

Curriculum Vitae

Personal Information

Dr. Eunji Jin

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Education

- Feb 2021 Ph.D. in Chemistry, Ulsan National Institute of Science and Technology (UNIST), Ulsan, South Korea
Dissertation: Discovery of Porphyrinic Metal-Organic Frameworks as Advanced Materials Platform (Supervisor: Prof. Wonyoung Choe)
- Aug 2015 M.S. in Chemistry, UNIST, Ulsan, South Korea
- Aug 2012 B.S. in Chemistry & Marine Environmental Sciences, Chungnam National University, Daejeon, South Korea

Academic Positions

- Mar 2026 – Present Assistant Professor, Ajou University, Suwon, South Korea
- Jan 2022 – Feb 2026 Postdoctoral Researcher, Technische Universität Dresden (TU Dresden), Dresden, Germany (Advisor: Prof. Stefan Kaskel)
- Mar 2021 – Dec 2021 Postdoctoral Researcher, UNIST, South Korea (Advisor: Prof. Wonyoung Choe)
- Sep 2015 – Feb 2016 Researcher, UNIST, Republic of Korea

Research Achievements

- E. Jin***, V. Bon, S. Das, A. D. Dinga Wonanke, M. Etter, M. A. Karlsen, A. De, N. Bönisch, T. Heine, S. Kaskel*, Engineering Photoswitching Dynamics in 3D Photochromic Metal-Organic Frameworks through Metal-Organic Polyhedron Design. *J. Am. Chem. Soc.* **2025**, *147*, 8568–8577.
- E. Jin**, I. S. Lee, D. C. Yang, D. Moon, J. Nam, H. Cho, E. Kang, H.-J. Noh, S. K. Min*, W. Choe*. Origamic Metal-Organic Framework Toward Mechanical Metamaterial. *Nat. Commun.* **2023**, *9*, 7938.
- E. Jin**, I. S. Lee, D. Kim, H. Lee, W.-D. Jang, M. S. Lah, S. K. Min*, and W. Choe*, Metal-organic framework based on hinged cube tessellation as transformable mechanical metamaterial. *Sci. Adv.*, **2019**, *5*, eaav4119.
- E. Jin**†, S. Lee†, E. Kang, Y. Kim, and W. Choe*, Metal-organic frameworks as advanced adsorbents for pharmaceutical and personal care products. *Coord. Chem. Rev.*, **2020**, *425*, 213526. (†equally contributed).
- E. Jin**, J. Kim, J. Nam, D. C. Yang, H. Jeong, S. Kim, E. Kang, H. J. Cho, and W. Choe*, Adsorptive Removal of Industrial Dye by Nanoporous Zr porphyrinic Metal-Organic Framework Microcubes. *ACS Appl. Nano Mater.* **2021**, *4*, 10068–10076.
- E. Jin**†, J. Nam†, J. C. Kim, H. Kang, J. H. Lee, J. K. Kim, C. U. Kim, S. K. Kwak*, W. Choe*, Fluidic Actuation in a 2D Metal–Organic Framework. *ChemRxiv.* **2025**; doi:10.26434/chemrxiv-2025-4dtb2. This content is a preprint and has not been peer-reviewed. *Under Revision.*
- K. Kim†, S. Lee†, **E. Jin**, L. Palanikumar, J. H. Lee, J. C. Kim, J. S. Nam, B. Jana, T.-H. Kwon, S. K. Kwak*, W. Choe*, and J.-H. Ryu*, MOF × Biopolymer: Collaborative Combination of Metal-

