

KURTIS M. CARSCH

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PROFESSIONAL APPOINTMENTS

The University of Texas at Austin, Austin, TX 2025 – *current*
Assistant Professor of Chemistry

University of California, Berkeley, Berkeley, CA 2021 – 2024
Arnold O. Beckman Postdoctoral Fellow
Research Advisor: Prof. Jeffrey R. Long
Research: High-Temperature Adsorptive Separations and Organometallic Mediated Separations

EDUCATION

Harvard University, Cambridge, MA 2016 – 2021
GPA: 3.9/4.0, Ph.D. in Chemistry
Fannie and John Hertz Fellow & National Science Foundation Graduate Research Fellow
Research Advisor: Prof. Theodore A. Betley
Thesis: Ligand Field Inversion in Sterically Confined Copper Architectures

Danish Technical University (DTU), Lyngby, Denmark Fall 2014
Copenhagen Scholars, Study-Abroad Scholarship
Research Advisor: Prof. Sussane Mossin
Research: Synthesis of Transition Metal Complexes with Phenolate-Based Tripodal Scaffolds

California Institute of Technology (Caltech), Pasadena, CA 2012 – 2016
GPA: 4.0/4.0, Joint B.S./M.S. in Chemistry
Research Advisors: Prof. Theodor Agapie, Prof. William A. Goddard, III
Thesis: Bio-Inspired Clusters Relevant to the Oxygen-Evolving Complex of Photosystem II

University of North Texas (UNT), Denton, TX 2010 – 2012
GPA: 4.0/4.0, Texas Academy of Mathematics and Science Program
Research Advisor: Prof. Thomas R. Cundari
Research: Computational Modeling of Methane Hydroxylation through Homogeneous Catalysis

RESEARCH INTERESTS

My research program aims to establish new frontiers across synthesis, organometallic catalysis, and gas separations relevant to alkane homologation, C–H functionalization, ambient air separations, liquid chemisorption, microporous metallopolymers, ultramicroporous polycrystalline membranes, ligand field inversion, hyper-low-coordinate metal ions, frustrated metalloradical pair catalysis, multi-gas single-site binding, MOF gels, and liquid porous materials.

HONORS AND AWARDS

2022 CAS Future Leader Summer 2022
Fannie and John Hertz Thesis Prize – *for monumental scientific advancements* Spring 2022
Eric and Wendy Schmidt Science Fellowship Finalist (*withdrawn*) Spring 2022
Ruth L. Kirschstein NIH F32 Fellowship, 1.0 Percentile (14 Impact Score, *withdrawn*) Spring 2021
Arnold O. Beckman Postdoctoral Fellowship Spring 2021
Peter Strauss Fellowship – *endowed fellowship by the Hertz Foundation* Spring 2020

Ludo Frevel Crystallography Scholarship	Winter 2020
Harvard Distinction in Teaching Award	Spring 2019
Harvard Chemistry and Chemical Biology Travel Prize – <i>for outstanding achievement</i>	Spring 2019
2016 ACS Undergraduate Award in Inorganic Chemistry	Spring 2016
Richard P. Schuster Memorial Prize – <i>for academic promise</i>	Spring 2016
George W. Green Memorial Prize – <i>for evidence of creative scholarship</i>	Spring 2016
Fannie and John Hertz Foundation Fellowship	Spring 2016
National Science Foundation Graduate Research Fellowship (NSF GRF)	Spring 2016
MIT Robert T. Haslam Presidential Fellowship (<i>declined</i>)	Winter 2016
University of Chicago Freud Scholarship (<i>declined</i>)	Winter 2016
University of Chicago McCormick Fellowship (<i>declined</i>)	Winter 2016
U. Washington Excellence in Chemistry Graduate Fellowship Award (<i>declined</i>)	Winter 2016
Patrick Hummel and Harry Gray Travel Grant	Winter 2016
Caltech Summer Undergraduate Research Fellowship	Summer 2015
Arie J. Haagen-Smit Memorial Award – <i>for recognized contributions to Caltech</i>	Spring 2015
Copenhagen Scholars Study Abroad Scholarship	Fall 2014
American Chemical Society/Society for Chemical Industry Scholarship	Spring 2014
Renuka D. Sharma Award – <i>for outstanding performance during freshman year</i>	Spring 2014
Class of 1952 Scholarship	Fall 2012
Caltech Summer Undergraduate Research Fellowship	Summer 2012
Intel Science Talent Search Finalist	Spring 2012
University of North Texas Dean's Honor Roll	2011–2012
University of North Texas Dean's Research Award	Fall 2011
Texas Academy of Math and Science Summer Research Scholarship	Summer 2011
Jasper High School Friendliest Freshman	Spring 2008
Various Statewide Awards and Recognitions for Flute and Piccolo Performances (>20)	2005–2010

