**PHD Project**

**Feasibility & limitation of Membrane Distillation in olefin metathesis in ethylacetetate/dimethylcarbonate**

**Supervisor: prof. dr hab. Wojciech Kujawski**

**Description:**

Thesis will evaluate for the first time how MD can be used in separation for fine chemistry. Candidate will evaluate a single step MD applied to model solutions of increasing complexity, namely made at start of one of the compounds of reaction (EtOAc and DMC) in order to select the best solvent for MD together with the MD mode (air gap or vacuum). Then separation of products and catalyst will be systematically studied to evaluate flux and rejections. The main parameter able to vary will be the temperature difference across the membrane, and in a lesser extend the hydrodynamics. 4 months will be spent at Convergence to achieve filtration experiments on the same mixture. At UNL (12 months) candidate will continue the work. Depending on the obtained performances, fractionation processes will be suggested based on single/cascade MD or on a hybrid process coupling OSNF and MD and modeled. The preparation of the PhD thesis and defense will be finalized at UMK.