

Hyunho Noh, Ph.D.

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University of Oklahoma, Department of Chemistry and Biochemistry, Norman, OK

Google Scholar: <https://scholar.google.com/citations?user=JP1VUyUAAAJ&hl=ja>

PROFESSIONAL APPOINTMENTS

Assistant Professor in Materials Science and Engineering , <i>University of Oklahoma</i>	Norman, OK Aug. 2025-Present
Assistant Professor in Chemistry , <i>University of Oklahoma</i>	Norman, OK Aug. 2023-Present
Postdoctoral Associate , <i>Yale University</i> Advisor: James M. Mayer	New Haven, CT Dec. 2019 – Aug. 2023
Graduate Research Assistant , <i>Northwestern University</i> Co-Advisors: Joseph T. Hupp and Omar K. Farha	Evanston, IL Aug. 2015 – Dec. 2019
Visiting Graduate Research Assistant , <i>Argonne National Laboratory</i> Advisor: Alex B. F. Martinson	Argonne, IL Aug. 2018 – Nov. 2019
Undergraduate Research Assistant , <i>University of Illinois Urbana-Champaign</i> Advisor: Mei Shen	Champaign, IL Nov. 2013 – June 2015

EDUCATION

Ph.D. in Chemistry , <i>Northwestern University</i> Thesis Title: Towards Structurally Well-Defined, Metal Chalcogenide/Pnictide-Based Heterogeneous Catalysts for Energy-Relevant Transformations	Evanston, IL Dec. 2019 GPA: 3.9/4.0
B.S. in Chemistry , <i>University of Illinois Urbana-Champaign</i> Thesis Title: Potential Enhancement in the Efficiencies of Dye-Sensitized Solar Cell through the Application of Graphene Quantum Dots and Donor-Acceptor Organic Dyes	Champaign, IL Dec. 2014 GPA: 3.8/4.0

AWARDS AND FELLOWSHIPS

NSF NRT Diana: An Interdisciplinary Training Program to Accelerate Fundamental Science Translation (<i>Co-PI</i>)	2025
Faculty Travel Assistance Program Award	2025
Junior Faculty Fellowship	2025
Presidential International Travel Fellowship	2023
Ryan Fellowship	2017- 2019
Highest Departmental Distinction in Chemistry	2014
Cum Laude	2014
Dean's List	2011- 2014
Dow Undergraduate Scholarship Award	2014

PROFESSIONAL SERVICES

American Chemical Society Oklahoma Session Chair-Elect	Spring 2025 – Present
Peer Reviewer of <i>the Journal of the American Chemical Society</i> , <i>ACS Catalysis</i> , <i>Crystal Growth and Design</i> , <i>Journal of the Electrochemical Society</i> , <i>Inorganic Chemistry</i> , <i>ACS Applied Materials and Interfaces</i> , <i>ACS Omega</i> , <i>ChemSusChem</i> , <i>Frontiers in Chemistry</i> , and <i>Materials Today Sustainability</i>	

SCIENTIFIC PUBLICATIONS

(Total Number of Citations: 2795, h-index: 24)

From Independent Career:

- (35) Liuzzi-Vaamonde, M. A.; Masood, Z.; Wang, B.; Tkatchenko, N. V.; Noh, H., Electrolyte-Dependent, “Microscopically Irreversible” H-atom Transfer Kinetics of Ce-Based Metal-Organic Framework, Ce-MOF-808. *ChemRxiv* **2025**, DOI: 10.26434/chemrxiv-2025-ptnrh.
- (34) Altınçekiç, N. G.; Lander, C. W.; Yu, J.; Roslind, A.; Shao, Y.; Noh, H., Proton, Electron, and Hydrogen-Atom Transfer Thermodynamics of the Metal–Organic Framework, Ti-MIL-125, Are Intrinsically Correlated to the Structural Disorder. *J. Am. Chem. Soc.* **2025**, *147* (38), 34777-34790.
- (33) Ghuffar, H. A.; Masood, Z.; Wang, B.; Noh, H., Node-Solution Microenvironment Governs the Selectivity of Thioanisole Oxidation within Catalytic Zr-Based Metal–Organic Framework. *ACS Appl. Mater. Interfaces* **2025**, *17* (30), 43112-43121.
- (32) Altınçekiç, N. G.; Achemire, M. A.; Noh, H. Crystal-size-dependent Optical Properties of H-atoms on the Nodes of Ti-based Metal-Organic Framework. *Chem Asian J.* **2025**, *20*, e202401055.
- (31) Altınçekiç, N. G.; Lander, C. W.; Roslind, A.; Yu, J.; Shao, Y.; **Noh, H.** Electrochemically Determined and Structurally Justified Thermochemistry of H atom Transfer on Ti-Oxo Nodes of the Colloidal Metal–Organic Framework Ti-MIL-125. *J. Am. Chem. Soc.* **2024**, *149*, 33485-33498.
- (30) Ghuffar, H. A.; **Noh, H.** Lithium-Coupled Electron Transfer Reactions of Nano-Confined WO_x within Zr-Based Metal–Organic Framework, MOF-808, *Front. Chem.* **2024**, *12*, 1427536.
- (29) Ingram, Z.J.; Lander, C. W.; Oliver, M. C.; Altınçekiç, N. G.; Huang, L.; Shao, Y.; **Noh, H.** Hydrogen-Atom Binding Energy of Structurally Well-defined Cerium Oxide Nodes at the Metal–Organic Framework-Liquid Interfaces. *J. Phys. Chem. C* **2024**, *128*, 9556-9565.

Prior to Independent Career:

- (28) Nedzbala, H. S.; Westbroek, D.; Yang, H.; **Noh, H.**; Magpantay, S. V.; Donley, C. L.; Kumbhar, A. S.; Parsons, G. N.; Mayer, J. M. Photoelectrochemical Proton-Coupled Electron Transfer to TiO₂ Thin Films on Silicon. *J. Am. Chem. Soc.* **2024**, *146*, 10559-10572.
- (27) **Noh, H.**; Mayer, J. M. Medium-Independent Hydrogen Atom Binding Isotherms of Nickel Oxide Electrodes. *Chem* **2022**, *8*, 3324-3345.
- (26) Agarwal, R. G.; Coste, S. C.; Groff, B. D.; Heuer, A. M.; **Noh, H.**; Parada, G. A.; Wise, C. F.; Nichols, E. M.; Warren, J. J.; Mayer, J. M. Free Energies of Proton-Coupled Electron Transfer Reagents and Their Applications. *Chem. Rev.* **2021**, *122*, 1-49.
- (25) Turetsky, D.; Alzate-Sánchez, D.; Wasson, M. C.; Yang, A.; **Noh, H.**; Atligan, A.; Islamoglu, T.; Farha, O. K.; Dichtel, W. R. Hot Press Synthesis of MOF/Textile Composites for Nerve Agent Detoxification. *ACS Mater. Lett.* **2022**, *4*, 1511-1515.
- (24) Zhang, K.; Goswami, S.; **Noh, H.**; Lu, Z.; Sheridan, T.; Duan, J.; Dong, W.; Hupp, J. T. An iron-porphyrin grafted metal–organic framework as a heterogeneous catalyst for the photochemical reduction of CO₂. *J. Photochem. Photobio.* **2022**, *10*, 100111.
- (23) Yang, Y.; **Noh, H.**; Ma, Q.; Wang, R.; Chen, Z.; Schweitzer, N. M.; Liu, J.; Chapman, K.; Hupp, J. T. Engineering Dendrimer-Templated, Metal–Organic Framework-Confined Zero-Valent, Transition-Metal Catalysts. *ACS Appl. Mater. Interfaces* **2021**, *13*, 36232-36239.

