

## GÖCH-OBERÖSTERREICH PROGRAMMVORSCHAU

**07.11.2016**

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**“Group 15 main group chemistry – An  
(in)organic perspective”**

Johannes Kepler Universität Linz  
17.15 Uhr, T405 (TNF-Turm)



Univ.-Prof.Dr. Günther Knör  
Leiter GÖCH – Oberösterreich

# Group 15 main group chemistry – An (in)organic perspective

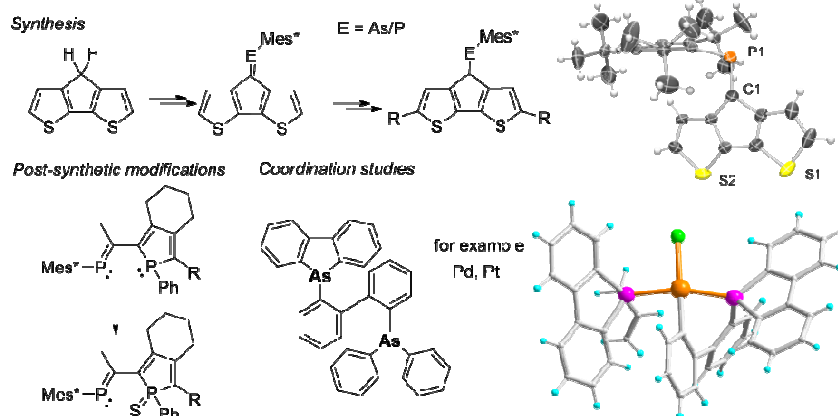
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Over the last years, we have explored various aspects of molecular, supramolecular and polymer main group chemistry with a special focus on organic derivatives of group 15 (pnictogen) elements in unusual bonding situations.<sup>1</sup> Especially, combinations of well explored organic building blocks, e.g. acetylenes, fluorenes, thiophenes, etc. with exotic motifs such as phosphaaalkenes, phospholes and their heavier arsenic analogs enables us to introduce unprecedented properties into (in)-organic hybrid systems.<sup>2</sup>

The diagonal relationship of phosphorus and carbon has created a great interest in organophosphorus compounds: their synthesis, characterization and ultimately application of e.g. heavier alkene analogs phospho- and arsa-ethenes demonstrate their great potential as novel  $\pi$ -conjugated molecular and polymeric materials. Hetero-element incorporation allows us to tailor the optical and electronic properties, and provides additional chemical handles for post-synthetic modifications at the hetero-element.<sup>3</sup> The properties of group 15 based donor sites strongly depends on the bonding situation and consequently greatly affects their coordination behavior and resulting chemistry as well as the opto-electronic properties. We will discuss these aspects for Palladium and platinum complexes of various arsoles as well as coinage metal complexes of phosphaaalkenes (and arsaalkenes), respectively.<sup>4</sup>



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