

Brad P. Carrow, Ph.D.

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EDUCATION

Ph.D., Chemistry, **University of Illinois at Urbana-Champaign**, Urbana, IL, USA 2011
B.S., Chemistry, **Missouri University of Science and Technology**, Rolla, MO, USA 2003

PROFESSIONAL EXPERIENCE

Associate Professor, Department of Chemistry, **University of Houston**, Houston, TX, USA Jan. 2021–present
Assistant Professor, Department of Chemistry, **Princeton University**, Princeton, NJ, USA July 2013–Dec. 2020
Assistant Professor, Department of Chemistry and Biotechnology Dec. 2011–June 2013
Department of Chemistry and Biotechnology, **University of Tokyo**, Tokyo, Japan
JSPS Global COE Postdoctoral Fellow, *Research Advisor: Kyoko Nozaki* Feb. 2011–Nov. 2011
Department of Chemistry and Biotechnology, **University of Tokyo**, Tokyo, Japan
Graduate Research Assistant, *Research Advisor: John F. Hartwig* Aug. 2005–Jan. 2011
Department of Chemistry, **University of Illinois at Urbana-Champaign**, Urbana, IL, USA
Research Scientist II, Brewer Science, Inc., Rolla, MO, USA June 2004–June 2005
Visiting Scientist, *Research Advisors: Toh-Ming Lu and Jay Senkevich* Jan. 2003–June 2004
Center for Integrated Electronics, **Rensselaer Polytechnic Institute**, Troy, NY, USA
Undergraduate Research Assistant, *Research Advisor: Thomas P. Schuman* Sept. 2000–Dec. 2003
Department of Chemistry, **Missouri University of Science and Technology**, Rolla, MO, USA

AWARDS & HONORS

NIH MIRA Award 2018
NSF CAREER Award 2017
Thieme Chemistry Journal Award 2017
Japan Society for the Promotion of Science (JSPS) Global COE Fellowship (U. Tokyo) 2011
Seemon H. Pines Travel Award, UIUC 2008
Carl S. Marvel Graduate Fellowship, UIUC 2008
University of Missouri, *Magna Cum Laude* 2003
University of Missouri Curators Scholarship 2000-2003
Missouri Bright Flight Scholar 2000-2003

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PUBLICATIONS FROM RESEARCH AT UNIVERSITY OF HOUSTON (ASSOCIATE PROFESSOR)

*Indicates corresponding author. ‡Indicates undergraduate author.

1. Waddell, P.M.; Tian, L.; Scavuzzo, A.R.; Scholes, G.D.; **Carrow, B.P.*** "Visible Light-Induced Palladium-Carbon Bond Weakening in Catalytically Relevant T-Shaped Complexes" *ChemRxiv* **2023**. [doi: [10.26434/chemrxiv-2023-d17rn](https://doi.org/10.26434/chemrxiv-2023-d17rn)]
2. Dull, J.T.; He, X.; Viereck, J.; Ai, Q.; Ramprasad, R.; Otani, M.C.; Sorli, J.; Brandt, J.W.; **Carrow, B.P.**, Tinoco, A.D.; Loo, Y.-L.; Risko, C.; Rangan, S.; Kahn, A.; Rand, B.P.* "Thin-Film Organic Heteroepitaxy" **2023**. *Early View*. [doi.org/10.1002/adma.202302871]
3. Ren, P.;* He, Z.; Xing, T.; Manar, K.K.; Sampson, J.; Jin, J.; Wang, L.; **Carrow, B.P.** "Synthesis of π -Expanded Coumarins via Ligand-Enabled Selective C-H Functionalization" *Adv. Syn. Catal.* **2022**, 364, 3155-3160. [doi:10.1002/adsc.202200468]
4. Lau, S.H.; Chen, L.; Kevlishvil, I.; Davis, K.M.; Liu, P.; **Carrow, B.P.*** "Capturing the Most Active State of a Palladium(0) Cross-Coupling Catalyst" *ChemRxiv*, **2021**. [doi:10.26434/chemrxiv-2021-477kn]
5. Evans, R.; Sampson, J.; Wang, L.; Lückemeier, L.; **Carrow, B.P.*** "Ligand Switchable Site Selectivity in C-H Alkenylation of Thiophenes by Turnover-Limiting Step Control" *Chem. Commun.* **2021**, 9076-9079. [doi:10.1039/D1CC03456A]

