

Sadra Mahmoudi, M.sc.

BASIC INFO

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BIOGRAPHY

Sadra Mahmoudi received his master's and bachelor's degrees in Chemical Engineering from Petroleum University of Technology (PUT), Iran (2015 - 2018), and Kermanshah University of Technology (KUT), Iran (2011 - 2015), respectively. In February 2021, he started his Ph.D. in Process Engineering at the Johannes Kepler University Linz (JKU), Austria. He won the full scholarship of the National Iranian Oil Company (NIOC) and Iran government for his master's and bachelor's programs, respectively. He has been researching Fluid Dynamics (two and three-phase columns, in particular) since 2017. During his master's, he focused on the behavior of different sizes and types of single bubbles in various liquids experimentally and computationally. As a Ph.D. student, he is now working on the hydrodynamics and mass transfer of three-phase reactors at the Institute of Process Engineering under the supervision of Univ.-Prof. Mark Hlawitschka.

RESEARCH INTERESTS

- Experimental & Computational Fluid Dynamics
- Mass Transfer
- Catalytic Reactions

LECTURES

- Lab Course in Advanced Process Engineering, Process Engineering Institute, Johannes Kepler University linz (2021 – in progress)
- Basic Lab Course in Chemical Process Engineering, Process Engineering Institute, Johannes Kepler University linz (2021 – in progress)
- Gas Processing and Sweetening, Gas Engineering Department, Petroleum University of Technology (2016 - 2017)
- Basic and progresses in Thermodynamics, Energy Department, Kermanshah University of Technology (2013 - 2014)

PUBLICATIONS

PEER-REVIEWED

- Sadra Mahmoudi, Bahram Hashemi Shahraki, and Masoud Aghajani, "**Experimental and Theoretical Investigation of CO₂ And Air Bubble Rising Velocity Through Kerosene and Distilled Water in Bubble Column**", Journal of Dispersion Science and Technology 40.1 (2019): 33 - 42.

- S. Mahmoudi, B. Hashemi Shahraki, M. Aghajani, **Correction of Terminal Velocity Prediction Model for CO₂- Kerosene and Air-Kerosene Systems by Artificial Intelligence**, Journal of Software Engineering 5.5 (2018): 65.

- M. Bahrami, S. Mahmoudi, T. Hamoule, **Hydro-Conversion of N-Heptane over Bifunctional Catalyst Supported on Mesoporous MSU Catalysis in a Microreactor**, Petroleum Chemistry, 61 (2021): 455 – 464

CONFERENCE PROCEEDINGS

- M. Asari, A. Kavooosi Nejad, S. Mahmoudi, S. Amirshirzad, "**Simulation and Optimization of Gas Transmission Network**", 2th International Conferences on Mechanical and Aerospace Engineering, May 2017, Tehran, Iran.

- M. Asari, A. Kavooosi Nejad, S. Amirshirzad, S. Mahmoudi, "**Simulation of Solar Thermal Collector with Slurry Phase Change Material (PCM) as the Heat Transfer Fluid.**" 2th International conferences on Mechanical and Aerospace Engineering, May 2017, Tehran, Iran.

- M. Asari, S. Amirshirzad, S. Mahmoudi, **Optimum Determination of Deferent Parameters Effective in Oil Exploitation by Artificial Lift**" International Conferences on Research in Management and Economics, March 2018, Belgrade, Serbia.

- S. Sahraee, S. Mahmoudi, M. Parandin, **Investigation of Effective Parameters on Mass Transfer Rate of Carbon Dioxide in Amine Solutions Using the Software Minitab**, 2th National Conference of Green Engineering and Technologies for a Sustainable Future, February 2017, Tehran, Iran.

- S. Mahmoudi, B. Hashemi Shahraki, M. Aghajani, **Experimental Investigation of the Impact of Gas and Liquid Type on Terminal Velocity of Bubble in Bubble Column**, the 3th National Conference of Innovation and Research in Electrical, Computer and Mechanical Engineering of Iran, January 2018, Shiraz, Iran.

POSTERS

- S. Mahmoudi, M. W. Hlawitschka, **Single Bubble Behavior in Newtonian and non-Newtonian Liquids**, ProcessNet Specialist Groups Multiphase Flow (MPH) and Computational Fluid Dynamics (CFD), March 2021, Paderborn, Germany

PROJECTS

- **Simulation of Gas Transmission Network with PIPESIM Software**, Petroleum Univ. of Tech., 2017, Supervisor: Dr. V. Mohebi

- **Experimental Investigation of Carbon Dioxide Separation from Natural Gas**, Petroleum Univ. of Tech., 2017, Supervisor: Dr. Reza Mosayeb-behbahani

- **Investigation of Bubble Motion in A Bubble Column Using Fluent**, Petroleum Univ. of Tech., 2018, Supervisor: Dr. B. H. Shahraki

- **CFD Modelling of Motion of Bubbles in Various Stagnant Liquids**, Shahid Chamran Univ., 2016, Supervisor: Dr. F. Mohamadi

- **Theoretical Investigation of Effect of Pressure and Temperature of Single Amine on Gas Sweetening Performance**, Petroleum Univ. of Tech., 2016, Supervisor: Dr. Bahram Hashemi Shahraki

- **Experimental Investigation of CO₂ Separation from Natural Gas**, Kermanshah Uni. of Tech., 2014, Supervisor: Dr. M. Seyfali

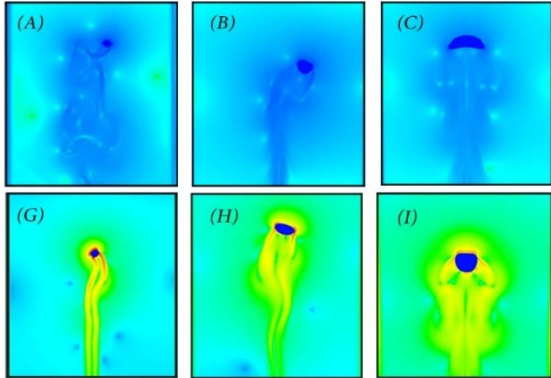


Figure 1: Single bubble behaviour in non-Newtonian liquids

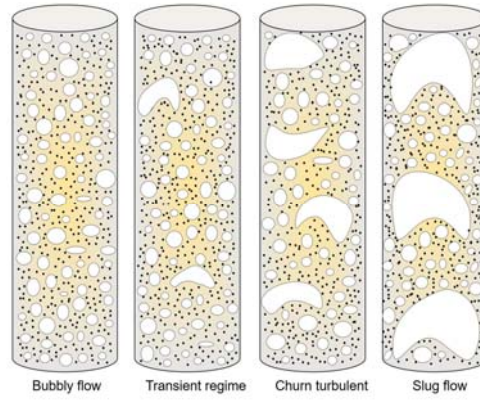


Figure 2: Flow regime in slurry bubble column