SCIENTIFIC PUBLICATIONS – †equal contribution; see [Google Scholar Profile](#) for more information

(29) **Carsch, K. M.**†; Rohde, R. C.†; Yabuuchi, Y.; Dods, M. N.; Huang, A. J.; Jiang, H. Z. H.; Klein, R. A.; Pourghaderi, A.; Kwon, H.; Karstens, S. L.; Taylor, J. W.; Teat, S. J.; Reimer, J. A.; Brown, C. M.; Giesy, T. J.; Long, J. R. High-Temperature π -Acid Separations in a Porous Material with Open Metal Sites. *Manuscript in preparation.*

(28) **Carsch, K. M.**; Jiang, H. Z. H.; Klein, R. A.; Rosen, A. S.; Murphy, R. A.; Huang, A. J.; Peltier, J. L.; Dods, M. N.; Hasanbasri, Z.; Kwon, H.; Karstens, S. L.; Yabuuchi, Y.; Börgel, J.; Taylor, J. W.; Meihaus, K. R.; Bustillo, K. C.; Minor, A. M.; Persson, K. A.; Brown, C. M.; Britt, R. D.; Long, J. R. Cooperative Multi-Gas Sorption at Organometallic Nodes in a Metal–Organic Framework. *Manuscript in preparation.*

(27) MacMillan, S. N.†; **Carsch, K. M.**†; DiMucci, I. M.; Yang, J.; Nordlund, D.; Betley, T. A.; Lancaster, K. M. Scrutinizing Metal–Dioxygen Covalency via Oxygen X-Ray Absorption Spectroscopy. *Manuscript in preparation.*

(26) **Carsch, K. M.**; Gonzalez, M. I.; Clarke, R. M.; DiMucci, I. M.; Nava, M.; Moss, F.; Zheng, S.-L.; Lancaster, K. M.; Betley, T. A. Radical Reactivity from a Terminal Copper Hydroxide. *Manuscript in preparation.*

(25) Lin, E.; Wang, J. Z.; Mao, E.; Tsang, S.; **Carsch, K. M.**; Kullmer, C. N. P.; McNamee, R. E.; Long, J. R.; Le, C.; MacMillan, D. W. C. Aryl Acid-Alcohol Cross-Coupling: C(sp³)–C(sp²) Bond Formation from Non-Traditional Precursors. *Manuscript in review, J. Am. Chem. Soc.*

(24) Oh, J.; Zheng, S.-L.; **Carsch, K. M.**; Latendresse, T. P.; Casaday, C. E.; Campbell, B. M.; Betley, T. A. An Open-Shell Fe(IV) Nitrido. *J. Am. Chem. Soc.* **2024**, *accepted.*

(23) Zheng, S.-L.; Litak, N. P.; Campbell, M. G.; Handford, R. C.; Dilek, D. K.; **Carsch, K. M.**; Betley, T. A. Integrating Fundamental Concepts with Practical Skills: Transforming Small-Molecule Crystallography Education. *Manuscript in review, J. Appl. Crystallogr.*

(22) Juda, C.; Casaday, C.; Teesdale, J.; Bartholomew, A.; Lin, B.; **Carsch, K. M.**; Musgrave, R.; Zheng, S.-L.; Wang, X.; Hoffmann, C.; Wang, S.-Y.; Chen, Y.S.; Betley, T.A. Composition Determination of Heterometallic Trinuclear Clusters via Anomalous X-Ray and Neutron Diffraction. *J. Am. Chem. Soc.* **2024**, *146*, 30320–30331.

