Andy I. Nguyen
4246 SES, Department of Chemistry
University of Illinois at Chicago, Chicago, IL 60607
(949) 433-6367, email: andyn@uic.edu

Professional Appointments

2020 – present	University of Illinois Chicago Assistant Professor of Chemistry
2016 – 2019	Lawrence Berkeley National Laboratory Post-Doctoral Fellow (Advisor – Ronald N. Zuckermann)

Education

2010 – 2016	University of California, Berkeley Ph.D., Inorganic Chemistry (Advisor – T. Don Tilley)
2006 – 2010	University of California, Irvine B.S. Chemistry, *cum laude* (Advisor – Alan F. Heyduk)

Awards and Honors

2026	Alfred P. Sloan Research Fellowship
2025	University of Illinois Chicago Rising Star Award
2025	National Science Foundation – CAREER Award
2024	Department of Energy – Early Career Research Program (ECRP) Award
2024	National Institute of Health – Maximizing Investigators' Research Award (MIRA)
2021	ACS Petroleum Research Fund – Doctoral New Investigator Award
2019	Lawrence Berkeley National Laboratory - Safety Spot Award
2016	Materials Postdoc Fellow – Lawrence Berkeley National Laboratory
2012	NSF Graduate Research Fellowship – Honorable Mention
2010	Hertz Fellowship – Finalist
2010	NSF Graduate Research Fellowship – Honorable Mention
2010	University of California, Irvine – Chancellor's Award for Excellence in Undergraduate Research
2010	University of California, Irvine – Honors Award
2009	ACS Orange County Section – Outstanding Chemistry Student
2009	ACS Division of Inorganic Chemistry Undergraduate Award
2009	ACS Division of Organic Chemistry Summer Undergraduate Research Fellowship (SURF) – Sponsor: Pfizer
2008	UCI UROP Grant
2007	CRC Press Chemistry Achievement Award

Independent Publications (*corresponding author)

(29) Dang, V. T.; Drena, A.; Telser, J.; Wofford, L.; **Nguyen, A. I.*.** "Stabilization of an Excised Multi-Metal Binding β-Sandwich in a Noncanonical Peptide" - *Submitted*

(28) Dang, V. T.; Martynowycz, M. W.; McElheny, D.; **Nguyen, A. I.***; *Chem. Comm.* **2026**, Advance Article, DOI: 10.1039/D5CC06640A
"β-Barrels from Short Macrocyclic Peptides"

(27) Richardson-Matthews, R.; Dang, V. T.; Velko, K.; **Nguyen, A. I.***; *Methods in Enzymology*, **2025**, 720, 265-292. *Invited*. DOI: 10.1016/bs.mie.2025.06.037
"Chemical Methods to Stabilize Segments of Metalloproteins in the Form of Peptides"

(26) Richardson-Matthews, R.; Velko, K.; Bhunia, B.; Ghosh, S.; Oktawiec, J.; Brunzelle, J. S.; Dang, V.T.; **Nguyen, A.I.***; *J. Am. Chem. Soc*. **2025**, *147*, 17433–17447
"Metal α-helix peptide frameworks"

(25) **Nguyen, A.I.***; Ganatra, P.; Hess, S.S.; Nichols, S.; Heinz-Kunert, S.L.; *Trends Chem.* **2025***, 7*, 225-239. *Invited*.

"Advances in the design of π-conjugated peptide assemblies"

(24) Dang, V. T.; Engineer, A.; McElheny, D.; Drena, A.; Telser, J.; Tomczak, K.; **Nguyen, A. I.***; *Chem. Eur. J.* **2024**, *30*, e202402101
"Crystallography Reveals Metal-Triggered Restructuring of β-Hairpins"

(23) Ganatra, P.; Wang, D. F.; Ganatra, V.; Dang, V. T.; **Nguyen, A. I.***; *J. Am. Chem. Soc*. **2024**, *146*, 22236–22246
"Diverse proteomimetic frameworks via rational design of π-stacking peptide tectons"