PUBLICATIONS FROM RESEARCH AT PRINCETON (ASSISTANT PROFESSOR)

*Indicates corresponding author. ‡Indicates undergraduate author.

6. Voloshkin, V. A.; Saab, M.; Van Hecke, K.; Lau, S. H.; **Carrow, B. P.**; Nolan, S. P.* "Synthesis, reactivity and catalytic activity of Au-PAD3 complexes" *Dalton Trans.* **2020**, 49, 13872-13879. [doi:10.1039/D0DT03330H]
7. Lau, S.H.; Yu, P.; Chen, L.; Madsen-Duggan, C.B.; Williams, M.J.; **Carrow, B.P.*** Aryl Amination Using Soluble Weak Base Enabled by a Water-Assisted Mechanism " *J. Am. Chem. Soc.* **2020**, 142, 20030-20039. [doi:10.1021/jacs.0c09275]
8. **Carrow, B.P.***; Sampson, J.; Wang, L. "Base-Assisted C-H Bond Cleavage in Cross-Coupling: Recent Insights into Mechanism, Speciation, and Cooperativity" *Israel J. Chem.* **2020**, 60, 230-258. [doi:10.1002/ijch.201900095]
9. Wang, L.; **Carrow, B.P.*** "Oligothiophene Synthesis by a General C-H Activation Mechanism: Electrophilic Concerted Metalation-Deprotonation (eCMD)" *ACS Catal.* **2019**, 9, 6821-6836. [doi:10.1021/acscatal.9b01195]
10. McAlpine, N.J.; Wang, L.; **Carrow, B.P.*** "A Diverted Aerobic Heck Reaction Enables Selective 1,3-Diene and 1,3,5-Triene Synthesis through C-C Bond Scission" *J. Am. Chem. Soc.* **2018**, 140, 13634-13639. [doi:10.1021/jacs.8b10007]
11. Zhang, W.; Waddell, P.M.; Tiedemann, M.A.; Padilla, C.E.; Mei, J.; Chen, L.; **Carrow, B.P.*** "Electron-Rich Metal Cations Enable Synthesis of High Molecular Weight, Linear Functional Polyethylenes" *J. Am. Chem. Soc.* **2018**, 140, 8841-8850. [doi:10.1021/jacs.8b04712]
12. Chen, L.; Francis, H.‡; **Carrow, B.P.*** "An 'On-Cycle' Precatalyst Enables Room-Temperature Polyfluoroarylation Using Sensitive Boronic Acids" *ACS Catal.* **2018**, 8, 2989-2994. [doi:10.1021/acscatal.8b00341]
One of most downloaded articles in April 2018
13. Chen, L.; Sanchez, D.R.; Zhang, B.‡; **Carrow, B.P.*** "Cationic' Suzuki-Miyaura Coupling with Acutely Base-Sensitive Boronic Acids" *J. Am. Chem. Soc.* **2017**, 139, 12418-12421. [doi:10.1021/jacs.7b07687]
14. Gorsline, B.J.‡; Wang, L.; Ren, P.; **Carrow, B.P.*** "C-H Alkenylation of Heteroarenes: Mechanism, Rate, and Selectivity Changes Enabled by Thioether Ligands" *J. Am. Chem. Soc.* **2017**, 139, 9605-9614. [doi:10.1021/jacs.7b03887]
15. **Carrow, B.P.***; Chen, L. "Tri(1-adamantyl)phosphine: Exceptional Catalytic Effects Enabled by the Synergy of Chemical Stability, Donicity, and Polarizability" *Synlett* **2017**, 28, 280-288. [doi:10.1055/s-0036-1588128]

