Abigail Gutmann Doyle

3515 Molecular Sciences Building | Department of Chemistry & Biochemistry | UCLA | Los Angeles, CA 90095
Saul Winstein Endowed Chair in Organic Chemistry
Email: agdoyle@chem.ucla.edu
Group website: https://doyle.chem.ucla.edu

A. EDUCATION & TRAINING

2003-2008	**Harvard University, Department of Chemistry and Chemical Biology**
	Degree awarded: Ph.D., NDSEG, NSF, and Harvard Merit Pre-Doctoral Fellow
	Research Advisor: Professor Eric N. Jacobsen
	"Engaging Alkyl Halides and Oxocarbenium Ions in Asymmetric Catalysis"
2002-2003	**Stanford University, Department of Chemistry**
	NDSEG Pre-Doctoral Fellow
	Research Advisor: Professor Justin Du Bois
1998-2002	**Harvard University, Department of Chemistry and Chemical Biology**
	Degree awarded: A.B. and A.M. with Highest Honors, summa cum laude
	Research Advisor (2000-2002): Professor Eric N. Jacobsen

B. PROFESSIONAL APPOINTMENTS

Saul Winstein Endowed Chair in Organic Chemistry, UCLA (July 2021 to present)
A. Barton Hepburn Professor of Chemistry, Princeton University (July 2017 to June 2021)
Associate Professor of Chemistry, Princeton University (July 2013 to June 2017)
Assistant Professor of Chemistry, Princeton University (July 2008 to June 2013)
Summer Intern, Bristol-Myers Squibb, Discovery Chemistry (Metabolic Diseases, May to August 2000)

C. HONORS & AWARDS

- Herbert Newby McCoy Award (2024)
- Ta-Shue Chou Award of Taiwan (2024)
- OMCOS award (2023)
- Finalist of the 2022 Blavatnik National Awards for Young Scientists
- Bessel Award (2022)
- EJ Corey Award for Outstanding Original Contribution in Organic Synthesis by a Young Investigator (2022)
- The Camille and Henry Dreyfus Foundation Machine Learning in the Chemical Sciences and Engineering Award (2021)
- American Chemical Society Fellow (2020)
- RSC Fluorine Award (2019)
- 15th Hirata Prize (2019)
- BMS Unrestricted Grant in Synthetic Organic Chemistry (2016)
- Phi Lambda Upsilon National Fresenius Award (2014)
- Presidential Early Career Award for Scientists and Engineers (2014)
- Novartis Chemistry Lectureship (2014/2015)
- Bayer Excellence in Science Award (2013)
- Arthur C. Cope Scholar Award (2013)
- Camille-Dreyfus Teacher Scholar Award (2013)
- Thieme Chemistry Journals Award (2013)

- Amgen Young Investigator Award (2012)
- Alfred P. Sloan Foundation Fellowship (2012)
- NSF CAREER Award (2012-2017)
- Roche Early Excellence in Chemistry Award (2012)
- Eli Lilly Grantee Award (2012-2014)
- Boehringer Ingelheim New Investigator Award (2012)
- Merck Award for Selective Fluorination (2010-2012)
- ACS PRF Doctoral New Investigator Grant (2009)
- Sanofi Aventis New Faculty Award (2008)
- Eli Lilly New Faculty Award (2008)
- Harvard Merit Fellowship (2007)
- Sigma-Aldrich Graduate Student Innovation Award (2006)
- Christensen Prize for Outstanding Research Achievement (2005)
- National Science Foundation Pre-Doctoral Fellowship (2004-2007)
- National Defense Science and Engineering Pre-Doctoral Fellowship (2002-2004)
- Harvard College Certificate of Distinction in Teaching (2004)
- Phi Beta Kappa Junior Inductee (2001)
- Pfizer Undergraduate Summer Research Fellowship (2001)
- Harvard College Research Fellowship Award (2001)
- Harvard Detur Prize Recipient (1999)

D. PEER-REVIEWED PUBLICATIONS (INDEPENDENT CAREER)

85. Sedillo, K.; Fan, F.; Knowles, R. R.; Doyle, A. G. **Cooperative Phosphine-Photoredox Catalysis Enables N–H Activation of Azoles for Intermolecular Olefin Hydroamination**. *J. Am. Chem. Soc.* **2024**, ASAP.

