GDCh

UNIVERSITÄT GREIFSWALD
Wissen lockt. Seit 1456

Das **Institut für Biochemie** lädt gemeinsam mit dem Ortsverband der **Gesellschaft Deutscher Chemiker** zu einem

K o l l o q u i u m der GDCh

Großer Hörsaal des Instituts für Biochemie

Felix-Hausdorff-Str. 4, Greifswald

Montag, 03. Dezember 2018, 16 Uhr c.t.

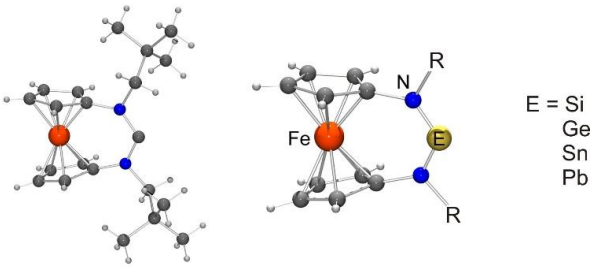
Prof. Dr. Ulrich Siemeling

Metallorganische Chemie, Institut für Chemie, Universität Kassel

spricht zum Thema:

Stable *N*-Heterocyclic Carbenes with a Ferrocene-Based Backbone and Their Heavier Analogues

Abstract:
We recently demonstrated that stable ferrocene-based NHCs (Figure, left) can add ammonia, dichloromethane, methyl acrylate, tert-butyl isocyanide, and carbon monoxide under mild conditions. Such small-molecule activation reactions are typical of (alkyl)(amino)-carbenes, but were completely unprecedented for diaminocarbenes. In view of the surprising reactivity of these ferrocene-based NHCs, which is due to their ambiphilic nature, we surmised that their heavier analogues (see Figure, right) will also show unconventional chemical behaviour. The synthesis and isolation of corresponding germylenes and stannylenes was easily possible (R = alkyl, aryl, silyl). Silylenes are much more challenging. We have obtained persistent and stable congeners only with bulky aryl substituents so far. Silyl substituents are particularly beneficial in plumbylene chemistry. The stable congener with R = $SitBuMe_2$ exhibits a short Fe–Pb distance indicative of a weak intermetallic bond. In the case of R = $SiMe_3$ an unprecedented reversible dimerisation was observed, which involves a C–H activation of a cyclopentadienyl ring. First results concerning the reactivity of such tetrylenes towards small molecules will be presented.



Einladende
Prof. Dr. Carola Schulzke

PD Dr. Heike Kahlert
Vorsitzende des Ortsverbandes der GDCh