

JIHO KANG

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EDUCATION

The University of Texas at Austin Ph.D. in Chemical Engineering, to be completed 2024	Aug. 2019 – Present
Seoul National University M. S. in Chemical and Biological Engineering Overall GPA: 4.11/4.30	Mar. 2017 – Feb. 2019
Seoul National University B. S. in Chemical and Biological Engineering Overall GPA: 3.89/4.30 (Military Service)	Mar. 2011– Feb. 2017 Feb. 2013 – Nov. 2014

RESEARCH EXPERIENCE

The University of Texas at Austin Graduate Researcher (Advisor: Prof. Delia Milliron)	Oct. 2019 – Present
Seoul National University IBS Researcher (Advisor: Prof. Yung-Eun Sung) Graduate Researcher (Advisor: Prof. Yung-Eun Sung) Undergraduate Researcher (Advisor: Prof. Yung-Eun Sung)	Mar. 2019 – Jul. 2019 Mar. 2017 – Feb. 2019 Aug. 2016 – Feb. 2017
SK Hynix Inc. Research Intern Icheon, Gyeonggi, Republic of Korea	Dec. 2015 – Feb. 2016

PUBLICATIONS

‡Co-first authors *Corresponding author

1. **J. Kang**[‡], S. A. Valenzuela[‡], E. Y. Lin, M. N. Dominguez, Z. M. Sherman, T. M. Truskett*, E. V. Anslyn*, D. J. Milliron*, “Colorimetric quantification of linking in thermoreversible nanocrystal gel assemblies,” *Sci. Adv.*, 2022 8, eabm7364.
2. A. M. Green, C. K. Ofosu, **J. Kang**, E. V. Anslyn*, T. M. Truskett*, D. J. Milliron*, “Assembling inorganic nanocrystal gels”, *Nano Lett.*, 2022, Articles ASAP, doi: 10.1021/acs.nanolett.1c04707.
3. M. N. Dominguez, M. P. Howard, J. M. Maier, S. A. Valenzuela, Z. M. Sherman, J. F. Reuther, L. C. Reimnitz, **J. Kang**, S. H. Cho, S. L. Gibbs, A. K. Menta, D. L. Zhuang, A. van der Stok, S. J. Kline, E. V. Anslyn*, T. M. Truskett*, D. J. Milliron*, “Assembly of linked nanocrystal colloids by reversible covalent bonds,” *Chem. Mater.* 2020 32, 10235-10245.
4. Y.-H. Lee, J. S. Kang*, J.-H. Park, **J. Kang**, I.-R. Jo, Y.-E. Sung*, K.-S. Ahn*, “Color-switchable electrochromic Co(OH)₂/Ni(OH)₂ nanofilms with ultrafast kinetics for multifunctional smart windows”, *Nano Energy* 2020 72, 104720.

5. M. Kim[‡], J. M. Yoo[‡], C.-Y. Ahn[‡], J.-H. Jang, Y. J. Son, H. Shin, **J. Kang**, Y. S. Kang, S. J. Yoo, K.-S. Lee*, Y.-E. Sung*, “Rational generation of Fe-N_x active sites in Fe-N-C electrocatalysts facilitated by Fe-N coordinated precursors for the oxygen reduction reaction”, *ChemCatChem* 2019 11, 1–8.
6. J. S. Kang[‡], **J. Kang**[‡], and Y.-E. Sung*, “Recent progress on design and synthesis of nitrides for mesoscopic and perovskite solar cells”, *ChemSusChem* (Invited Review), 2019 12, 772-786.
7. J. S. Kang[‡], **J. Kang**[‡], J. Chae[‡], Y. J. Son, J. Jeong, J. Kim, J.-Y. Kim, S. H. Kang, K.-S. Ahn*, Y.-E. Sung*, “Vapor-deposited tungsten carbide nano-dendrites as sulfur-tolerant electrocatalysts for quantum dot-sensitized solar cells”, *Journal of Electrochemical Society*, 2018 165, H954-H961.
8. J. S. Kang[‡], **J. Kang**[‡], D. Y. Chung[‡], Y. J. Son, S. Kim, S. Kim, J. Kim, J. Jeong, M. J. Lee, H. Shin, S. Park, S. J. Yoo, M. J. Ko, J. Yoon, and Y.-E. Sung*, “Tailoring the porosity of MOF-derived N-doped carbon electrocatalysts for highly efficient solar energy conversion”, *Journal of Materials Chemistry A*, 2018 6, 20170-20183.
9. J. Kim[‡], J. S. Kang[‡], J. Jeong, Y. J. Son, M. J. Lee, **J. Kang**, A. Lim, H. S. Park*, Y.-E. Sung*, “Electrochemically synthesized nanostructured iron carbide/carbon composite as a low-cost counter electrode for dye-sensitized solar cells”, *Journal of Power Sources* 2018 396, 213-219.
10. J. S. Kang[‡], J. Kim[‡], J. S. Kim, K. Nam, H. Jo, Y. J. Son, **J. Kang**, J. Jeong, H. Choe*, T.-H. Kwon*, Y.-E. Sung*, “Electrochemically synthesized mesoscopic nickel oxide films as photocathodes for dye-sensitized solar cells”, *ACS Applied Energy Materials* 2018 1, 4178-4185.
11. J. S. Kang[‡], J. Kim[‡], J.-Y. Kim, M. J. Lee, **J. Kang**, Y. J. Son, J. Jeong, S. H. Park, M. J. Ko*, and Y.-E. Sung*, “Highly efficient bifacial dye-sensitized solar cells employing polymeric counter electrodes”, *ACS Applied Materials & Interfaces* 2018 10, 8611-8620.
12. Y. J. Son[‡], J. S. Kang[‡], J. Yoon, J. Kim, J. Jeong, **J. Kang**, M. J. Lee, H. S. Park*, and Y.-E. Sung*, “Influence of TiO₂ particle size on dye-sensitized solar cells employing organic sensitizer and cobalt (III/II) redox electrolyte”, *The Journal of Physical Chemistry C* 2018 122, 7051-7060.

