

**MATTHIAS BREWER**

Matthias.Brewer@uvm.edu

The University of Vermont  
Department of Chemistry  
82 University Place  
Burlington, VT 05405

(802) 656-1042 Phone  
(802) 656-8705 FAX

**EDUCATION:**

- 1992 – 1996 B.A. in Chemistry (*Cum Laude*); Minors in Math, French  
University of Vermont
- 1997 – 2002 Ph.D. in Organic Chemistry (Adviser: Prof. Daniel H. Rich)  
University of Wisconsin-Madison

**PROFESSIONAL APPOINTMENTS:**

- 07/21 – **Department of Chemistry Chairperson – University of Vermont**
- 08/16 – **Professor of Chemistry – University of Vermont**
- 07/14 – 07/21 **Co-Director, Undergraduate Degree Program in Biochemistry – University of Vermont**
- 05/13 – **Neuroscience Graduate Program Faculty Member – University of Vermont**
- 02/14 – 04/14 **Visiting Scholar – University of California–Los Angeles**
- 08/11 – 08/16 **Associate Professor of Chemistry – University of Vermont**
- 08/05 – 08/11 **Assistant Professor of Chemistry – University of Vermont**
- 10/02 – 05/05 **NIH NRSA Postdoctoral Fellow – University of California – Irvine**  
Adviser: Prof. Larry E. Overman  
Initiated studies toward the total synthesis of the complex antiarrhythmic diterpene alkaloid hetisine. Served as Overman Group lab coordinator.
- 09/97 – 08/02 **Graduate Research Assistant – University of Wisconsin – Madison**  
Adviser: Prof. Daniel H. Rich  
Title of Dissertation: *The Synthesis of Mechanism-Based Inhibitors of Botulinum Neurotoxin Serotypes A and B.*  
Completed the synthesis of three highly functionalized hydroxyethylene peptidomimetics and small molecules as inhibitors of Botulinum neurotoxins A and B zinc-metalloproteases.
- 01/97 – 08/97 **Associate Medicinal Chemist – LeukoSite Inc.**  
Synthesized small molecules aimed at disrupting the protein-protein interaction between leukocyte integrins and cell adhesion molecules as a means of developing novel anti-inflammatory agents.

**PROFESSIONAL MEMBERSHIPS:**

American Chemical Society	1998 – Current
International Society of Heterocyclic Chemistry	2014 – Current

**PEER REVIEWED PUBLICATIONS:**

42. Peck, A.M.; Brewer, M. Lewis-Acid-Catalyzed Oxa-Michael Addition to Give  $\alpha$ -Diazo- $\beta$ -alkoxy Carbonyls and Tetrahydro-3H-furo[3,4-c]pyrazoles, *Org. Lett.* **2023**  
DOI: 10.1021/acs.orglett.3c00723
41. Howard, E.M.; Peck, A.M.; Petrucci, I.E.; Brewer, M. Rapid assembly of stereochemically rich polycyclic tetrahydrofurans by a conjugate addition-Rh(II) catalysis sequence, *Tetrahedron Lett.* **2022**, 109, 154137  
DOI: 10.1016/j.tetlet.2022.154137
40. Li, J; Remington, J.M.; Liao, C.; Parsons, R.L.; Schneebeli, S.; Braas, K.M.; May, V.; Brewer, M. GPCR Intracellular Loop Regulation of Beta-Arrestin-Mediated Endosomal Signaling Dynamics, *J. Mol. Neurosci.* **2022**, 72(6), 1358-1373.  
DOI: 10.1007/s12031-022-02016-8
39. Howard, E.M.; Brewer, M. A Lewis Acid-Catalyzed Diastereoselective Synthesis of Functionalized 2-Diazo-1,5-dicarbonyl Compounds, *ACS Catal.* **2021**, 11(19) 12203–12207.  
DOI: 10.1021/acscatal.1c03036
38. Fang, J.; Howard, E.M.; Brewer, M. A Conjugate Addition Approach to Diazo-Containing Scaffolds with  $\beta$  Quaternary Centers, *Angew. Chem. Int. Ed.*, **2020**, 59(31), 12827-12831. DOI: 10.1002/anie.202004557
37. Hensinger, M.J.; Dodge, N. J.; Brewer, M. Substituted  $\alpha$ -alkylidene cyclopentenones via the intramolecular reaction of vinyl cations with alkenes, *Org. Lett.* **2020**, 22(2), 497-500. DOI: 10.1021/acs.orglett.9b04255
36. Cleary, S.E., Hensinger, M.J.; Qin, Z.-X.; Hong, X.; Brewer, M. Migratory Aptitudes in Rearrangements of Destabilized Vinyl Cations, *J. Org. Chem.* **2019**, 84(23), 15154-15164. DOI: 10.1021/acs.joc.9b02130
35. Liao, C.; de Molliens, M.P.; Schneebeli, S.T.; Brewer, M.; Song, G.; Chatenet, D.; Braas, K.M.; May, V.; Li, J. Targeting the PAC1 Receptor for Neurological and Metabolic Disorders, *Curr. Top. Med. Chem.*, **2019**, 19(16), 1399 – 1417. DOI: 10.2174/1568026619666190709092647
34. Cleary, S.E.; Li, X.; Yang, L.-C.; Houk, K.N.; Hong, X.; Brewer, M. Reactivity Profiles of Diazo Amides, Esters and Ketones in Transition Metal Free C-H Insertion Reactions *J. Am. Chem. Soc.* **2019**, 141 (8), 3558–3565. DOI: 10.1021/jacs.8b12420