- Organic Framework and Biopolymer for Advanced Anticancer Therapy. *ACS Appl. Mater. Interfaces* **2019**, *11*, 27512–27520.
8. P. B. Pati, **E. Jin**, Y. Kim, Y. Kim, J. Mun, S. J. Kim, S. J. Kang, W. Choe, G. Lee*, H.-J. Shin*, and Y. S. Park*, Unveiling 79-Year-Old Ixene and its BN-Doped Derivative. *Angew. Chem. Int. Ed.*, **2020**, *59*, 2–7.
 9. D. Nam, Y. Kim, M. Kim, J. Nam, S. Kim, **E. Jin**, C. Y. Lee, and W. Choe*, Role of Zr₆ Metal Nodes in Zr-Based Metal-Organic Frameworks for Catalytic Detoxification of Pesticides. *Inorg. Chem.*, **2021**, *60*, 10249–10256.
 10. H. J. Cho, E. Kang, S. Kim, D. C. Yang, J. Nam, **E. Jin**, and W. Choe*, Impact of Zr₆ Node in a Metal-Organic Framework for Adsorptive Removal of Antibiotics from Water. *Inorg. Chem.*, **2021**, *60*, 16966–16976.
 11. J. Park†, S. J. Kim†, H. Kwon†, **E. Jin**, K. Yoon, H. Kim, S. Shadman, W. Choe*, J. Kim*, Y. S. Park*. PN-doped tetraphenylnaphthalene: A straightforward synthetic strategy analogous to BN-annulation. *Chem. Commun.*, **2021**, *57*, 12147–12150. (†equally contributed)
 12. J. Lee, H. Choi, J. Mun, **E. Jin**, S. Lee, J. Nam, M. Umer, J. Cho, G. Lee*, Y. Kwon*, W. Choe*. Nanozyme Based on Porphyrinic Metal-Organic Framework for Electrocatalytic CO₂ Reduction. *Small Struct.* **2023**, *4*, 220087.
 13. J. Y. Oh†, E. Choi†, B. Jana†, E. M. Go, **E. Jin**, S. Jin, J. Lee, J.-h. Bae, G. Yang, S. K. Kwak*, W. Choe*, J.-H. Ryu*. Protein-precoated surface of metal-organic framework nanoparticles for targeted delivery. *Small*. **2023**, 2300218 (†equally contributed)
 14. H. J. Cho†, E. Kang†, S. Kim, D. C. Yang, J. Nam, **E. Jin**, J. Lee, W. Choe*. Targeted Adsorptive Removal of Nonsteroidal Anti-inflammatory Drugs for Water Purification Using Nanoporous Zr-based Metal-Organic Framework Microcubes. *ACS Appl. Nano Mater.*, **2023**, *6*, 7342–7350. (†equally contributed)
 15. J. Lee†, E. Hwang†, T. I. Kim, **E. Jin**, E. Cho, Y. S. Park*, S. K. Min*, T.-H. Kwon*, W. Choe*. Unveiling Energy Transfer Mechanisms in Nanographene-incorporated Metal-Organic Frameworks. *ACS Materials Lett.* **2024**, *6*, 1151–1159.
 16. J. Nam, S. Kim, **E. Jin**, S. Lee, H. J. Cho, S. K. Min, W. Choe*. Zeolitic Imidazolate Frameworks as Solid-State Nanomachines. *Angew. Chem. Int. Ed.* **2024**, e20240461.
 17. J. Nam, **E. Jin**, L. Abylgazina, J. Getzschmann, W. Xue, H. K. Lee, H. Oh, H. R. Moon, S. Henke, A. Schneemann*, W. Choe*, Pore Structure Modulation in Kirigamic Zeolitic Imidazolate Framework. *Angew. Chem. Int. Ed.* **2025**, *64*, e202417137.
 18. J. Lee, D. Park, **E. Jin**, S. Lee, J. Lee, H. Oh*, W. Choe*, Programmable Merged-Net Porphyrinic Metal-Organic Frameworks for Water Sorption. *Adv. Funct. Mater.* **2025**, *35*, 2413200.
 19. J. Park†, N. Park†, W.-S. Chen†, S. Cho, **E. Jin**, J. H. Lee, W. Choe*, M.-J. Cheng*, Y. Kwon*, H. R. Moon*, A Structure-Defined Cu(I) Dual-Atom Catalyst with a Cu₂N₆ Motif in a Metal-Organic Framework for CO Electroreduction. *Angew. Chem. Int. Ed.* **2025**, e22583 (†equally contributed)
 20. M. Ghosh, A. Chakraborty, V. Castro, **E. Jin**, K. Heise, L. Abuawwad, S. Nuthalapati, I. Senkovska, E. Altinsoy, S. Kaskel, A. Nag, MOF/PVDF Film for High-Performance Piezoelectric Haptic Devices. *Under Revision*.

Research Grants

- Jul 2025 – Jun 2028 Principal Investigator, Module of Temporary Positions for Principal Investigators “Reversible Assembly and Disassembly of Metal-Organic Polyhedra: Towards Dimensionally Controlled Synthesis of Functional Porous Materials” Deutsche Forschungsgemeinschaft (DFG), Germany, € 386,374
- Mar 2025 – Dec 2025 Principal Investigator, Start-up Funding 2025 “Precisely Controlled 2D Monolayer Engineering based on Metal-Organic Polyhedron and

Applications” CRC1415, Germany, € 65,000 (Grant supported one Ph.D. student)

Fellowships and Awards

Jan 2022 – Jun 2025	Marial Reiche Postdoctoral Fellowships, TU Dresden, Germany
Mar 2017 – Feb 2020	Global Ph.D. Fellowship Program, National Research Foundation of Korea, South Korea
Dec 2019	IUCr Young Scientist Award, 2019 16 th Conference of the Asian Crystallographic Association, held at National University of Singapore, UTown, Singapore
Nov 2018	Outstanding presentation Award, 2018 5 th SGPF Annual Conference, Society of Global Ph.D. Fellows, held at Incheon National University, Incheon, South Korea

Teaching & Supervising

- Instructor, Chem-Ma_Mo-07 practical course, TU Dresden, Seminar 6: *Exercises on X-ray Diffraction Methods*, May 2025
- Research Assistant, Chem-Ma_Mo-07 practical course, TU Dresden, 2022–2025 (taught annually)
- Supervisor for Bachelor’s thesis & Advanced Research Internship, TU Dresden, Jul–Oct 2024
- Teaching Assistant in Inorganic Chemistry Laboratory, UNIST, Mar–Jun 2018
- Teaching Assistant in Differential Equation, UNIST, Sep–Nov 2013
- Teaching Assistant in Inorganic Chemistry, Feb–May 2013, UNIST

