic synthesis and or organometallic chemistry and or homogeneous catalysis.

Website for additional job details;

See application platform: <https://theses.doctorat-bretagneoire.fr/dn-chimsep>
section "Présentation de l'école doctorale » (doctoral network presentation)

Salary

The EU provides support for each recruited researcher in the form of

- Gross salary per month: 2003 € (net should be around 1439 €)
- + 600 € of mobility allowance. All eligible researchers recruited within a DN are entitled to receive this allowance. It contributes to the private mobility related expenses of the researcher.
- + 495 € of family allowance per month (if eligible to the conditions: be married or equivalent and/or have a child; family, long-term leave and special needs allowances. The family status of a researcher will be determined at the date of their (first) recruitment in the action and will not evolve during the action lifetime.

PhD will also receive health insurance and social benefits.