

Soleiman Mosleh



Faculty Member

PERSONAL INFO

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Department of Petroleum and
Gas, Yasouj University,
Gachsaran 75918-74831, Iran

ACHIEVEMENTS

2010, 2012 & 2017:

Outstanding Graduate Student
Award. Iranian Association of
Chemical Engineering (IACHE).

2017: Ph.D. Thesis as Superior
Academic Achievement in
Nanotechnology, Iran
Nanotechnology Innovation Council
(IIC).

2021: The Top Doctoral
Dissertation, Iran Water &
Wastewater Association (IWWA).

REFERENCES

Homepage

<http://cv.yu.ac.ir/mosleh>

Scopus ID

<https://www.scopus.com/authid/detail.uri?authorId=57192194306>

Google Scholar Profile

<https://scholar.google.com/citations?user=MEht3clAAAAJ&hl=en>

EDUCATION HISTORY

2006-2010

Yasouj University
Bachelor's degree

Chemical Engineering (Gas, Refining & Petrochemicals)
Thesis: CFD Simulation of the phthalic anhydride production reactor

2010-2012

Yasouj University
M.Sc. degree

Chemical Engineering, Separation processes
Thesis: Experimental study and simulation of carbon dioxide absorption
process using rotating packed bed

2012-2017

Yasouj University
Ph.D.

Chemical Engineering, Advanced
Thesis: Process Intensification of Photocatalytic Degradation in Wastewater
Treatment Using Rotating Packed Bed

WORK HISTORY

Gachsaran Faculty of Petroleum and Gas – [2021 – Present]
Dean

Gachsaran Faculty of Petroleum and Gas – [2019 - 2021]
Vice-Chancellor

Gachsaran Faculty of Petroleum and Gas – [2017 - Present]
Assistant Professor
Department of Polymer Engineering

**Environment House of Gachsaran Faculty of Petroleum and Gas –
[2022 - Present]**
Head.

Journal of Green Polymers [2022 - Present]
Publisher: Yasouj University
Administrative Director

Journal of Modern Green Energy [2022 - 2024]
Publisher: Innovation Forever Publishing Group Limited
Editorial Board Member

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TECHNICAL SKILLS

- Process Design and Analysis
- Data Analysis and Statistical Methods
- Mass Transfer and Separation Processes
- Process Intensification and Integration
- Process Modeling & Simulation

RESEARCH INTEREST

- Carbon Capture
- Wastewater Treatment
- Environmental pollution control
- Nanotechnology
- Energy

PATENTS

- Photocatalytic rotating packed bed reactor for wastewater treatment, 10.22104/IROST.1396.145. (Iranian Research Organization for Science and Technology), 2016.
- Rotating packed bed device for absorption of carbon dioxide, state organization for registration of deeds and properties intellectual property Centre, Iran, No. 88825, 2016.

INDUSTRIAL EXPERIENCE

- **Gachsaran Petrochemical Company, 2023.**
Enhancing Photocatalytic COD Removal in Caustic Petrochemical Wastewater using Microwave-Assisted Synthesis of Cu(BDC)/MgO Nanocomposites.
- **Gachsaran Oil & Gas Production Co. (GOGPC), 2023.**
Formulation, design and production of two-component nanocoating paints for urban road barriers according to the climate of Gachsaran County.
- **Kian Paniz Industry, 2023.**
Re-engineering of polymer-based membranes production using new materials and methods.

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BOOK & BOOK CHAPTER

- **Intensification of Sorption Processes: Active and Passive Mechanism**, Elsevier, 2021. ISBN: 978-0-12-821411-4.
- **Advanced Textile Engineering Materials, Chapter 9: Intensification of Textile Wastewater Treatment Processes (2018): 329-387**. John Wiley & Sons, Inc. ISBN: 978-1-119-48785-2.
- **Photocatalysis: Fundamental Processes and Applications**, Elsevier Science, 2021, ISBN 0128188057, 9780128188057, Chapter 11 - New materials and equipment for photocatalytic degradation processes.
- **Photocatalysis: Fundamental Processes and Applications**, Elsevier Science, 2021, ISBN 0128188057, 9780128188057, Chapter 13 - Photocatalytic reactors: Technological status, opportunities, and challenges for development and industrial upscaling.