84. Cusumano, A. Q; Chaffin, B. C.; Doyle, A. G. **Mechanism of Ni-Catalyzed Photochemical Halogen Atom-Mediated C(sp3)–H Arylation.** *J. Am. Chem. Soc.* **2024**, *146*, 15331.

83. Sheng, H.; Sun, J.; Rodríguez, O.; Hoar, B. B.; Zhang, W.; Xiang, D.; Tang, T.; Hazra, A.; Min, D. S.; Doyle, A. G.; Sigman, M. S.; Costentin, C.; Gu, Q.; Rodríguez-López, J.; Liu, C. **Autonomous closed-loop mechanistic investigation of molecular electrochemistry via automation.** *Nat. Commun*, **2024**, *15*, 2781.

82. Romer, N. P.; Min, D. S.; Wang, J. Y.; Walroth, R. C.; Mack, K. A.; Sirois, L. E.; Gosselin, F.; Zell, D.; Doyle, A. G.; Sigman, M. S. **Data Science Guided Multiobjective Optimization of a Stereoconvergent Nickel-Catalyzed Reduction of Enol Tosylates to Access Trisubstituted Alkenes.** *ACS Catal.* **2024**, *14*, 4699-4708.

81. Wang, J. Y.; Stevens, J. M.; Kariofillis, S. K.; Tom, M.-J.; Golden, D. L.; Li, J.; Tabora, J. E.; Parasram, M.; Shields, B. J.; Primer, D. N.; Hao, B.; Del Valle, D.; DiSomma, S.; Furman, A.; Zipp, G. G.; Melnikov, S.; Paulson, J.; Doyle, A. G. **Identifying general reaction conditions by bandit optimization.** *Nature,* **2024**, *626*, 1025-1033.

80. Lyons, T. W.; Leibler, I. N.-M.; He, C. Q.; Gadamsetty, S.; Estrada, G. J.; Doyle, A. G. **Broad Survey of Selectivity in the Heterogeneous Hydrogenation of Heterocycles.** *J. Org. Chem.* **2024**, *89, 1438–1445.*

79. Newman-Stonebraker, S. H.; Raab, T. J.; Doyle, A. G. **Catalyst Deactivation of a Monoligated CyJohnPhos-Bound Nickel(0) Complex.** *Organometallics* **2023**, *42*, 3438–3441.

78. Raghavan, P; Haas, B. C.; Ruos, M. E.; Schleinitz, J; Doyle, A. G.; Reisman, S. E.; Sigman, M. S.; Coley, C. W. **Dataset Design for Building Models of Chemical Reactivity.** *ACS Cent. Sci.* **2023**, *9*, 2196-2204.

77. Williams, W. L.; Gutiérrez-Valencia, N. E.; Doyle, A. G. **Branched-Selective Cross-Electrophile Coupling of 2-**

Alkyl Aziridines and (Hetero)aryl Iodides Using Ti/Ni Catalysis. *J. Am. Chem. Soc.* 2023, *145*, 24175–24183.

76. Newman-Stonebraker, S. H.; Raab, T. J.; Roshandel, H. R.; Doyle, A. G. Synthesis of Nickel(I)–Bromide Complexes via Oxidation and Ligand Displacement: Evaluation of Ligand Effects on Speciation and Reactivity. *J. Am. Chem. Soc.* 2023, *145*, 19368-19377.

75. Ruos, M. E.; Kinney, R. G.; Ring, O. T.; Doyle, A. G. A General Photocatalytic Strategy for Nucleophilic Amination of Primary and Secondary Benzylic C–H Bonds. *J. Am. Chem. Soc.* 2023, *145*, 18487-18496.

74. Dunlap, J. H.; Ethier, J. G.; Putnam-Neeb, A. A.; Iyer, S.; Luo, S.-X. L.; Feng, H.; Torres, J. A. G.; Doyle, A. G.; Swager, T. M.; Vaia, R. A.; Mirau, P.; Crouse, C. A.; Baldwin, L. A. Continuous flow synthesis of pyridinium salts accelerated by multi-objective Bayesian optimization with active learning. *Chem. Sci.* 2023, *14*, 8061-8069.