33. Fang, J.; Brewer, M. Intramolecular Vinylation of Aryl Rings by Vinyl Cations *Org. Lett.* **2018**, 20(23), 7384-7387. DOI: 10.1021/acs.orglett.8b03054
32. Dhakal, R.; Ivancic, M.; Brewer, M. "Two-Step Sequence of Cycloadditions Gives Structurally Complex Tetracyclic 1,2,3,4-Tetrahydrocinnoline" *J. Org. Chem.* **2018**, 83(11), 6202-6209. DOI: 10.1021/acs.joc.8b00683
31. S. Cleary, M. Hensinger and M. Brewer, "Remote C-H Insertion of Vinyl Cations Leading to Cyclopentenones" *Chem. Sci.*, **2017**, 8, 6810-6814.
30. C. Liao, X. Zhao, M. Brewer, V. May and J. Li, "Conformational Transitions of the Pituitary Adenylate Cyclase-Activating Polypeptide Receptor, a Human Class B GPCR" *SCI REP-UK*, **2017**, 7, 5427-5434.
29. Al-Bataineh, N.; Houk, K.N.; Brewer, M.; Hong, X. "(2+1)-Cycloaddition Reactions Give Further Evidence of the Nitrenium-like Character of 1-Aza-2-azoniaallene Salts" *J. Org. Chem.*, **2017**, 82(7), 4001-4005.
28. Giampa, G.M.; Fang, J.; Brewer, M. "A route to the C,D,E Ring System of the Aspidosperma Alkaloids" *Organic Letters*, **2016**, 18(16), 3952-3955.
27. Dhakal, R.C.; Brewer, M. "Intramolecular (4+2) cycloaddition of aryl-1-aza-2-azoniaallene salts: a practical approach to highly sterically-congested polycyclic protonated azomethine imines" *Tetrahedron*, **2016**, 72(26), 3718-3728.
26. Hong, X.; Bercovici, D.; Yang, Z.; Al-Bataineh, N.; Srinivasan, R.; Dhakal, R.; Houk, K.N.; Brewer, M. "Mechanism and Dynamics of Intramolecular C-H Insertion Reactions of 1-Aza-2-azoniaallene Salts" *Journal of the American Chemical Society*, **2015**, 137, 9100-9107. (DOI: 10.1021/jacs.5b04474) [2014 Journal Impact Factor: 11.444]
25. Collins, N.; Brewer, M. "Development of a Clinically Applicable Protocol for Assessment of Hypoxic Response Through Measurement of the Endogenous Gasotransmitter Hydrogen Sulfide in Human Plasma" *Journal of Neurosurgical Anesthesiology*, **2015**, 27(3), 257-261 (DOI: 10.1097/ana.000000000000150). [Journal Impact Factor: 2.990]
24. Hong, X.; Liang, Y.; Brewer, M.; Houk, K.N. "How Tethers Control the Chemo- and Regio-Selectivities of Intramolecular Cycloadditions between Aryl-1-Aza-2-Azoniaallenes and Alkenes" *Organic Letters* **2014**, 16(16), 4260-4263. (DOI: 10.1021/ol501958s) [Journal Impact Factor: 6.324]
23. Bayir, A.; Brewer, M. "The fragmentation of bicyclic  $\gamma$ -silyloxy- $\beta$ -hydroxy- $\alpha$ -diazolactones as an approach to ynolides" *The Journal of Organic Chemistry*, **2014**, 79(13), 6037-6046. (DOI: 10.1021/jo500634d) [Journal Impact Factor: 4.638]

22. Jabre, N.D.; Watanabe, T.; Brewer, M. "Formal and Total Synthesis of ( $\pm$ )-Cycloclavine" *Tetrahedron Letters*, **2014**, 55(1), 197-199. (DOI: 10.1016/j.tetlet.2013.10.152) [Journal Impact Factor: 2.391]
21. Bercovici, D.A.; Ogilvie, J.M.; Tsvetkov, N.; Brewer, M. "Intramolecular Polar [4<sup>+</sup> + 2]-Cycloadditions of Aryl-1-aza-2-azoniaallene Salts: Unprecedented Reactivity Leading to Polycyclic Protonated Azomethine Imines" *Angewandte Chemie, International Edition*, **2013**, 52(50), 13338-13341. (DOI: 10.1002/anie.201306553) [Journal Impact Factor: 11.336]
20. Zhang, Z.; Giampa, G.M.; Draghici, C.; Huang, Q.; Brewer, M. "Synthesis of demissidine by a ring fragmentation/1,3-dipolar cycloaddition approach", *Organic Letters*, **2013**, 15(9), 2100-2103. (DOI: 10.1021/ol4004993) [Journal Impact Factor: 6.324]
19. Jabre, N.D.; Brewer, M.; "Stereochemical Effects in the Fragmentation of  $\gamma$ -Silyloxy- $\beta$ -hydroxy- $\alpha$ -diazocarbonyl Compounds", *The Journal of Organic Chemistry* **2012**, 77(21), 9910-9914. (DOI: 10.1021/jo301944t) [Journal Impact Factor: 4.564]
18. Al Bataineh, N.Q.; Brewer, M. "Iodine(III)-mediated bicyclic diazenium salt formation", *Tetrahedron Letters*, **2012**, 53, 5411-5413. (DOI: 10.1016/j.tetlet.2012.07.116) [Journal Impact Factor: 2.397]
17. Bercovici, D.A.; Brewer, M. "Stereospecific intramolecular C-H amination of 1-aza-2-azoniaallene salts", *Journal of the American Chemical Society*, **2012**, 134(24) 9890-9893. (DOI: 10.1021/ja303054c) [Journal Impact Factor: 10.677]
16. Tsvetkov, N.P.; Bayir, A.; Schneider, S.; Brewer, M. "A Ring Fragmentation Approach to Medium-Sized Cyclic 2-Alkynones", *Organic Letters*, **2012**, 14(1), 264-267. (DOI: 10.1021/ol2030422) [Journal Impact Factor: 6.142]
15. Wyman, J.; Javed, M.I.; Al-Bataineh, N.; Brewer, M. "Synthetic Approaches to Bicyclic Diazenium Salts", *The Journal of Organic Chemistry*, **2010**, 75(23), 8078-8087. (DOI: 10.1021/jo101706h) [Journal Impact Factor: 4.002]
14. Bayir, A.; Draghici, C.; Brewer, M. "Preparation of Tethered Aldehyde Ynoates and Ynones by Ring Fragmentation of Cyclic gamma-Oxy-beta-hydroxy-alpha-diazo Carbonyls", *The Journal of Organic Chemistry*, **2010**, 75 (2), 296-302. (DOI: 10.1021/jo902405f) [Journal Impact Factor: 4.002]  
**Note:** This manuscript was selected for publication as a Featured Article.
13. Draghici, C.; Huang, Q.; Brewer, M. "An Efficient Synthetic Approach to Polycyclic 2,5-Dihydropyrroles from  $\alpha$ -Silyloxy Ketones", *The Journal of Organic Chemistry*, **2009**, 74 (21), 8410-8413. (DOI: 10.1021/jo901978y) [Journal Impact Factor: 4.219]
12. Javed, M.I.; Wyman, J.M.; Brewer, M. "Synthesis of Fused and Bridged Bicyclic Diazenium Salts by Intramolecular Cycloaddition", *Organic Letters*, **2009**, 11(10), 2189-2192. (DOI: 10.1021/ol900502s) [Journal Impact Factor: 5.420]

