

Kyoungmin Choi

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Environmental and Climate Technology
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Education

Ph.D., Department of Chemistry, Seoul National University, Korea September 2013 – February 2019
Thesis Title: Rhodium-Catalyzed Asymmetric Cyclization of Alkynes (Advisor: Prof. Chulbom Lee)

B.S., *Summa cum laude*, Department of Chemistry Education, Seoul National University, Korea March 2010 – August 2013

Research Experience

Korea Institute of Energy Technology (KENTECH) Naju, South Korea
Assistant Professor August 2025 – present
Transition metal catalysis for carbon valorization and degradation

Korea Research Institute of Chemical Technology Daejeon, South Korea
Senior Research Scientist March 2023 – August 2025
Therapeutics & Biotechnology Division
Targeted protein degradation for pharmaceuticals and Synthesis of DNA-encoded library

University of California, Berkeley CA, United States
Postdoctoral Fellow; Advisor: Prof. John F. Hartwig January 2020 – January 2023
Development of dialkylaryl phosphine ligands for cross-coupling reactions:
Palladium-catalyzed arylation of aryl difluoromethyl(trimethyl)silanes and parent nitrogen nucleophiles

Seoul National University Seoul, South Korea
Postdoctoral Fellow; Advisor: Prof. Chulbom Lee March 2019 – December 2019
Nickel-catalyzed tandem addition–cyclization–rearrangement of alkynylhydrazones
Ruthenium-catalyzed reconstitutive amide synthesis from terminal alkynes

Graduate Research Assistant; Advisor: Prof. Chulbom Lee September 2013 – February 2019
Rhodium-catalyzed tandem addition–cyclization of alkynes with C=N bonds

Undergraduate Research Assistant; Advisor: Prof. Chulbom Lee June 2011 – August 2013
Rhodium-catalyzed carbocyclization of alkynyl enamines

Teaching Experience

Korea Institute of Energy Technology Naju, South Korea
Instructor, General Chemistry 1 2025
Instructor, General Chemistry 2 2025

Seoul National University Seoul, South Korea
Teaching Assistant, Organic Chemistry 2017 – 2018
Instructor, Organic Chemistry Lab 2014 – 2015
Teaching Assistant, General Chemistry 2015
Instructor, General Chemistry Lab 2013 – 2014

Honors and Awards

Grand Prize 2024
Korea Institute of Human Resources Development in Science and Technology

Best Presentation Award (1st Prize) 2022
California Research Alliance Center by BASF

Outstanding Poster Prize Organic Chemistry Division of Korean Chemical Society	2019
SNU Fellowship for Fundamental Academic Fields Seoul National University	2017 – 2018
Outstanding Presentation Award Organic Chemistry Division of Korean Chemical Society	2018
IUPAC Poster Prize The 45th IUPAC World Chemistry Congress, International Union of Pure and Applied Chemistry	2015
Outstanding Graduate Teaching Assistant Award Department of Chemistry, Seoul National University	2014
Teacher's Certificate Ministry of Education	2013
National Scholarship for Science and Engineering Korea Student Aid Foundation	2010 – 2013

Publications

Choi, K.[†]; Brunn, J. N.[†]; Borate, K.; Kaduskar, R.; Pueyo, C. L.; Shinde, H.; Goetz, R.; Hartwig, J. F. Palladium-Catalyzed Amination of Aryl Halides with Aqueous Ammonia and Hydroxide Base Enabled by Ligand Development *J. Am. Chem. Soc.* **2024**, *146*, 19414–19424. (†: Equally contributed)

Choi, K.; Mormino, M. G.; Kalkman, E. D.; Park, J.; Hartwig, J. F. Palladium-Catalyzed Aryldifluoromethylation of Aryl Halides with Aryldifluoromethyl Trimethylsilanes *Angew. Chem. Int. Ed.* **2022**, *61*, e202208204. (Highlighted in *Org. Process Res. Dev.* **2022**, *26*, 3181–3189; *Synfacts* **2022**, *18*, 1211.)

Kim, H.; Choi, K.; Jang, D.; Um, H.-S.; Kim, Y.; Lee, C. Rhodium-Catalyzed Tandem Addition–Cyclization of 1,5-Enynes with Organoboronic Acids for the Synthesis of Alkylidene-Cyclobutanes *Helv. Chim. Acta* **2021**, *105*, e202100220.