73. Borowski, J. E.; Newman-Stonebraker, S. H.; Doyle, A. G. Comparison of Monophosphine and Bisphosphine Precatalysts for Ni-Catalyzed Suzuki–Miyaura Cross-Coupling: Understanding the Role of the Ligation State in Catalysis. *ACS. Catal.* 2023, *13*, 7966-7977.

72. Leibler, I. N.-M.; Gandhi, S. S.; Tekle-Smith, M. A.; Doyle A. G. Strategies for Nucleophilic C(sp^3)–(Radio)Fluorination. *J. Am. Chem. Soc.* 2023, *145*, 9928–9950.

71. Tang, T.; Hazra, A.; Min D. S.; Williams W. L.; Doyle A. G.; Sigman M. S. Interrogating the Mechanistic Features of Ni(I)-Mediated Aryl Iodide Oxidative Addition Using Electroanalytical and Statistical Modeling Techniques. *J. Am. Chem. Soc.* 2023, *145*, 8689–8699.

70. Żurański, A.; Gandhi, S.; Doyle, A. G. A Machine Learning Approach to Model Interaction Effects: Development and Application to Alcohol Deoxyfluorination. *J. Am. Chem. Soc.* 2023,*145*, 7898–7909.

69. Saebi, M.; Nan, B.; Herr, J. E.; Wahlers, J.; Guo, Z.; Zurański, A. M.; Kogej, T.; Norrby, P.-O.; Doyle, A. G.; Wiest, O.; Chawla, N. V. On the Use of Real-World Datasets for Reaction Yield Prediction. *Chem. Sci.* 2023, Advance Article.

68. Garrido Torres, J. A.; Lau, S. H.; Anchuri, P.; Stevens, J. M.; Tabora, J. E.; Li, J.; Borovika, A.; Adams, R. P.; Doyle, A. G. A Multi-Objective Active Learning Platform and Web App for Reaction Optimization. *J. Am. Chem. Soc.* 2022, *144*, 19999–20007.

67. Newman-Stonebraker, S. H.; Wang, J. Y.; Jeffrey, P. D.; Doyle, A. G. Structure-Reactivity Relationships of Buchwald-Type Phosphines in Nickel-Catalyzed Cross Couplings. *J. Am. Chem. Soc.* 2022, 144, 19635–19648.

66. Dongbang, S.; Doyle, A. G. Ni/Photoredox-Catalyzed C(sp^3)–C(sp^3) Coupling between Aziridines and Acetals as Alcohol-Derived Alkyl Radical Precursors. *J. Am. Chem. Soc.* 2022, *144*, 20067–20077.

65. Millet, A.; Cesana, P. T.; Sedillo, K.; Bird, M. J.; Schlau-Cohen, G. S.; Doyle, A. G.; MacMillan, D. W. C.; Scholes, G. D. Bioinspired Supercharging of Photoredox Catalysis for Applications in Energy and Chemical Manufacturing. *Acc. Chem. Res.* 2022, *55,* 1423–1434.

64. Ting, S. I.; Williams, W. L.; Doyle, A. G. Oxidative Addition of Aryl Halides to a Ni(I)-Bipyridine Complex. *J. Am. Chem. Soc.* 2022, *144*, 5575–5582.

63. Żurański, A. M.; Wang, J. Y.; Shields, B. J.; Doyle, A. G. Auto-QChem: an automated workflow for the generation and storage of DFT calculations for organic molecules. *React. Chem. Eng.* 2022, *7*, 1276–1284.

62. Kariofillis, S. K.; Jiang, S.; Żurański, A. M.; Gandhi, S. S.; Martinez Alvarado, J. I.; Doyle, A. G. **Using Data Science to Guide Aryl Bromide Substrate Scope Analysis in a Ni/Photoredox-Catalyzed Cross-Coupling with Acetals as Alcohol-Derived Radical Sources.** *J. Am. Chem. Soc.* **2022**, *144*, 1045.

61. Leibler, I. N.-M.; Tekle-Smith, M. A.; Doyle, A. G. **A General Strategy for C(sp^3)–H Functionalization with Nucleophiles Using Methyl Radical as a Hydrogen Atom Abstractor.** *Nature Comm.* **2021**, *12*, 6950.

60. Kearnes, S.; Maser, M. R.; Wleklinski, M.; Kast, A.; Doyle, A. G.; Dreher, S. D.; Hawkins, J. M.; Jensen, K. F.; Coley, C. W. **The Open Reaction Database.** J. *Am. Chem. Soc.* **2021,** *143*, 18820.

