



Heterogeneous catalysts prepared in our lab are often composed of small metal particles supported on a high surface area carrier. The particles have been shown to contribute to the overall rate and selectivity of a catalytic reaction. A wide variety of analytical techniques are used to examine the metal particles and metal-support interface. These include adsorption of simple gases, temperature programmed desorption, TEM, FT-IR, laser Raman, and UV-vis spectroscopy, as well as X-ray absorption spectroscopy using synchrotron radiation. Detailed kinetic studies of selected probe reactions are also carried out over catalysts in laboratory microreactors.

# Heterogeneous Catalysis Research Laboratory

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*“Developing new or improved catalytic materials by studying how the structure of a catalyst affects its performance in a chemical reaction allowing for new relationships between catalyst structures and chemical reactivity to be discovered.”*



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