- (22) Yang, Y.; Zhang, X.; Kanchanakungwankul, S.; Lu, Z.; **Noh, H.**; Syed, Z. H.; Farha, O. K.; Truhlar, D. G.; Hupp, J. T. Unexpected “Spontaneous” Evolution of Catalytic, MOF-Supported Single Cu(II) Cations to Catalytic, MOF-Supported Cu(0) Nanoparticles. *J. Am. Chem. Soc.* **2020**, *142*, 21169-21177.
- (21) **Noh, H.**; Jeon, N.; Martinson, A. B. F.; Hupp, J. T. Stabilization of Low Valent Zirconium Nitrides in Titanium Nitride via Plasma-Enhanced Atomic Layer Deposition and Assessment of Electrochemical Properties. *ACS Appl. Energy Mater.* **2020**, *3*, 5095-5100.
- (20) **Noh, H.***; Yang, Y.*; Zhang, X.; Goetjen, T. A.; Syed, Z. H.; Lu, Z.; Ahn, S.; Farha, O. K.; Hupp, J. T. Single-Site, Single-Metal-Atom, Heterogeneous Electrocatalyst: Metal–Organic-Framework Supported Molybdenum Sulfide Within for Redox Mediator-Assisted Hydrogen Evolution Reaction. *ChemElectroChem* **2020**, *7*, 509-516. *Authors contributed equally
- (19) Zhang, K.; Lee, T. H.; **Noh, H.**; Farha, O. K.; Jang, H. W.; Choi, J.-W.; Mohammadreza, S. Tailorable Topologies for Selectively Controlling Crystals of Expanded Prussian Blue Analogs. *Cryst. Growth Des.* **2019**, *19*, 7385-7395.
- (18) Cheng, E.; McCullough, L.; **Noh, H.**; Farha, O. K.; Hupp, J. T.; Notestein, J. M. Isobutane Dehydrogenation over Bulk and Supported Molybdenum Sulfide Catalysts. *Ind. Eng. Chem. Res.* **2019**, *59*, 1113-1122.
- (17) Choi, H.; Peters, A. W.; **Noh, H.**; Gallington, L. C.; Platero-Prats, A. E.; Destefano, M. R.; Rimoldi, M.; Chapman, K. W.; Farha, O. K.; Hupp, J. T. Vapor-Phase Fabrication and Condensed-Phase Application of a MOF-Node-Supported Iron-Thiolate Photocatalyst for Nitrate Conversion to Ammonium. *ACS Appl. Energy Mater.* **2019**, *2*, 8695-8700.
- (16) Zhang, K.; Lee, T. H.; **Noh, H.**; Islamoglu, T.; Farha, O. K.; Jang, H. W.; Choi, J.-W.; Shokouhimehr, M. Realization of Lithium-Ion Capacitors with Enhanced Energy Density via the Use of Gadolinium Hexacyanocobaltate as a Cathode Material. *ACS Appl. Mater. Interfaces* **2019**, *11*, 31799-31805.
- (15) Chen, Y.; Li, P.; **Noh, H.**; Kung, C.-W.; Buru, C. T.; Wang, X.; Zhang, X.; Farha, O. K. Stabilization of Formate Dehydrogenase in a Metal-Organic Framework for Bioelectrocatalytic Reduction of CO₂. *Angew. Chem. Int. Ed.* **2019**, *131*, 7764-7768.
- (14) Gong, X.*; **Noh, H.***; Gianneschi, N. C.; Farha, O. K. Interrogating Kinetic versus Thermodynamic Topologies of Metal-Organic Frameworks via Combined Transmission Electron Microscopy and X-ray Diffraction Analysis. *J. Am. Chem. Soc.* **2019**, *141*, 6146-6151. *Authors contributed equally
- (13) Chen, Z.; Wang, X.; **Noh, H.**; Ayoub, G.; Peterson, G. W.; Buru, C. T.; Islamoglu, T.; Farha, O. K. Scalable, Room Temperature, and Water-based Synthesis of Functionalized Zirconium-based Metal–Organic Frameworks for Toxic Chemical Removal. *CrystEngComm* **2019**, *21*, 2409-2415.
- (12) Goswami, S.; **Noh, H.**; Redfern, L. R.; Otake, K.; Kung, C.-W.; Cui, Y.; Chapman, K. W.; Farha, O. K.; Hupp, J. T. Pore-templated Growth of Catalytically-Active Gold Nanoparticles within a Metal–Organic Framework. *Chem. Mater.* **2019**, *31*, 1485-1490.
- (11) Osterrieth, J. W. M.; Wright, D.; **Noh, H.**; Kung, C.-W.; Vulpe, D.; Li, A.; Park, J. E.; Van Duyne, R. P.; Moghadam, P. Z.; Baumberg, J. J.; Farha, O. K.; Fairen-Jiminez, D. Core-shell Gold Nanorod@Zirconium-based Metal–Organic Framework Composites as *in situ* Size-Selective Raman Probes. *J. Am. Chem. Soc.* **2019**, *141*, 3893-3900.
- (10) Robinson, L.; Zhang, L.; Drout, R. J.; Li, P.; Haney, C.; Brikha, A.; **Noh, H.**; Mehdi, B. L.; Browning, N. D.; Dravid, V. P.; Cui, Q.; Islamoglu, T.; Farha, O. K. A New Bismuth Metal–Organic Framework as Contrast Agent for X-ray Computed Tomography. *ACS Appl. Bio Mater.* **2019**, *2*, 1197-1203.