59. Cesana, P. T.; Li, B. X.; Shepard, S. G.; Ting, S. I.; Hart, S. M.; Olson, C. M.; Martinez Alvarado, J. I.; Son, M.; Steiman, T. J.; Castellano, F. N.; Doyle, A. G.; MacMillan, D. W. C.; Schlau-Cohen, G. S. **A Biohybrid Strategy for Enabling Photoredox Catalysis with Low Energy Light.** *Chem* **2021**,*8,* 174.

58. Chinn, A. J.; Sedillo, K.; Doyle, A. G. **Phosphine/Photoredox Catalyzed anti-Markovnikov Hydroamination of Olefins with Primary Sulfonamides via α-Scission from Phosphoranyl Radicals.** *J. Am. Chem. Soc.* **2021**, *143*, 18331–18338.

57. Williams, W. L.; Zeng, L.; Gensch, T.; Sigman, M. S.; Doyle, A. G.; Anslyn, E. V. **The Evolution of Data-Driven Modeling in Organic Chemistry.** *ACS Cent. Sci.* **2021,** *7*, 1622–1637.

56. Newman-Stonebraker, S.; Smith, S.; Borowski, J.; Peters, E.; Gensch, T.; Johnson, H.; Sigman, M.; Doyle, A. G. **Linking Mechanistic Analysis of Catalytic Reactivity Cliffs to Ligand Classification.** *Science* **2021,** *374*, 301–308.

55. Lau, S. H.; Borden, M.; Steiman, T.; Wang, L.; Parasram, M.; Doyle, A. G. **Ni/Photoredox-Catalyzed Enantioselective Cross-Electrophile Coupling of Styrene Oxides with Aryl Iodides.** *J. Am. Chem. Soc.* **2021**, *143*, 15873–15881.

54. Żurański, A. M.; Martinez Alvarado, J. I.; Shields, B. J.; Doyle, A. G. **Predicting Reaction Yields via Supervised Learning.** *Acc. Chem. Res.* **2021**, *54*, 1856–1865.

53. Shen, Y.; Borowski, J. E.; Hardy, M. A.; Sarpong, R.; Doyle, A. G.; Cernak, T**. Automation and computer-assisted planning for chemical synthesis.** *Nat. Rev. Methods Primers* **2021**, *1*, 23.

52. Shields, B. J.; Stevens, J.; Li, J.; Parasram, M.; Damani, F.; Martinez-Alvarado, J.; Janey, J.; Adams, R. P.; Doyle, A. G. **Bayesian Reaction Optimization as a Tool for Chemical Synthesis.** *Nature* **2021**, *590*, 89–96.

51. Kariofillis, S. K.; Doyle, A. G. **Synthetic and Mechanistic Implications of Chlorine Photoelimination in Nickel/Photoredox C(sp^3)–H Cross-Coupling.** *Acc. Chem. Res.* **2021**, *54*, 988–1000.

50. Proppe, A. H.; Li, Y. C.; Aspuru-Guzik, A.; Berlinguette, C. P.; Chang, C. J.; Cogdell, R.; Doyle, A. G.; Flick, J.; Gabor, N. M.; van Grondelle, R.; Hammes-Schiffer, S.; Jaffer, S. A.; Kelley, S. O.; Leclerc, M.; Leo, K.; Mallouk, T. E.; Narang, P.; Schlau-Cohen, G. S.; Scholes, G. D.; Vojvodic, A.; Yam, V. W.; Yang, J. Y.; Sargent, E. H. **Bioinspiration in Light Harvesting and Catalysis.** *Nat. Rev. Mater.* **2020**, *5*, 828–846.

49. Webb, E. W.; Park, J. B.; Cole, E. L.; Donnelly, D. J.; Bonacorsi, S. J.; Ewing, W. R.; Doyle, A. G. **Nucleophilic (Radio)Fluorination of Redox-Active Esters via Radical-Polar Crossover Enabled by Photoredox Catalysis.** *J. Am. Chem. Soc.* **2020**, *142*, 9493–9500.

48. Parasram, M.; Shields, B. J.; Ahmad, O.; Knauber, T.; Doyle, A. G. **Regioselective Cross-Electrophile Coupling of Epoxides and (Hetero)aryl Iodides via Ni/Ti/Photoredox Catalysis.** *ACS Catal*. **2020**, *10*, 5821–5827.

