



Curriculum Vitae

PERSONAL INFORMATION

Name: **Reza**
Family Name: **Khoshbouy**



Nationality: Iranian
Address: Assistant Prof., Chemical Engineering Faculty, Environmental Engineering Group, Sahand University of Technology (SUT), Tabriz, Iran

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DEGREES AND THESIS

- **Ph.D.**, Department of Transdisciplinary of Science and engineering, Tokyo Institute of Technology (**Tokyo Tech**), **Tokyo, Japan** (2019).
- **M.Sc.**, Department of Chemical Engineering, Sahand University of Technology, **Tabriz, Iran** (2013)
- **B.Sc.**, Department of Chemical Engineering, Sahand University of Technology, **Tabriz, Iran** (2009)

PROFESSIONAL EXPERIENCE:

- ❖ Assistance Professor, Chemical Engineering Faculty, Sahand University of Technology, Sahand New Town, Tabriz, Iran. **(2020- Date)**
- ❖ **Founding Director of Green Carbon Research Center (Environment & Energy)**, GCRC, Sahand University of Technology, Sahand New Town, Tabriz, Iran. **(2020- Date)**
- ❖ Director of Environment Engineering Group, Chemical Engineering Faculty, SUT, Tabriz, Iran **(2022- Date)**

RESEARCH PROJECTS:

- “Implementation of ISO 14051 Material Flow Cost Accounting (MFCA) for Tabriz Oil Refining Company”, Environmental Engineering Research Center, Sahand University of Technology, Iran, Feb 2012 - Aug 2013.

- “Implementation of ISO 14051 Material Flow Cost Accounting (MFCA) for Tabriz Petrochemical Company”, Environmental Engineering Research Center, Sahand University of Technology, Iran, Sep 2013 -May 2015.
- “Study of Using Additives for Upgrading Heavy Oil Cuts”, Environmental Engineering Research Center, Sahand University of Technology, Iran National Science Foundation, Science deputy of presidency, Iran, July 2014 – September 2015.
- Synthesis of carbon porous adsorbent from biomass waste to CO2 adsorption, International Affairs & Technological Exchange Center, Iran, July 2020-October 2021
- Development of new hydrothermal carbonation technology for the production of carbon nanostructured materials to remove aqueous organic pollutants, New Water and Energy Technologies Development Headquarters, Vice President for Science and Technology, Iran, September 2021 to date

THESIS SUPERVISION

In progress: Bachelor: 6, Master students: 10, Doctoral students: 2

RESEARCH AREA

- - Green Carbon (Synthesis and Process, ...)
 - Carbon porous material (Functionalized, Composite, Electrode)
 - Biomass Waste Valorization to Value-added products
 - Water purification (Desalination)
 - Hydrothermal Carbonization
 - Desulphurization, Upgrading of heavy Oil
 - Biocarbon-adsorbent for wastewater treatment (Organic and inorganics pollutant removal)
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- Forouzesh, M., Khoshbouy, R., Fatehifar, E., “Thermally dry-air oxidation of porous carbon precursor for Iron (III) removal from high acidic medium: characterization and adsorption study”, *Journal of Water Process Engineering*, 2024, under review.
- Forouzesh, M., Fatehifar, E., Khoshbouy, R., “Daryani, M. Experimental investigation of iron removal from wet phosphoric acid through chemical precipitation process”, *Chemical Engineering Research and Design*, 2023, 189, pp. 308–318
 - Khoshbouy, R., Takahashi, F., Yoshikawa, K. (2019) Preparation of high surface area sludge-based activated hydrochar via hydrothermal carbonization and application in the removal of basic dye, *Environmental Research*, 175, 457-467.
 - Khoshbouy, R., Lejiu, R., Takahashi, F., Yoshikawa, K. (2018) Effect of acid-assisted hydrothermal carbonization (HTC) process of tree branches using nitric acid on cadmium adsorption, *E3S Web of Conferences*, 67, 03033, (2018)
 - Forouzesh, M., Ebadi, A., Aghaeinej, A., Khoshbouy, R. (2019) Transformation of persulfate to free sulfate radical over granular activated carbon: Effect of acidic oxygen functional groups, *Chemical Engineering Journal*, 374, 965-974
 - Hungwe, D., Khoshbouy, R., Ding, L., Yoshikawa, K., Takahashi, F. (2020) Kinetics and physico-chemical morphology evolution of low and high-ash pyrolytic tyre char during CO₂ gasification, *Energy & Fuels*, 34,1,118-129
 - Hungwe, D., Khoshbouy, R., Ding, L., Yoshikawa, K., Takahashi, F. (2020) Effect of tire-char ash on the extent of synergy during CO₂ co-gasification with hydrochar from potassium-rich coconut fiber, *Energy & Fuels*,
 - Khoshbouy, R., Lejiu, R., Lu, D., Yoshikawa, K., Takahashi, F. (2021) In-situ acid-assisted hydrothermal carbonization of biowaste: the physicochemical properties of modified hydrochar and application in the removal of cadmium, *Journal of Environmental Sciences [Under 1st review]*
 - Najafpour, M. , Fatehifar E., Khoshbooy, R. , Tabatabaei nezhad, S. A.R. (2020), Upgrading of heavy oil components using modified ionic liquids, *Petroleum Research*, Accepted, Manuscript No. PR-1904-2695 (R1).
 - Khoshbouy, R., Hedin, N., Yoshikawa, K., Takahashi, F. (2023) An insight into the mechanism of cadmium adsorption on modified hydrochar prepared via in-situ HNO₃- and KOH-assisted HTC: the effect of OFG and CEC, *Resources, Conservation and Recycling*
 - Khoshbouy, R., Lejiu, R., Hungwe, D., Yoshikawa, K., Takahashi, F. (2024). Effect of in-situ nitric-acid-assisted hydrothermal carbonization on polarity and surface functional group of hydrochars, *Biomass Conversion and Biorefinery*, [Under review]
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CONFERENCE PAPERS