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16. Chen, L.; Ren, P.; **Carrow, B.P.*** "Tri(1-adamantyl)phosphine: Expanding the Boundary of Electron-Releasing Character Available to Organophosphorus Compounds" *J. Am. Chem. Soc.* **2016**, *138*, 6392-6395. [doi: [10.1021/jacs.6b03215](https://doi.org/10.1021/jacs.6b03215)]

Highlights: Chem. & Eng. News; Org. Process Res. Dev.

PUBLICATIONS FROM RESEARCH AT UNIVERSITY OF TOKYO (ASSISTANT PROFESSOR)

*Indicates corresponding author. ‡Indicates undergraduate author.

17. Mitsushige, Y.; Yasuda, H.; **Carrow, B.P.**; Ito, S.; Kobayashi, M.; Tayano, T.; Watanabe, Y.; Okuno, Y.; Hayashi, S.; Kuroda, J.; Okumura, Y.; Nozaki, K.* "Methylene-Bridged Bisphosphine Monoxide Ligands for Palladium-Catalyzed Copolymerization of Ethylene and Polar Monomers" *ACS Macro Lett.* **2018**, *7*, 305-311. [doi: [10.1021/acsmacrolett.8b00034](https://doi.org/10.1021/acsmacrolett.8b00034)]
18. Bui, P.B.; Oyama, S.T.*; Takagaki, A.; **Carrow, B.P.**; Nozaki, K. "Reactions of 2-Methyltetrahydropyran on Silica-Supported Nickel Phosphide in Comparison with 2-Methyltetrahydrofuran" *ACS Catal.* **2016**, *6*, 4549-4558. [doi: [10.1021/acscatal.6b01033](https://doi.org/10.1021/acscatal.6b01033)]
19. Mitsushige, Y.; **Carrow B.P.**; Ito, S.; Nozaki, K.* "Ligand-Controlled Insertion Regioselectivity Accelerates Copolymerization of Ethylene with Methyl Acrylate by Cationic Bisphosphine Monoxide-Palladium Catalysts" *Chem. Sci.* **2016**, *7*, 737-744. [doi: [10.1039/C5SC03361F](https://doi.org/10.1039/C5SC03361F)]
20. **Carrow, B.P.**; Nozaki, K.* "Transition-Metal-Catalyzed Functional Polyolefin Synthesis: Effecting Control through Chelating Ancillary Ligand Design and Mechanistic Insights" *Macromolecules* **2014**, *47*, 2541-2455. [doi: [10.1021/ma500034g](https://doi.org/10.1021/ma500034g)]

One of most downloaded articles in May 2014

21. Nakamura, N.; Kageyama, T.; Goto, H.; Ito, S.; **Carrow, B.P.**; Nozaki, K.* "P-Chiral Phosphine-Sulfonate/Palladium-Catalyzed Asymmetric Copolymerization of Vinyl Acetate with Carbon Monoxide" *J. Am. Chem. Soc.* **2012**, *134*, 12366-12369. [doi:]
22. **Carrow, B.P.**; Nozaki, K.* "Synthesis of Functional Polyolefins Using Cationic Bisphosphine Monoxide-Palladium Complexes" *J. Am. Chem. Soc.* **2012**, *134*, 8802-8805. [doi: [10.1021/ja303507t](https://doi.org/10.1021/ja303507t)]

PUBLICATIONS FROM OTHER RESEARCH (GRADUATE, UNDERGRADUATE)

*Indicates corresponding author. ‡Indicates undergraduate author.