11. Draghici, C.; Brewer, M. "Lewis acid promoted carbon-carbon bond cleavage of  $\delta$ -silyloxy- $\beta$ -hydroxy- $\alpha$ -diazoesters", *Journal of the American Chemical Society*, **2008**, 130(12), 3766-3767. (DOI: 10.1021/ja801004d) [Journal Impact Factor: 8.091]
10. Wyman, J.M.; Jochum, S.; Brewer, M. "Chlorodimethylsulfonium Chloride-Mediated Formation of Phenyl- $\alpha$ -chloroazoalkanes", *Synthetic Communications*, **2008**, 38, 3623-3630. (DOI: 10.1080/00397910802179961) [Journal Impact Factor: 0.981]
9. Javed, M.I., Brewer, M. "Diphenyldiazomethane", *Organic Syntheses*, **2008**, 85, 189-195. (DOI: 10.15227/orgsyn.085.0189)
8. Harriman, G.C.; Brewer, M.; Bennett, R.; Kuhn, C.; Bazin, M.; Larosa, G.; Skerker, P.; Cochran, N.; Gallant, D.; Baxter, D.; Picarella, D.; Jaffee, B.; Luly, J.R.; Briskin, M.J. "Selective Cell Adhesion Inhibitors: Barbituric Acid Based  $\alpha$ 4 $\beta$ 7-MAdCAM Inhibitors" *Bioorg. Med. Chem. Lett.* **2008**, 18(7), 2509-2512. (DOI: 10.1016/j.bmcl.2007.07.068) [Journal Impact Factor: 2.531]
7. Javed, M.I., Brewer, M. "Diazo Preparation via Dehydrogenation of Hydrazones with "Activated" DMSO" *Organic Letters*, **2007**, 9, 1789-1792. (DOI: 10.1021/olo70515w) [Journal Impact Factor: 4.802]
6. Brewer, M. Conversion of hydrazones to alkyl chlorides under Swern oxidation conditions" *Tetrahedron Letters*, **2006**, 47, 7731-7733. (DOI: 10.1016/j.tetlet.2006.08.120) [Journal Impact Factor: 2.509]
5. Haug, B.E., Brewer, M., Rich, D.H. "Facile Degradative Lactonization of Gln-Arg and Gln-Phe Hydroxyethylene Dipeptide Derivatives." *Journal of Peptide Research*, **2005**, 65 (1), 77-83. (DOI: 10.1111/j.1399-3011.2004.00208.x)
4. Brewer, M., James, C.A., Rich, D.H. "Synthesis of a Tripeptide Derivative Containing the Gln-Arg Hydroxyethylene Dipeptide Isostere." *Organic Letters*, **2004**, 6 (25), 4779-4782. (DOI: 10.1021/ol047880x) [Journal Impact Factor: 4.195]
3. Oost, T., Sukonpan, C., Brewer, M., Goodnough, M., Tepp, W., Johnson, E.A., Rich, D.H. "Design and Synthesis of Substrate-Based Inhibitors of Botulinum Neurotoxin Type B Metalloprotease" *Biopolymers*, **2003**, 71(6), 602-619. (DOI: 10.1002/bip.10590) [Journal Impact Factor: 2.605]
2. Brewer, M., Oost, T., Sukonpan, C., Pereckas, M., Rich, D.H. "Sequencing Hydroxyethylamine containing peptides via Edman Degradation." *Organic Letters*, **2002**, 4 (20), 3469-3472. (DOI: 10.1021/ol026590i) [Journal Impact Factor: 4.092]
1. Brewer, M., Rich, D.H. "Synthesis of a Tripeptide Derivative Containing the Phe-Arg Hydroxyethylene Dipeptide Isostere." *Organic Letters*, **2001**, 3(6), 945-948. (DOI: 10.1021/ol015612i) [Journal Impact Factor: 4.092]

#### PATENT APPLICATIONS AND DISCLOSURES:

- 1) U.S. Patent disclosure: Application No. 62/804,874; (UVM) UVM C759 // WGS Ref. No. Docket V0139.70120US00; Title: "Small molecule antagonist to PACAP receptors:

development of therapeutic compounds for stress-related disorders and chronic pain” V. May, M. Brewer, J. Li

- 2) International Patent Application No.: PCT/US2020/018098; Based on US Patent Application No(s): 62/804,874; Title: “Small molecule antagonist to pacap receptor and uses thereof”  
Inventor(s): V. May, M. Brewer, J. Li

#### **CURRENT RESEARCH SUPPORT:**

- 7/1/21 – 6/30/24     **NSF Grant CHE-2102229**  
*Vinyl Diazonium Ions as Synthetic Intermediates*  
P.I.: **Matthias Brewer**
- 9/1/18 – 8/31/23     **NIH Grant R01 GM129431**  
*Structure, Mechanism, and Regulation of PACAP/VIP GPCR subtypes*  
P.I.: **Jianing Li, Ph.D.**  
Co-Investigators: **Matthias Brewer, Victor May**

#### **PRIOR RESEARCH SUPPORT:**

- 7/1/17 – 6/30/21     **NSF Grant CHE-1665113**  
*A study of vinyl cations as intermediates in bond forming reactions*  
P.I.: **Matthias Brewer**
- 6/1/14 – 5/31/18     **NSF Grant CHE-1362286**  
*Unprecedented Intramolecular Reactions to Heteroallene Salts for the Synthesis of Architecturally Diverse Nitrogen Heterocycles*  
P.I.: **Matthias Brewer**
- 5/1/15 – 8/30/16     **UVM REACH Grant**  
*Design, synthesis and evaluation of small molecule receptor antagonists; a cross-college approach to novel PTSD therapeutics*  
**Matthias Brewer, Victor May and Jianing Li – CO-PI's**
- 4/15/10 – 3/31/16     **NIH R01 Grant 1R01GM092870-01**  
*A fragmentation approach to large rings and polycyclic nitrogen heterocycles*  
P.I.: **Matthias Brewer, Ph.D.**
- 9/1/11 – 8/31/14     **NSF Major Research Instrumentation (MRI) Program (CHE-1126265)**  
*MRI: Acquisition of a 500 MHz NMR Spectrometer for Chemistry at the University of Vermont*  
P.I.: **Dwight Matthews**  
Co-P.I.: **Matthias Brewer, Giuseppe Petrucci**
- 3/1/08 – 2/28/13     **NSF CAREER Award grant CHE-0748058**  
*CAREER: Synthetic methodology for the preparation of polycyclic nitrogen or oxygen containing heterocycles*  
P.I.: **Matthias Brewer, Ph.D.**
- 1/1/08 – 8/31/10     **ACS PRF Type G Grant (PRF# 47627-G1)**

*Fundamental studies and synthetic applications of the reactions of hydrazones with "activated" dimethyl sulfoxide*  
P.I.: **Matthias Brewer**, Ph.D.

