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APPOINTMENTS

Carol A. Fierke Collegiate Professor, UM	2020–present
Arthur F. Thurnau Professor, UM	2016–present
Associate Professor, UM	2013–2016
Assistant Professor, UM	2007–2013

EDUCATION

L'Oreal Postdoctoral Fellow, MIT (advisor: Tim Swager)	2005–2007
Ph.D. in Chemistry, Cornell University (advisor: Dave Collum)	1999–2005
B.S. in Chemistry, <i>summa cum laude</i> , College of William and Mary (advisor: Rob Hinkle)	1995–1999

AWARDS

Akron Award	2021
Harold R. Johnson Diversity Service Award	2020
Claudia Joan Alexander Trailblazer Award	2019
Guggenheim Fellow	2019
AAAS Fellow	2017
Faculty Recognition Award	2016
Howard Hughes Medical Institute Professor	2014
Provost's Teaching Innovation Prize	2014
Arthur F. Thurnau Professorship	2014
Class of 1923 Memorial Teaching Award	2013
Camille and Henry Dreyfus Foundation Teacher-Scholar Award	2012
Alfred P. Sloan Research Fellow	2011
LSA Excellence in Education Award	2011
Army Research Office – Presidential Early Career Award in Science and Engineering	2010
NSF CAREER Award	2010
Office of Naval Research – Young Investigator Award	2009
Arnold and Mabel Beckman Young Investigator Award	2009
Thieme Journal Award, <i>Synthesis</i> and <i>Synlett</i>	2009
3M Nontenured Faculty Research Award	2009
Seyhan N. Ege Junior Faculty Award	2009

RESEARCH PUBLICATIONS

78. Asserghine, A.; Kim, S.; Vaid, T. P.; Santiago-Carboney, A.; McNeil, A. J.; Rodriguez-Lopez, J. Ionic strength impacts charge capacity in a redox-matched flow battery: From single-particle interrogation to battery cycling. *ACS Energy Lett.* **2024**, *9*, 2826–2831. DOI: [10.1021/acseenergylett.4c00819](https://doi.org/10.1021/acseenergylett.4c00819)
77. Tami, J. L.; Mazumder, M. D. M.; Cook, G. E.; Minter, S.; McNeil, A. J. Protocol for evaluating anion exchange membranes for nonaqueous redox flow batteries. [ChemRxiv](https://doi.org/10.26434/chemrxiv-2024-12345)
76. Jha, R. K.; Neyhouse, B. J.; Young, M. S.; Fagnani, D. E.; McNeil, A. J. Revisiting poly(vinyl chloride) reactivity in the context of chemical recycling. *Chem. Sci.* **2024**, *15*, 5802–5813. DOI: [10.1039/d3sc06758k](https://doi.org/10.1039/d3sc06758k)

75. Ramkumar, M.; Ji, W.; Thurber, H. E.; Clough, M. E.; Chirdon, S.; McNeil, A. J. Enhancing microplastic capture efficiencies with adhesive coatings on stainless-steel filters. *RSC Appl. Polym.* **2024**, *2*, 456–460. DOI: [10.1039/d3lp00282a](https://doi.org/10.1039/d3lp00282a)
74. Milne, S.; Ramkumar, M.; Rieland, J.; Thurber, H. E.; Love, B. J.; McNeil, A. J. Informing the Public about Microplastics through a University and Museum Partnership. *J. Chem. Educ.* **2024**, *101*, 97–103. DOI: [10.1021/acs.jchemed.3c01017](https://doi.org/10.1021/acs.jchemed.3c01017)
73. Modak, S.; Pert, D.; Tami, J.; Shen, W.; Huan, X.; McNeil, A. J.; Goldsmith, B.; Kwabi, D. Substituent Impact on Quinoxaline Performance and Degradation in Redox Flow Batteries. *J. Am. Chem. Soc.* **2024**, *146*, 5173–5185. DOI: [10.1021/jacs.3c10454](https://doi.org/10.1021/jacs.3c10454)