(21) Rohde, R. C.[†]; **Carsch, K. M.**[†]; Dods, M. N.; Jiang, H. Z. H.; McIsaac, A. R.; Klein, R. A.; Kwon, H.; Karstens, S. L.; Wang, Y.; Huang, A. J.; Taylor, J. W.; Yabuuchi, Y.; Tkachenko, N. V.; Meihaus, K. R.; Furukawa, H.; Yanhe, D. R.; Engler, K. E.; Bustillo, K. C.; Minor, A. M.; Reimer, J. A.; Head-Gordon, M.; Brown, C. M.; Long, J. R. High-Temperature Carbon Dioxide Capture in a Porous Material with Terminal Zinc Hydride Sites. *Science* **2024**, *386*, 814–819.

• *Media Coverage*: “Heat up to catch carbon” [Science](#)

“This MOF is hot to go” [C&EN Chemical & Engineering News](#)

“Breakthrough in capturing 'hot' CO₂ from industrial exhaust” [Berkeley News](#), [ChemEurope](#)

“Breakthrough in capturing 'hot' CO₂ from exhaust” [EurekaAlert!](#), [Mirage](#), [Science Daily](#), [Tiisys](#) [Japanese]

“This sponge captures CO₂ as it leaves factories” [Futura Sciences](#) [French]

“Now that’s some hot carbon capture” [COSMOS](#)

“MOF captures hot CO₂ from industrial exhaust streams” [The Engineer](#)

“Reaction activation energy high? It’s okay. High has its perks” [X-MOL](#) [Mandarin]

“UC Berkeley chemists discover method to capture CO₂ at high temperatures” [The Daily Californian](#)

“Carsch Research Shows New Frontiers in Carbon Capture” [UT Austin](#)

[Chemistry & Industry, In Press](#)

[NIKKEI, Inc., In Press](#)

(20) Tkachenko, N. V.; Yabuuchi, Y.; **Carsch, K. M.**; Furukawa, H.; Long, J. R.; Head-Gordon, M. Computational Optimization of Room Temperature Usable Capacity for Hydrogen Storage in MFU-4-Type Metal–Organic Frameworks via Pairwise Metal Substitutions. *Manuscript in review, J. Phys. Chem.*

(19) Yabuuchi, Y.; Furukawa, H.; **Carsch, K. M.**; Klein, R.A.; Tkachenko, N. V.; Huang, A. J.; Cheng, Y.; Taddei, K. M.; Novak, E.; Brown, C. M.; Head-Gordon, M. Geometric Tuning of Coordinatively Unsaturated Copper(I) Sites in Metal–Organic Frameworks for Ambient-Temperature Hydrogen Storage. *J. Am. Chem. Soc.* **2024**, *146*, 22759–22776.

(18) **Carsch, K. M.**; Huang, A. J.; Dods, M. N.; Parker, S. T.; Rohde, R. C.; Jiang, H. Z. H.; Yabuuchi, Y.; Kwon, H.; Karstens, S. L.; Chakraborty, R.; Bustillo, K. C. Meihaus, K. R.; Furukawa, H.; Minor, A. M.; Head-Gordon, M.; Long, J. R. Oxygen-Selective Adsorption from Air with a Metal–Organic Framework Featuring Open Copper Sites. *J. Am. Chem. Soc.* **2024**, *146*, 3160–3170.