- 11/1/08 – 10/31/10    **UVM Research Opportunities Grant Program**  
*Development of PACAP receptor antagonists for stress-related behavioral, endocrine and metabolic disorders*  
Victor May and **Matthias Brewer**, Co-PI's
- 8/01/08-7/31/10    **NSF Chemistry Research Instrumentation and Facilities (CHE-0821501)**  
*Multi-PI Grant Proposal – MRI: Acquisition of an LCMS for the Chemistry Department at the University of Vermont*  
P.I.: D. Matthews; Co-P.I.: J. Petrucci  
Co-Investigators: **Brewer**, Case, Geiger, Hughes, Madalengoitia
- 7/1/07 – 6/30/09    **NSF grant CHE-0713862**  
*Investigation of Electron-Deficient Oxygen Sources and Application to Unprecedented Carbon-to-Oxygen Rearrangements*  
P.I.: **Matthias Brewer**, Ph.D.
- 7/1/07 – 6/30/08    **UVM CAS Faculty Research Support Award**  
*Acquisition of a Low Temperature ATR Head for in situ IR Spectrometer*  
P.I.: **Matthias Brewer**, Ph.D.
- 9/06    **Amgen New Faculty Award**  
*Unrestricted Funds to Support Research*  
P.I.: **Matthias Brewer**, Ph.D.
- 1/1/06 – 5/31/2007    **Vermont Genetics Network Graduate Student Assistantships**  
*Methodology for the Synthesis of Oxygen-Containing Heterocycles*  
P.I.: **Matthias Brewer**, Ph.D.
- 11/05    **Amgen New Faculty Award**  
*Unrestricted Funds to Support Research*  
P.I.: **Matthias Brewer**, Ph.D.
- 9/8/05 – 2/15/06    **Vermont EPSCoR Mini-Grant**  
*NMR and Mass Spectrometry Facilities Use*  
P.I.: **Matthias Brewer**, Ph.D.
- 9/8/05 – 2/15/06    **Vermont EPSCoR Equipment Grant**  
*Acquisition of a Gas Chromatograph for Organic Methodology Development*  
P.I.: **Matthias Brewer**, Ph.D.

#### INVITED SEMINARS:

33. Department of Chemistry, Oregon State, Corvallis, OR, April 15, 2021
32. Department of Chemistry, Bates College, Lewiston, ME, October 26, 2018
31. Department of Chemistry Zhejiang University, Hangzhou, CN, June 13, 2018
30. Department of Chemistry, Tsinghua University, Beijing, CN, June 11, 2018
29. Symposium of Metal-Carbene Consortium, Peking University, Beijing, CN, June 8, 2018
28. Department of Chemistry and Biochemistry, UC-Boulder, Boulder, CO, Mar. 6, 2017

27. Department of Chemistry, Colorado College, Colorado Springs, CO, Mar. 3, 2017
26. Department of Chemistry, University of Massachusetts-Lowell, Lowell, MA, Oct. 3, 2014
25. Department of Chemistry, University of Southern California, Los Angeles, CA, Apr. 23, 2014
24. Department of Chemistry, California Institute of Technology, Pasadena, CA, Mar. 26, 2014
23. Department of Chemistry, University of California-Riverside, CA, Mar. 14, 2014
22. Department of Chemistry, Clark University, Worcester, MA, Nov. 6, 2013
21. Department of Chemistry, Queens College of The City University of New York, Oct. 21, 2013
20. Overman Symposium; Eli Lilly and Co., Indianapolis, IN, Sep. 12, 2013
19. Department of Chemistry, Juniata College, Huntingdon, PA, Mar. 13, 2012
18. Department of Chemistry, Penn-State University, College Station, PA, Mar. 12, 2012
17. Gordon Research Conference; Heterocyclic Compounds, Newport, RI, June 2011
16. Flohet XII, Florida Heterocyclic and Synthetic Conference, Gainesville, FL, Mar. 7, 2011
15. Department of Chemistry, Colby College, Waterville, ME, Feb. 25, 2011
14. Symposium on Metals in Organic Synthesis, American Chemical Society 37th North East Regional Meeting, Potsdam, NY, June 3, 2010
13. Department of Chemistry, Wayne State University, Detroit, MI, May 12, 2010
12. Department of Chemistry, UCLA, Los Angeles, CA, Feb. 12, 2010
11. Department of Chemistry, University of California-Santa Barbara, CA, Feb. 11, 2010
10. Department of Chemistry, University of California-Irvine, Irvine, CA, Feb. 10, 2010
9. Department of Chemistry, Indiana University, Bloomington, IN Feb. 8, 2010
8. Department of Chemistry, Dartmouth College, Hanover, NH, Jan. 7, 2010
7. Department of Chemistry, Université de Montréal, Montréal, Quebec Canada, Dec. 4, 2009
6. Department of Chemistry, University of Minnesota, Minneapolis, MN, Nov. 17, 2009
5. Department of Chemistry, University of Delaware, Newark, DE, Nov. 4, 2009
4. Department of Chemistry, University of Rochester, Rochester, NY, Oct. 29, 2009
3. Department of Chemistry, University of Massachusetts Dartmouth, North Dartmouth, MA, Mar. 11, 2009
2. 15th Annual American Chemical Society Undergraduate Day, Northeast ACS Section, Department of Chemistry, Simmons College, Boston, MA, Nov. 1, 2008
1. Department of Chemistry, University of New Hampshire, Durham, NH, Dec. 11, 2007.

**CONFERENCE ABSTRACTS:** (presenting author underlined)

41. Matthias Brewer (2022). ACS Project SEED at the University of Vermont: A mentor's perspective. 2022 South East Regional ACS Meeting, Puerto Rico.
40. Matthias Brewer (2022). *Vinyl Diazonium Ions as Synthetic Intermediates: Bond Breaking and Bond Making*. 2022 South East Regional ACS Meeting, Puerto Rico.
39. Matthias Brewer (2020). *Vinyl Cations as Reactive Intermediates for C-H Insertion*. The 3rd Symposium of Metal-Carbene Consortium. San Antonio Texas.
38. Cleary, S., Brewer, M. Cyclopentenone formation via remote C-H insertion of vinyl cations Abstracts of Papers of the 45st National Organic Symposium, 2017 University of California, Davis [Poster].
37. Srinivasan, R., Brewer, M. The diverse reactivity of 1-aza-2-azoniaallene salts and its application in the total synthesis of (+)-ibophyllidine Abstracts of Papers of the 45st National Organic Symposium, 2017 University of California, Davis [Poster].



