



Yun Jeong Hwang

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Education

- 2012. Ph. D.: Department of Chemistry, University of California, Berkeley, CA, USA
- 2005. M.S.: Department of Chemistry, Korea Advanced Institute of Science and Technology(KAIST), Daejeon, Republic of Korea
- 2003. B.S.: Department of Chemistry, KAIST, Daejeon, Republic of Korea

Employment History

- Mar.2021 ~ present Associate Professor, Seoul National University, Republic of Korea
- Feb. 2019 ~ present Associate Editor, Journal of Material Chemistry A, RSC
- Mar. 2018 ~ Feb. 2021 Principal Researcher, KIST, Clean Energy Research Center, Korea
- Mar. 2015 ~ Feb. 2021 Associate Professor, University of Science and Technology (UST)-KIST School, Division of Energy and Environment Technology
- Jun. 2012 ~ Feb. 2018 Researcher, Senior Researcher, KIST, Clean Energy Research Center

Selected Publications

- Yeongbae Jeon, Dongwoo Shin, Kijung Yong and Yun Jeong Hwang*. Enhancing Ammonia Production by Ag Incorporation in Li-mediated Nitrogen Reduction Reactions, *ACS Energy Lett.* **2024**, 9, 4147–4152
- Juwon Kim†, Si Young Lee†, Se-Jun Kim†, Bonho Koo, Jinkyu Chung, Danwon Lee, Subin Choi, Sungjae Seo, Karl Adrian Gandioco, Gwangsue Bak, Namdong Kim, Hyun-Joon Shin, Keun Hwa Chae, Da Hye Won, Matthew A. Marcus, Shu-Chih Haw, Daan Hein Alsem, Norman J. Salmon, Byoung Koun Min, Hyungjun Kim*, Yun Jeong

- Hwang*, and Jongwoo Lim*, “Spatiotemporal active phase evolution of CO₂ electrocatalysts” *Joule*, 2024, (accepted)
- Si Young Lee, Jimin Kim, Gwangsu Bak, Eunchong Lee, Dayeon Kim, Suhwan Yoo, Jiwon Kim, Hyewon Yun, **Yun Jeong Hwang***, Probing Cation Effects on *CO Intermediates from Electroreduction of CO₂ through Operando Raman Spectroscopy, *J. Am. Chem. Soc.* **2023**, 145, 42, 23068–23075
 - Jiwon Kim, Jae Hyung Kim, Cheoulwoo Oh, Hyewon Yun, Eunchong Lee, Hyung-Suk Oh, Jong Hyeok Park*, and **Yun Jeong Hwang***, *Nat. Commun.*, **2023**, 14, 4704. Electro-assisted methane oxidation to formic acid via in-situ cathodically generated H₂O₂ under ambient conditions
 - Jae Hyung Kim, Hyunsung Jang, Woong Choi, Hyewon Yun, Eun Chong Lee, Dongjin Kim, Jiwon Kim, Si Young Lee, and Yun Jeong Hwang* “Insensitive cation effect on single-atom Ni catalyst allows selective electrochemical conversion of captured CO₂ in universal media” *Energy Environ. Sci.* **2022**, 15, 4301-4312
 - Dongjin Kim, Woong Choi, Hee Won Lee, Si Young Lee, Yongjun Choi, Dong Ki Lee, Woong Kim, Ung Lee*, **Yun Jeong Hwang***, Da Hye Won* “Electrocatalytic reduction of low concentration CO₂ gas in a membrane electrode assembly electrolyzer” *ACS Energy Lett.* **2021**, 6, 3488-3495.
 - Kim, Y.⁺; Par, S.⁺; Shin, S.J.; Choi, W.; Min, B. K.; Kim, H.; Kim, W.*; **Hwang, Y. J.***, “Time-resolved observation of C-C coupling intermediates on Cu electrodes for selective electrochemical CO₂ reduction” *Energy Environ. Sci.* **2020**, 13, 4301-4311. ([2020 Energy and Environmental Science HOT Articles](#))
 - Jung, H; Lee, S. Y.; Lee, C. W.; Won, D. H.; Kim, C. Oh, H. S.; Min, B. K.; **Hwang, Y. J.*** “Electrochemical fragmentation of nanoparticle enhancing selective C-C coupling from CO₂ reduction reaction” *J. Am. Chem. Soc.* **2019**, 141, 4624-4633.
 - Lee, S. Y.; Jung, H.; Kim, N.-K.; Oh, H.-S.; Min, B. K.; **Hwang, Y. J.*** “Mixed Copper States in Anodized Cu Electrocatalyst for Stable and Selective Ethylene Production from CO₂ Reduction” *J. Am. Chem. Soc.* **2018**, 140, 8681-8689.
 - Kim, C.; Jeon, H. S.; Eom, T.; Jee, M. S.; Kim, H.; Friend C. M.; Min B. K.*; **Hwang, Y. J.*** “Achieving Selective and Efficient Electrocatalytic Activity for CO₂ Reduction Using Immobilized Silver Nanoparticles”, *J. Am. Chem. Soc.* **2015**, 137, 13844-13850.

Research Interests

- Electrochemical CO₂ conversion, water splitting, biomass upgrading, Li-mediated nitrogen reduction reaction
- Electrocatalyst, Single atom catalyst, nanoparticle, nanocluster
- Operando electrochemical spectroscopy
- CO₂ electrolyzer, GDE electrolyzer, Capture and Conversion of CO₂
- Artificial Photosynthesis, Solar-to-Chemical Production, Solar Water Splitting

Awards

- 2023 Women Scientists at the Forefront of Energy Research by ACS Energy Letters (2023. Jan)
- 2022 Young-Korean Academy of Science and Technology member (2021.12. 14)
- 2021 Distinguished Female Chemical Engineer Award of Taiwan Institute of Chemical Engineers (2021.Dec)

- 2020 Top 10 technology award in climate change response by Korean Government, Commendation from the Ministry of Science and Technology information and communication, (2020. 12.21)
- 2020 Top 100 National R&D Award, Project Investigator Yun Jeong Hwang, Korean Government, Ministry of Science and Technology information and communication (2020. 10. 29)