72. Fagnani, D. E.; Kim, D.; Camarero, S. I.; Alfaro, J. F.; McNeil, A. J. Using Waste Poly(vinyl chloride) to Synthesize Chloroarenes by Plasticizer-mediated Electro(de)chlorination. *Nature Chem.* **2023**, *15*, 222–229. DOI: [10.1038/s41557-022-01078-w](https://doi.org/10.1038/s41557-022-01078-w)
- Highlighted by Helms in [Nature Synthesis](#)
 - Highlighted by [Chemistry World](#)
 - Listen to this interview on [NPR Stateside](#)
 - Highlighted in the [UM Record](#)
 - Highlighted by [UM News](#)
 - Covered by the local [CBS News](#)
71. Vaid, T. P.; Cook, M. E.; Scott, J. D.; Carazo, M. B.; Ruchti, J.; Minteer, S. D.; Sigman, M. S.; McNeil, A. J.; Sanford, M. S. Theoretical and Experimental Investigation of Functionalized Cyanopyridines Yield an Anolyte with an Extremely Low Reduction Potential for Nonaqueous Redox Flow Batteries. *Chem. Eur. J.* **2022**, *28*, e202202147. DOI: [10.1002/chem.202202147](https://doi.org/10.1002/chem.202202147)
70. Hannigan, M. D.; Zimmerman, P. M.; McNeil, A. J. Rethinking Catalyst Trapping in Ni-catalyzed Thienothiophene Polymerization. *Macromolecules* **2022**, *55*, 10821–10830. DOI: [10.1021/acs.macromol.2c01521](https://doi.org/10.1021/acs.macromol.2c01521)
69. Coates, G. W.; Korley, L. T. J.; McNeil, A. J. Challenges and Opportunities in Sustainable Polymers. *Acc. Chem. Res.* **2022**, *55*, 2543–2544. (editorial) DOI: [10.1021/acs.accounts.2c00534](https://doi.org/10.1021/acs.accounts.2c00534)
68. Lei, Z.; Zhang, J.; Mueller, E. A.; Xiao, Y.; Kolozsvari, K. R.; McNeil, A. J.; Banaszak Holl, M. M.; Ault, A. P. Glass Transition Temperatures of Individual Submicrometer Atmospheric Particles: Direct Measurement via Heated Atomic Force Microscopy Probe. *Anal. Chem.* **2022**, *94*, 11973–11977. DOI: [10.1021/acs.analchem.2c01979](https://doi.org/10.1021/acs.analchem.2c01979)
67. De La Garza, G. D.; Kaur, A. P.; Shkrob, I. A.; Robertson, L. A.; Odom, S. A.; McNeil, A. J. Balancing high energy density and chemical stability in redox flow batteries with symmetric tetrazines. *J. Mater. Chem. A* **2022**, *10*, 18745–18752. DOI: [10.1039/d2ta04515j](https://doi.org/10.1039/d2ta04515j) (ChemRxiv: [10.26434/chemrxiv-2021-tjb1v](https://doi.org/10.26434/chemrxiv-2021-tjb1v))
66. Fagnani, D. E.; Jehanno, C.; Sardon, H.; McNeil, A. J. Sustainable Green Polymerizations and End-of-Life Treatment of Polymers. *Macro. Rapid Commun.* **2022**, *43*, 2200446. (editorial) DOI: [10.1002/marc.202200446](https://doi.org/10.1002/marc.202200446)
65. Kim, D.; Sanford, M. S.; Vaid, T. P.; McNeil, A. J. A Nonaqueous Redox-Matched Flow Battery with Charge Storage in Insoluble Polymer Beads. *Chem. Eur. J.* **2022**, *28*, e202200149. DOI: [10.1002/chem.202200149](https://doi.org/10.1002/chem.202200149)
64. Harris, J. T.; Devlin, A. M.; McNeil, A. J. Rapid Removal of Poly- and Perfluoroalkyl Substances with Quarternized Wood Pulp. *ACS EST Water* **2022**, *2*, 349–356. DOI: [10.1021/acsestwater.1c00396](https://doi.org/10.1021/acsestwater.1c00396)
63. Chazovachii, P. T.; Rieland, J. M.; Sheffey, V. V.; Jugovic, T. M. E.; Zimmerman, P. M.; Eniola-Adefeso, O.; Love, B. J.; McNeil, A. J. Using Adhesives to Capture Microplastics from Water. *ACS ES&T Engg.* **2021**, *12*, 1698–1704. DOI: [10.1021/acsestengg.1c00272](https://doi.org/10.1021/acsestengg.1c00272)