(17) Chakraborty, R.; Talbot, J. J.; Shen, H.; Yabuuchi, Y.; **Carsch, K. M.**; Jiang, H. Z. H.; Furukawa, H.; Long, J. R.; Head-Gordon, M. Quantum Chemical Modeling of Single and Multiple Hydrogen Binding in MOFs: Validation, Insight, Predictions, and Challenges. *Phys. Chem. Chem. Phys.* **2024**, *26*, 6490–6511.

(16) **Carsch, K. M.**; North, S.; DiMucci, I. M.; Iliescu, A.; Vojackova, P.; Cundari, T.; Lancaster, K. M.; Betley, T.A. Nitrene Transfer from a Sterically Confined Copper Complex. *Chem. Sci.*, **2023**, *14*, 10847–10860.

(15) Funke, L. M.; Chakraborty, R.; **Carsch, K. M.**; Head-Gordon, M.; Long, J. R.; Reimer, J. A. Assessment of Adsorbate π -backbonding in Copper(I) Metal–Organic Frameworks via Multinuclear NMR Spectroscopy and Density Functional Theory Calculations. *J. Phys. Chem. C* **2023**, *127*, 7513–7519.

(14) Chakraborty, R.; **Carsch, K. M.**; Jaramillo, D. E.; Yabuuchi, Y.; Furukawa, H.; Long, J. R.; Head-Gordon, M. Prediction of Multiple Hydrogen Ligation at a Vanadium(II) Site in a Metal–Organic Framework. *J. Phys. Chem. Lett.* **2022**, *13*, 10471–10478.

(13) **Carsch, K. M.**[†]; Iliescu, A.[†]; McGillicuddy, R. D.; Mason, J. A.; Betley, T. A. Reversible Scavenging of Dioxygen from Air by a Copper Complex. *J. Am. Chem. Soc.* **2021**, *143*, 18346–18352.

(12) **Carsch, K. M.**; Ho, W.; Lui, K. H.; Valtierra, G.; Dogutan, D. L.; Nocera, D. G.; Zheng, S.-L. The Crystal Structure of the RuPhos Ligand. *Acta Crystallogr. E* **2021**, *77*, 171–174.