36. Dhakal, R., Brewer, M. A green method to form tricyclic and tetracyclic heterocycles, such as protonated azomethine imine salts. 21st Annual Green Chemistry and Engineering Conference, 2017, Reston, Virginia [Poster].
35. Brewer, M., Al-Bataineh, N., Bercovici, D., Dhakal, R., Javed, M., Ogilvie, J., Srinivasan, R. "The diverse reactivity of 1-Aza-2-azoniaallene salts leads to a wide range of nitrogen heterocycles" Abstracts of Papers of the 44st National Organic Symposium, College Park, MD, June 2015 [Poster]
34. Brewer, M., Giampa, G. "Efforts Toward a Ring Fragmentation/1,3-Dipolar Cycloaddition Route to Aspidospermine" Abstracts of Papers of the 44st National Organic Symposium, College Park, MD, June 2015 [Poster]
33. Giampa, G., Brewer, M. "Work Toward the Synthesis of Aspidospermine Via a Ring Fragmentation and 1,3-Dipolarcycloaddition Sequence" Abstracts of Papers of the American Chemical Society 249th National Meeting, Denver, CO, March, 2015 [Poster Presentation]
32. Brewer, M.; Zhang, Z., Giampa, G., Draghici, C., Jabre, N., "Application of a ring fragmentation/azomethine ylide 1,3-dipolar cycloaddition sequence in alkaloid natural product synthesis", Abstracts of Papers of the American Chemical Society 246th National Meeting, Indianapolis, IN, September 2013 [Oral Presentation]
31. Zhang, Z., Giampa, G., Brewer, M. "Application of a Lewis acid catalyzed ring fragmentation to the synthesis of demissidine. Abstracts of Papers of the American Chemical Society 244th National Meeting, Philadelphia, PA, August 2012 [Oral Presentation]
30. Bayir, A., Tsvetkov, N., Brewer, M. "Macrocycles through fragmentation of fused bicyclic ring systems", Abstracts of Papers of the American Chemical Society 244th National Meeting, Philadelphia, PA, August 2012 [Poster Presentation]
29. Tsvetkov, N., Bayir, A., Brewer, M. "Preparation of medium sized cyclic 2-alkynones by fragmentation of  $\alpha$ -diazo carbonyl compounds", Abstracts of Papers of the American Chemical Society 243rd National Meeting, San Diego, CA, March 2012 [Poster Presentation]
28. Brewer, M., "A fragmentation / 1,3-dipolar cycloaddition approach to polycyclic 2,5-dihydropyrroles", The 12th Annual Florida Heterocyclic and Synthetic Conference, Gainesville, FL, March 2011.
27. Brewer, M., Wyman J., Al-Bataineh, N., Javed, M.I. "Bridged and fused bicyclic diazenium salts derived from aryl hydrazone precursors", Pacificchem 2010, Honolulu, HI, December 2010.
26. Brewer, M., Draghici, C., Huang, Q. "Efficient route to polycyclic 2,5-dihydropyrroles via ring fragmentation/1,3-dipolar cycloaddition", Pacificchem 2010, Honolulu, HI, December 2010. [Oral Presentation]
25. Bayir, A., Brewer, M., "Macrocycles through fragmentation of fused bicyclic ring systems" Abstracts of Papers of the American Chemical Society 240th National Meeting, Boston, Ma, August 2010 [Poster Presentation]

24. Wyman, J., Javed, M.I., Brewer, M. "Formation of bridged and fused bicyclic diazenium salts from aryl hydrazone precursors" Abstracts of Papers of the American Chemical Society 240th National Meeting, Boston, Ma, August 2010 [Poster Presentation]
23. Wyman, J., Brewer, M. "Synthetic routes to and reactivity of bicyclic diazenium salts" Abstracts of Papers of the American Chemical Society 240th National Meeting, Boston, Ma, August 2010 [Oral Presentation]
22. Brewer, M., Draghici, C., Huang, Q. "A three step route to polycyclic 2,5-dihydropyrroles from  $\alpha$ -silyloxy ketones" Abstracts of Papers of the American Chemical Society 240th National Meeting, Boston, Ma, August 2010 [Oral Presentation]
21. Brewer, M., Draghici, C., Huang, Q., Bayir, A. "Lewis acid mediated ring fragmentations: A concise route to polycyclic 2,5-dihydropyrroles from  $\alpha$ -silyloxy ketones" Abstracts of Papers of the 37th Northeast Regional Meeting of the American Chemical Society, Potsdam, NY, June 2010 [Oral Presentation].
20. Wyman, J., Al Bataineh, N., Javed, M.I., Brewer, M. "Formation of bridged and fused bicyclic diazenium salts from aryl hydrazone precursors" Gordon Research Conference Heterocyclic Compounds Newport, RI, June 2010 [Poster]
19. Scholz, S., Brewer, M., May, V. "Assembly of small molecule PAC1 receptor antagonists as a potential anxiolytic" 2nd Annual Northeast Undergraduate Research and Development Symposium, Biddeford, ME, April 2010 [Poster]
18. Wyman, J., Javed, M.I., Brewer, M. "Synthetic Manipulations of Hydrazones:  $\alpha$ -Chloroazoalkane and Bicyclic Diazenium Salt Forming Reactions" Abstracts of Papers of the 41st National Organic Symposium, Boulder, CO, June 2009 [Poster]
17. Brewer, M., Draghici, C., Bayir, A. "Methods for the preparation of tethered aldehyde ynoates and 2,5-dihydropyrroles from  $\gamma$ -silyloxy- $\beta$ -hydroxy- $\alpha$ -diazocarbonyl compounds" Abstracts of Papers of the American Chemical Society 237th National Meeting, Salt Lake City, Utah, March 2009 [Oral Presentation]
16. Brewer, M., Javed, M.I., Wyman, J.M. "Synthetic routes to bicyclic diazenium salts" Abstracts of Papers of the American Chemical Society 237th National Meeting, Salt Lake City, Utah, March 2009 [Oral Presentation]
15. Wyman, J., Brewer, M. "Methodology for the synthesis of  $\alpha$ -chloroazoalkanes" Abstracts of Papers of the American Chemical Society 35th North East Regional Meeting, Burlington, VT, July 2008 [Poster]
14. Bayir, A., Brewer, M. "Tethered aldehyde ynones via Lewis acid promoted ring fragmentation of  $\gamma$ -silyloxy- $\beta$ -hydroxy- $\alpha$ -diazoketones" Abstracts of Papers of the American Chemical Society 35th North East Regional Meeting, Burlington, VT, July 2008 [Poster]