62. Hannigan, M. D.; McNeil, A. J.; Zimmerman, P. M. Using JPP to Identify Ni Bidentate Phosphine Complexes in Situ. *Inorg. Chem.* **2021**, *60*, 13400–13408. DOI: [10.1021/acs.inorgchem.1c01720](https://doi.org/10.1021/acs.inorgchem.1c01720)
61. Kim, D.; Mueller, E. A.; Yang, D. S.; Fagnani, D. E.; Kim, J.; McNeil, A. J. A Fullerene-functionalized Poly(3-hexylthiophene) Additive Stabilizes Conjugated Polymer-fullerene Blend Morphologies. *ACS Appl. Polym. Mater.* **2021**, *3*, 4861–4868. DOI: [10.1021/acsapm.1c00566](https://doi.org/10.1021/acsapm.1c00566)
60. Chazovachii, P. T.; Somers, M.; Robo, M. T.; Collias, D. I.; James, M. I.; Marsh, E. N. G.; Zimmerman, P. M.; Alfaro, J.; McNeil, A. J. Giving Superabsorbent Polymers a Second Life as Pressure-sensitive Adhesives. *Nature Commun.* **2021**, *12*, 4524. DOI: [10.1038/s41467-021-24488-9](https://doi.org/10.1038/s41467-021-24488-9)
- Highlighted by Bordon & Leibfarth in [Nature Chem.](#)
 - Highlighted by Zeitler, Hodges & Golder in [Trends in Chemistry.](#)

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58. Kubo, T.; Young, M. S.; Souther, K. D.; Hannigan, M. D.; McNeil, A. J. Air-Tolerant Poly(3-hexylthiophene) Synthesis via Catalyst-Transfer Polymerization. *J. Polym. Sci.* **2021**, *59*, 268–273. DOI: [10.1002/pol.20200788](https://doi.org/10.1002/pol.20200788)
57. Fagnani, D. E.; Hall, A. O.; Zurcher, D. M.; Sekoni, K. N.; Barbu, B. N.; McNeil, A. J. Short Course on Sustainable Polymers for High School Students. *J. Chem. Educ.* **2020**, *97*, 2160–2168. DOI: [10.1021/acs.jchemed.0c00507](https://doi.org/10.1021/acs.jchemed.0c00507)
56. Harris, J. T.; McNeil, A. J. Localized Hydrogels based on Cellulose Nanofibers and Wood Pulp for Rapid Removal of Methylene Blue. *J. Polym. Sci.* **2020**, *58*, 3042–3049. DOI: [10.1002/pol.20200590](https://doi.org/10.1002/pol.20200590) (First appeared on ChemRxiv DOI: [10.26434/chemrxiv.11774757.v1](https://doi.org/10.26434/chemrxiv.11774757.v1))
55. Kumar, V.; Harris, J. T.; Ribbe, A.; Franc, M.; Bae, Y.; McNeil, A. J.; Thayumanavan, S. Construction from Destruction: Hydrogel Formation from Triggered Depolymerization-based Release of an Enzymatic Catalyst. *ACS Macro Lett.* **2020**, *9*, 377–381. DOI: [10.1021/acsmacrolett.0c00023](https://doi.org/10.1021/acsmacrolett.0c00023)
54. Wu, N.; Kubo, T.; Hall, A. O.; Zurcher, D. M.; Phadke, S.; Wallace, R. L.; McNeil, A. J. Adapting Meaningful Learning Strategies to Teach Liquid-Liquid Extractions. *J. Chem. Educ.* **2020**, *97*, 80–86. DOI: [10.1021/acs.jchemed.9b00717](https://doi.org/10.1021/acs.jchemed.9b00717)
53. Kothari, D. B.; Hall, A. O.; Castaneda, C. A.; McNeil, A. J. Connecting Organic Chemistry Concepts with Real-World Contexts by Creating Infographics. *J. Chem. Educ.* **2019**, *96*, 2524–2527. DOI: [10.1021/acs.jchemed.9b00605](https://doi.org/10.1021/acs.jchemed.9b00605)
52. Wu, N.; Kubo, T.; Sekoni, K. N.; Hall, A. O.; Phadke, S.; Zurcher, D. M.; Wallace, R. L.; Kothari, D. B.; McNeil, A. J. Student-Designed Green Chemistry Experiment for a Large-Enrollment, Introductory Organic Chemistry Course. *J. Chem. Educ.* **2019**, *96*, 2420–2425. DOI: [10.1021/acs.jchemed.9b00375](https://doi.org/10.1021/acs.jchemed.9b00375)