Wang, J. Y.; Choi, K.; Zuend, S. J.; Borate, K.; Shinde, H.; Goetz, R.; Hartwig, J. F. Cross-Coupling between Hydrazine and Aryl Halides with Hydroxide Base at Low Loadings of Palladium by Rate-Determining Deprotonation of Bound Hydrazine. *Angew. Chem. Int. Ed.* **2021**, *60*, 399–408. (Highlighted in *Synfacts* **2021**, *17*, 0042.)

Roh, S. W.; Choi, K.; Lee, C. Transition Metal Vinylidene- and Allenylidene-Mediated Catalysis in Organic Synthesis. *Chem. Rev.* **2019**, *119*, 4293–4356.

Choi, K.[†]; Park, H.[†]; Lee, C. Rhodium-Catalyzed Tandem Addition–Cyclization–Rearrangement of Alkynylhydrazones with Organoboronic Acids. *J. Am. Chem. Soc.* **2018**, *140*, 10407–10411. (Highlighted in *Synfacts* **2018**, *14*, 1144; †: Equally contributed)

Choi, K.; Joo, J. M.; Lee, C. Rhodium-catalyzed tandem addition–cyclization of alkynylimines. *Tetrahedron* **2015**, *71*, 5910–5917. (Invited contribution in honor of Professor Barry Trost's Tetrahedron award)

Patents

Hwang, J. Y.; Takwale, A. D.; Cho, S. Y.; Ha, J. D.; Kim, P. H.; Kim, H. J.; Cho, Y. H.; Choi, K. M.; Go, A. R.; Kim, J.-H.; Park, S.; Kim, J.-A.; Cho, J. H.; Lee, J.-E.; Novel cereblon-based GSPT1/2 degrading compound. KR 10-2025-0037475.

Kim, P. H.; Hwang, J. Y.; Kim, H. J.; Cho, Y. H.; Cho, S. Y.; Ha, J. D.; Choi, K. M.; Park, H. New sultam derivatives as a cereblon ligand and its uses. KR 10-2024-0196602.

Kim, P. H.; Cho, S. Y.; Ha, J. D.; Hwang, J. Y.; Kim, H. J.; Raikar, S. S.; Cho, Y. H.; Choi, K. M. The new tetrahydroisoquinoline or isoindoline substitute [1,2,4]triazolo[1,5-a]pyridine derivatives having JAK1 selective inhibition activity and uses thereof. KR 10-2024-0140758.

Hwang, J. Y.; Cho, S. Y.; Ha, J. D.; Kim, P. H.; Kim, H. J.; Cho, Y. H.; Choi, K. M.; Yu, N. S.; Kim, J.-A.; Kim, J.-H., Park, S.; Lee, J.-E. New derivatives using conjugate fumarate handle which is Anaplastic Lymphoma Kinase degrader and use thereof. KR 10-2024-0140715.

Hwang, J. W.; Cho, S. Y.; Ha, J. D.; Kim, P. H.; Kim, H. J.; Cho, Y. H.; Kim, J. H.; Choi, K. M.; Kim, J. H.; Kim, J. A.; Park, S. K.; Park, B. C.; Park, S. G.; Cho, J. H. INDOLE COMPOUND DECOMPOSING IKZF2, AND USE THEREOF. KR 10-2024-0013568.

Choi, K.; Hartwig, J. F.; Borate, K.; Pueyo, C. L.; Kaduskar, R.; Shinde, H.; Goetz, R.; Brunn, J. Phosphine ligands and their use in coupling reactions. US 63/484,067, EP 23167193.4.

Books

Baek, J. Y.; Jeong, J.-S.; Na, S. I.; [Choi, K.](#); Yoon, B. C.; Roh, D.; Hwang, S. H.; Byen, J. *Wise Science Communicator Life*; Readtexture, 2025. ISBN 979-11-978020-9-6 (03400).

