

Internal Webinar

Organogermanium(IV) and Organotin(IV) Compounds as Lewis Acid Catalysts for Organic Transformations

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This talk will highlight the synthesis, structural characterisation, and catalytic applications of organogermanium(IV) and organotin(IV) compounds as Lewis acid catalysts. Particular emphasis will be placed on understanding how the central Group 14 element, ligand environment, coordination geometry, and substituents influence Lewis acidity and catalytic activity. The developed Ge(IV) and Sn(IV) compounds demonstrate efficient catalytic performance in Friedel-Crafts alkylation, [3+2] cycloaddition, carbonyl hydrosilylation, and Knoevenagel condensation reactions. Mechanistic insights from experimental studies and DFT calculations will also be discussed, highlighting the potential of air- and moisture-stable Group 14 compounds as sustainable alternatives to conventional transition-metal-based catalytic systems.

Thursday, Sep 17th 2026

11:30 Hrs

