

Seyedmilad Mirabedin

Email: smmirabedin@alum.sharif.edu; smmirabedin@gmail.com

Web page: <http://alum.sharif.edu/~smmirabedin>



CURRICULUM VITAE

Date of Birth: 16-July-1991

Citizenship: Iranian

OBJECTIVE

PhD position in a major university in the areas of fluid dynamics, heat transfer, combustion and thermodynamics. Interested in the development and the engineering application of computational fluid dynamics and thermal modeling.

EDUCATION

2013-2015

Master of Science in Chemical Engineering-Process Design

Sharif University of Technology, Tehran, Iran

GPA: 17.65/20.0

- MSc Thesis: CFD modeling of temperature fluctuation in mixing of hot and cold streams in a mixing tee
- Advisor: Professor Fatola Farhadi
- The aim of this MSc thesis was to determine governing parameters that influence temperature fluctuations in mixing tees using Large Eddy Simulation method. We came up with some solutions to improve mixing efficiency and minimize wall-adjacent temperature fluctuations.

2009-2013

Bachelor of Science in Chemical Engineering-Petrochemical Industries

Sahand University of Technology, Tabriz, Iran

GPA: 18.21/20.0

- BSc Thesis: Natural Gas Dehydration in a gas refinery unit with HYSYS
- Advisor: Dr. Naimeh Jodeiri
- The aim of this BSc thesis was to be more familiar with Natural Gas Hydrate itself and to study the different processes of gas dehydration using ASPEN HYSYS in a refinery unit in Iran.

PUBLICATIONS

- Seyedmilad Mirabedin, "CFD MODELING OF NATURAL CONVECTION HEAT TRANSFER OF TiO₂-WATER NANOFLUID IN A CYLINDRICAL CONTAINER", Frontiers in Heat and Mass Transfer (FHMT) 7-17 (2016). DOI: [10.5098/hmt.7.17](https://doi.org/10.5098/hmt.7.17).

CONFERNE PAPERS

- Seyedmilad Mirabedin, "STUDYING THE EFFECT OF PLACING A SINGLE SPHERE ON TEMPERATURE FLUCTUATIONS REDUCTION IN A MIXING TEE", the 6th International Conference on Economics, Management, Engineering Sciences and Art, 2015 (Belgium, Brussels).

WORKING PAPERS

- Seyedmilad Mirabedin, "CFD MODELING OF NATURAL CONVECTION IN RIGHT-ANGLED TRIANGULAR ENCLOSURES" Submitted to International Journal of Heat and Technology: [ACCEPTED](#) (publication in Dec 2016).

WORKING PAPERS (continued)

- Seyed Milad Mirabedin, Fatola Farhadi, “**LARGE-EDDY SIMULATIONS OF TEMPERATURE FLUCTUATIONS IN T-JUNCTIONS**”, Submitted to Computers & Fluids: UNDER REVIEW.
- Seyed Milad Mirabedin, Fatola Farhadi, “**NUMERICAL INVESTIGATION OF SOLIDIFICATION OF SINGLE DROPLETS WITH AND WITHOUT EVAPORATION MECHANISM**”, Submitted to International Journal of Refrigeration, ACCEPTED.
DOI: 10.1016/j.ijrefrig.2016.09.006
- Seyed Milad Mirabedin, Fatola Farhadi, “**NATURAL CONVECTION IN CIRCULAR ENCLOSURES HEATED FROM BELOW FOR VARIOUS CENTRAL ANGLES**”, Submitted to Case Studies in Thermal Engineering, ACCEPTED.
DOI: 10.1016/j.csite.2016.08.007

AWARDS & HONORS

- Placed 21st amongst more than 19,000 competitors in the National Wide University Entry exam for MSc Degree in Chemical Engineering, fall 2013.
- Awarded full scholarship for graduate program in Chemical Engineering, Sharif University of Technology, fall 2013–fall 2015.
- Awarded full scholarship for undergraduate program in Petrochemical Engineering in Chemical Engineering Department, Sahand University of Technology, Tabriz, Iran, fall 2009–fall 2013.
- Elected as The Best Student of Chemical Engineering in 2011, Chemical Engineering Department, Sahand University of Technology, Tabriz, Iran, February 2012.
- 1st rank in Chemical Engineering Olympiad in Azerbaijan Region Universities. March 2013
- 9th rank in 18th National Olympiads for Iranian University Students in Chemical Engineering held by NOET (National Organization for Educational Testing), September 2013.

