



Catalysis and Nanomaterials
Materials Chemistry
Photovoltaics
Rechargeable Batteries
Green Chemistry
Water Remediation
Enhanced Oil Recovery

SELECTED PATENTS

- Method to Fabricate Microcapsules from Polymers and Charged Nanoparticles (US 7,829,119)
- Removal of Heteroatom-Containing Compounds from Fluids (WO2017100617A1)
- Multimetallic Nanoshells For Monitoring Chemical Reactions (US 8,605,280)

KEY PROJECTS

- Structure-property analysis of bimetallic catalysts
- Nanoparticle synthesis and catalysis
- Heterogeneous catalysis for water cleanup
- Biomass upgrading chemistry
- Hydrocarbon upgrading chemistry
- Nanoparticle assembly
- Nanomaterials for enhanced oil recovery and downhole detection
- Advanced materials processing of microcapsules, quantum dots, and supported metal oxides.

APPLICATIONS

- *Chemicals production from oil/gas and biomass*
- *Downhole oil detection and enhanced recovery*
- *Energy storage and conversion*
- *Water cleanup/purification*

RECENT PUBLICATIONS

- Guo et al "Insights into Nitrate Reduction over Indium-Decorated Palladium Nanoparticle Catalysts" *ACS Catalysis*, **2018**.
- Li et al "Two Distinctive Energy Migration Pathways of Monolayer Molecules on Metal Nanoparticle Surfaces" *Nature Communications*, **2016**.
- Heck et al "Nanocatalysts for Groundwater Remediation" *Engineered Nanoparticles and the Environment: Biophysicochemical Processes and Toxicity*, **2016**.

WONG LAB WEBSITE

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