Patent

- Metal-organic framework as metamaterial and its manufacturing method, Korea Patent Registration Number 10-2251981, May 10, 2021 (Inventor: W. Choe, **E. Jin**)
- Porphyrinic metal-organic frameworks having multiple porphyrin ligands and its preparing method, Korea Patent Registration Number 10-2166662, Oct 12, 2020 (Inventor: W. Choe, J. Lee, **E. Jin**, S.-M. Lee)
- Design and synthesis of porphyrinic metal-organic frameworks with pyridyl ligand, Korea Patent Registration Number 10-2171468, Oct 23, 2020 (Inventor: W. Choe, J. Lee, **E. Jin**)

Conference Presentations (Selected)

- *Oral Presentation*: “Engineering Photoswitching Dynamics in 3D Photochromic Metal-Organic Frameworks through Metal-Organic Polyhedron Design” 1st International Conference on EMPOWER Women in MOFs and Beyond, Mexico City/Merida, Mexico, Nov 2025
- *Poster Presentation*: “Engineering Photoswitching Dynamics in 3D Photochromic Metal-Organic Frameworks through Metal-Organic Polyhedron Design” 6th European Conference on Metal Organic Frameworks and Porous Polymers (EUROMOF), Creta, Greece, Sep 2025
- *Poster Presentation*: “Omnidirectional Photochromic Behavior in 3D Metal-Organic Frameworks via Assembly using Metal-Organic Polyhedra” 9th International Conference on Metal-Organic Frameworks and Open Framework Compounds (MOF2024), Singapore, Jul 2024
- *Poster Presentation*: “Mechanical 2D Porphyrinic Metal-Organic Framework Based on Foldable Movement” 5th European Conference on Metal Organic Frameworks and Porous Polymers (EUROMOF), Granada, Spain, Sep 2023

- *Poster Presentation:* “Enhanced removal of Emerging pollutants on Zr porphyrinic Metal-organic framework” 34. Deutsche Zeolith-Tagung, Vienna, Austria, Feb 2023
- *Poster Presentation:* “Enhanced removal of Emerging pollutants on Zr porphyrinic Metal-organic framework” 8th International Conference on Metal-Organic Frameworks and Open Framework Compounds, Dresden, Germany, Sep 2022
- *Invited Talk:* “Building Principles of Meta-MOF (Metal-Organic Framework)” AsCA2019, 16th Conference of the Asian Crystallographic Association, Singapore, Dec 2019
- *Oral Presentation:* “Building Principles of Meta-MOF (Metal-Organic Framework)” 2019 6th SGPF Annual Conference, South Korea, Nov 2019
- *Poster Presentation:* “Building Principles of Meta-MOF (Metal-Organic Framework)” The 1st Kyoto University-UNIST Joint Symposium on Chemistry and Materials Science, Kyoto, Japan, Oct 2019
- *Oral Presentation:* “Building Principles of Meta-MOF (Metal-Organic Framework)” 123th General Meeting of KOREAN CHEMICAL SOCIETY, South Korea, Apr 2019
- *Oral Presentation:* “Metal-Organic Framework based on Hinged Cube Tessellation as a Mechanical Metamaterial” MOF2018 6th international conference on metal organic framework and open framework compounds, New Zealand, Dec 2018
- *Oral Presentation:* “Solvent-Mediated Actuation Mechanism for Porphyrinic Metal-Organic Framework” 5th SGPF Annual Conference, South Korea, Nov 2018
- *Oral Presentation:* “Radially Expandable Metal-Organic Framework with Negative Poisson’s ratio” 4th SGPF Annual Conference, South Korea, Dec 2017

Professional Activities

Organizing Committee. 12th International Symposium on the Characterization of Porous Solids, Young Investigator Forum At COPS XII, Dresden, Germany, May 2–3, 2026

Serving on the Organizing Committee for the Young Investigator Forum at COPS XII, contributing to the planning and coordination of the event.

Volunteer Activities. KINDERUNI, Deutsches Hygiene Museum, Dresden, Germany, Dec 10, 2024
“KINDERUNI” is a joint project of the Technical University of Dresden and the German Hygiene Museum.

Research Networking. Next-Generation Science and Technology Leaders (supported by the Korean Federation of Science and Technology Societies), Dresden, Germany, 2022–2023
Program promoting international collaboration and global networks among future leaders in science and technology

Exhibition Booth Participation. ENVEX 2021 - International Exhibition on Environmental Technology & Green Energy (supported by KEITI), COEX, Seoul, South Korea, Jul, 2021
Booth participation for presenting research results

Volunteer Activities. Preparatory Committee of Laboratory Movement, UNIST, Ulsan, South Korea, Dec 2015 – Jan 2016

Research Internship. U-SURF (UNIST-Summer Undergraduate Research Fellowship), Supervisor: Prof. Sung You Hong, UNIST, Ulsan, South Korea, Jul 2011
One-month research internship in laboratory-based project