51. Lutz, J. P.; Davydovich, O.; Hannigan, M. D.; Moore, J. S.; Zimmerman, P. M.; McNeil, A. J. Functionalized and Degradable Polyphthalaldehyde Derivatives. *J. Am. Chem. Soc.* **2019**, *141*, 14544–14548. DOI: [10.1021/jacs.9b07508](https://doi.org/10.1021/jacs.9b07508) (First appeared on ChemRxiv DOI: [0.26434/chemrxiv.8870324.v2](https://doi.org/10.26434/chemrxiv.8870324.v2).)
50. Wu, N.; Hall, A. O.; Phadke, S.; Zurcher, D. M.; Wallace, R. L.; Castaneda, C. A.; McNeil, A. J. Adapting Meaningful Learning Strategies for an Introductory Laboratory Course: Using Thin-Layer Chromatography to Monitor Reaction Progress. *J. Chem. Educ.* **2019**, *96*, 1873–1880. DOI: [10.1021/acs.jchemed.9b00256](https://doi.org/10.1021/acs.jchemed.9b00256)
49. Leone, A. K.; Dewyer, A. D.; Kubo, T.; Zimmerman, P. M.; McNeil, A. J. Toward One-pot Olefin/Thiophene Block Copolymer Synthesis using an In Situ Ligand Exchange. *J. Polym. Sci., Part A: Polym. Chem.* **2019**, *57*, 1061–1065. DOI: [10.1002/pola.29426](https://doi.org/10.1002/pola.29426)
48. Kong, C.; Song, B.; Mueller, E. A.; Kim, J.; McNeil, A. J. Random Copolymers Outperform Gradient and Block Copolymers in Stabilizing Organic Photovoltaics. *Adv. Funct. Mater.* **2019**, *29*, 1900467. DOI: [10.1002/adfm.201900467](https://doi.org/10.1002/adfm.201900467)
47. Leone, A. K.; Mueller, E. A.; McNeil, A. J. The History of Palladium-Catalyzed Cross-Couplings Should Inspire the Future of Catalyst-Transfer Polymerization. *J. Am. Chem. Soc.* **2018**, *140*, 15126–15139. DOI: [10.1021/jacs.8b09103](https://doi.org/10.1021/jacs.8b09103) (invited)
46. Lutz, J. P.; Hannigan, M. D.; McNeil, A. J. Polymers Synthesized via Catalyst-Transfer Polymerization and their Applications. *Coord. Chem. Rev.* **2018**, *376*, 225–247. DOI: [10.1016/j.ccr.2018.07.015](https://doi.org/10.1016/j.ccr.2018.07.015) (invited)
45. Leone, A. K.; Goldberg, P. K.; McNeil, A. J. Ring-walking in Catalyst-Transfer Polymerization. *J. Am. Chem. Soc.* **2018**, *140*, 7846–7850. DOI: [10.1021/jacs.8b02469](https://doi.org/10.1021/jacs.8b02469)
44. Vitek, A. K.; Leone, A. K.; McNeil, A. J.; Zimmerman, P. M. Spin-switching transmetalation at Ni diimine catalysts. *ACS Catal.* **2018**, *8*, 3655–3666. DOI: [10.1021/acscatal.7b03974](https://doi.org/10.1021/acscatal.7b03974)
43. Dong, B.X.; Smith, M. L.; Strzalka, J.; Li, H.; McNeil, A. J.; Stein, G. E.; Green, P. F. Molecular weight dependent structure and charge transport in MAPLE-deposited poly(3-hexylthiophene) thin films. *J. Polym. Sci. Part B: Polym. Phys.* **2018**, *56*, 652–663. DOI: [10.1002/polb.24588](https://doi.org/10.1002/polb.24588)
42. Souther, K. D.; Leone, A. K.; Vitek, A. K.; Palermo, E. F.; LaPointe, A. M.; Coates, G. W.; Zimmerman, P. M.; McNeil, A. J. Trials and tribulations of designing multitasking catalysts for olefin/thiophene block copolymerizations. *J. Polym. Sci., Part A: Polym. Chem.* **2018**, *56*, 132–137. DOI: [10.1002/pola.28885](https://doi.org/10.1002/pola.28885)