EMPLPYEMENT EXPERIENCE

2014-2015	Research Assistant Jahrom Petrochemical Co. Simulation and equipment design of a cooling cycle unit in a petrochemical unit.
2012-2013	Trainee Research Institute of Petroleum Industry (RIPI) Gathering information about NO _x removal processes and simulating a gas removal process in Aspen HYSYS.

COMPUTER SKILLS

Programming	C++, MATLAB
CFD	ANSYS FLUENT, ANSYS CFX, COMSOL, POLYFLOW
Chemical Process Simulator	ASPEN HYSYS. ASPEN PLUS, PRO/II, PROMAX

FOREIGN LANGUAGE SOCRES

ENGLISH	IELTS (Academic) Score: 7.5/9.0 (C1) S:6.5, R:7.5, W:7.0, L:8.5	September 2015
FRENCH	TCF Score: 450 (B2)	July 2016

PROFESSIONAL MEMBERSHIP

- Member of Iranian Association of Chemical Engineering (IChE)

CERTIFICATES

- Process Design Expert Training, SCTAE (Sharif Center of Technical & Applied Education), November 2013.
A course of 128 hours to learn how to use common process simulators in engineering applications.

SUMMARY OF COURSEWORK EXPERIENCE

Computational Fluid Dynamics	<ul style="list-style-type: none">• Chemical Absorption of H₂S And CO₂ Using Circular Membranes in COMSOL• Investigation of Concentration and Temperature In a PFR in COMSOL• Studying Flow Around a Circular Cylinder Asymmetrically Placed In a Channel in FLUENT
Mathematical Modeling	<ul style="list-style-type: none">• Obtaining Temperature and Velocity Profile In an Ice Pool (Phase Change Material) Using MATLAB• Steam Table Interpolation Using MATLAB• A Program to Find the Roots of Chebychev Polynomial Using Bairstow Method in MATLAB• Solution of a Nonlinear Set of ODEs Using Householder and Broyden Methods in MATLAB• a Control Loop Simulation Using MATLAB• Newton-Raphson Method to Determine Temperature Profile In a Rod Exposed to Defined Conditions Using MATLAB
Kinetics And Reactor Design	<ul style="list-style-type: none">• Obtaining Concentration Profiles of 3 Mixed (Parallel and Series) Reactions in MATLAB• Modified Euler Method To Determine Concentration In a CSTR in a Series of Reactors in MATLAB• Analytical Method To Determine Concentration As a Function of Volume In a Plug Flow Reactor in MATLAB
Process Safety Design	<ul style="list-style-type: none">• Explosion Of Neyshaboer Train, A Safety Analysis
Computer Aided Process Design	<ul style="list-style-type: none">• DWC Column Simulation Using ASPEN PLUS, Petlyuke And Kaibel Configurations• Crude Oil Stabilization Process Design In HYSYS, Maximization of Product With Optimized Condition for Storing• Heat Exchanger Detailed Design Using ASPEN B-JAC• Natural Gas Separation and LPG production in HYSYS
Process Detailed Design	<ul style="list-style-type: none">• Detailed Design of The Production Process Of Acetic Anhydride from Acetone and Acetic Acid• Preliminary Design of a Moving Bed Reactor
Process Equipment Design	<ul style="list-style-type: none">• Control Valve Sizing• Line & Pump Sizing• Natural Gas-Condensate-Water Separation Design• Safety Valve and Flare System Design

INTERESTS

- Chemical Process Optimization
- CFD Modeling
- Chemical Process Design
- Persian and French Literature

REFERENCES

- Prof. Fatola Farhadi
Professor, Chemical Engineering Department, Sharif University of Technology
Email: farhadi@sharif.edu
- Prof. Davood Rashtchian
Professor, Chemical Engineering Department, Sharif University of Technology
Email: rashtchian@sharif.edu
- Dr. Naimeh Jodeiri
Assistant Professor, Chemical Engineering Department, Sahand University of Technology
Email: njodeiri@sut.ac.ir