

## **Students' Annual Webinar**

### **Realising 1,1-Dehydration of Secondary Alcohol to Carbene: Pyrrolidin-2-ol as a Source of Cyclic (Alkyl)(Amino)Carbene and Boron-Centre Based Diradicals**

**Ayan Das**

Herein we report pyrrolidin-2-ols, a secondary alcohol as a source of cyclic (alkyl)(amino)carbenes (CAAC) for the synthesis of CAAC-Cu(I)-complexes and cyclic thione when reacted with Cu(I)-salts and elemental sulphur, respectively, under the reductive elimination of water from the carbon (IV)-centre. This result demonstrates the convenient and easy access to CAAC-based Cu(I)-salts, well known catalysts for different organic transformations as well as we are going to report the properties of CAAC upon changing the substituent at N-centre. Moreover, this also establishes the alcohol to be a source of carbene – after 185 years realising Dumas's dream who tried to prepare the parent carbene ( $\text{CH}_2$ ) by 1,1-dehydration of methanol. At the same time, we would like to propose for the synthesis of boron-centre based diradicals, considering N-heterocyclic carbene (NHC) as a donor for the stabilisation of diradicals.

***Wednesday, Apr 27<sup>th</sup> 2022***

***4:00 PM***