

## **Recreating field of liquid metals: from bulk to two dimensional materials**

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Liquid metals and their alloys are extraordinary materials with rich physics and chemistries. Yet our knowledge about them is inadequate and their usage has largely remained limited to centuries-old conventional applications. This talk presents the novel concepts that liquid metals can offer and present our group's efforts for the unification the scattered works on liquid metals that have emerged in recent years. Here liquid metals are explored as solvents for reintroducing their unique chemistry and their skins are investigated as reaction media to create new atomically thin materials. Fundamental observations are pursued to harness the power of electron-rich liquid metallic environments and control the skin properties to create surface compounds depending on the materials in the metallic core. The findings are used for creating two dimensional materials with functional applications. The progress of the work on liquid metals will be presented that ranges from applications in developing micro actuators to incorporating liquid metals as reaction media for the synthesis of low dimensional metal compounds.