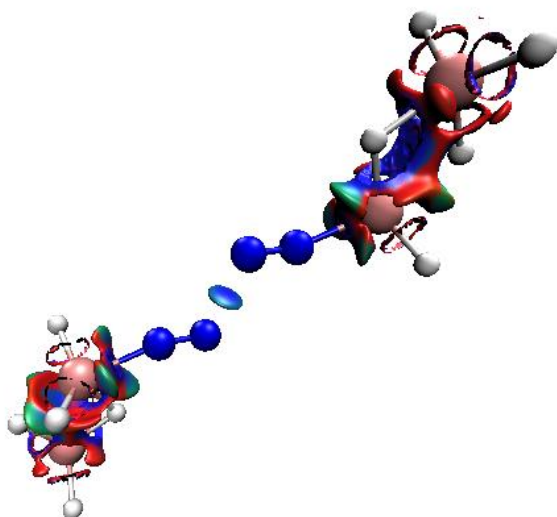


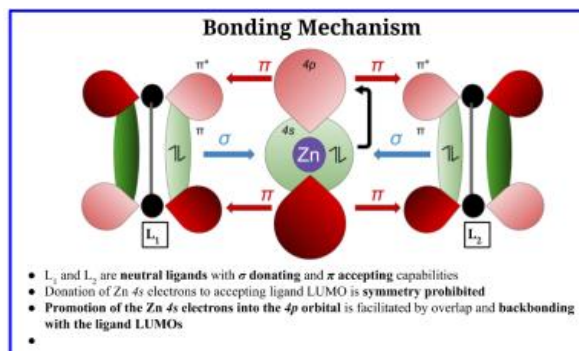
Mindful Chemistry - Activating Uninitiated Zn and N₂.

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Modern food production is intimately dependent on the production of ammonia from dinitrogen. However, N₂ activation is challenging high energy intensive chemical process. Over the decades new strategies for sustainable nitrogen activation have been developed. In this talk I will discuss our computational studies on electron transfer to the neutral dinitrogen from aluminum hydrides (A). In addition, I will also discuss new strategies to activate Zn 'p' orbitals to form stable Zn- π bonds with various elements (B).



(A) Nitrogen activation by Aluminum hydride



(B) Zn 'p' orbital participation