PEER REVIEWING

- | | |
|--|---|
| ● Journal of Hazardous Materials Wastewater Treatment | ● Coatings |
| ● Ultrasonics Sonochemistry | ● Symmetry |
| ● Chemosphere Energy | ● Advanced Composites and Hybrid Materials |
| ● International Journal of Molecular Sciences | ● Atmosphere |
| ● Photochemical and Photobiological Sciences | ● Applied Sciences |
| ● Scientific Reports | ● Materials |
| ● Chemical and Biochemical Engineering Quarterly | ● Separations |
| ● Sustainability | ● Molecules |
| ● Scientific Reports | ● Journal of Inorganic and Organometallic Polymers and Materials |
| ● Journal of Applied Research in Water and Wastewater | ● Processes |
| ● Advances in Environmental Technology | ● International Journal of Environmental Research and Public Health |
| ● Progress in Reaction Kinetics and Mechanism | ● Advanced Materials and New Coatings |
| ● Advanced Materials and New Coatings | |
| ● International Journal of Applied Science and Engineering | |
| ● Journal of Sol-Gel Science and Technology | |
| ● Research on Chemical Intermediates | |
| ● Journal of Cleaner Production | |
| ● Journal of Energy and Power Technology | |
| ● Water | |

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PUBLICATIONS

- ❖ Mosleh, Soleiman, and Hadis Khaksar. "Cu-BDC MOF/CNFs hybrids for rapid CO₂ capture in a circulating fluidized bed via temperature swing adsorption process." *Chemical Engineering Science* 287 (2024): 119773.
- ❖ Gholami, Davood, Saeed Shahbazi, Soleiman Mosleh, Arash Ghoorchian, Shaaker Hajati, Kheibar Dashtian, and Ghulam Yasin. "In situ growth of CuFeS₂/CuS bridged heterojunction catalyst with mixed redox-couple cations for excellent photocatalytic degradation of organophosphate insecticide: CFD and DFT modeling." *Chemical Engineering Journal* 461 (2023): 141950.
- ❖ Hashemian, Habibeh, Mehrorang Ghaedi, Kheibar Dashtian, Soleiman Mosleh, Shaaker Hajati, Damoun Razmjoue, and Sikandar Khan. "Cellulose acetate/MOF film-based colorimetric ammonia sensor for non-destructive remote monitoring of meat product spoilage." *International Journal of Biological Macromolecules* 249 (2023): 126065.
- ❖ Hashemian, Habibeh, Mehrorang Ghaedi, Kheibar Dashtian, Sikandar Khan, Soleiman Mosleh, Shaaker Hajati, and Damoun Razmjoue. "Highly sensitive fluorometric ammonia detection utilizing *Solenostemon scutellarioides* (L.) extracts in MOF-tragacanth gum hydrogel for meat spoilage monitoring." *Sensors and Actuators B: Chemical* 406 (2024): 135354.
- ❖ Zolfaghari, Hamideh, Fakhri Yousefi, Mehrorang Ghaedi, and Soleiman Mosleh. "Performance evaluation of Zr (CUR)/NiCo₂S₄/CuCo₂S₄ and Zr (CUR)/CuCo₂S₄/Ag₂S composites for photocatalytic degradation of the methyl parathion pesticide using a spiral-shaped photocatalytic reactor." *RSC advances* 12, no. 45 (2022): 29503-29515.
- ❖ Mosleh, Soleiman, et al. "Ce/Eu redox couple functionalized HKUST-1 MOF insight to sono-photodegradation of malathion." *Journal of Hazardous Materials* 409 (2021): 124478.
- ❖ Moshkriz, Ali, Reza Darvishi, Abolfazl Barati, Mahdi Askari, and Soleiman Mosleh. "Preparation and evaluation of thermoplastic vulcanizate/organo-modified layered double hydroxide nanocomposite: Statistical modelling and optimization." *Materials Today Communications* 26 (2021): 102046.
- ❖ Mosleh, Soleiman, and Parviz Darvishi. "The Comprehensive Evaluation of the Coke Formation and Catalyst Deactivation in the Propane Dehydrogenation Reactor: Computational Fluid Dynamics Modelling." *Journal of Chemical and Petroleum Engineering* 56, no. 2 (2022): 287-301.
- ❖ Mosleh, Soleiman, and Hadis Khaksar. "The Photocatalytic Degradation of Toluene in a Fixed-Bed Reactor: Experimental Study and CFD Simulation of the Reactor." *Journal of Separation Science and Engineering* 13, no. 2 (2022): 27-38.