13. Draghici, C., Brewer, M. "Preparation of Tethered Aldehyde Yonates and Polycyclic N-Containing Heterocycles from Cyclic  $\gamma$ -Silyloxy- $\beta$ -Hydroxy- $\alpha$ -Diazoesters" Abstracts of Papers of the American Chemical Society 35th North East Regional Meeting, Burlington, VT, July 2008 [Oral Presentation]
12. Javed, M. I., Brewer, M. "Synthetic Manipulations of Hydrazones to Alkyl Chlorides, Diazo Compounds or Diazenium Salts" Abstracts of Papers of the American Chemical Society 35th North East Regional Meeting, Burlington, VT, July 2008 [Oral Presentation]
11. Draghici, C., Brewer, M. "Preparation of Tethered Aldehyde Yonates and Polycyclic N-Containing Heterocycles from Cyclic  $\gamma$ -Silyloxy- $\beta$ -Hydroxy- $\alpha$ -Diazoesters" Gordon Research Conference Heterocyclic Compounds Newport, RI, 2008 [Poster]
10. Draghici, C., Brewer, M. "Tin tetrachloride catalyzed ring fragmentation of  $\beta,\gamma$ -dihydroxy- $\alpha$ -diazoesters" Abstracts of Papers of the American Chemical Society 234th National Meeting, Boston, MA, August 2007 [Poster]
9. Javed, M.I., Jochum, S.; Wyman, J.; Brewer, M. "Methods for the conversion of hydrazones to alkyl chlorides, diazo compounds and diazenium salts" Abstracts of Papers of the American Chemical Society 234th National Meeting,, Boston, MA, August 2007 [Poster]
8. Brewer, M. "Methods for carbon-carbon bond formation and fragmentation" Abstracts of Papers of the American Chemical Society 234th National Meeting, Boston, MA, August 2007 [Oral Presentation]
7. Brewer, M., Javed M.I. "New method for diazenium salt formation – preliminary results" Gordon Research Conference Heterocyclic Compounds Newport, RI, 2007 [Poster]
6. Javed, M., Jochum, S.; Wyman, J.; Brewer, M. "Methods for the conversion of hydrazones to alkyl chloride, diazo compounds and diazenium salts" Vermont Genetics Network Annual Meeting, Burlington, VT, August 2007 [Poster]
5. Draghici, C., Brewer, M. "Tin Tetrachloride Catalyzed Ring Fragmentation of  $\beta,\gamma$ -dihydroxy- $\alpha$ -diazoesters" Vermont EPSCoR Annual Meeting, Burlington, VT, March 2007 [Poster]
4. Brewer, M., Javed, M.I. "Oxidation of Hydrazones to Diazo Compounds with "Activated" Dimethyl Sulfoxide" Gordon Research Conference Heterocyclic Compounds Newport, RI, 2006 [Poster]
3. Rich, D.H., Brewer, M., Sukonpan, C., Oost, T., Goodnough, M., Tepp, W., Johnson, E.A. "Design and Synthesis of Inhibitors of Botulinum Toxin Metalloproteases." Abstracts of Papers of the American Chemical Society 225th National Meeting, New Orleans, LA, March 23-27, 2003; American Chemical Society: Washington, DC, 2003; MEDI-166 [Oral Presentation]
2. Brewer, M., Rich, D.H. "One-Pot Conversion of Aizdes to Protected Guanidines via the Staudinger Reduction; Synthesis and Utilization of the Phe-Arg Hydroxyethylene Dipeptide Isostere." In Peptides the Wave of the Future, Proceedings of the Second International and Seventeenth

American Peptide Symposium, San Diego, CA, June 9-14, 2001; Houghten, R.A., Lebl, M. Eds.; Kluwer Academic Publishers: New York, 2002 [Poster]

1. Brewer, M., Rich, D.H. "Azides to Protected Guanidines: A One-Pot Conversion Applied to the Synthesis of the Phe-Arg Hydroxyethylene Dipeptide Isostere." Abstracts of Papers of the American Chemical Society, 222th National Meeting of the American Chemical Society, Chicago, IL, August 26-30, 2001; American Chemical Society: Washington, DC, 2001; MEDI-277 [Poster]

#### **AWARDS AND FELLOWSHIPS:**

2022 Tim Shiner Ally Award for working with the UVM community of color to create social change.  
2019 UVM College of Arts and Sciences Dean's Lecture Award  
2009 Thieme Chemistry Journals Award  
2008 NSF CAREER Award  
2006 Amgen New Faculty Award  
2005 Amgen New Faculty Award  
2002 NIH National Research Service Award Postdoctoral Research Fellowship  
2001 APS Bruce W. Erickson Young Investigator Award (2<sup>nd</sup> Place)  
1996 National Institute of Chemists Award  
1995 Merck Index Award  
1995 Pfizer Summer Fellow  
1994-1996 George W. Kidder Scholarship Recipient; University of Vermont

#### **RESEARCH GROUP MEMBERS:**

##### **Current Group Members:**

Graduate Students: Becky Bogart, Islamiyat Lawal, Avery Peck, Ben Rose, Stella Schneeberg, Yash Suresh.Punjabi

Undergraduate Students: Isabelle Petrucci, Scott Mass

##### **Former Group Members:**

###### Graduate Students:

Evan Howard (Ph.D. 7/22), Magenta Hensinger (Ph.D. 3/21), Jian Fang (Ph.D. 5/20), Ramya Srinivasan (Ph.D. 7/18), Nicholas Dodge (Ph.D. 7/18), Sarah Cleary (Ph.D. 6/18), Ram Dhakal (Ph.D. 8/17); Suzanne Stanton (M.S. – 5/16); Nezar Al-Bataineh (Ph.D. – 1/16); Geoffrey Giampa (Ph.D. – 12/15); Ali Bayir (Ph.D. – 2/15); Zhe Zhang (Ph.D. – 7/14); Dan Bercovici (Ph.D. – 8/13); Jodi M. Ogilvie (née Wyman; Ph.D. – 2/12); Muhammad I. Javed (Ph.D. – 4/09); Cristian Draghici (Ph.D. – 2/09)

###### Post-doctoral:

Qiufeng Huang (4/08 – 3/10); Nikolay Tsvetkov (7/10 – 12/13); Nitin Jabre (5/11 – 2/14); Daniel Sumy (8/17-2/18)

###### Undergraduate Students:

Stephanie Jochum (1/06 – 07/07); Benjamin Wilson (10/05 – 12/05) Lauren Kopec (3/06 – 5/06); Chelsea Lowe (3/07 – 5/07); Douglass Chieffe (9/08 – 11/08); Matthew Falco (9/07 – 6/08); Adam Burgess 1/08 – 5/09); Frank Wood (9/08 – 12/09); Jesse Wiener (09/09 – 10/09); Thomas Ford-Hutchinson (1/10 – 5/10), Gordana Vukmirovic(1/10 – 5/10), Bradley Parker (1/10 – 5/10); Michael Chapman (9/10 – 5/11); Spencer Scholz (5/09 – 6/11), Dan Cooney (2/10 – 6/11), Nicholas Staudaheer (5/10 – 6/11), Samuel Schneider (5/11 – 8/11) Andrew Spaulding (5/12 – 5/13), Teruki Wantanabe (5/12 – 5/13), Aliya Lapp (6/13 – 8/13), Eva Rouanet (5/13 – 5/14), Christopher Kenseth

