Title:
"Carbene-stabilization of Highly Reactive Molecules"

Abstract:
This laboratory has long been interested in the synthesis and structure of unusual molecules. These efforts resulted in experimental realization of metalloaromaticity (the concept that metallic rings may also display traditional aromatic behavior) and novel compounds containing multiple bonds between main group elements. Our recent efforts concerning the utilization of N-heterocyclic carbene ligands (L:) with highly reactive main group compounds has afforded carbene-stabilized examples of diborene (H-B=B-H), disilicon (Si₂), diphosphorus (P₂), diarsenic (As₂), and beryllium borohydride (Be(BH₄)₂). This presentation will highlight both the critical role of the N-heterocyclic carbenes and interesting aspects concerning the synthesis, structure, and reactivity of these compounds.