- **Rahimzad, H; Khoshbouy, R;** “An overview of the separation of oil from water by biochar: Synthesis, recovery, and challenges”, 4th international conference on the new technologies in the oil, gas & petrochemical industries, Tehran, Iran, 20-21 Feb 2023
- **Mianjian, F; Khoshbouy, R;** “Water Desalination using Flow-By Capacitive Deionization”, 4th international conference on the new technologies in the oil, gas & petrochemical industries, Tehran, Iran, 20-21 Feb 2023
- Daryani, M., Rahmani M.H., **Khoshbouy, R.** “Green management and a brief overview of carbon dioxide management”. 3rd International conference on Green University, Tehran, Iran, 12-13 October 2021.
- Forouzesh, M., **Khoshbouy, R.**, Fatehifar, F. “The effect of calcium carbonate on the Iron removal from high content wet produced phosphoric acid through chemical precipitation method” 3rd International conference on Green University, Tehran, Iran, 12-13 October 2021.
- Rahmani M, Salehin, M, **Khoshbouy, R.** “An Emerging Technology for Valorization of Biomass Waste to Useful Products:Hydrothermal Technology”, Green waste management, 1st National Conference, Ardabil, Iran, 9-10th June 2021.
- **Khoshbouy, R.**, Lejiu, R., Takahashi, F., Yoshikawa, K. “Cd adsorption from aqueous solution by modified hydrochar: Effect of in-situ modification using HTC with acid and alkaline additive”, *Proceedings of 2nd International Symposium on Hydrothermal Carbonization*, 53, Berlin, Germany, 14-16th May 2019.
- **Khoshbouy, R.**, Lejiu, R., Hungwe, D., Takahashi, F., Yoshikawa, “In-situ acid-assisted hydrothermal carbonization of biomass waste: the properties of modified hydrochar and application in the removal of Cd (II)”, *The 30th Annual Conference of JSMCWM*, Sendai, Japan, 19-21th Sep 2019.
- **Khoshbouy, R.**, Lejiu, R., Ding, L., Takahashi, F., Yoshikawa, K. “Modified hydrochar via in-situ acid-and basic-assisted HTC of biomass waste: the surface properties and application in the removal of Cd”, *The 1st International Conference on Energy and Environment*, Nanjing, China, 19-22th, Sep 2019.
- Hungwe, D., **Khoshbouy, R.**, Takahashi, F., Yoshikawa, K. “CO₂ gasification kinetics of waste tyre chars with different ash compositions”, *The 1st International Conference on Energy and Environment*, Nanjing, China 19-22th, Sep 2019.
- Lejiu, R., **Khoshbouy, R.**, Takahashi, F., Yoshikawa, K. “Effect of Acid-Assisted Hydrothermal Carbonization (HTC) Process of Tree Branches for Cadmium Adsorption”, *3rd International Tropical Renewable Energy Conference i-TREC2018, Sustainable Development of Tropical Renewable Energy*, pp. 78-79, Bali, Indonesia, 6-8th Sep 2019.
- **Khoshbouy, R.**, Hedin, N., Takahashi, F., Yoshikawa, K. “CO₂ adsorption by nitrogen-doped hydrochar synthesized with hydrothermal carbonization of glucose”,

Proceedings of 2018 Korea-China-Japan Joint Symposium on solid wastes to energy and material application, 36-37, Asan, South Korea, 18-20th Oct 2018.