(9/13 – 5/14), Patrick Cooke (6/15 – 5/16), Ian Kent (7/15 – 5/16) Kevin Nikolaides (1/15 – 12/16), Alex Braddock (6/15 – 8/17), John Ignaczak (6/16 – 5/17), Shuai Yang (1/16 – 5/17); Kevin-Xiao-Bin Huang (1/16 – 12/16); Dan Gowland (9/17-6/18); Nicholas Minadeo (5/17-5/19); Olivia Vaughn (9/18-5/19), Ava Pleham (9/18-5/19), Laura Hirsch (9/19-5/20), Scott Mass (1/20-6/20), Isabelle Petrucci (1/20-),

High School Students: Kevin-Xiao-Bin Huang; Zachary Taylor

## STUDENT DISSERTATIONS AND THESES SUPERVISED

16. Evan Howard, “Reactions of vinyl diazonium salts derived from  $\beta$ -hydroxy- $\alpha$ -diazocarbonyls: metal-free c-h insertion and conjugate addition” Ph.D., July 2022, University of Vermont
15. Magenta Hensinger, “Vinyl Cations as Cyclopentenone Precursors Via C–H Insertion or Alkene Addition Reactions” Ph.D., February 2021, University of Vermont
14. Jian Fang, “An Exploration of  $\beta$ -Hydroxy- $\alpha$ -Diazo Carbonyls in Synthesis: Fragmentation, Vinyl Cation Formation and Conjugate Addition Reactions” Ph.D., May 2020, University of Vermont
13. Nicholas Dodge, “The Synthesis of Highly Substituted Aromatics and the Reaction of Alkene Pi Systems With Vinyl Cations”, Ph.D., July 2018, University of Vermont
12. Ramya Srinivasan, “Unprecedented Reactivity and Applications of 1-Aza-2-Azoniaallene Salts” Ph.D., July 2018, University of Vermont
11. Sarah Cleary, Ph.D. “Fragmentation, Rearrangement, and C-H Insertion: Reactions of Vinyl Cations Derived From Diazo Carbonyls”, Ph.D., June 2018, University of Vermont
10. Ram Dhakal “New approaches to heterocycle synthesis: a greener route to structurally complex protonated azomethine imines, and their use in 1,3-dipolar cycloadditions”, Ph.D., July, 2017, University of Vermont
9. Suzanne Stanton “Homology modeling and molecular docking of antagonists to class b g-protein coupled receptor pituitary adenylate cyclase type 1 (pac1r)”, M.S. May, 2016, University of Vermont
8. Nezar Al-Bataineh “Unprecedented reactivity of 1-aza-2-azoniaallene salts: new methodologies and mechanistic studies for the formation of diazenium salts and tetrahydropyridazines”, Ph.D. January, 2016, University of Vermont
7. Geoffrey Giampa “Investigations into Carbon Nanotube and Natural Product Synthesis”, Ph.D. December, 2015, University of Vermont
6. Ali Bayir "Investigation of a Ring Fragmentation Reaction for the Synthesis of Tethered Aldehyde Ynones and Medium Sized Cyclic Ynones and Ynolides", Ph.D., February, 2015, University of Vermont
5. Zhe Zhang “Application of a ring fragmentation/azomethine ylide 1,3-dipolar cycloaddition sequence in the synthesis of demissidine”, Ph.D., July, 2014, University of Vermont

4. Daniel A. Bercovici "An Exploration of 1-aza-2-azoniaallene salts as unique heteroallene intermediates in insertion and cycloaddition reactions for the preparation of nitrogen containing heterocycles", Ph.D., August, 2013, University of Vermont
3. Jodi M. Ogilvie "Exploration of the Reactivity of 1-Aza-2-azoniaallene Salts as Precursors to  $\alpha$ -chloroazos, Bicyclic Diazenium Salts and Protonated Azomethine Imines", Ph.D., February 2012, University of Vermont
2. Muhammad I. Javed "Studies on the Reaction of Sulfonium Salts with Hydrazones: Synthetic Methods for the Preparation of Diazo Compounds, Alpha-Chloroazo Compounds and Fused of Bridged Bicyclic Diazenium Salts", Ph.D., April 2009, University of Vermont
1. Cristian Draghici "Discovery of a Novel Ring Fragmentation Reaction; Efficient Preparation of Tethered Aldehyde Ynoates and N-Containing Heterocycles; Radical Addition Approach to Asymmetric Amine Synthesis" Ph.D., Feb. 2009, University of Vermont

### OUTREACH ACTIVITIES

- 6/22 Performed demonstration at Williston Central School
- 11/19 Performed demonstration at Williston Central School
- 5/19 Performed demonstration at Williston Elementary School
- 3/18 Performed demonstration at Williston Central School
- 1/16 Performed demonstration at Williston Elementary School
- 6/15 Performed demonstration at Williston Elementary School
- 6/10 – 8/10 Oversaw the development of an exhibit about Green Chemistry and biodegradable polymers at the ECHO Lake Aquarium and Science Center
- 7/10 & 8/10 Performed demonstrations for ECHO Lake Aquarium and Science Center *Meet the Scientist* program

### COURSES TAUGHT:

1. CHEM 241: Advanced Organic Chemistry 1, the University of Vermont, fall 2005. *Three credit hours.*
2. CHEM 242: Advanced Organic Chemistry 2, the University of Vermont, spring 2006. *Three credit hours.*
3. CHEM 241: Advanced Organic Chemistry 1, the University of Vermont, fall 2006. *Three credit hours.*
4. CHEM 146: Advanced Organic Laboratory, the University of Vermont, fall 2006. *Two credit hours.*
5. CHEM 242: Advanced Organic Chemistry 2, the University of Vermont, spring 2007. *Three credit hours.*
6. CHEM 143: Organic Chemistry for Majors 1, the University of Vermont, fall 2007. *Four credit hours.*
7. CHEM 146: Advanced Organic Laboratory, the University of Vermont, fall 2007. *Two credit hours.*
8. CHEM 143: Organic Chemistry for Majors 1, the University of Vermont, fall 2008. *Four credit hours.*