- *Media Coverage*: “Chem-145 undergraduates publish papers on novel crystals” [Harvard Chemistry and Chemical Biology](#). Prepared Fall 2020 (CHEM145, experimental inorganic chemistry).
- (11) Carsch, K. M.; Elder, S. E.; Dogutan, D. K.; Nocera, D. G.; Yang, J.; Zheng, S.-L.; Daniel, T.; Betley, T. A. Syntheses and Solid-state Structures of Two Cofacial (bis)dipyrrin Dichromium Complexes in Different Charge States. *Acta Crystallogr. C* **2021**, *77*, 161–166.
- *Media Coverage*: “Chem-145 undergraduates publish papers on novel crystals” [Harvard Chemistry and Chemical Biology](#). Prepared Fall 2020 (CHEM145, experimental inorganic chemistry).
- (10) Carsch, K. M.; DiMucci, I. M.; Lukens, J. T.; Iovan, D.A.; Zheng, S.-L.; Lancaster, K. M.; Betley, T. A. Electronic Structures and Reactivity Profiles of Aryl Nitrenoid–Bridged Dicopper Complexes. *J. Am. Chem. Soc.* **2020**, *142*, 2264–2276.
- (9) DiMucci, I. M.[†]; Lukens, J. T.[†]; Chatterjee, S.[†]; Carsch, K. M.; Titus, C. J.; Lee, S. J.; Nordlund, D.; Betley, T. A.; MacMillan, S. N.; Lancaster, K. M. The Myth of d⁸ Cu(III). *J. Am. Chem. Soc.* **2019**, *141*, 18508–18520.
- *Media Coverage*: “Credit ligands for copper-complex chemistry” [C&EN Chemical & Engineering News](#)
“Copper comeuppance” [Nature Chemistry Reviews](#)
- (8) Carsch, K. M.; DiMucci, I. M.; Iovan, D. A.; Li, A.; Zheng, S.-L.; Titus, C. J.; Lee, S. J.; Irwin, K. D.; Nordlund, D.; Lancaster, K. M.; Betley, T. A. Synthesis of a Copper-Supported Triplet Nitrene Complex Pertinent to Copper-Catalyzed Amination. *Science* **2019**, *365*, 1138–1143.
- *Media Coverage*: “Break it up” [Harvard Chemistry and Chemical Biology News](#)
“How an elusive catalyst makes unusual reactions happen” [Harvard Gazette](#)
“Discovered architecture of a copper-nitrenoid complex could revolutionize synthesis” [Phys. ScienceDaily](#),
“Discovered architecture of a copper-nitrenoid complex could revolutionize synthesis” [LongRoom](#)
“Big Game Hunting for a More Versatile Catalyst” [7th Space](#), [TechSite](#)
“Missing electrons reveal the true face of a new copper-based catalyst” [CornellChronicle](#), [ScienceDaily](#),
“Missing electrons reveal the true face of a new copper-based catalyst” [Newswise](#), [LongRoom](#)
“Metalloenzyme mastery” [ChemistryWorld](#)
- (7) Lionetti, D.; Suseno, S.; Tsui, E.Y.; Lu, L.; Stich, T. A.; Carsch, K. M.; Nielsen, R. J.; Goddard, A. W.; Britt, R. D.; Agapie, T. Effects of Lewis Acidic Metal Ions (M) on Oxygen-Atom Transfer Reactivity of Heterometallic Mn₃MO₄ Cubane and Fe₃MO(OH) and Mn₃MO(OH) Clusters. *Inorg. Chem.* **2019**, *58*, 2236–2245.
- (6) Carsch, K. M.; de Ruiter, G.; Agapie, T. Intramolecular C–H and C–F Bond Oxygenation by Site-Differentiated Tetranuclear Manganese Models of the OEC. *Inorg. Chem.* **2017**, *7*, 9044–9054.
- (5) de Ruiter, G.; Carsch, K. M.; Takase, M.; Agapie, T. Selectivity of C–H vs. C–F Bond Oxygenation by Homo- and Hetero-metallic Fe₄, Fe₃Mn, and Mn₄ Clusters. *Chem. Eur. J.* **2017**, *23*, 10744–10748.
- (4) de Ruiter, G.[†]; Carsch, K. M.[†]; Gul, S.; Chatterjee, R.; Thompson, N. B.; Takase, M. K.; Yano, J.; Agapie, T. Accelerated Oxygen Atom Transfer and C–H Bond Oxygenation by Remote Redox Changes in Fe₃Mn-Iodosobenzene Adducts. *Angew. Chem. Int. Ed.* **2017**, *56*, 4772–4776.
- (3) Kanady, J. S.; Lin, P. L.; Carsch, K. M.; Nielsen, R.J.; Takase, M.K.; Goddard, W.A.; Agapie, T. Toward Models for the Full Oxygen-Evolving Complex of Photosystem II by Ligand Coordination to Lower the Symmetry of the Mn₃CaO₄ Cubane: Demonstration that Electronic Effects Facilitate Binding of a Fifth Metal. *J. Am. Chem. Soc.* **2014**, *136*, 14373–14376.
- (2) Jiajun, M.; Carsch, K. M.; Freitag, C. R.; Gunnoe, T. B.; Cundari, T. R. Variable Pathways for Oxygen Atom Insertion into Metal–Carbon Bonds. *J. Am. Chem. Soc.* **2012**, *135*, 424–437.
- (1) Carsch, K. M.; Cundari, T. R. DFT Modeling of a Methane-to-Methanol Catalytic Cycle Via Group 6 Organometallics. *Comp. Theor. Chem.* **2012**, *980*, 133–137.
- *Media Coverage*: “Teen Finding Ways to Cut Energy Costs” *NBC Dallas Fort Worth (NBCDFW) News*

PATENTS

(4) **Carsch, K. M.**; Rohde, R. C.; Long, J. R. Isothermal π -Acid Separation with Porous Materials. *US Provisional Patent Application filing in progress.*