(22) Vijayakanth, T.*; Dasgupta, S.; Ganatra, P.; Rencus-Lazar, S.; Desai, A. V.; Nandi, S.; Jain, R.; Bera, S.; **Nguyen, A. I.***; Gazit, E.*; Misra, R.*; *Chem. Soc. Rev.,* **2024**, *53*, 3640-3655.
"Peptide Hydrogen-bonded Organic Frameworks"

(21) Heinz-Kunert, S. L.; Pandya, A.; Dang; V. T.; Oktawiec, J.; **Nguyen, A. I***; *Biomacromolecules*, **2024**, *25*, 2016-2023
"Pore restructuring of peptide frameworks by mutations at distal packing residues"

(20) Hess, S.S.; Coppola, F.; Dang, V. T.; Tran, P. T.; Mickel, P. J.; Oktawiec, J.; Ren, Z.; Král, P.; **Nguyen, A. I.***; *J. Am. Chem. Soc*. **2023**, *145*, 36, 19588-196000
"Noncovalent peptide assembly enables crystalline, permutable, and reactive thiol frameworks"

(19) Ghosh, S.; Tran, P. N.; McElheny, D.; Perez, J. J.; **Nguyen, A. I**.*; *Inorg. Chem*. **2022**, *61*, 6679-6687.
"Peptidic Scaffolds Enable Rapid and Multivariate Secondary Sphere Evolution for an Abiotic Metallocatalyst"

(18) Heinz-Kunert, S. L.*; Pandya, A.*; Dang, V. T.; Tran, P. N.; Ghosh, S., McElheny, D.; Santarsiero, B. D.; Ren, Z.; **Nguyen, A. I**.*; *J. Am. Chem. Soc*., **2022**, *144*, 7001–7009. *Equal Contribution
"Assembly of π-Stacking Helical Peptides into a Porous and Multivariable Proteomimetic Framework"

Publications Before UIC

(17) Amtawong, J.; **Nguyen, A. I.**; Tilley*; T. D.; *J. Am. Chem. Soc.* **2022,** *144*, 1475-1492.
"Mechanistic Aspects of Cobalt Oxo Cubane Clusters in Oxidation Chemistry"

(16) Wang, S.-T.; Gray, M. A.; Xuan, S.; Lin, Y.; Byrnes, J.; **Nguyen, A. I.**; Todorova, N.; Stevens, M. M.; Bertozzi, C. R.; Zuckermann, R. N.; Gang, O.; *Proc. Natl. Acad. Sci. USA.* **2020**, *117*, 6339-6348.
"DNA Origami Protection and Molecular Interfacing through Engineered Sequence-Defined Peptoids"

(15) Wijaya, A.*; **Nguyen, A. I.***; Roe, L. T.; Butterfoss, G. L.; Spencer, R. K.; Li, N. K.; Zuckermann, R. N. *J. Am. Chem. Soc.,* **2019**, *141*, 19436-19447. *Equal Contribution
"Cooperative Intramolecular Hydrogen Bonding Strongly Enforces *cis*-Peptoid Folding"

(14) Amtawong, J.; Balcells, D.; Wilcoxen, J.; Handford, R. C.; Biggins, N.; **Nguyen, A. I.**; Britt, R. D.; Tilley, T. D. *J. Am. Chem. Soc.,* **2019**, *141*, 19859-19859.
"Isolation and Study of Ruthenium-Cobalt Oxo Cubanes Bearing a High-Valent, Terminal Ru^{V}–Oxo with Significant Oxyl Radical Character"

(13) **Nguyen, A. I.**; Spencer, R. K.; Anderson, C. L.; Zuckermann, R. N. *Chem. Sci.,* **2018**, *9*, 8806-8813.
"A Bio-Inspired Approach to Ligand Design: Folding Single-Chain Peptoid to Chelate a Multimetallic Cluster"

