



## Education

- **Laval University, Québec City, QC, Canada** (2018)

*Ph.D. Degree, Department of Chemical Engineering*

Thesis: "Nanocomposite materials based on  $g-C_3N_4$  and  $Zn_xCd_{1-x}S$  as photocatalysts for hydrogen production from water under solar energy"

- **Shiraz University, Shiraz, Iran** (2012)

*M.Sc. Degree, Department of Chemical Engineering, School of Chemical, Petroleum & Gas Engineering*

Thesis: "The mathematical modeling of acetylene hydrogenation reactors"

- **Shiraz University, Shiraz, Iran** (2009)

*B.Sc. Degree, Department of Chemical Engineering*

Thesis: "Manufactured and developed a core holder system for using in enhanced oil recovery process"

## Research Interests

- Process Design, Development and Optimization
- Process Simulation and Conducting Techno-economic Analysis
- Nanotechnology and nanocomposites
- Heterogeneous Catalysis and Photocatalysis reactions
- Material Science and Characterizations
- Chemical Reaction Engineering
- Micro and nanoparticles Characterization/Handling
- Development of Renewable Energy Resources (Biomass/Waste Recycling and Valorization)
- Syngas Production and Application
- Development of Sustainable Processes

## Work Experience

- **Process Engineering Advanced Research Lab (PEARL),** Postdoctoral 2019-  
Polytechnique Montreal, Montreal, QC, Canada Fellow
- **Department of Chemical Engineering,** Research 2018 - 2019  
Laval University, Québec City, QC, Canada Associate
- **Faculty of Graduate and Postdoctoral Studies** Western Jury of M.Sc. 2018 - 2019  
Laval University, Québec City, QC, Canada Thesis Evaluation
- **Shiraz Petrochemical Company,** Shiraz, Iran Industrial 2008  
Internship

## Research Background

- Process design and simulation with Aspen Plus and HYSYS software

- Techno-economic analysis for various industrial plants
- Synthesis of advanced nanocomposite materials including organic and inorganic nanocomposites
- Synthesis material with different techniques such as coprecipitation, impregnation, ion exchange, sol-gel, solvothermal
- Material characterization using different techniques (e.g. XRD, FTIR, TGA, SEM, TEM, HRTEM, EDX, BET, XPS, AFM, UV-Visible spectrum)
- Operation of a broad-range of analytical equipment such as GC, GC-mass and HPLC
- Photocatalysis applications in hydrogen production, CO<sub>2</sub> conversion, water and air purification
- Maintenance and troubleshooting of GC, UV-Visible and BET instruments
- Verbal and written communication, scientific presentations and publications
- Capability to work efficiently in both individual and team-oriented environments
- Strong computer skills and mathematical modeling using MATLAB, C++ and Python
- Numerical solution of ordinary and partial differential equations in fluid dynamics, heat and mass transfer as well as reaction kinetics

### Journal Publications

- M.R. Gholipour, C.-T. Dinh, F. Béland, Trong-On Do, "Nanocomposite heterojunctions as sunlight-driven photocatalysts for hydrogen production from water splitting", *Nanoscale*, 2015, Review Article, 7, 8187–8208 (highlighted on the back cover of the issue, cited by 124 articles)
- M.R. Gholipour, F. Béland, Trong-On Do, "Graphitic carbon nitride-titanium dioxide nanocomposite for photocatalytic hydrogen production under visible light", *International Journal of Chemical Reactor Engineering* Volume 14, Issue 4, Pages 851–858
- M.R. Gholipour, F. Béland, Trong-On Do, "Post-calcined carbon nitride nanosheets as an efficient photocatalyst for hydrogen production under visible light irradiation", *ACS Sustainable Chemistry & Engineering*, 2017, Volume 5(1), 213–220
- M.R. Gholipour, C. C. Nguyen, F. Béland, Trong-On Do, "Hollow microsphere of Zn<sub>x</sub>Cd<sub>1-x</sub> solid solution for hydrogen evolution with high quantum efficiency in wide range of visible light region", *Journal of Photochemistry and Photobiology A: Chemistry*, Volume 358, 1–9
- M. S. Shokrollahi Yancheshmeh, S. Seifzadeh Haghighi, M. R. Gholipour, O. Dehghani, M. R. Rahimpour, S. Raeissi, "Modeling of ethane pyrolysis process: A study on effects of steam and carbon dioxide on ethylene and hydrogen productions", *Chemical Engineering Journal*, Volume 215–216, 15 January 2013, Pages 550–560.
- M.R. Rahimpour, O. Dehghani, M.R. Gholipour, M.S. Shokrollahi Yancheshmeh, S. Seifzadeh Haghighi, A.R. Shariati, "A novel configuration for Pd/Ag/ $\alpha$ -Al<sub>2</sub>O<sub>3</sub> catalyst regeneration in the acetylene hydrogenation reactor of a multi feed cracker", *Chemical Engineering Journal*, Volumes 198–199, 1 August 2012, Pages 491–502.
- O. Dehghani, M. R. Gholipour, M. S. Shokrollahi Yancheshmeh, S. Seifzadeh Haghighi, M. Ghaemi, M.R. Rahimpour, A. Shariati, "A new configuration for decoking process in series reactors", *Chemical Engineering Journal*, Volume 215–216, 15 January 2013, Pages 418–431.