SAMIRA GHAFOORI

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SUMMARY OF QUALIFICATIONS

- Registered as Professional Engineer (P.Eng.) in Ontario
- Coordinated multi-disciplined engineering teams to achieve deliverables per scheduled within budget while consistently meeting quality, safety, and regulatory requirements
- Strong research and development skills
- Extensive laboratory experience on design of experiment (DOE), data analysis, data sampling, calibration, validation, testing and optimization of processes
- Experienced in project initiation, project plan development and project execution
- Expert in preparing technical documents and reports
- Preparing design calculations, drawings including process PFD's, P&ID's, and specifications
- Experienced in equipment sizing and procurement process
- Strong team player with high level of initiative
- Detailed orientated and excellent time management skills
- Computer skills: COMSOL, STATISTICA, MATLAB, SAP, HYSYS, C++

EDUCATION

Ph.D. in Chemical Engineering **Sep.2008-Sep.2013**
Ryerson University, Toronto, Ontario

M.A.Sc. in Biotechnology Engineering **Sep.2005-Aug.2007**
Sharif University of Technology, Tehran, Iran

B.A.Sc. in Chemical Engineering **Sep.1998-Feb.2003**
University of Tehran, Tehran, Iran

WORK EXPERIENCE

Project Engineer **Oct.2016-Present**
Silkatech Engineering Inc., Toronto, Ontario

- Performing detailed studies, finite element analysis and process modelling
- Conducting research based on topics of special interest to the company to come up with new ideas through examination of scientific literature and interacting with professional communities
- Developing drawings including process PFD's, PID's, site plans and general arrangement drawings
- Reviewing contractor project plans, quotations, timelines and execution plans for various projects

Research Associate **Sep.2013-Aug.2016**
Ryerson University, Toronto, Ontario

- Designed and developed a principal component analysis to select representative contaminants for evaluation of drinking water treatment processes

Research Associate (Ph.D.) **Sep.2008-Sep.2013**

Ryerson University, Toronto, Ontario

- Contributed in project initiation, clarification of work statement, and preparation of proposal
    - Investigated methodology to scale-up a laboratory-scale reactor to a pilot-scale reactor for treatment of polymeric wastewater; conducted feasibility study for transfer technology
- Developed project plan
    - Developed WBS (work break down structure), project scope statement, scope baseline
    - Estimated the activity duration and developed project schedule
    - Determined the milestone at the end of each phase
    - Determined the procurement requirement and communication requirement documents
- Executed the project according to plan
    - Designed experiments for statistical analysis and optimization of different methods of advanced oxidation processes for treatment of polymeric wastewater
    - Measured, controlled, and monitored various variables to optimize process performance
    - Achieved a methodology to scale-up a laboratory-scale reactor to a pilot-scale reactor
    - Carried out modeling, CFD analysis and simulation of transport phenomena

Chemical Engineer **May.2003-Aug.2008**

Geological Survey of Iran (GSI), Tehran, Iran

- Performed data analysis, statistical calculations, and technical report writing
- Contributed in developing safety procedures and Health and Safety Plans for the laboratories
- Contributed in preparing process PFD and P&ID
- Provided Standard Operating Procedures (SOP)
- Performed sizing and selecting laboratory equipment and components
- Performed calibration, validation, and preventative maintenance of laboratory equipment

Internship **May.2001-Sep.2001**

Iran Polymer and Petrochemical Institute (IPPI), Tehran, Iran

- Preparation of hybrid coatings for protection of surface materials based on functionalized silane precursors compounding

CERTIFICATES AND TRAINING

- **COMSOL Software:** Ryerson University, Toronto, Ontario 2010
- **ISO 9001, ISO 9002:** SGS, Tehran, Iran 2006
- **MATLAB:** Sharif University of Technology 2005
- **HYSYS:** University of Tehran 2002

SELECTED PUBLICATIONS

- **Ghafoori, S.,** Mehrvar, M., Chan, P. Sonophotolytic degradation of synthetic pharmaceutical wastewater: Statistical experimental design and modeling. *Journal of Environmental Management*. 150, 128-137, 2015.
- **Ghafoori, S.**, Mehrvar, M., Chan, P. Photoreactor scale-up for degradation of poly (vinyl alcohol) in aqueous solution using UV/H_2O_2 process. *Chemical Engineering Journal*. 245, 133–142, 2014.
- **Ghafoori, S.**, Mehrvar, M., Chan, P. Photoassisted Fenton-like degradation of aqueous poly (acrylic acid): From mechanistic kinetic model to CFD modeling. *Chemical Engineering Research and Design.* 91 (12), 2617-2629, 2013.
- **Ghafoori, S.**, Mehrvar, M., Chan, P. Free-radical-induced degradation of aqueous polyethylene oxide by UV/H_2O_2: Experimental design, reaction mechanisms, and kinetic modeling. *Industrial and Engineering Chemistry research.* 51 (46), 14980-14993, 2012.