- ❖ Mosleh, Soleiman, Ali Hosseini, and Zahra Alipour. "Simulation-based optimization for multi-stage crude oil production units: Economic evaluation and decision-making process." *Journal of Chemical and Petroleum Engineering* (2022).
- ❖ Jaber, Hassan, Soleiman Mosleh, Kheibar Dashtian, and Zaker Salehi. "Fluid based cigarette carbonaceous hydrochar supported ZIF-8 MOF for CO₂ capture process: the engineering parameters determination for the packed bed column design." *Chemical Engineering and Processing-Process Intensification*, 2020, 153,108001.
- ❖ Jaber, Hassan, Soleiman Mosleh, and Kheibar Dashtian. "Development of Cigarette Carbonaceous Hydrochar/ZIF-67-Based Fluids for CO₂ Capture from a Gas Stream in a Packed Column: Mass-Transfer Performance Evaluation.", *Energy Fuels* 2020, 34, 6, 7295–7306.
- ❖ Amiri, Maryam, Kheibar Dashtian, Mehrorang Ghaedi, and Soleiman Mosleh. "A dual surface inorganic molecularly imprinted Bi₂WO₆-CuO/Ag₂O heterostructure with enhanced activity-selectivity towards the photocatalytic degradation of target contaminants." *Photochem. Photobiol. Sci.*, 2020,19, 943-955.
- ❖ Amiri, M., Dashtian, K., Ghaedi, M., Mosleh, S. and Jannesar, R., 2019. Bi₂WO₆/Ag₃PO₄-Ag Z-scheme heterojunction as a new plasmonic visible-light-driven photocatalyst: performance evaluation and mechanism study. *New Journal of Chemistry*, 43(3), pp.1275-1284.
- ❖ Jalali, S., Rahimi, M.R., Dashtian, K., Ghaedi, M. and Mosleh, S., 2019. One step integration of plasmonic Ag₂CrO₄/Ag/AgCl into HKUST-1-MOF as novel visible-light driven photocatalyst for highly efficient degradation of mixture dyes pollutants: Its photocatalytic mechanism and modeling. *Polyhedron*, 166, pp.217-225.
- ❖ Mosleh, S., Dashtian, K., Ghaedi, M. and Amiri, M., 2019. A Bi₂WO₆/Ag₂S/ZnS Z-scheme heterojunction photocatalyst with enhanced visible-light photoactivity towards the degradation of multiple dye pollutants. *RSC Advances*, 9(52), pp.30100-30111.
- ❖ Amiri, M., Dashtian, K., Ghaedi, M. and Mosleh, S., 2020. A dual surface inorganic molecularly imprinted Bi₂WO₆-CuO/Ag₂O heterostructure with enhanced activity-selectivity towards the photocatalytic degradation of target contaminants. *Photochemical & Photobiological Sciences*.
- ❖ Amiri, Maryam, Kheibar Dashtian, Mehrorang Ghaedi, Soleiman Mosleh, and Ramin Jannesar. "Bi₂WO₆/Ag Z-scheme heterojunction as a new plasmonic visible-light-driven photocatalyst: performance evaluation and mechanism study." *New Journal of Chemistry* 43, no. 3 (2019): 1275-1284.
- ❖ Jalali, S., M. R. Rahimi, K. Dashtian, M. Ghaedi, and S. Mosleh. "One step integration of plasmonic Ag₂CrO₄/Ag/AgCl into HKUST-1-MOF as novel visible-light driven photocatalyst for highly efficient degradation of mixture dyes pollutants: Its photocatalytic mechanism and modeling." *Polyhedron* 166 (2019): 217-225.
- ❖ Soleiman Mosleh, Mahmood Reza Rahimi, Mehrorang Ghaedi, Kheibar Dashtian, and Shaaker Hajati. "Sonochemical-assisted synthesis of CuO/Cu₂O/Cu nanoparticles as efficient photocatalyst for simultaneous degradation of pollutant dyes in rotating packed bed reactor: LED illumination and central composite design optimization." *Ultrasonics sonochemistry* 40 (2018): 601-610.
- ❖ Jafari, Behnam, Mahmood Reza Rahimi, Mehrorang Ghaedi, Kheibar Dashtian, and Soleiman Mosleh. "CO₂ capture by amine-based aqueous solution containing atorvastatin functionalized mesocellular silica foam in a counter-current rotating packed bed: Central composite design modeling." *Chemical Engineering Research and Design* 129 (2018): 64-74.

