Biographical Sketch

Seokjhin Kim
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A. PROFESSIONAL PREPARATION

Yonsei University	Seoul, Korea	Chemical Engineering	Bachelor of Science	1999
Yonsei University	Seoul, Korea	Chemical Engineering	Master of Science	2001
University of Cincinnati Ohio		Chemical Engineering	Doctor of Philosophy	2011
Georgia Institute of Technology Atlanta, GA		Chemical Engineering	Postdoc	2012-2013

B. APPOINTMENTS

Oklahoma State University, Stillwater, OK, Assistant Professor, Chemical Engineering, 2015-present.
Georgia Institute of Technology, Atlanta, GA, Research Engineer, Chemical Engineering, 2013-2015

C. PRODUCTS

(i) List up to five most closely related to the proposed project.
1. S. Dangwal, R. Liu, S. Gaikwad, S. Han, **S.-J. Kim**, Zeolite Membrane Reactor for High-Temperature Isobutane Dehydrogenation Reaction: Experimental and Modeling Studies. Chem. *Eng. Process. Process Intensif.* 142 (2019) 107583
2. S. Dangwal, R. Liu, S.V. Kirk, **S.-J. Kim**, Effect of Pressure on Ethane Dehydrogenation in MFI Zeolite Membrane Reactor. *Energy & Fuels.* 32 (2018) 4628-4637.
3. F. Rashidi, J. Leisen, **S.-J. Kim**, A. A. Rownaghi, C. W. Jones, S. Nair, All-Nanoporous Hybrid Membranes: Redefining Upper Limits on Molecular Separation Properties. *Angew. Chem. Int. Ed.* 131 (2019), 242-245.
4. S. Dangwal, R. Liu, **S.-J. Kim**, High Temperature Ethane Dehydrogenation in Microporous Zeolite Membrane Reactor: Effect of Operating Conditions, *Chem. Eng. J.* 328 (2017) 862-872.
5. S. Gaikwad, **S.-J. Kim** and S. Han, Novel metal–organic framework of UTSA-16 (Zn) synthesized by a microwave method: Outstanding performance for CO2 capture with improved stability to acid gases, J. Ind. Eng. Chem. 277 (2020) 253-260.

(ii) List up to five other significant products/publications, whether or not related to the proposed project.
1. G. Mahmodi, S. Dangwal, P. Zarrintaj, M. Zhu, Y. Mao, D.N. Mcllroy, M.R. Saeb, V. Vatanpour, J.D. Ramsey, **S.-J. Kim**, NaA Zeolite-Coated Meshes with Tunable Hydrophilicity for Oil-Water Separation. *Sep. Purif. Technol.*, 240 (2020) 116630
2. R. Liu, Y.R. A.K. Yegya, I. Shaik, C. Aichele, **S.-J. Kim**, Inorganic Microfiltration Membranes Incorporated with Hydrophilic Silica Nanoparticles for Oil-in-Water Emulsion Separation. *J. Water Process Eng.*, 26 (2018) 124-130.
3. H. Lin, R. Liu, S. Dangwal, **S.-J. Kim**, N. Mehra, Y. Li, J. Zhua, Permselective H2/CO2 Separation and Desalination of Hybrid GO/rGO Membranes with Controlled Pre-crosslinking. *ACS Appl. Mater. Interfaces.* 10 (2018) 28166-28175.
4. R. Liu, S. Young, S. Dangwal, I. Shaik, E. Echeverria, D. McIlroy, C. Aichele, **S.-J. Kim**, Boron-introduced MFI-type zeolite-coated mesh for oil-water separation. *Colloids Surf., A.* 550 (2018) 108–114.

5. H. Lin, S. Dangwal, R. Liu, **S.-J. Kim**, Y. Li, J. Zhu, Reduced Wrinkling in GO Membrane by Grafting Basal-plane Groups for Improved Gas and Liquid Separations. *J. Membr. Sci.* 563 (2018) 336–344.

C. SYNERGISTIC ACTIVITIES

1. Working committee, Learning Management System improvement for modification of evaluation, Oklahoma State University (2018)

    Served on the committee considering the continuation of the current or adoption of a new learning management system (LMS, online classroom). Attended the meetings to review students and faculty LMS usage survey and examples of recent request for proposals for LSM. Discussions and decisions about the surveys and elements of the request for proposals. Contributed to the decision-making process regarding the content of request for proposals.

2. Developed a dual-level course CHE 4603/5603 Membrane Separations (2017-present)

    Trained undergraduate and graduate students on basic principles of membrane technology such as membrane synthesis processes and molecular separation mechanisms for different types of membranes. Designed the course so that membrane research is incorporated into the classroom. Course included fundamental concepts such as permeation and diffusion, resistance in series, porosity, concentration polarization, membrane cascade, salt rejection, and osmotic pressure. Some industrial applications were included: desalination by reverse osmosis, artificial kidney by hemodialysis, gas membrane separations, and biotechnological applications by ultrafiltration and microfiltration.

3. Journal Peer Review (2015-present)

    Reviewer for peer-reviewed journals including Industrial & Engineering Chemistry Research, Journal of Membrane Science, Chemical Engineering Science, Chemical Engineering Journal, Separation and Purification Technology, Membranes, and Journal of Contemporary Water Research and Education (44 in total).

4. International research collaboration (2016-present)

    Collaborated with Prof. Sangil Han at Changwon National University, Korea from Fall 2016. Performed the research collaboration project on designing membranes for olefin separation from paraffin components which is one of the most important processes in the petrochemical industry. Designed a high-flux and high-selective molecular sieve membranes. Supervised the team members (OSU and Korea) to develop the membrane systems and build a research framework that includes nanoparticle preparation, fabrication of the ultrathin films on porous supports, characterization of membranes, and evaluating the membrane performances. Through the collaboration, 2 manuscripts were published.

5. Participation in NSF OSU I-Corps program (2018-present)

    Attended the NSF OSU I-Corps program and helped in transferring the PI's knowledge into products and processes. Interviewed 30 potential customers by in-person visits or by phone in three weeks, disseminated our research results to them. Discussed how to deal with commercializing innovations and creating ventures. Through the program, provided the students the opportunity to visit local manufacturing industries and oil and gas service companies. Identified several companies for the visit, including D&B Oilfield Services in Ringwood, OK and Trivestco, Inc. in Ponca City, OK.