- **Khoshbouy, R.**, Kita, Y., Takahashi, F., Yoshikawa, K. “Preparation of Sludge Based Activated Carbon Using Hydrothermal Carbonization for Basic Dye and Humic Acid Adsorption from Aqueous Solution”, *Proceedings of 6th Edition of International Conference on Water Pollution and Sewage Management*, 37-38, Rome, Italy, 26-28th Jul 2018.
- **Khoshbouy, R.**, Lejiu, R., Takahashi, F., Yoshikawa, K. “Cadmium (II) adsorption using modified hydrochar prepared from Trimmed tree branches using acid-assisted hydrothermal carbonization”, *The 2nd International Conference on Bioresource Technology for Bioenergy, Bioproducts & Environmental Sustainability “BRTX2018”*, Sitges, Spain, 16-19th Sep 2018.
- **Khoshbouy, R.**, Takahashi, F., Yoshikawa, K. “Preparation of High-Surface-Area Activated Carbon via Hydrothermal Carbonization of Biowaste and Using Physical & Chemical Activation for Basic Dye Removal”, *The 5th Asian Conference on Biomass Science – ACBS 2018*, Sendai, Japan, 16th Jan 2018.
- **Khoshbouy, R.**, Takahashi, F., Yoshikawa, K. “High Surface Activated Carbon from Bio-waste using Hydrothermal Carbonization and Physical & Chemical Activation”, *Proceedings of 2017 CHINA-JAPAN-KOREA Joint Symposium on Energy and Environment*, 56, Dalian, China, 26-28th Oct 2017.
- Su, X., **Khoshbouy, R.**, Yoshikawa, K. “Hydrochar of coffee residues as adsorbent for the removal of methylene blue from aqueous solution”, *proceedings of CHINA-JAPAN-KOREA Joint Symposium CJK-js17 on Energy and Environment*, Dalian, China, 26-28th Oct 2017.
- M. Najafpour, E. Fatehifar, **R. Khoshbouy**, “Evaluation of Additives Performance to Reduce Viscosity and Sulfur Compounds for Upgrade Heavy oil”, The First National Conference of New Technologies in Chemical and Petrochemical, Tehran, Iran, 2014.
- E. Fatehifar, **R. Khoshbouy**, H. Hashemzade, R. Makvandi, A. B. Khoshfetrat, A. Tavakkoli, “Programming and Design of Software for Calculation of Oil liquids Properties (Density Mixture of Hydrocarbon Gases and Petroleum Liquids)”, National Conference on Oil Industry Software Development, Tarbiat Modares University, Tehran, Iran, 2012.
- **R. Khoshbouy**, A. B. Khoshfetrat, E. Fatehifar, “Study on Possibility of Oxidation of Linear Saturated Hydrocarbons by Ozone”, National Conference on Advances in Chemical and Chemical Engineering Technology, Glass Tehran International Convention Center, Tehran, Iran, 2013.

SKILLS

- Familiar with the following analytical instruments:
SEM-EDX, XPS, GC, GC-Mass, HPLC, FTIR-ATR, BET-BJH, DSC, TGA, and ...
- Familiar with *MiniTab*, *HYSYS*, ...

- Excellent knowledge in all important desktop and office applications (Microsoft Word, Power point, Excel, ...)

AWARDS, HONORS, CERTIFACATIONS

- Selected to be as Tokyo Tech nominee for attending the MIRAI Ph.D. Course “Membrane for a sustainable future”, Sweden and Denmark, Lund and Copenhagen, 2019. (Only two Ph.D. students could achieve this opportunity after screening exam and interview)
- The Best Presentations at 2019 Summer GEDES Workshop on students' activities, Tokyo, 6th Aug.
- Certification of Training Course of “ISO 14051-2011 Material Flow Cost Accounting (MFCA)”, By Vice-Presidency for Strategic Planning and Supervision, National Iranian Productivity Organization Collaboration with Asian Productivity Organization (AOP), Propharm Japan Company, Tabriz, Iran, 2013.

MEMBERSHIPS

- Member of Japan Society of Material Cycles and Waste Management
- Member of Iranian Association of Chemical Engineering, IACH
- Member of Iranian Chemistry and Chemical Engineering Society, ICCES.
- Member of Sahand Environmental Engineering Research Center, EERC
- Founding Director and member of Green Carbon Research Center (Environmental & Energy), GCRC, , 2020 to Date.