- ❖ Soleiman Mosleh, Mahmood Reza Rahimi, Mehrorang Ghaedi, Arash Asfaram, Ramin Jannesar, and Fardin Sadeghfar. "A rapid and efficient sonophotocatalytic process for degradation of pollutants: Statistical modeling and kinetics study." *Journal of Molecular Liquids*.(۳۰۱۸)
- ❖ Taghipour, T., G. R. Karimipour, M. Ghaedi, M. R. Rahimi, and S. Mosleh. "Sonophotocatalytic treatment of diazinon using visible light-driven Ce: Cu-1, 4-BDOAH2 photocatalyst in a batch-mode process: Response surface methodology and optimization." *Applied Organometallic Chemistry* 32, no. 1.(۳۰۱۸)
- ❖ Mosleh, S., M. R. Rahimi, M. Ghaedi, K. Dashtian, S. Hajati, and Shaobin Wang. "Ag3PO4/AgBr/Ag-HKUST-1-MOF composites as novel blue LED light active photocatalyst for enhanced degradation of ternary mixture of dyes in a rotating packed bed reactor." *Chemical Engineering and Processing: Process Intensification* 114 (2017): 24-38.
- ❖ Soleiman Mosleh, and Mahmood Reza Rahimi. "Intensification of abamectin pesticide degradation using the combination of ultrasonic cavitation and visible-light driven photocatalytic process: Synergistic effect and optimization study." *Ultrasonics sonochemistry* 35 (2017): 449-457.
- ❖ Mosleh, S., M. R. Rahimi, M. Ghaedi, K. Dashtian, and S. Hajati. "Photocatalytic degradation of binary mixture of toxic dyes by HKUST-1 MOF and HKUST-1-SBA-15 in a rotating packed bed reactor under blue LED illumination: central composite design optimization." *RSC Advances* 6, no. 21 (2016): 17204-17214.
- ❖ Mosleh, S., M. R. Rahimi, M. Ghaedi, and K. Dashtian. "Sonophotocatalytic degradation of trypan blue and vesuvine dyes in the presence of blue light active photocatalyst of Ag3PO4/Bi2S3-HKUST-1-MOF: central composite optimization and synergistic effect study." *Ultrasonics sonochemistry* 32 (2016): 387-397.
- ❖ Mosleh, S., M. R. Rahimi, M. Ghaedi, K. Dashtian, and S. Hajati. "BiPO4/Bi2S3-HKUST-1-MOF as a novel blue light-driven photocatalyst for simultaneous degradation of toluidine blue and auramine-O dyes in a new rotating packed bed reactor: optimization and comparison to a conventional reactor." *RSC Advances* 6, no. 68 (2016): 63667-63680.
- ❖ Mosleh, S., M. R. Rahimi, M. Ghaedi, K. Dashtian, S. Hajati, and Shaobin Wang. "Ag3PO4/AgBr/Ag-HKUST-1-MOF composites as novel blue LED light active photocatalyst for enhanced degradation of ternary mixture of dyes in a rotating packed bed reactor." *Chemical Engineering and Processing: Process Intensification* 114 (2017): 24-38.
- ❖ Mosleh, S., M. R. Rahimi, M. Ghaedi, and K. Dashtian. "HKUST-1-MOF–BiVO4 hybrid as a new Sonophotocatalyst for simultaneous degradation of disulfine blue and rose bengal dyes: optimization and statistical modelling." *RSC Advances* 6, no. 66 (2016): 61516-61527.
- ❖ Fariba Zarei, Mahmood Reza Rahimi, Soleiman Mosleh, Experimental Study of Height and Number of Transfer Unit in Rotating Packed Bed and Conventional Column, DOI:10.22103/JSSE.2017.1557.
- ❖ Mahmood Reza Rahimi, Soleiman Mosleh, Experimental Study of Carbon Dioxide Absorption from Air Stream in Rotating Packed Bed, DOI: 10.22103/JSSE.2013.543.
- ❖ Mahmood Reza Rahimi, Soleiman Mosleh, Mass Transfer Modelling for Volatile Organic Compounds Absorption in Rotating Packed Beds, DOI: 10.22103/JSSE.2013.537.
- ❖ Mahmood Reza Rahimi, Soleiman Mosleh, CO2 Removal from Air in a Counter Current Rotating Packed Bed, Experimental Determination of Height of Transfer Unit, DOI: 10.22104/AET.2015.113

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Websites & social links

Google Scholar Profile:

<https://scholar.google.com/citations?user=MEht3cIAAAAJ&hl=en>

Linkedin:

<https://www.linkedin.com/in/soleiman-mosleh-67956966/>

ResearchGate:

<https://www.researchgate.net/profile/Soleiman-Mosleh>

Web of science:

<https://www.webofscience.com/wos/author/record/1172158>

Homepage:

<http://cv.yu.ac.ir/mosleh>

ORCID ID:

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Scopus ID:

<https://www.scopus.com/authid/detail.uri?authorId=57192194306>

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