



## **DR. THOMAS BAUMGARTNER**

Department of Chemistry

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### **“ORGANOPHOSPHORUS AVENUES TOWARD POWERFUL ELECTRON ACCEPTORS AND SELF-ASSEMBLED NANOMATERIALS”**

**September 13<sup>th</sup>, 2019 ~ 11:30AM**  
**Life Science Center II, Room 130**

**Abstract:** Recent research in the area of functional  $\pi$ -conjugated materials has shown that the incorporation of heteroelements - main group elements such as B, Si, Se, Te, and P in particular - is an efficient strategy to obtain organic materials with intriguing properties for a host of different practical applications. My group's research program deals with the development of fused phosphacyclic compounds that have recently attracted significant attention due their unique electronic properties. This presentation will highlight our efforts in designing new ring-fused organophosphorus building blocks, and exploring their suitability for advanced functional materials, particularly with a focus toward highly sought-after electron-acceptor materials and their application in electrochromic devices and batteries. Our multi-pronged approach addresses their intrinsic properties, such as electronics and photophysics, but also some extrinsic properties by design that have opened up a path to utilizing these functional building blocks for the generation of highly ordered, smart nano/microstructures via different phosphorus-based strategies.

## **FALL 2019 CHEMISTRY SEMINAR SERIES**

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**HOST:  
DR. FRIEDER  
JAEKLE**

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**COFFEE SOCIAL  
11:00 AM  
OLSON HALL, 338**

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**ALL THOSE  
INTERESTED ARE  
WELCOME TO  
ATTEND**

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