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40. Leone, A. K.; Souther, K. D.; Vitek, A. K.; LaPointe, A. M.; Coates, G. W.; Zimmerman, P. M.; McNeil, A. J. Mechanistic Insight into Thiophene Catalyst-Transfer Polymerization Mediated by Nickel Diimine Catalysts. *Macromolecules* **2017**, *50*, 9121–9127. DOI: [10.1021/acs.macromol.7b02271](https://doi.org/10.1021/acs.macromol.7b02271)

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38. Smith, M. L.; Leone, A. K.; Zimmerman, P. M.; McNeil, A. J. Impact of Preferential π -Binding in Catalyst-Transfer Polycondensation of Thiazole Derivatives. *ACS Macro Lett.* **2016**, *5*, 1411–1415. DOI: [10.1021/acsmacrolett.6b00886](https://doi.org/10.1021/acsmacrolett.6b00886)
37. Li, Y.; Flener Lovitt, C.; McNeil, A. J.; Shuyler, K. Improving Information Literacy through Wikipedia Editing in the Chemistry Classroom: Lessons Learned. In *Integrating Information Literacy into the Chemistry Curriculum*; Flener Lovitt, C., Shuyler, K., Li, Y., Eds.; ACS Symposium Series 1232; American Chemical Society: Washington, DC, 2016; pp 247–264.
36. Zhao, Y.; Nett, A. J.; McNeil, A. J.; Zimmerman, P. M. Computational Mechanism for Initiation and Growth of Poly(3-hexylthiophene) Using Palladium N-Heterocyclic Carbene Precatalysts. *Macromolecules* **2016**, *49*, 7632–7641. DOI: [10.1021/acs.macromol.6b01648](https://doi.org/10.1021/acs.macromol.6b01648)
35. Zurcher, D. M.; Phadke, S.; Coppola, B. P.; McNeil, A. J. Using Student-Generated Instructional Materials to Customize an Online e-Homework Platform. *J. Chem. Educ.* **2016**, *93*, 1871–1878. DOI: [10.1021/acs.jchemed.6b00384](https://doi.org/10.1021/acs.jchemed.6b00384)
34. Veits, G. K.; Carter, K. K.; Cox, S. J. (undergraduate); McNeil, A. J. Developing a gel-based sensor using crystal morphology prediction. *J. Am. Chem. Soc.* **2016**, *138*, 12228–12233. DOI: [10.1021/jacs.6b06269](https://doi.org/10.1021/jacs.6b06269)
33. McNeil, A. J. My Maize and Blue Brick Road to Physical Organic Chemistry. *Beilstein J. Org. Chem.* **2016**, *12*, 229–238. DOI: [10.3762/bjoc.12.24](https://doi.org/10.3762/bjoc.12.24)
32. Bryan, Z. J.; Hall, A. O.; Zhao, C. T. (undergraduate); Chen, J.; McNeil, A. J. Limitations of Using Small Molecules to Identify Catalyst-transfer Polycondensation Reactions. *ACS Macro Lett.* **2016**, *5*, 69–72. DOI: [10.1021/acsmacrolett.5b00746](https://doi.org/10.1021/acsmacrolett.5b00746)
31. Amonoo, J. A.; Li, A.; Purdum, G. E.; Sykes, M. E.; Huang, B.; Palermo, E. F.; McNeil, A. J.; Shtein, M.; Loo, Y.-L.; Green, P. F. An All-Conjugated Gradient Copolymer Approach for Morphological Control of Polymer Solar Cells. *J. Mater. Chem. A* **2015**, *3*, 20174–20184. DOI: [10.1039/C5TA04752H](https://doi.org/10.1039/C5TA04752H)
30. Xiao, M.; Zhang, X.; Bryan, Z. J.; Jasensky, J.; McNeil, A. J.; Chen, Z. Effect of Solvent on Surface Ordering of Poly(3-hexylthiophene) Thin Films. *Langmuir* **2015**, *31*, 5050–5056. DOI: [10.1021/la5048722](https://doi.org/10.1021/la5048722)
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28. Palermo, E. F.; McNeil, A. J. Gradient Sequence π -Conjugated Copolymers. In *Sequence-Controlled Polymers: Synthesis, Self-Assembly, and Properties*; Lutz, J.-F., Meyer, T. Y., Ouchi, M., Sawamoto, M., Eds.; ACS Symposium Series 1170; American Chemical Society: Washington, DC, 2014; pp 287–299.