Research Presentations

KCS Organic Chemistry Division (2024, **Oral**, Daejeon, Korea); Division of Medicinal Chemistry, PSK (2024, **Oral**, Daejeon, Korea); 2022 CARA Fall Review (2022, **Oral**, Santa Barbara, USA); 2022 CARA Spring Review (2022, **Oral**, Berkeley, USA); ACS Spring 2022 (2022, **Oral**, San Diego, USA); The 20th IUPAC International Symposium on Organometallic Chemistry Directed Towards Organic Synthesis (OMCOS 20, 2019, **Poster**, Heidelberg, Germany); The 256th ACS National Meeting (2018, **Poster**, Boston, MA, USA); The 121st KCS General Meeting (2018, **Oral**, Jeju, Korea); The 19th IUPAC International Symposium on Organometallic Chemistry Directed Towards Organic Synthesis (OMCOS 19, 2017, **Poster**, Jeju, Korea); The 253rd ACS National Meeting (2017, **Poster**, San Francisco, CA, USA); The International Chemical Congress of Pacific Basin Societies (Pacifichem 2015, **Poster**, Honolulu, Hawaii, USA); The 45th IUPAC World Chemistry Congress (2015, **Poster**, Busan, Korea); The 18th IUPAC International Symposium on Organometallic Chemistry Directed Towards Organic Synthesis (OMCOS 18, 2015, **Poster**, Sitges, Barcelona); The 115th KCS General Meeting (2015, **Poster**, Goyang, Korea)

Invited Talks

Department of Fine Chemistry, Seoul National University of Science&Technology (November 2025, Seoul, Korea); Jeonnam Science High School (November, 2025, Naju, Korea); Korea Chemical Society General Meeting (October 2025, Changwon, Korea); Garak High School (October 2025, Seoul, Korea); Asan Tangeong Onsaem Library (October 2025, Cheonan, Korea); Department of Materials Physics, Sookmyung Women's University (September 2025, Seoul, Korea); Carbon Neutrality Camp (August 2025, Naju, Korea); Science Teacher Conference (August 2025, Seoul, Korea); Busan Institute of Creative Convergence Education (July 2025, Busan, Korea); Seoul Science High School (June 2025, Seoul, Korea); Department of Energy and Biotechnology, Hanyang University (May 2025, Ansan, Korea); Daejeon Byeondong Middle School (April 2025); Department of Chemistry Education, Kongju National University (November 2024); Gwacheon National Science Museum and Science Bookshop GALDAR (October 2024); Korean Intellectual Property Office (October 2024); Organic Chemistry Division, Korea Chemical Society (Aug 2024, Yeosu, Korea); Daejeon Jungang High School (July 2024); Daejeon Jeil High School (April 2024); Department of Applied Chemistry, Kyung Hee University (Apr 2024, Yongin, Korea); Department of Chemistry, Chungbuk National University (Mar 2024, Cheongju, Korea); Organic Chemistry Division, Korea Chemical Society (Feb 2024, Daejeon, Korea); Division of Medicinal Chemistry, Pharmaceutical Society of Korea (Jan 2024, Daejeon, Korea); Seoul Science High School (Nov 2023, Seoul, Korea); School of Biomedical Convergence Engineering, Pusan National University (Nov 2023, Yangsan, Korea); Korea Institute of Energy Technology (Oct 2023, Naju, Korea); Department of Chemistry Education, Seoul National University (Oct 2023, Seoul, Korea); Department of Chemistry, Seoul National University (Sep 2023, Seoul, Korea); Department of Manufacturing Pharmacy, Pusan National University (Aug 2023, Pusan, Korea); Department of Chemistry, Pusan National University (Jan 2019, Pusan, Korea)

Public Science Communications ([Archive](#))

Science when I'm bored Season 4 1~4, Gwacheon National Science Museum, October 2025, YouTube.

Science when I'm bored Season 3 1~4, Gwacheon National Science Museum, June 2025, YouTube.

Science when I'm bored Season 2 1~3, Gwacheon National Science Museum, June 2025, YouTube.

Curiosity Broadcasting, 2025 Korea Science Festival, April 2025, Daejeon, Korea, YouTube.

Long-chain alkanes preserved in a Martian mudstone, Unreal Science, April 2025, YouTube.

Brain and Chemistry, Brain Week 2025, National Science Museum, March 2025, Daejeon, Korea.

Science when I'm bored 1~4, Gwacheon National Science Museum, January 2025, YouTube.

2024 Nobel Prize in Chemistry, Gwacheon National Science Museum, December 2024, YouTube.

Chemistry Hell Quiz Show, Science Festival, QUA, September 2024, Daejeon, Korea, YouTube.

Mukbang with a Scientist, Eat with Boki, August 2024, YouTube.

Molecular gastronomy, Cooking Hobbyist Guy, Yonam, August 2024, YouTube.

Introduction to Organic Chemistry 1~2, Unreal Science, January 2024, YouTube.