CONFERENCE PRESENTATIONS

1. **J. Kang**, S. A. Valenzuela, E. Lin, M. N. Dominguez, Z. M. Sherman, T. M. Truskett, E. V. Anslyn, D. J. Milliron, “Colorimetric quantification of linking in thermoreversible nanocrystal gel assemblies” *American Chemical Society (ACS) Spring 2022*, Mar. 20 –24, San Diego, CA. Oral presentation.
2. **J. Kang**, J. S. Kang, J. Chae, K.-S. Ahn*, and Y.-E. Sung*, “RF sputtered tungsten carbide nano-dendrites as sulfur poisoning tolerant electrocatalysts for quantum dot-sensitized solar cells” **2018 Fall Meeting and Conference of the Korean Electrochemical Society (KECS)**, Yeosu, Republic of Korea. Nov. 1 – 3, 2018. Poster presentation.
3. **J. Kang**, J. S. Kang, D. Y. Chung, Y. J. Son, S. Kim, S. Kim, J. Kim, J. Jeong, and Y.-E. Sung*, “Porosity-tailored MOF-derived N-doped carbon as high-performance electrocatalysts for mesoscopic solar cells.” *The Europe-Korea Conference on Science and Technology*, Glasgow, United Kingdom. Oct. 19 – 24, 2018. Poster presentation.
4. J. Kim, J. S. Kang, M. J. Lee, Y. J. Son, J. Jeong, **J. Kang**, and Y.-E. Sung*, “Electrochemical synthesis of nanoporous tungsten carbide as efficient counter electrodes for dye-sensitized solar cells (DSCs).” *Asian Conference on Electrochemical Power sources (ACEPS-9)*, Gyeongju, Republic of Korea. Aug. 20 – 23, 2017. Poster presentation.

HONORS AND AWARDS

The University of Texas at Austin

Dean's Prestigious Fellowship Supplement Awards 2019

Phillips 66 Company

Phillips 66 Fellowship 2019

Kwanjeong Educational Foundation

Study Abroad Scholarship 2019

Seoul National University

Merit-Based Scholarship 2018

Lecture & Research Scholarship 2017

Merit-Based Scholarship 2017

Graduation with Honors (Cum Laude) 2017

Alumni Association Scholarship 2016

Eminence Scholarship 2016

The United States Army

Commendation Medal 2014

The Surim Foundation

Surim Scholarship 2011 – 2016

OTHER EXPERIENCE

UT Austin Korean Student Association, Chemical Engineering (UTKSA-ChE)

President Aug. 2021 – present

Young professionals exchange program

Aug. 2018

Europe-Korea global exchange program in Glasgow, United Kingdom

The Korean Federation of Science and Technology Societies (KOFST)

Military service as KATUSA (Korean Augmentation To the U. S. Army)

Feb. 2013 – Nov. 2014

Sergeant, AFN-K Casey, Dongducheon, Gyeonggi, Republic of Korea

Mentoring programs

Mentor School, The Tomorrow Foundation for Korean Youth & Rural Development Feb. 2013

SNU Active Mentoring program, Seoul National University Apr. 2012 – Dec. 2012

SNU-Jeongseon Mentoring Program, Seoul National University Aug. 2012

SNU Dream Camp, Chungryol Girls High School Feb. 2012

Soccer club - Socchem

Mar. 2011 – Dec. 2016

Winger, School of Chemical and Biological Engineering, Seoul National University