(3) **Carsch, K. M.**; Peltier, J. L.; Börgel, J.; Long, J. R. Selective Carbon Monoxide Uptake by Porous Materials with Metal Carbanions. *US Provisional Patent 63/516,154 filed on June 13, 2023.*

(2) **Carsch, K. M.**; Long, J. R. Direct Capture of Oxygen from Air with Porous Materials. *US Provisional Patent 63/460,810 filed on April 20, 2023.*

(1) Rohde, R. C.; **Carsch, K. M.**; Long, J. R. Acidic Gas Capture through Metal–Ligand Insertion in Porous Materials at Elevated Temperatures. *US Provisional Patent 63/477,976 filed on December 30, 2022. Licensed to Baker Hughes.*

INVITED SEMINARS AND CONTRIBUTED PRESENTATIONS – †scheduled seminar

(37) James R. Fair Process Science & Technology Center Annual Conference – Austin, TX	Fall 2024
(36) UNIST, Department of Chemistry – Ulsan, South Korea	Fall 2024
(35) POSTECH, Department of Chemistry – Pohang, South Korea	Fall 2024
(34) Seoul National University (SNU), Department of Chemistry – Seoul, South Korea	Fall 2024
(33) The University of Texas at Austin, Department of Chemistry – Austin, TX	Summer 2024
(32) ACS Fall 2024 National Meeting & Expo – Denver, CO	Summer 2024
(31) Fannie and John Hertz 2024 Summer Workshop – Mont-Tremblant, Canada	Summer 2024
(30) Arnold O. Beckman Annual Symposium, <i>Plenary Speaker</i> – Irvine, CA	Summer 2024
(29) The University of Tokyo, <i>Zasshikai Seminar 1951st</i> – Tokyo, Japan	Summer 2024
(28) MOF2024 – Singapore, Singapore	Summer 2024
(27) Organometallics Gordon Research Seminar & Conference – Newport, RI	Summer 2024
(26) University of California, Berkeley, Research Symposium – Berkeley, CA	Spring 2024
(25) Mosaic Materials, Inc., Baker Hughes – Alameda, CA	Spring 2024
(24) University of California, Irvine, Department of Chemistry – Irvine, CA	Winter 2024
(23) Caltech, Department of Chemistry and Chemical Engineering – Pasadena, CA	Winter 2024
(22) Johns Hopkins University, Department of Chemistry – Baltimore, MD	Winter 2024
(21) The University of Chicago, Department of Chemistry – Chicago, IL	Winter 2024
(20) New York University, Department of Chemistry – New York City, NY	Winter 2023
(19) Cornell, Department of Chemistry and Chemical Biology – Ithaca, NY	Winter 2023
(18) Stanford, Department of Chemistry – Stanford, CA	Winter 2023
(17) The University of Texas at Austin, Department of Chemistry – Austin, TX	Winter 2023
(16) ACS Fall 2023 National Meeting – San Francisco, CA	Fall 2023
(15) Nanoporous Gordon Research Conference – Andover, NH	Summer 2022
(14) Arnold O. Beckman Annual Symposium – Irvine, CA	Summer 2022
(13) Organometallics Gordon Research Seminar & Conference – Newport, RI	Summer 2022
(12) Harvard, Chemical & Chemical Biology Department – Cambridge, MA	Summer 2022
(11) Fannie and John Hertz Foundation Board of Directors Meeting – Livermore, CA	Summer 2022
(10) ACS Fall 2022 National Meeting – Chicago, IL	Summer 2022
(9) 2022 CAS Future Leaders Symposium – Columbus, OH	Summer 2022
(8) Arnold O. Beckman Annual Symposium – Irvine, CA	Summer 2022
(7) ACS Fall 2020 National Meeting & Expo – Virtual Presentation	Summer 2020
(6) Global Inorganic Discussion Weekday – Virtual Presentation	Summer 2020
(5) Reaction Mechanisms Gordon Research Seminar & Conference – Galveston, TX	Spring 2019
(4) 255th ACS National Meeting – New Orleans, LA	Spring 2018
(3) 251st ACS National Meeting – San Diego, CA	Spring 2016
(2) Low Temperature Hydrocarbon Fuels DARPA Symposium – Pasadena, CA	Summer 2013
(1) Center for Catalytic Hydrocarbon Functionalization Meeting – Charlottesville, VA	Summer 2012

