

Reza Khaleghi Abasabadi

EDUCATION

- **M.Sc. in Chemical Engineering** **2015 – 2018**
University of Tehran, College of Engineering
Thesis title: "Synthesis and study of The Pd-catalysts supported on graphene for hydrogenation reactions"
Advisor: Prof. Abbas Ali Khodadadi and Prof. Yadollah Mortazavi
GPA: 16.6/20
- **B.Sc. in Chemical Engineering** **2010 – 2014**
Sharif University of Technology

PUBLICATIONS

- Reza Khaleghi Abasabadi, Abbas Ali Khodadadi, Yadollah Mortazavi. **Effects of nitrogen-containing functional groups of reduced graphene oxide as a support for Pd in selective hydrogenation of an unsaturated aldehyde** - Research on Chemical Intermediates journal -2021 - DOI: [10.1007/s11164-020-04372-9](https://doi.org/10.1007/s11164-020-04372-9).
- Samaneh Sohrabi, Reza Khaleghi Abasabadi, Abbas Ali Khodadadi, Yadollah Mortazavi , Ali hosseinzadeh. **In-situ one-step deposition of highly dispersed palladium nanoparticles into zirconium metal–organic framework for selective hydrogenation of furfural** Molecular Catalysis journal -2021 - DOI: [10.1016/j.mcat.2021.111859](https://doi.org/10.1016/j.mcat.2021.111859).

RESEARCH INTERESTS

- Emission control catalysts
- Synthesis and characterization of heterogeneous catalysts
- In-situ and operando spectroscopy on catalytic reactions
- Metal-support interaction
- Machine learning in catalysis

WORK EXPERIENCES

- **R & D Scientist (TWC), Iran Delco Co, Tehran** October 2020– October 2021
 - Defined Three-Way Catalytic converter project requirements based on available resources
 - Effect of drying processes on the performance of Three-Way catalysts
 - Improved THC conversion (HC Trap) with zeolites
 - Synthesized La-doped Al_2O_3 and evaluated the thermal stability of catalysts
 - Tested on catatest setup to measure CO and THC oxidation and NO_x reduction
 - Measured Oxygen Capacity Storage (OSC) for catalysts
- **Research Engineer, SensIran Co, Tehran, Iran.** October 2018–August 2020
 - Developed formulation of Three-Way Catalysts
 - Synthesized, Characterized, and evaluated Catalytic activity of Pd-Pt-Rh/Ce-Zr/ Al_2O_3
 - Participated in Construction of multi-point surface area analyzer
- **Research Assistant, Catalysis and Nano-Structured Materials Research (CANS), University of Tehran.** October 2016–September 2019
 - Analyzed final and intermediate gas products samples, and solid samples with FT-IR, and GC
 - Measured BET, TPR, CO-TPD, and NH_3 -TPD and, solid and liquid samples with UV-VIS
 - Synthesis of novel nanostructures for desulfurization of fuels
Synthesized CeO_2 support and Ag-Cu on Al_2O_3 catalysts by DI method
Characterized catalysts and evaluated catalytic performance of developed catalysts
Designed and built an experimental setup for reduction of catalysts and desulfurization tests
 - Synthesis and study of The Pd-catalysts supported on graphene for hydrogenation
Modified reduced graphene oxide by N-doping, and Synthesized catalysts by IWI
Fabricated bubble column reactor for hydrogenation of an unsaturated aldehyde
Characterized Graphene oxide-based nanomaterial, and Pd on N-doped graphene oxide
 - Functionalized MOF supported Pd and Ni Catalysts for hydrogenation of furfural
Characterized catalysts by TPR, and TPD, and evaluated Hydrogenation reaction
Fabricated CO Chemisorption set-up for measurement of Pd dispersion
- **Intern, Iran Polymer & Petrochemical Institute (IPPI).** July 2014–September 2014
 - Synthesized of $\text{Co}_{0.5}\text{Zn}_{0.5}\text{Fe}_2\text{O}_4$ poly aniline resin

My AREA OF EXPERTISE AND LABORATORY SKILLS

- **Laboratory Skills**
Synthesis of monometallic and bimetallic nanoparticles for catalytic applications
Expertise in selecting, handling, and installing tube fittings (V-lok and Swagelok)
Using gas detection instruments, MFC, and Heating systems to do projects
Manufacturing of chemical testing set-up and controlling with LabVIEW
Measurements of nanomaterials properties through (As an operator)
 - Operando FTIR Spectroscopy, UV-VIS, GC
 - BET single point, TPR, NH₃ TPD, CO₂ TPD, TPO, CO chemisorptionInvestigation and characterization of nanomaterials through
 - SEM (Image J), HRTEM (Digital Micrograph)
 - XPS (SDP-V7), XRD (Xpert HighScore)
- **Programming**
Python, Labview, Matlab
- **Software**
Origin, Comsol, Aspen, Excel, Visio, Word, Powerpoint
- **Language**
 - Farsi: Native
 - English: Fluent

EXTRACURRICULAR ACTIVITIES

- **Athletics**
 - 4rd place, students' annual football competition, UT, Fall 2017
 - 1th place, students' annual football competition, SUT, Fall 2013
 - 3st place, dormitory football competition, SUT, Spring 2012
 - A member of football team in dormitory and school of chemical engineering
 - A member of football team in high school
- **Music**
Professional traditional music instrumentalist with Santoor

AWARDS AND HONORS

- **Top 10** in GPA among nearly 55 Chemical Engineering students in M.Sc. at UT
2015-2018
- **41th place** among more than 20,000 students in the entrance exam of National Graduate
Chemical engineering schools 2015
- **1900th place** among more than 200,000 students in prestigious nationwide university
exam 2010