- (9) **Noh, H.**; Yang, Y.; Ahn, S.; Peters, A. W.; Farha, O. K.; Hupp, J. T. Molybdenum Sulfide within a Metal–Organic Framework for Photocatalytic Hydrogen Evolution Reaction from Water. *J. Electrochem. Soc.* **2019**, *166*, H3154-H3158.
- (8) **Noh, H.**; Kung, C.-W.; Otake, K.; Peters, A. W.; Li, Z.; Liao, Y.; Gong, X.; Farha, O. K.; Hupp, J. T., Redox Mediator-Assisted Electrocatalytic Hydrogen Evolution Reaction from Water by a Molybdenum Sulfide-Functionalized Metal–Organic Framework. *ACS Catal.* **2018**, *8*, 9848-9858.
- (7) Majewski, M. B.; **Noh, H.**; Islamoglu, T.; Farha, O. K., NanoMOFs: Little Crystallites for Substantial Applications. *J. Mater. Chem. A* **2018**, *6*, 7338-7350.
- (6) Liu, J.; Ye, J.; Li, Z.; Otake, K.; Liao, Y.; Peters, A. W.; **Noh, H.**; Truhlar, D. G.; Gagliardi, L.; Cramer, C. J.; Farha, O. K.; Hupp, J. T., Beyond the Active Site: Tuning the Activity and Selectivity of a Metal–Organic Framework-Supported Ni Catalysts for Ethylene Dimerization. *J. Am. Chem. Soc.* **2018**, *140*, 11174-11178.
- (5) **Noh, H.**; Kung, C.-W.; Islamoglu, T.; Peters, A. W.; Liao, Y.; Li, P.; Garibay, S. J.; Zhang, X.; DeStefano, M. R.; Hupp, J. T.; Farha, O. K., Room Temperature Synthesis of an 8-Connected Zr-Based Metal–Organic Framework for Top-Down Nanoparticle Encapsulation. *Chem. Mater.* **2018**, *30*, 2193-2197.
- (4) Zhang, X.; Vermeulen, N. A.; Huang, Z.; Cui, Y.; Liu, J.; Krzyaniak, M. D.; Li, Z.; **Noh, H.**; Wasielewski, M. R.; Delferro, M.; Farha, O. K., Effect of Redox “Non-Innocent” Linker on the Catalytic Activity of Copper-Catecholate-Decorated Metal–Organic Frameworks. *ACS Appl. Mater. Interfaces* **2018**, *10*, 635-641.
- (3) Kung, C.-W.; Audu, C. O.; Peters, A. W.; **Noh, H.**; Farha, O. K.; Hupp, J. T., Copper Nanoparticles Installed in Metal–Organic Framework Thin Films are Electrocatalytically Competent for CO₂ Reduction. *ACS Energy Lett.* **2017**, *2*, 2394-2401.
- (2) Li, Z.; Peters, A. W.; Platero-Prats, A. E.; Liu, J.; Kung, C.-W.; **Noh, H.**; DeStefano, M. R.; Schweitzer, N. M.; Chapman, K. W.; Hupp, J. T.; Farha, O. K., Fine-Tuning the Activity of Metal–Organic Framework-Supported Cobalt Catalysts for the Oxidative Dehydrogenation of Propane. *J. Am. Chem. Soc.* **2017**, *139*, 15251-15258.
- (1) **Noh, H.**; Cui, Y.; Peters, A. W.; Pahls, D. R.; Ortuño, M. A.; Vermeulen, N. A.; Cramer, C. J.; Gagliardi, L.; Hupp, J. T.; Farha, O. K. An Exceptionally Stable Metal–Organic Framework Supported Molybdenum(VI) Oxide Catalyst for Cyclohexene Epoxidation. *J. Am. Chem. Soc.* **2016**, *138*, 14720-14726. Highlighted as the Editor's Choice in Science.

