Welcome to our Fellows!

Starting from October 2020, 15 Early Stage Researchers (ESR) will begin their doctoral studies in the frame of CCIMC project.

15 students from all over the world will work in parallel during three years in a multidisciplinary and trans-sectorial research environment including fundamental and technical approaches. The CCIMC project aims at pushing the frontiers of knowledge in ligand design, coordination chemistry, precatalyst development, catalyst recovery and catalytic process implementation, while also offering full scale training in professional and personal transferable skills.

These three years ahead will be a learning experience that will broaden their research field and personal interest. During their thesis, all ESRs will share their time in two different institutions and spend a secondment period in the industrial sector. This international program will contribute to the development of their technical know-hows but also foster team working, collaboration and innovation.

Discover their profile!

Upcoming events

>19-30 October

ONLINE INITIAL TRAINING

The 15 ESRs will start their training with an online and mandatory Core Course of two weeks (initially planned in Warsaw) from the 19th to the 30th October. This event, offered immediately at the beginning of the doctoral programme, will be the opportunity to make the doctoral students acquainted with the Network overall organisation, but also bring the basic theoretical content and more advanced knowledge needed to tackle their research project.

>22, 29 and 30 October

INTERNAL NETWORK MEETINGS

In parallel of the Core Course several internal meetings will take place. During the Student Union (SU), the students will first have to elect their ESR representatives on the Outreach Committee (OC) in charge of the communication actions and on the Supervisory Board meeting (SB). These ESRs will participate in the first meetings of these two bodies during the second week of the Core Course.

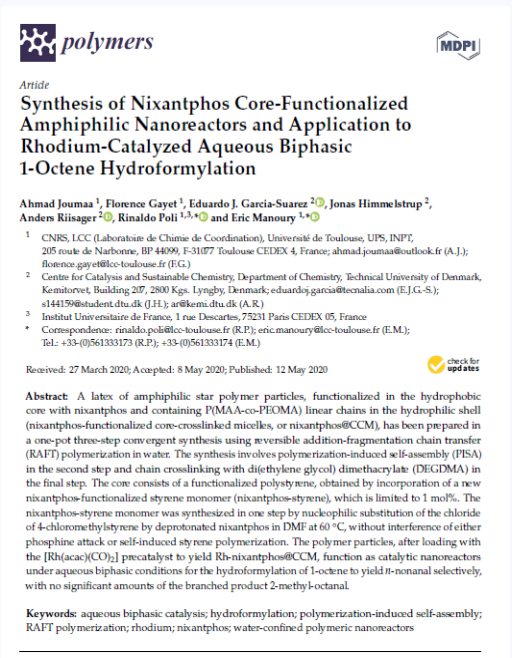
View the programme

Last Publications

The first paper of the ITN CCIMC has been published!

Even before the students were recruited, collaborative work between LCC and DTU researchers had already produced results relevant to the CCIMC project. The catalytic tool featured in this publication is precursor of the work that will be carried out by ESR9.

> See publication



polymers

MDPI

Article

Synthesis of Nixantphos Core-Functionalized Amphiphilic Nanoreactors and Application to Rhodium-Catalyzed Aqueous Biphasic 1-Octene Hydroformylation

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Abstract: A latex of amphiphilic star polymer particles, functionalized in the hydrophobic core with nixantphos and containing P(MAA-co-PEOMA) linear chains in the hydrophilic shell (nixantphos-functionalized core-crosslinked micelles, or nixantphos@CCM), has been prepared in a one-pot three-step convergent synthesis using reversible addition-fragmentation chain transfer (RAFT) polymerization in water. The synthesis involves polymerization-induced self-assembly (PISA) in the second step and chain crosslinking with di(ethylene glycol) dimethacrylate (DEGDMA) in the final step. The core consists of a functionalized polystyrene, obtained by incorporation of a new nixantphos-functionalized styrene monomer (nixantphos-styrene), which is limited to 1 mol%. The nixantphos-styrene monomer was synthesized in one step by nucleophilic substitution of the chloride of 4-chloromethylstyrene by deprotonated nixantphos in DMF at 60 °C, without interference of either phosphine attack or self-induced styrene polymerization. The polymer particles, after loading with the $[Rh(acac)(CO)_2]$ precatalyst to yield Rh-nixantphos@CCM, function as catalytic nanoreactors under aqueous biphasic conditions for the hydroformylation of 1-octene to yield *n*-nonanal selectively, with no significant amounts of the branched product 2-methyl-octanal.

Keywords: aqueous biphasic catalysis; hydroformylation; polymerization-induced self-assembly; RAFT polymerization; rhodium; nixantphos; water-confined polymeric nanoreactors

About CCIMC

The CCIMC **(Coordination Chemistry Inspires Molecular Catalysis),** project is an Innovative Training Network of the "European Joint Doctorate" type funded by the European Commission that addresses the current lack of coordinated doctoral training at the European level on molecular catalysis. It aims to push the frontiers of knowledge in ligand design, coordination chemistry, pre-catalyst development, catalyst recovery and catalytic process implementation, while also offering full scale training in professional and personal transferable skills. Beside scientific objectives, one important challenge is to prepare a new generation of junior scientists able to meet the economic and societal challenges of the chemical industry in the 21st century.

CCIMC Network during the Kick-Off meeting in Jena (March 2020)

Learn more about the Consortium