(12) **Nguyen, A. I.**;* Van Allsburg, K. M.;* Terban, M. W.; Bajdich, M.; Oktawiec, J.; Ziegler, M. S.; Dombrowski, J. P.; Lakshmi, K. V.; Drisdell, W. S.; Yano, J.; Billinge S. J. L.; Tilley, T. D. *Proc. Natl. Acad. Sci. USA.* **2019**, *116*, 11630-11639 *Equal contribution
"Stabilization of reactive Co_4O_4 cubane oxygen-evolution catalysts within porous frameworks"

(11) **Nguyen, A. I.**; Darago, L. E.; Balcells, D.; Tilley, T. D. *J. Am. Chem. Soc.*, **2018**, *140*, 9030-9033.
"Influence of a "Dangling" Co(II) Ion Bound to a $[MnCo_3O_4]$ Oxo Cubane"

(10) Olshansky, L.; Huerta-Lavorie, R.; **Nguyen, A. I.**; Vallapurackal, J.; Furst, A.; Tilley, T. D.; Borovik, A. S. *J. Am. Chem. Soc*. **2018**, *140*, 2739-2742.
"Artificial Metalloproteins Containing Co_4O_4 Active Sites"

(9) Wang, S–T.; Lin, Y.; Spencer, R. K.; Thomas, M. R.; **Nguyen, A. I.**; Amdursky, N.; Pashuck, E. T.; Skaalure, S. C.; Song, C. Y.; Parmar, P. A.; Morgan, R. M.; Ercius, P.; Aloni, S.; Zuckermann, R. N.; Stevens, M. M. *ACS Nano*, **2017**, *11*, 8579–8589.
"Sequence-Dependent Self-Assembly and Structural Diversity of Islet Amyloid Polypeptide-Derived β-Sheet Fibrils"

(8) **Nguyen, A. I.**; Suess, D. L. M.; Darago, L. E.; Oyala, P. H.; Levine, D. S.; Ziegler, M. S.; Britt, R. D.; Tilley, T. D. *J. Am. Chem. Soc*. **2017**, *139*, 5579-5587.
"Manganese–Cobalt Oxido Cubanes Relevant to Manganese-Doped Water Oxidation Catalysts"

(7) **Nguyen, A. I.**; Wang, J.; Levine, D. S.; Ziegler, M. S.; Tilley, T. D. *Chem. Sci.* **2017**, *8,* 4274-4284.
"Synthetic control and empirical prediction of redox potentials for Co_4O_4 cubanes over a 1.4 V range: implications for catalyst design and evaluation of high-valent intermediates in water oxidation"

(6) **Nguyen, A. I.**; Ziegler, M. S.; Oña-Burgos, P.; Sturzbecher-Hohne, M.; Kim, W.; Bellone, D. E.; Tilley, T. D. *J. Am. Chem. Soc.*, **2015**, *137*, 12865-12872.
"Mechanistic Investigations of Water Oxidation by a Molecular Cobalt Oxide Analogue: Evidence for a Highly Oxidized Intermediate and Exclusive Terminal Oxo Participation"

(5) **Nguyen, A. I.**; Hadt, R. G.; Solomon, E. I.; Tilley, T. D. *Chem. Sci.* **2014**, *5*, 2874-2878.
"Efficient C–H Bond Activations via O_2 cleavage by a Dianionic Co(II) Complex"

(4) Heyduk, A. F.; Zarkesh, R. A.; **Nguyen, A. I.** *Inorg. Chem.* **2011**, *50*, 9849-9863.
"Designing Catalysts for Nitrene Transfer Using Early Transition Metals and Redox-Active Ligands"

(3) **Nguyen, A. I.**; Zarkesh, R. A.; Lacy, D. C.; Thorson, M. K.; Heyduk, A. F. *Chem. Sci.*, **2011**, *2*, 166-169.
"Catalytic Nitrene Transfer by a Zirconium(IV) Redox-Active Ligand Complex"

(2) Blackmore, K. J.; **Nguyen, A. I.**; Heyduk, A. F. *Inorg. Synth.*, **2010**, *35*, 92-96.
"*N-tert*-butyl *ortho*-aminophenol, *ortho*-iminoquinone, and a zirconium(IV) bis(aminophenol) complex"

