

## **Internal Seminar**

### **Inorganic Rings and Cages based Molecular and Hybrid Assemblies**

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A hexaphosphine star shaped organostannoxane cages was designed to stabilize palladium NPs and they are characterized by various spectroscopic and surface measurements like SEM, TEM, EDAX and powder XRD. These hybrid NPs are successfully utilized as recyclable catalysts for the C-C bond forming reactions like Suzuki, Heck reactions. The Inorganic rings of cyclophosphazene has been employed as scaffold for multidendate or multi-site ligands. A series of ligands based on pyridyloxy group on the cyclophosphazene centre was used to make multimetallic assemblies from discrete compounds to 1D and 2D coordination polymers with various divalent metal ions. All these complexes are characterized by multinuclear nmr ( $^1\text{H}$ ,  $^{13}\text{C}$ ,  $^{31}\text{P}$ ), ESI-MS, and single crystal X-ray crystallographic methods.

#### **References:**

1. V. Chandrasekhar, R. Suriya Narayanan and P. Thilagar; Organostannoxanes as Supports for Palladium Nanoparticles: Effective catalysts for Suzuki-Coupling Reactions *Organometallics* **2009**, *28*, 5883- 5888
2. V. Chandrasekhar and R. Suriya Narayanan; Organostannoxane-supported Pd(0) nanoparticles as efficient catalysts for Heck-coupling reactions, *Tetrahedron Lett.* **2011**, *52*, 3527-3531
3. V. Chandrasekhar and R. Suriya Narayanan; Metalation studies of 3-and 4-pyridyloxycyclophosphazenes: metallamacrocycles to coordination polymers, *Dalton Trans.* **2013**, *42*, 6619-6632
4. R. Suriya Narayanan and V. Chandrasekhar; Molecular, 1D and 2D Assemblies from Hexakis(3-pyridyloxy)cyclophosphazene Containing 20-membered Metallamacrocyclic Motifs, *Dalton Trans.* **2016**, *45*, 2273-2283

**Tuesday, Jun 27<sup>th</sup> 2017**

**4:00 PM (Tea/Coffee at 3:45 PM)**

**Seminar Hall, TCIS**