47. Estrada, J. G.; Williams, W. L.; Ting, S. I.; Doyle, A. G. **Role of Electron-Deficient Olefin Ligands in a Ni-Catalyzed Aziridine Cross Coupling to Generate Quaternary Carbons.** *J. Am. Chem. Soc.* **2020**, *142*, 8928–8937.

46. Kariofillis, S. K.; Shields, B. J.; Tekle-Smith, M. A.; Zacuto, M. J.; Doyle, A. G. **Nickel/Photoredox-Catalyzed Methylation of (Hetero)aryl Chlorides Using Trimethyl Orthoformate as a Methyl Radical Source.** *J. Am. Chem. Soc.* **2020**, *142*, 7683–7689.

45. Steiman, T. J.; Liu, J.; Mengiste, A.; Doyle, A. G. **Synthesis of β-Phenethylamines via Ni/Photoredox Cross-Electrophile Coupling of Aliphatic Aziridines and Aryl Iodides.** *J. Am. Chem. Soc.* **2020**, *142*, 7598–7605.

44. Ting, S. I.; Garakyaraghi, S.; Taliaferro, C. M.; Scholes, G. D.; Castellano, F. N.; Doyle, A. G. **Excited States of Ni Complexes Relevant to Photoredox Catalysis: Characterization and Mechanistic Implications.** *J. Am. Chem. Soc.* **2020**, *142*, 5800–5810.

43. Martinez Alvarado, J. I.; Ertel, A. B.; Stegner, A.; Stache, E. E.; Doyle, A. G. **Direct Use of Carboxylic Acids in the Photocatalytic Hydroacylation of Styrenes to Generate Dialkyl Ketones.** *Org. Lett.* **2019,** *21*, 9940–9944.

42. Seff, S.; Zhou, W.; Damani, F.; Doyle, A. G.; Adams, R. P. **Discrete Object Generation with Reversible Inductive Construction.** *NeurIPS* **2019**, *32*, arXiv:1907.08268 [cs.LG]]

41. Estrada, J. G.; Ahneman, D. T.; Sheridan, R. P.; Dreher, S. D.; Doyle, A. G. **Response to Comment on "Predicting Reaction Performance in C–N Cross-Coupling Using Machine Learning".** *Science* **2018,** *362*, eaat8763.

40. Stache, E. E.; Ertel, A. B.; Rovis, T.; Doyle, A. G. **C–O Generation of Phosphoranyl Radicals via Photoredox Catalysis Enables Voltage-Independent Activation of Strong C–O Bonds**. *ACS Catalysis* **2018**, *8*, 11134–11139.

39. Ackerman, L. K. G.; Martinez Alvarado, J. I.; Doyle, A. G. **Direct C–C Bond Formation from Alkanes Using Ni-Photoredox Catalysis.** *J. Am. Chem. Soc.* **2018**, *140*, 14059–14063.

38. Nielsen, M. K.; Ahneman, D. T.; Riera, O.; Doyle, A. G. **Deoxyfluorination with Sulfonyl Fluorides: Navigating Reaction Space with Machine Learning.** *J. Am. Chem. Soc.* **2018**, *140*, 5004–5008.

37. Ahneman, D. T.; Estrada, J. G.; Lin, S.; Dreher, S. D.; Doyle, A. G. **Predicting reaction performance in C–N cross-coupling using machine learning.** *Science* **2018**, *360*, 186–190.

36. Shields, B. J.; Kudisch, B.; Scholes, G. D.; Doyle, A. G. **Long-Lived Charge Transfer States of Nickel(II) Aryl Halide Complexes Facilitate Bimolecular Photoinduced Electron Transfer**. *J. Am. Chem. Soc.* **2018,** *140*, 3035–3039.

35. Heinz, C.; Lutz, J. P.; Simmons, E. M.; Miller, M. M.; Ewing, W. R.; Doyle, A. G. **Ni-Catalyzed Carbon–Carbon Bond-Forming Reductive Amination.** *J. Am. Chem. Soc.* **2018**, *140*, 2292–2300.