(1) **Nguyen, A. I.**; Blackmore, K. J.; Carter, S. M.; Zarkesh, R. A.; Heyduk, A. F. *J. Am. Chem. Soc.*, **2009**, *131*, 3307-3316.
"One- and Two- Electron Reactivity of a Tantalum(V) Complex with a Redox-Active Tris(amido) Ligand"

Current, Pending, and Previous Support

Current Support

Source of Support: National Science Foundation
Project Number: 2440121 (PI: Nguyen)
Title: "CAREER: Design of Protein-like Materials from pi-Conjugated Peptides"
Total cost: $749,999

Start and end date: 3/2025 – 02/2030

Source of Support: National Institute of General Medical Sciences
Project Number: R35GM154793-01 (PI: Nguyen)
Title: "In crystallo biomimetic oxygenase chemistry within peptidic frameworks"
Total cost: $1,913,800
Start and end date: 09/2024 – 08/2029

Source of Support: Department of Energy
Project Number: 0000283299 (PI: Nguyen)
Title: "Enzyme-like porous catalysts for upgrading biomass feedstocks"
Total cost: $875,000
Start and end date: 7/2024 – 08/2029

Previous Support

Source of Support: American Chemical Society Petroleum Research Fund
Project Number: 62285-DNI (PI: Nguyen)
Title: "Upgrading Small Molecule Catalysts with Peptidic Scaffolds to Tune the Selectivity of C(sp3)–H Oxidation"
Direct cost: $110,000
Start and end date: 09/2021 – 08/2023

Teaching Experience

Undergraduates mentored – 5 at UIC, 4 during graduate study, 3 during postdoctoral appointment

2020-present	UI Chicago, CHEM 510 – Seminar
2021-present	UI Chicago, CHEM 314 – Undergraduate inorganic chemistry
2020-present	UI Chicago, CHEM 514 – Graduate inorganic chemistry
2015	UC Berkeley, GSI for CHEM 104A – Advanced inorganic chemistry I
2012	UC Berkeley, GSI for CHEM 104A – Advanced inorganic chemistry I
2011	UC Berkeley, GSI for CHEM 104B – Advanced inorganic chemistry II
2010	UC Berkeley, GSI for CHEM 3A – Introductory organic chemistry laboratory

Invited Talks

(29) Gordon Research Conference on Peptide Materials - 2027
(28) New York University – September 22, 2026
(27) University of Oregon – April 24, 2026
(26) University of Chicago – November 10, 2025
(25) University of Wisconsin, Madison – October 28, 2025
(24) University of Illinois Urbana-Champaign – October 21, 2025
(23) University of California, Berkeley – October 9, 2025
(22) Royal Society of Chemistry, Webinar on Protein and Peptide Science – October 3, 2025
(21) Purdue University – September 23, 2025
(20) 21st International Conference on Biological Inorganic Chemistry – August 1, 2025, Long Beach, CA
(19) 75th American Crystallographic Association Meeting – July 18-23, 2025, Lombard, IL
(18) Iowa State University – April 18, 2025
(17) University of Pittsburg – February 4, 2025
(16) ACS Spring National Meeting, March 23-27, 2025, San Diego, CA - INOR: "More than Warriors from Group 14"
(15) Colorado School of Mines – January 17, 2025

(14) Texas A&M University – November 14, 2024
(13) Truman University – November 8, 2024
(12) 12th Peptoid Summit – August 10, 2024
(11) 2nd International Conference on Metal-Binding Peptides – Keynote – July 11, 2024
(10) Washington University in St. Louis – April 6, 2024
(9) University of California, Irvine – February 12, 2024
(8) Brandeis University – January 5, 2024
(7) Molecular Foundry User Meeting, Lawrence Berkeley National Laboratory – August 11th, 2023
(6) Loyola University – November 17, 2022
(5) California State University, Chico – December 10, 2021
(4) ACS Philadelphia – Symposium: Multimetallic Molecular & Extended Platforms for Energy Applications – March 22, 2020 (*Canceled due to COVID-19)*
(3) University of North Carolina at Chapel Hill – December 19, 2018
(2) University of Wisconsin at Milwaukee – December 17, 2018
(1) University of Illinois at Chicago – November 27, 2018

