Abstract: The fascinating aspect of metallaborane chemistry is that several classic organometallic complexes that defined fundamental structural and bonding paradigms are mimicked by many isoelectronic metallaborane analogues.[1] In this connection, diborane compounds not only mimics several classic organometallic compounds but also they have been extensively explored for the broad understanding of the chemical bonding and catalysis.[2] For example, we have recently synthesized and structurally characterized a bimetallic diborane(4) which mimics Cotton’s dimolybdenum–alkyne complex [{CpMo(CO)2}2C2H2].[3] Also, we have isolated the first classical diborane(5) [B2H5]-, in which the sp2-B center is stabilized by the electron donation from tantalum.[4] Very recently, we have developed an uncatalysed synthetic pathway to generate the doubly base stabilised symmetrical and unsymmetrical diborane(4) species from the thermolysis reaction of 2-mercaptopyridine with [BH3.THF]. The key results of this work will be described.

“Coordination Chemistry of Diborane(4) and Diborane(6)”

Meet the Speaker
11:00 a.m.  |  YH 3096

Wednesday, September 20th, 2023

4:00 p.m.  |  YH4222 - Collaboratory
Yoo Seminar & Conference Hall