



# BERKELEY CATALYSIS CENTER

Seminar

Feb 15, 2008

The McCollum Room

775-A & B Tan Hall

2-4 pm

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## “Catalytic Synthesis of Amines via Reductive Processes”

### *ABSTRACT*

Primary amines with higher molecular weight are mostly synthesized via reduction of nitriles or the reductive amination. The major by-products in these syntheses are secondary and tert amines formed via condensation and hydrogenation pathways as perceived secondary reaction products. The catalysts employed are supported noble metals as well as (promoted) Raney type base metals. The nature of the metal and the subtle modification of the Raney type catalysts changes activity and selectivity drastically. Using detailed mechanistic studies and physicochemical characterization of the catalysts, the lecture will show similarities between the molecular transformations during nitrile hydrogenation and reductive amination and outline the boundary conditions for achieving high selectivities to primary amines.