27. Zurcher, D. M.; Adhia, Y. J.; Díaz Romero, J. (undergraduate); McNeil, A. J. Modifying a Known Gelator Scaffold for Nitrite Detection. *Chem. Commun.* **2014**, *50*, 7813–7816. DOI: [10.1039/C4CC02504K](https://doi.org/10.1039/C4CC02504K)
26. Li, A.; Amonoo, J.; Huang, B.; Goldberg, P. K.; McNeil, A. J.; Green, P. F. Enhancing photovoltaic performance using an all-conjugated random copolymer to tailor bulk and interfacial morphology of the P3HT:ICBA active layer. *Adv. Funct. Mater.* **2014**, *24*, 5594–5602. DOI: [10.1002/adfm.201401058](https://doi.org/10.1002/adfm.201401058)
25. Berto, T.; Xu, N.; Lee, S. R.; McNeil, A. J.; Alp, E.; Zhao, J.; Richter-Addo, G.; Lehnert, N. Characterization of the Bridged Hyponitrite Complex {[Fe(OEP)]₂(μ -N₂O₂)}: Reactivity of Hyponitrite Complexes and Biological Relevance. *Inorg. Chem.* **2014**, *53*, 6398–6414. DOI: [10.1021/ic5002573](https://doi.org/10.1021/ic5002573)
24. Carter, K. K.; Rycenga, H. B. (undergraduate); McNeil, A. J. Improving Hg-triggered Gelation via Structural Modifications. *Langmuir* **2014**, *30*, 3522–3527. DOI: [10.1021/la404567b](https://doi.org/10.1021/la404567b)
23. Palermo, E. F.; Darling, S. B.; McNeil, A. J. π -Conjugated Gradient Copolymers Suppress Phase Separation and Improve Stability in Bulk Heterojunction Solar Cells. *J. Mater. Chem. C* **2014**, *2*, 3401–3406. DOI: [10.1039/C3TC32512A](https://doi.org/10.1039/C3TC32512A)
22. Bremmer, S. C.; McNeil, A. J.; Soellner, M. B. Enzyme-triggered Gelation: Targeting Proteases with Internal Cleavage Sites. *Chem. Commun.* **2014**, *50*, 1691–1693. DOI: [10.1039/C3CC48132H](https://doi.org/10.1039/C3CC48132H)
21. Bryan, Z. J.; McNeil, A. J. Conjugated Polymer Synthesis via Catalyst-transfer Polycondensation (CTP): Mechanism, Scope and Applications. *Macromolecules* **2013**, *46*, 8395–8405. (Invited Perspective) DOI: [10.1021/ma401314x](https://doi.org/10.1021/ma401314x)
20. Palermo, E. F.; van der Laan, H. L. (undergraduate); McNeil, A. J. Impact of π -Conjugated Gradient Sequence Copolymers on Polymer Blend Morphology. *Polym. Chem.* **2013**, *4*, 4606–4611. DOI: [10.1039/C3PY00601H](https://doi.org/10.1039/C3PY00601H)
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