INDUSTRY EXPERIENCE

Honeywell UOP, Des Plaines, IL Chemistry Intern – Zeolite Synthesis, Scale-up, and Materials Characterization	Summer 2014
SAFCell, Inc., Pasadena, CA Research Assistant – Fuel Cell Characterization	June 2013 – June 2016

TEACHING EXPERIENCE

CH 431, Inorganic Chemistry, Undergraduate Lecture & Lab, Instructor	Spring 2025
CHEM145, Experimental Inorganic Chemistry, Undergraduate Advanced Lab Teaching Fellow, Harvard University (Prof. Daniel G. Nocera)	Fall 2020
Teaching Fellow, Harvard University (Prof. Theodore A. Betley)	Fall 2018
Ch120a, Nature of the Chemical Bond, Graduate Quantum Mechanics Teaching Assistant, Caltech (Prof. William A. Goddard, III)	Fall 2015
Guest lectures in crystallography, inorganic chemistry, and organometallic chemistry	Ongoing

MENTORSHIP

Independent career mentorship experience – postdoctoral researchers (1), graduate students (5)

Supervised mentoring experience – postdoctoral researchers (1), graduate students (17), undergraduate students (3), and high school students (1)

DEPARTMENTAL SERVICE AND COMMUNITY SERVICE

Fannie and John Hertz Foundation, Thesis Prize Selection Committee	2023 – current
Fannie and John Hertz Foundation, Fellowship Interviewer	2023 – current
Fannie and John Hertz Foundation, West Coast Community Representative	2022 – 2024
UC Berkeley Catalysis Center, Sorption Manager	2022 – 2024
Letters to a Pre-Scientist (LPS), Pen Pal	2022 – 2024
ACS Coordination Chemistry: Synthesis & Characterization, Session Co-chair	Summer 2022
Fannie and John Hertz Foundation, Fall Retreat Organizer	Fall 2020
Chemistry Club President, Caltech	2015 – 2016
Chemistry Student–Faculty Conference Organizer, Caltech	Spring 2015
Undergraduate Peer Tutor, Caltech (undergraduate & graduate chemistry courses)	2012 – 2016
TeachAndLearn Peer Tutoring Co–Founder, University of North Texas	2011 – 2012
Research Organization Competition Director, University of North Texas	2011 – 2012
Outreach (chemistry demonstrations, recruitment, local inclusion initiatives)	Ongoing
UNT (TAMS), Caltech, Harvard, UC Berkeley, UT Austin Recruitment	Ongoing
Ad hoc Peer Reviewer (<i>J. Am. Chem. Soc.</i> , <i>Chem. Sci.</i> , <i>Chem. Commun.</i> , <i>Inorg. Chem.</i> , <i>Chem. Soc. Rev.</i> , <i>Angew. Chem. Int. Ed.</i> , <i>Science</i> , <i>Sci. China Chem.</i> , <i>Dalton Trans.</i>)	Ongoing

PROFESSIONAL REFERENCES

Prof. Jeffrey R. Long (UC Berkeley, jrlong@berkeley.edu)
Prof. Theodore A. Betley (Harvard, betley@chemistry.harvard.edu)
Prof. Kyle M. Lancaster (Cornell, kml236@cornell.edu)
Prof. Theodor Agapie (Caltech, agapie@caltech.edu)
Prof. William A. Goddard (Caltech, wag@caltech.edu)
Prof. Thomas R. Cundari (UNT, thomas.cundari@unt.edu)