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# Department of Chemistry

## Seminar

9:45 a.m. Monday, December 15, 2014 • 402 Walter Library



Post-Doctoral Fellow

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California Institute of Technology

#### ***Ligand Design in Transition Metal Catalysis: Advances in C–H Activation and Olefin Metathesis***

#### **Abstract**

Numerous pharmaceuticals, materials, and fine chemicals are synthesized by homogenous transition metal catalysis. The power of homogenous catalysis stems from the fact that both the reactivity and selectivity of a given catalyst can be tuned by modifying the structure of the catalyst's ancillary ligands. In this seminar, our recent research efforts to address two unsolved challenges in ligand design are discussed. The first part will focus on the discovery of mono-N-protected amino acids (MPAAs) as ligands to promote C–H activation at palladium(II) centers. The second part will describe a model to explain and predict initiation rates in ruthenium-based olefin metathesis catalysts containing chelating *ortho*-alkoxybenzylidene ligands. Key underlying principles from these investigations will be highlighted to guide future iterations of catalyst development.

**Host: Professor Will Pomerantz**  
Refreshments will be served prior to the seminar.