23. **Carrow, B.P.**; Hartwig, J.F.* "Distinguishing Between Pathways for Transmetalation in Suzuki-Miyaura Reactions." *J. Am. Chem. Soc.* **2011**, *133*, 2116-2119. [doi: [10.1021/ja1108326](https://doi.org/10.1021/ja1108326)]
24. **Carrow, B.P.**; Hartwig, J.F.* "Ligandless, Anionic, Arylpalladium Halide Intermediates in the Heck Reaction." *J. Am. Chem. Soc.* **2010**, *132*, 79-81. [doi: [10.1021/ja909306f](https://doi.org/10.1021/ja909306f)]
25. Barrios-Landeros, F.; **Carrow, B.P.**; Hartwig, J.F.* "Effect of Ligand Steric Properties and Halide Identity on the Mechanism for Oxidative Addition of Haloarenes to Trialkylphosphine Pd(0) Complexes" *J. Am. Chem. Soc.* **2009**, *131*, 8141-8154. [doi: [10.1021/ja900798s](https://doi.org/10.1021/ja900798s)]
26. Barrios-Landeros, F.; **Carrow, B.P.**; Hartwig, J.F.* "Autocatalytic Oxidative Addition of PhBr to Pd(P^tBu₃)₂ via Pd(P^tBu₃)₂(H)(Br)" *J. Am. Chem. Soc.* **2008**, *130*, 5842-5843. [doi: [10.1021/ja711159y](https://doi.org/10.1021/ja711159y)]

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27. Senkevich, J.J.*; Woods, B.W.; **Carrow, B.P.**; Geil, R.D.; Rogers, B.R. "Amorphous Highly Conjugated Chemical-Vapor-Deposited Polymer Thin Films." *Chem. Vapor Dep.* **2006**, *12*, 285-289. [doi:10.1002/cvde.200506454]
28. **Carrow, B.P.**; Bakhru, H.; Wang, P.-I.; Chen, Y.; Senkevich, J. J.* "Dehydrohalogenation in Alpha-Functionalized Poly-p-xylylenes." *Chem. Vapor Dep.* **2006**, *12*, 239-244. [doi:10.1002/cvde.200506426]
29. Ye, D.-X.; **Carrow, B.**; Pimanpang, S.; Bakhru, H.; Ten Eyck, G. A.; Wang, G.-C.; Lu, T.-M.* "Evaluation of a Novel Cu(I) Precursor for Chemical Vapor Deposition" *Electrochem. Solid-State Lett.* **2005**, *8*, C85-C88. [doi:10.1149/1.1922868]
30. Senkevich, J.J.*; **Carrow, B.**; Wang, P.-I. "Thermal and Dielectric Stability of Parylene X." *Mater. Res. Soc. Symp. Proc.* **2006**, *914*, 101-106. [doi:10.1557/PROC-0914-F03-06]
31. Senkevich, J.J.; Carrow, B.P.; Woods, B.W.; Bae, D.-L.; Cale, T.S.; Wang, P.-I. "Molecular Caulk: Enabling Aspects for Ultra-Low κ Dielectric Integration." *Advanced Metallization Conference, Proceedings of the Conference*, **2006**, 375-379.
32. **Carrow, B.P.**; Murray, R.E.; Woods, B.W.; Senkevich, J.J.* "Poly(ethynyl-p-xylylene), an Advanced Molecular Caulk CVD Polymer" *Mater. Res. Soc. Symp. Proc.* **2005**, *863*, 189-194. [doi:10.1557/PROC-863-B2.10]

PATENTS

Carrow, B.P.; Chen, L. "Tri(1-adamantyl)phosphine and Applications Thereof" WO 2017/075581 A1, May 4, 2017.

Carrow, B.P.; Zhang, W. "Transition Metal Catalysts for Olefin Polymerization" WO 2015/200849 A2, December 30, 2015.

Nozaki, K.; **Carrow, B.**; Okumura, Y.; Kuroda, J. "Catalyst for Synthesizing Polyolefins" WO 2013/168626 A1, November 11, 2013.