34. Nielsen, M. K.; Shields, B. J.; Liu, J. Williams, M. J.; Zacuto, M. J; Doyle, A. G. **Mild, Redox-Neutral Formylation of Aryl Chlorides via Photocatalytic Generation of Chlorine radicals.** *Angew. Chem. Int. Ed.* **2017**, *129*, 7297–7300.

33. Woods, B. P.; Orlandi, M.; Huang, C.-Y. Sigman, M. H.; Doyle, A. G. **Nickel-Catalyzed Enantioselective Reductive Cross-Coupling of Styrenyl Aziridines.** *J. Am. Chem. Soc.* **2017,** *139*, 5688–5691.

32. Stache, E. E.; Rovis, T.; Doyle, A. G. **Nickel-photoredox catalyzed enantioselective desymmetrization of meso cyclic anhydrides.** *Angew. Chem. Int. Ed.* **2017**, *56*, 3679–3683.

31. Wu, K.; Doyle, A. G. **Parameterization of phosphine ligands demonstrates enhancement of nickel catalysis via remote steric effects.** *Nature Chem.* **2017,** *9*, 779–784.

30. Shields, B. J.; Doyle, A. G. **Direct C(sp^3)–H Cross Coupling Enabled by Catalytic Generation of Chlorine Radicals.** *J. Am. Chem. Soc.* **2016**, *138*, 12719–12722.

29. Gray, E. E.; Nielsen, M. K.; Choquette, K. A.; Kalow, J. A.; Graham, T. J. A.; Doyle, A. G. **Nucleophilic (Radio)Fluorination of α-Diazocarbonyl Compounds Enabled by Copper-Catalyzed H–F Insertion.** *J. Am. Chem. Soc.* **2016,** *138,* 10802–10805.

28. Ahneman, D. T.; Doyle, A. G. **C–H functionalization of amines with aryl halides by nickel-photoredox catalysis**. *Chem. Sci.* **2016,** *7,* 7002–7006.

27. Lutz, J. P.; Chau, S. T.; Doyle, A. G. **Nickel-Catalyzed Enantioselective Arylation of Pyridine**. *Chem. Sci.* **2016**, *7*, 7105–7109.

26. Joe, C. L.; Doyle, A. G. **Direct Acylation of C(sp^3)–H Bonds Enabled by Nickel and Photoredox Catalysis.** *Angew. Chem. Int. Ed.* **2016** *55*, 4040–4043.

25. Nielsen, M. K.; Ugaz, C. R.; Li, W.; Doyle, A. G. **PyFluor: A Low-Cost, Stable, and Selective Deoxy-fluorination Reagent.** *J. Am. Chem. Soc.* **2015,** *137,* 9571−9574.

24. Arendt, K. M.; Doyle, A. G. **Dialkyl Ether Formation via Nickel-Catalyzed Cross Coupling of Acetals and Aryl Iodides.** *Angew. Chem. Int. Ed.* **2015**, *54*, 9876-9880.

23. Huang, C.-Y.; Doyle, A. G. **Electron-Deficient Olefin Ligands Enable Generation of Quaternary Carbons by Ni-Catalyzed Cross Coupling.** *J. Am. Chem. Soc.* **2015**, *137*, 5638–5641.

22. Shields, J. D.; Gray, E. E.; Doyle, A. G. **A Modular, Air-Stable Nickel Precatalyst.** *Org. Lett.* **2015**, *17*, 2166–2169.

21. Zuo, Z.; Ahneman, D.; Chu, L.; Terrett, J.; Doyle, A. G.; MacMillan, D. W. C. **Merging photoredox with nickel catalysis: Coupling of α-carboxyl sp^3-carbons with aryl halides.** *Science* **2014**, *345*, 437–440.

20. Huang, C.-Y. (Dennis); Doyle, A. G. **The Chemistry of Transition Metals with Three-Membered Ring Heterocycles.** *Chem. Rev.* **2014**, *114*, 8153–8198.

19. Graham, T. J. A.; Lambert, R. F.; Ploessl, K.; Kung, H. F.; Doyle, A. G. **Enantioselective radiosynthesis of positron emission tomography (PET) tracers containing [^{18}F]fluorohydrins**. *J. Am. Chem. Soc.* **2014**, *136*, 5291–5294.

18. Katcher, M. H.; Norrby, P.-O.; Doyle, A. G. **Mechanistic Investigations of Palladium-Catalyzed Allylic Fluorination.** *Organometallics.* **2014**, *33*, 2121–2133.