INVITED SEMINARS AND WORKSHOPS

(17)	American Chemical Society National Meeting Spring 2026	Atlanta, GA Mar. 2026
(16)	Texas Pore Engineering Conference 2025	Dallas, TX Dec. 2025
(15)	University of Oklahoma Advanced Materials Workshop	Norman, OK Nov. 2025
(14)	Telluride Science Research Center Workshop	Telluride, CO Sep. 2025
(13)	Telluride Science Research Center Workshop	Telluride, CO June 2025
(12)	Great Plains Catalysis Society Meeting	Virtual June 2025
(11)	Departmental Seminar at Concordia University	Montréal, Canada May 2025
(10)	Departmental Seminar at the University of Ottawa	Ottawa, Canada May 2025
(9)	Oklahoma Photovoltaic Institute Annual Meeting	Edmond, OK Apr. 2025

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| (8) | American Chemical Society National Meeting Spring 2025 | San Diego, CA Mar. 2025 |
| (7) | Departmental Seminar at California State University, Chico | Chico, CA Oct. 2024 |
| (6) | Departmental Seminar at Cal Poly Pomona | Pomona, CA Oct. 2024 |
| (5) | Departmental Seminar at California State University, Los Angeles | Los Angeles, CA Oct. 2024 |
| (4) | Departmental Seminar at California State University, Long Beach | Long Beach, CA Oct. 2024 |
| (3) | Metal–Organic Frameworks & Open Framework Materials Conference in Taiwan | Tainan, Taiwan
July 2024 |
| (2) | American Chemical Society Oklahoma Section Meeting (<i>Plenary</i>) | Norman, OK Mar. 2024 |
| (1) | American Chemical Society Southwest Regional Meeting
Fall 2023 | Oklahoma City, OK
Oct. 2023 |

TEACHING EXPERIENCES

University of Oklahoma:

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| Advanced Inorganic Chemistry | Norman, OK Aug. – Dec. 2023 & Aug. – Dec. 2025 |
| Frontiers in Inorganic Chemistry: Symmetry and Point Groups | Norman, OK Oct. – Dec. 2024 |
| Frontiers in Inorganic Chemistry: Electrochemistry | Norman, OK Oct. – Dec. 2024 |

Northwestern University (Graduate):

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| Chemistry of Alternative Energies (G) | Evanston, IL Jan. 2018 – Mar. 2019 |
| Environmental Chemistry (G) | Evanston, IL Apr. – June 2018 |
| Introductory Organic Chemistry (UG) | Evanston, IL Mar. – June 2016 |
| General Chemistry (UG) | Evanston, IL Sep. 2015 – Sep. 2016 |

University of Illinois Urbana-Champaign (Undergraduate):

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| Environmental Chemistry (UG) | Champaign, IL Jan. – May 2015 |
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RELATED PROFESSIONAL EXPERIENCES

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| American Chemical Society Leadership Institute Workshop | Houston, TX Jan 2025 |
| National Science Foundation Early Career Workshop | Alexandria, VA May 2024 |
| Laboratory Safety Officer, <i>Yale University</i> | New Haven, CT Jan. 2020 – June 2023 |
| American Chemical Society Postdoc-to-Faculty Workshop | Portland, OR Jul. 2022 |
| Department of Energy Early Career Network Representative | Evanston, IL Aug. 2018 – Aug. 2019 |
| Center for Light Energy Activated Redox Process Coordinator | Evanston, IL Aug. 2018 – Aug. 2019 |