SEMINARS

Invited Presentations

1. 44th International Conference on Coordination Chemistry (ICCC 2022), Rimini, Italy August 2022
2. Industrial Developments in Polyolefin Macromolecular Design, ACS National Meeting April 2022
3. Organic Reactions Lecture, University of Alabama, Tuscaloosa, AL April 2021
4. Advances in Functionalized Polyolefin Synthesis Symposium, ACS National Meeting April 2021
5. Purdue University, West Lafayette, IN April 2021
6. New York University, New York, NY Sept. 2020
7. 4th International Symposium on Precisely Designed Catalysts with Customized Scaffolding, Nara, Japan Dec. 2019
8. University of Michigan, Ann Arbor, MI Oct. 2019
9. Iowa State University, Ames, IA Oct. 2019
10. University of Missouri, Columbia, MO Oct. 2019
11. Advances in Polyolefins 2019, Rohnert Park, CA Sept. 2019
12. International Conference on Catalysis and Organic Synthesis ICCOS-2019, Moscow, Russia Sept. 2019
13. University of California, Riverside, Riverside, CA June 2019

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14. University of California, Los Angeles, Los Angeles, CA	June 2019
15. University of California, Santa Barbara, Santa Barbara, CA	May 2019
16. Cornell University, Ithaca, NY	May 2019
17. Michigan State University, Lansing, MI	Apr. 2019
18. University of Houston, Houston, TX	Mar. 2019
19. Inorganic Reaction Mechanisms Gordon Research Conference, Galveston, TX	Mar. 2019
20. University of Wisconsin – Madison, Madison, WI	Feb. 2019
21. University of Minnesota, Minneapolis, MN	Feb. 2019
22. University of California, Berkeley, Berkeley, CA	Feb. 2019
23. University of North Carolina at Chapel Hill, Chapel Hill, NC	Feb. 2019
24. The Ohio State University, Columbus, OH	Feb. 2019
25. University of Pennsylvania, Philadelphia, PA	Feb. 2019
26. University of Chicago, Chicago, IL	Nov. 2018
27. Yale University, New Haven, CT	Nov. 2018
28. RWTH Aachen University, Aachen, Germany	Oct. 2018
29. Münster University, Münster, Germany	Oct. 2018
30. Max-Planck-Institut für Kohlenforschung	Oct. 2018
31. University of Cologne, Cologne, Germany	Oct. 2018
32. University of Bristol, Bristol, England	Oct. 2018
33. University of Oxford, Oxford, England	Oct. 2018
34. University of Cambridge, Cambridge, England	Oct. 2018
35. University of Edinburgh, Edinburgh, Scotland	Oct. 2018
36. Indiana University, Bloomington, IN	Oct. 2018
37. Seton Hall University, Seton Hall, NJ	Sept. 2018
38. SUNY Binghamton, Binghamton, NY	Aug. 2018
39. Organic Reactions & Processes Gordon Research Conference (short talk), Stonehill College, Easton, MA	July 2018
40. Organometallics Gordon Research Conference (short talk), Salve Regina University, Newport, RI	July 2018
41. Boston University, Boston, MA	Jan. 2018
42. Celgene Research & Development, Summit, NJ	Dec. 2017
43. Syracuse University, Syracuse, NY	Oct. 2017
44. University of Tokyo, Tokyo, Japan	July 2017
45. ACS Mid-Atlantic Regional Meeting (MARM), Hershey, PA	June 2017
46. King Abdullah University of Science and Technology (KAUST), Thuwal, Saudi Arabia	Feb. 2017
47. ExxonMobil Research and Engineering, Baytown, TX	Sept. 2016
48. Drew University, Madison, NJ	Sept. 2016
49. CREST Base Metal Symposium, Princeton University, Princeton, NJ	Sept. 2016