17. Shields, J. D.; Ahneman, D. T.; Graham, T. J. A.; Doyle, A. G. **Enantioselective, Nickel-Catalyzed Suzuki Cross-Coupling of Quinolinium Ions.** *Org. Lett.* **2013**, *16*, 142–145.

16. Nielsen, D. K.; Huang, C.-Y. (Dennis); Doyle, A. G. **Directed Nickel-Catalyzed Negishi Cross Coupling of Alkyl Aziridines.** *J. Am. Chem. Soc.* **2013**, *135*, 13605–13609.

15. Braun, M.-G.; Doyle, A. G. **Palladium-Catalyzed Allylic C–H Fluorination.** *J. Am. Chem. Soc.* **2013**, *135*, 12990–12993.

14. Chau, S. T.; Lutz, J. P.; Wu, K.; Doyle, A. G. **Nickel-Catalyzed Enantioselective Arylation of Pyridinium Ions: Harnessing an Iminium Ion Activation Mode.** *Angew. Chem., Int. Ed.* **2013**, *52*, 9153–9156.

13. Kalow, J. A.; Doyle, A. G. **Enantioselective fluoride ring opening of aziridines enabled by cooperative Lewis acid catalysis.** *Tetrahedron*, **2013**, *69*, 5702–5709.

12. Braun, M.-G.; Katcher, M. H.; Doyle, A. G. **Carbofluorination via a Palladium-Catalyzed Cascade Reaction.** *Chemical Science*, **2013**, *4*, 1216–1220.

11. Sylvester, K. T.; Wu, K.; Doyle, A. G. **Mechanistic Investigations of the Nickel-Catalyzed Suzuki Reaction of *N,O*-Acetals: Evidence for Boronic Acid-Assisted Oxidative Addition and an Iminium Activation Pathway**. *J. Am. Chem. Soc.* **2012**, *134*, 16967–16970.

10. Kalow, J. A.; Schmitt, D. E.; Doyle, A. G. **Synthesis of β-Fluoroamines by Lewis Base-Catalyzed Hydrofluorination of Aziridines**. *J. Org. Chem.* **2012**, *77*, 4177–4183.

9. Huang, C.-Y. (Dennis); Doyle, A. G. **Nickel-Catalyzed Negishi Alkylations of Styrenyl Aziridines**. *J. Am. Chem. Soc.* **2012**, *134*, 9541–9544.

8. Graham, T. J. A.; Doyle, A. G. **Nickel-Catalyzed Cross Coupling of Chromene Acetals and Boronic Acids**. *Org. Lett.* **2012**, *14*, 1616–1619.

7. Katcher, M. H.; Sha, A.; Doyle, A. G. **Regio- and Enantioselective Fluorination of Acyclic Allylic Halides**. *J. Am. Chem. Soc.* **2011**, *133*, 15902–15905.

6. Kalow, J. A.; Doyle, A. G. **Mechanistic Investigations of Cooperative Catalysis in the Enantioselective Fluorination of Epoxides**. *J. Am. Chem. Soc.* **2011**, *133*, 16001–16012.

5. Nielsen, D. K.; Doyle, A. G. **Nickel-Catalyzed Cross Coupling of Styrenyl Epoxides with Boronic Acids**. *Angew. Chem., Int. Ed.* **2011**, 50, 6056–6059.

4. Graham, T. J. A.; Doyle, A. G. **Transition Metal-Catalyzed Cross Coupling with *N*-Acyliminium Ions Derived from Quinolines and Isoquinolines**. *Chem. Sci.* **2011**, *2*, 980–984.

3. Shaw, T. W.; Kalow, J. A.; Doyle, A. G. **Fluoride ring-opening kinetic resolution of terminal epoxides: preparation of *(S)*-2-fluoro-1-phenylethanol**. *Org. Syn.* **2012**, *89*, 9–18.

2. Katcher, M. H.; Doyle, A. G. **Palladium-Catalyzed Asymmetric Synthesis of Allylic Fluorides**. *J. Am. Chem. Soc.* **2010**, *132*, 17402–17404.

