

### **Seminar Title**

Tailored Novel Phosphonate-Based Hybrid Materials by Design for Diverse Applications



### **Speaker**

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Hybrid materials are composed of an organic and an inorganic part, placed together in such a way that the final product has defined structures and properties. Among the plethora of hybrid materials, coordination polymers combine an organic linker and a metal site, thus creating 1D, 2D, and 3D architectures. A class of coordination polymers based on metal phosphonates utilize (poly)phosphonic acids as linkers. In this presentation, the following concepts will be discussed:

- (a) Synthetic efforts and factors that influence reaction paths
- (b) Physicochemical characterization
- (c) Structural chemistry
- (d) Framework interconversions
- (e) Applications in proton conductivity
- (f) Applications in pharmaceutical sciences
- (g) Applications in archaeology and cultural heritage