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- 50. PMSE Division, ACS Fall National Meeting, Philadelphia, PA Aug. 2016
- 51. Philadelphia Inorganic Colloquium, The College of New Jersey, Trenton, NJ Sept. 2015
- 52. ExxonMobil Central Research & Engineering, Annandale, NJ Feb. 2015
- 53. International Symposium on Homogeneous Chemical Reactivity, Ibaraki University, Mito, Japan June 2013
- 54. 59th Symposium on Organometallic Chemistry, Osaka University, Osaka, Japan Sept. 2012
- 55. Iowa State University, Ames, IA Sept. 2012

Contributed Presentations

- 56. ACS National Meeting, Orlando, FL Mar. 2019
- 57. ACS National Meeting, New Orleans Mar. 2018
- 58. ACS National Meeting, Washington D.C. (Aug. 24) Aug. 2017
- 59. ACS National Meeting, Washington D.C. (Aug. 20) Aug. 2017
- 60. 23rd Annual Organic Area Allerton Conference, University of Illinois at Urbana-Champaign, Urbana, IL Nov. 2009
- 61. Global Center of Excellence Program Summer School, Tohoku University, Sendai, Japan Aug. 2009
- 62. Pines Travel Award Seminar, Missouri University of Science and Technology, Rolla, MO Feb. 2009
- 63. Materials Research Society Conference, San Francisco, CA Mar. 2005

SUPERVISED COWORKERS

Graduate Students (University of Houston)

1. **Susen Das** (Fall 2022–present) from University of Houston
2. **Justin Garza** (Fall 2021–present) from University of Houston
3. **Aidan Looby** (Fall 2021–present) from Widener University
4. **Yunuen Avila-Martinez** (Fall 2021–present) from Texas A&M University
5. **Lalu Sai Venigalla** (Fall 2021–present) from Andhra Loyola College (BS), Gitam University (MS)
6. **Yashmeen FNU** (Fall 2021–present) from Panjab University, Chandigarh (BS and MS)

Graduate Students (Princeton)

7. **Liye Chen** (Fall 2013–Aug. 2018) from Tsinghua University
Bristol-Myers Squibb Graduate Fellowship, Princeton University (2016)
Rathmann Fellowship, Princeton University (2013)
Ph.D. in June 2018, Princeton University
Thesis title: “*Ligand-Accelerated Cross-Coupling and Mechanistic Investigations*”
8. **Christian Padilla** (Fall 2013–Feb. 2016) from Carleton College
Graduate Research Fellowship, National Science Foundation (2013)
M.S. in Feb. 2019, Princeton University
9. **Neil McAlpine** (July 2016–Oct. 2018) from University of Glasgow
Ph.D. in October 2018
Thesis title: “*Design and Development of New Aerobic Boron Heck Reactions*”
10. **Margaret (Tiedemann) Whalley** (Fall 2014–Feb. 2017) from Lafayette College
M.S. in Feb. 2019, Princeton University
11. **Long Wang** (Fall 2014–June 2019) from Peking University
Nat C. Robertson *42 Graduate Fellowship in Chemistry (2015)
Ph.D. in June 2019, Princeton University
Thesis title: “*Thioether Ligand-Promoted Catalytic C–H Functionalization and Mechanistic Investigations*”
12. **Peter Waddell** (Fall 2015–Spring 2023) from Rutgers University
Hubbell '47 3rd Year Seminar Prize, Princeton University (2018)
13. **Anthony Scavuzzo** (Fall 2016–present) from Clemson University
14. **William SiiHong Lau** (Fall 2017–Fall 2019) from University of Illinois – Urbana, Champaign
15. **Daniel Sanchez** (Fall 2017–Fall 2022) from Caltech

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16. **Rebecca Evans** (Fall 2019–Dec 2020) from Rhodes College