1. Kalow, J. A.; Doyle, A. G. **Enantioselective Ring-Opening of Epoxides by Fluoride Anion Promoted by a Cooperative Dual Catalyst System**. *J. Am. Chem. Soc.* **2010**, *132*, 3268–3269.

E. SCIENTIFIC SERVICE

UCLA Service

- Chair, Chemistry Graduate Studies Committee (2022–present)
- Diversity Leadership Committee (2021 to present)

- Member, Division of Physical Sciences Diversity Committee (2023–present)
- Staff Relations Committee (2022–present)
- Awards Committee (2021–2022)
- Junior Faculty Search Committee and Jung Chair in Medicinal Chemistry Search Committee (2021, 2022)
- Search Committee Member, DataX Director Search
- Mentor, Undergraduate Mentorship Program
- Faculty reviewer, departmental awards and faculty promotions

Princeton University Service

- Staffing and Long-Range Planning Committee (2014 to 2021)
- Director of Graduate Studies (2017 to 2020)
- Diversity Committee (2014 to 2019)
- Women in STEM Working Group at Princeton (2014 to 2021)
- Committee of Committees (2013-2015)
- Chair of the Organic Chemistry Seminar Series (2008 to 2013)
- Chair of the Organic Graduate Admissions Committee (2008 to 2013)
- Graduate Work Committee (2008 to 2021)
- Junior Faculty Search Committee (2008 to 2015); chair in 2015
- Instrumentation Committee (2010 to 2021)
- Panelist, Tigers with Cubs (2015)
- Created a Student Invited Lecture Series (SILS) in collaboration with the Chemistry Graduate Student Organization (2009 to 2021)
- Grader for incoming Chemistry graduate student's organic placement exam (2008 to 2011)
- Faculty panel member for Princeton's incoming women in science, engineering, and mathematics (2009 to 2021)
- Roundtable discussion facilitator for Princeton's undergraduate chemistry club dinner series (2011 to 2021)
- Grader for undergraduate organic prize exams (2010 to 2021)
- Reader and external grader for organic undergraduate senior theses (2010 to 2021)

Other Service Activities

- Senior Editor, *Accounts of Chemical Research* (November 2016 to present)
- Governing Committee, Open Reaction Database (https://docs.open-reaction-database.org/en/latest/index.html) (2019 to present)
- Southern California Empowering Women in Organic Chemistry
- Chirality Conference Co-Chair (2018, Princeton University)
- ACS National Award Selection Committee
- Grant reviewer for National Science Foundation (2012 to present)
- Grant reviewer for American Chemical Society Petroleum Research Fund (2009 to present)
- Co-organizer of the 42nd National Organic Chemistry Symposium (2010 to 2011)
- Session chair for ACS National Meeting (Boston, MA) & Gordon Research Conferences (2009 to present)
- Outside reader and examiner for graduate students at other Universities
- Trenton Science Museum, Super Science Saturday (Spring 2011 to 2018)
- Faculty mentor for Mercer Country Community College Honors Chemistry Program (2012 to present)
- Member, American Chemical Society (2002 to present)
- Editorial Advisory Board Member, *Organic Letters* (2014 to 2020)
- Editorial Advisory Board Member, *Advanced Synthesis & Catalysis* (2014 to present)
- Member, American Chemical Society (2002 to present)
- Ad hoc Member, NIH Study Section, Synthetic and Biological Chemistry, A and B (2013 to present)
- Ad hoc Member, NIGMS Advisory Council (2017)
- Reviewer: *Journal of the American Chemical Society, Organic Letters, ACS Catalysis, Angewandte Chemie International Edition, Science, Nature, Nature Chemistry, Nature Catalysis, Proceedings of the National Academy*

of the Sciences, Chemical Science, Chem

F. PRESENTATIONS (most recent)

- George Büchi Lecturer, MIT (April 2025)
- Dauben Award Lecturer, University of Washington, Seattle (October 2024)
- Wheland Lecture, University of Chicago (November 2024)
- Andrew Derome Memorial Lectures, Oxford University (May 2024)
- Recursion lecture, University of Utah (April 2024)
- Ta-Shue Chou Award, Academia Sinica, Taiwan (March 2024)
- OMCOS Award lecture (July 2023)
- The Chilton Lecture, UT Southwestern Medical Center (April 2023)
- Fuson Lecture, UIUC (April 2023)
- Org Syn Lecturer, Caltech (March 2023)