Conference Presentations

(11) American Peptide Symposium, San Diego, June 2025
(10) Gordon Research Conference on Metals in Biology, January 2024
(9) Gordon Research Conference on Peptide Materials, January 2023
(8) ACS National Meeting, Chicago, Fall 2022
(7) **Nguyen, A. I.,** Spencer, R. K., Anderson, C. L., Zuckermann, R. N.,
ACS National Meeting, San Diego, August 25-29, 2019
"A Bio-Inspired Approach to Ligand Design: Folding Single-Chain Peptoid to Chelate a Multimetallic Cluster"
(6) **Nguyen, A. I**.; Wijaya, A.; Spencer, R. K.; Zuckermann, R. N.
Molecular Foundry User Meeting, Berkeley, CA, August 15-16, 2018
"Metal-Coordinating Peptoids as Rationally-Designed Foldamers with Predominantly a Single Conformer" (Poster)
(5) **Nguyen, A. I**.; Spencer, R. K.; Zuckermann, R. N.
Gordon Research Seminar on Inorganic Chemistry (GRS), University of New England, Biddeford, ME, June 16-17, 2018
"Carboxylate Chelating Ligands for Multimetallic Clusters" (Poster)
(4) **Nguyen, A. I**.; Spencer, R. K.; Zuckermann, R. N.
Gordon Research Conference on Inorganic Chemistry (GRC), University of New England, Biddeford, ME, June 17-22, 2018
"Carboxylate Chelating Ligands for Multimetallic Clusters" (Poster)
(3) **Nguyen, A. I.**; Van Allsburg, K. M.; Terban, M. W.; Bajdich, M.; Oktawiec, J.; Ziegler, M. S.; Dombrowski, J. P.; Lakshmi, K. V.; Drisdell, W. S.; Yano, J.; Billinge S. J. L.; Tilley, T. D.
253rd ACS National Meeting, San Francisco, CA, April 2-6, 2017.
"Tunable, site-isolated Co_4O_4 oxygen-evolution catalysts in porous frameworks" (Talk)
(2) **Nguyen, A. I.**; Suess, D. L. M.; Darago, L. E.; Levine, D. S.; Britt, R. D.; Tilley, T. D.
251st ACS National Meeting, San Diego, CA, March 13-17, 2016.
"Synthesis and electronic description of tetra- and pentametallic, mixed-metal, mixed-valent manganese-cobalt oxido cluster" (Poster)
(1) **Nguyen, A. I.**; Hadt, R. G.; Solomon, E. I.; Tilley, T. D.
248th ACS National Meeting, San Francisco, CA, August 10-14, 2014.
"O_2 cleavage by a square-planar dianionic cobalt(II) complex: Putative Co-oxo formation" (Talk)

Service

- 2025 – Grant reviewer for the National Science Foundation
- 2024, 2025 - Grant reviewer for Department of Energy - Basic Energy Sciences
- Faculty Advisor for the Chemistry Graduate Student Association (CGSA) at UIC
- Reviewer for *Nature Chemistry*, *Nature Communications*, *Nature Synthesis*, *Journal of the American Chemical Society, Inorganic Chemistry, Organometallics, Biomacromolecules, Chemistry Communications, Dalton Transactions, Tetrahedron Letters, ACS Applied Materials and Interfaces*
- Presider for the "Bioinorganic Chemistry: Proteins & Enzymes & Model Systems" Symposium 2022 ACS National Meeting in Chicago
- Judge for Chicago Area Undergraduate Research Symposium (2022)
- Presider for the "Environmental and Energy-Related Inorganic Chemistry" Symposium at the 253rd ACS National Meeting in San Francisco
- On the committee for Student-Hosted Seminars at UC Berkeley
- Laboratory manager in the Zuckermann group at Lawrence Berkeley National Laboratory