Postdoctoral Fellows

1. **Wei Zhang**, Ph.D. (Oct. 2013–July 2015) doctoral work with Weiping Tang (University of Wisconsin – Madison)
2. **Peng Ren**, Ph.D. (July 2014–July 2015) doctoral work with Xile Hu (Ecole Polytechnique Fédérale de Lausanne, Switzerland)
3. **Jiajun Mei**, Ph.D. (Dec. 2015–Dec. 2016) doctoral work with T. Brent Gunnoe (University of Virginia)
4. **Praveen Kilaru**, Ph.D. (Oct. 2018–June 2019) doctoral work with Pinjing Zhao (North Dakota State University)
5. **Jason Brandt**, Ph.D. (May 2018–Nov. 2019) doctoral work with Laurel Schafer (University of British Columbia)
6. **Jessica Sampson**, Ph.D. (Feb. 2019–present) doctoral work with Theodor Agapie (Caltech)
7. **Peng Yu**, Ph.D. (Sept. 2019–Oct 2020) doctoral work with Bill Morandi (Max Planck Institute, Mulheim)
8. **Wenjun Hou**, Ph.D. (August 2022-present) doctoral work with Zheng Huang (Shanghai Institute of Chemistry)

Visiting Graduate Students (Princeton)

Lukas Lückemeier (Sept. 2019–Feb. 2020) Ph.D. student with Frank Glorius (University of Münster, Germany)

Undergraduate Students (Princeton)

1. **Bradley Gorsline** (Princeton '15)
2. **Kiwoon Baeg** (Princeton '16)
3. **Chatarin Wangsanuwat** (Princeton '16, Chem. & Bio. Eng.) – Leach Summer Scholars Program
4. **Cecily O'Leary** (Princeton '16)
5. **Aileen Huang** (Princeton '17)
6. **Madison Parry** (Princeton '18, Chem. & Bio. Eng.) – Leach Summer Scholars Program
7. **Nathan Park** (Princeton '18)
8. **Abhiram Kurappur** (Princeton '19, Chem. & Bio. Eng.)
9. **Nicodemo Ciccio** (Princeton '20)
10. **Lucy Wang** (Princeton '21)
11. **Marlon Simms** (Massachusetts College of Pharmacy and Health Sciences University) – Summer Undergraduate Research Program in Diversity, Summer 2015
12. **Cecilia Vollbrecht** (Centre College) – Summer Undergraduate Research Program in Diversity, Summer 2016
13. **Bufan Zhang** (Vassar College)– Summer Undergraduate Research Program in Diversity, Summer 2016
14. **Haydn Francis** (Oxford) – International Summer Internship Program, Summer 2017
15. **Linh Le** (Colgate University) – Summer Undergraduate Research Program in Diversity, Summer 2017
16. **Kathryn Goerl** (Wellesley College)– Summer Undergraduate Research Program in Diversity, Summer 2017
17. **Najla Fawwaz** (New College of Florida) – Summer Undergraduate Research Program in Diversity, Summer 2017
18. **Sojung Kim** (Penn State University) – Summer Undergraduate Research Program in Diversity, Summer 2018
19. **Roxanna Martinez** (Skidmore College) – Summer Undergraduate Research Program in Diversity, Summer 2018
20. **Jenny Hu** (UNC–Chapel Hill) – Summer Undergraduate Research Program in Diversity, Summer 2019

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TEACHING

University of Houston

CHM 3332/2325 Fundamentals of Organic Chemistry II (undergraduate) Spring 2021, Spring 2022

CHM 6351 Organic Structure Determination (graduate) Fall 2022

CHM 3332/2325 Fundamentals of Organic Chemistry II – *Honors* (undergraduate) Spring 2023

Princeton

CHM 304 Organic Chemistry II: Foundations of Chemical Reactivity and Synthesis (undergraduate) Spring 2018

CHM 521 Organometallic Chemistry (graduate) Spring 2015, Spring 2016, Spring 2017, Spring 2019, Spring 2020

CHM 532 Mechanistic & Physical Organic Chemistry (graduate) Fall 2014, Fall 2015, Fall 2017

CHM 536 Topics in Organic Chemistry: Organic Chemistry and Catalysis (graduate) Spring 2014

03-770010 Introductory Lectures in Chemistry and Biotechnology (undergraduate, U. Tokyo) Fall 2012, Spring 2012