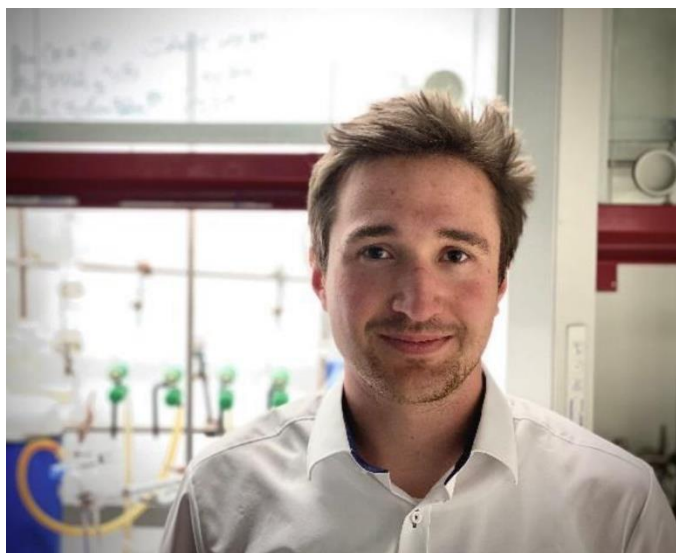


Dezember 2020

## Best Master's graduate in Chemistry 2020: MNF Faculty Award Goes to Jan-Erik Siewert

M.Sc. Jan-Erik Siewert (PhD student at the Leibniz Institute for Catalysis, graduate of the Faculty of Mathematics and Natural Sciences in Chemistry, MNF) was awarded the Faculty Prize of the Faculty of Mathematics and Natural Sciences as the best Master's graduate of the Institute of Chemistry 2020. He wrote his master thesis on "DFT studies on the mechanism of reactions of Phospha-Wittig reagents with N-heterocyclic carbenes and N-heterocyclic olefins" under the supervision of junior group leader Dr. Christian Hering-Junghans and Prof. Johannes de Vries.



*Fig. 1. M.Sc. Jan-Erik Siewert, PhD student in the junior research group "Activation of small molecules" of Dr. Christian Hering-Junghans.*

Jan-Erik Siewert dealt with in-depth studies on the reaction mechanism of a specific reaction. The elucidation of such mechanisms is of great importance, especially for the optimization of reactions. Experimental results are often supported by quantum chemical calculations. Jan-Erik Siewert investigated the reaction mechanism of the conversion of Phospha-Wittig reagents with N-heterocyclic carbenes (NHCs) and N-heterocyclic olefins (NHOs) and was thus able to contribute to the understanding of these reactions. He was able to show through density functional theory DFT calculations that Phospha-Wittig reagents react with NHCs and NHOs in an  $S_N2$ -like mechanism to give novel NHC phosphinide adducts (Fig. 2), or P-substituted NHOs in a selective C-H activation reaction.

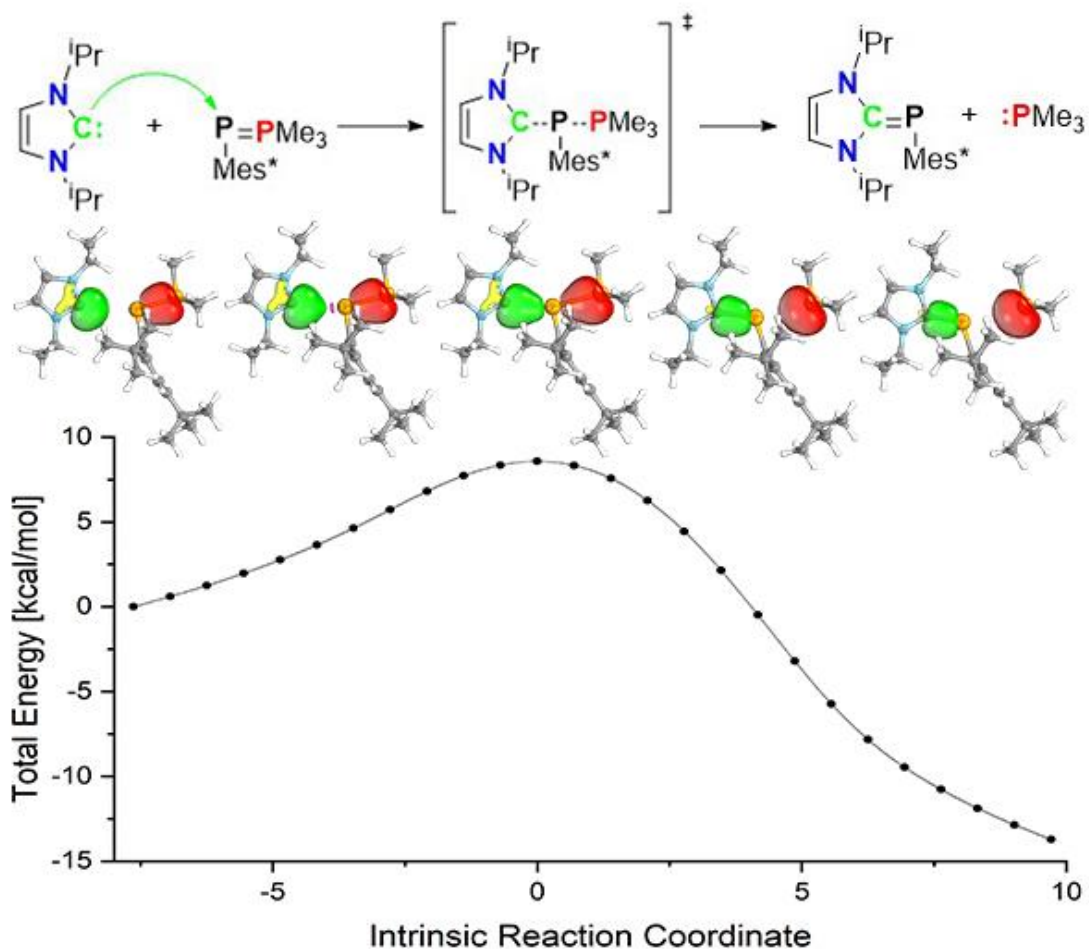


Fig. 2. Reaction of phospho-Wittig reagents with NHCs to give novel NHC phosphinide adducts.

Since 2007, the Faculty of Mathematics and Natural Sciences has annually awarded the best Master's graduates from the Institutes of Mathematics, Chemistry, Physics and Life Sciences. The award has always been sponsored by the Rostock-based company SEAR GmbH.

Jan-Erik Siewert is now working on his dissertation as part of the P-Campus in the LIKAT junior research group of Christian Hering-Junghans.

**Congratulations on the MNF Faculty Award 2020!**

A preprint of the related publication can be found at the following link:

Gupta, Priyanka; Siewert, Jan-Erik; Wellnitz, Tim; Fischer, Malte; Baumann, Wolfgang; Beweries, Torsten; et al. (2020): Phospha-Wittig Reagents Rediscovered. ChemRxiv. Preprint. [doi.org/10.26434/chemrxiv.13296311.v1](https://doi.org/10.26434/chemrxiv.13296311.v1)