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9. CHEM 146: Advanced Organic Laboratory, the University of Vermont, fall 2008. *Two credit hours*
  10. CHEM 39: Introduction to Research, the University of Vermont, fall 2008. *Two credit hours.*
  11. CHEM 488: Research Problem Conception and Solution, the University of Vermont, fall 2008. *One credit hour.*
  12. CHEM 146: Advanced Organic Laboratory, the University of Vermont, fall 2009. *Two credit hours*
  13. CHEM 39: Introduction to Research, the University of Vermont, fall 2009. *Two credit hours.*
  14. CHEM 142: Organic Chemistry 2, the University of Vermont, spring 2010. *Four credit hours.*
  15. CHEM 39: Introduction to Research, the University of Vermont, fall 2010. *Two credit hours.*
  16. CHEM 146: Advanced Organic Laboratory, the University of Vermont, fall 2010. *Two credit hours*
  17. CHEM 142: Organic Chemistry 2, the University of Vermont, spring 2011. *Four credit hours.*
  18. CHEM 146: Advanced Organic Laboratory, the University of Vermont, fall 2011. *Two credit hours*
  19. CHEM 142: Organic Chemistry 2, the University of Vermont, spring 2012. *Four credit hours.*
  20. CHEM 146: Advanced Organic Laboratory, the University of Vermont, fall 2012. *Two credit hours*
  21. CHEM 144: Organic Chemistry 2 for Majors, the University of Vermont, spring 2013. *Four credit hours.*
  22. CHEM 318: Current Topics in Chemistry, the University of Vermont, fall 2014. *One credit hour*
  23. CHEM 142: Organic Chemistry 2, the University of Vermont, spring 2015. *Four credit hours.*
  24. CHEM 143: Organic Chemistry 1 for Majors, the University of Vermont, fall 2015. *Four credit hours.*
  25. CHEM 144: Organic Chemistry 2 for Majors, the University of Vermont, spring 2016. *Four credit hours.*
  26. CHEM 143: Organic Chemistry 1 for Majors, the University of Vermont, fall 2016. *Four credit hours.*
  27. CHEM 144: Organic Chemistry 2 for Majors, the University of Vermont, spring 2017. *Four credit hours.*
  28. CHEM 047: Organic Chemistry 1 for Majors, the University of Vermont, fall 2017. *Four credit hours.*
  29. CHEM 048: Organic Chemistry 2 for Majors, the University of Vermont, spring 2018. *Four credit hours.*
  30. CHEM 047: Organic Chemistry 1 for Majors, the University of Vermont, fall 2018. *Four credit hours.*
  31. CHEM 048: Organic Chemistry 2 for Majors, the University of Vermont, spring 2019. *Four credit hours.*
  32. CHEM 047: Organic Chemistry 1 for Majors, the University of Vermont, fall 2019. *Four credit hours.*
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33. CHEM 048: Organic Chemistry 2 for Majors, the University of Vermont, spring 2020. *Four credit hours.*
34. CHEM 047: Organic Chemistry 1 for Majors, the University of Vermont, fall 2020. *Four credit hours.*
35. CHEM 048: Organic Chemistry 2 for Majors, the University of Vermont, spring 2021. *Four credit hours.*
36. CHEM 144: Advanced Synthesis Techniques, the University of Vermont, Fall 2022. *Three credit hours.*

**INTRAMURAL SERVICE ACTIVITIES:**

- 9/05 – 3/06 Member, Department of Chemistry Faculty Search Committee in Organic Chemistry  
9/05 – 1/08 Member, Department of Chemistry Safety Committee  
9/05 – 8/12 Member, Department of Chemistry Graduate Student Admissions Committee  
1/06 CAS Spring Incoming Student Advising  
9/06 – 12/06 Member, Search Committee for the Department of History Chair  
9/06 – 3/07 Member, Department of Chemistry Faculty Search Committee in Organic Chemistry  
9/06 – present Member, Kidder Scholarship Selection Panel  
4/07 – 8/07 Member, Laboratory Remodeling Committee (for Prof. Waters' lab space)  
9/07 – 8/13 Chair, Department of Chemistry Safety Committee  
4/08 UVM Student Research Conference Poster Competition Judge  
5/08 – present Department of Chemistry Library Liaison  
9/08 – 9/09 Member, College of Arts and Sciences Nominations and Elections Committee  
1/09 – present Member, Department of Chemistry Instrumentation Committee  
9/09 – 5/11 Chair, College of Arts and Sciences Nominations and Elections Committee  
9/10 – 12/10 Member, Biology Chair Five Year Review Committee  
8/11 – 12/11 Member of the Risk Management and Safety Search Committee for Senior Assistant Director for Safety & Health Position  
9/11 – 5/12 Chair, Department of Chemistry Faculty Search Committee in Organic Chemistry  
9/12 – 5/15 Member, Faculty Senate Curricular Affairs Committee  
5/13 CAS Commencement Assistant Faculty Marshal  
7/14 – present CAS Co-Director of the Undergraduate Biochemistry Program  
8/14 – present Member, Chemistry Dept. Budget Committee  
8/14 – present Member, Chemistry Dept. Safety Committee  
8/14 – present Member, CAS Admissions Committee  
9/14 – 5/15 Member, MMG Chair Search Committee  
11/15 – 5/16 ad hoc Committee on Student Satisfaction  
9/16 – 12/16 STEM Study Abroad Committee  
1/17 – 3/17 Chair of Physics Department Chair Search

**EXTRAMURAL ACTIVITIES:**Grant Application Review:

- 2008 Member, NSF Division of Chemistry Organic Synthesis Panel  
2008 External Peer Reviewer for the American Chemical Society Petroleum Research Fund  
2008 External Peer Reviewer for the American Chemical Society Petroleum Research Fund  
2008 External Peer Reviewer for the American Chemical Society Petroleum Research Fund  
2010 External Peer Reviewer for the American Chemical Society Petroleum Research Fund  
2010 External Peer Reviewer for the American Chemical Society Petroleum Research Fund  
2010 External Peer Reviewer for the National Science Foundation



- 2010 EPSRC (United Kingdom) International Peer Reviewer
- 2011 External Peer Reviewer for the American Chemical Society Petroleum Research Fund
- 2012 Member, NSF Division of Chemistry Organic Synthesis Panel
- 2013 UVM REACH Grant Review Panel
- 2013 External Peer Reviewer for the American Chemical Society Petroleum Research Fund
- 2013 Ad-hoc Peer Reviewer for NSF CHE- Macromolecular/Supramolecular/Nanochemistry panel
- 2015 Member, NSF Division of Chemistry Organic Synthesis Panel
- 2015 External Peer Reviewer for the American Chemical Society Petroleum Research Fund
- 2016 External Peer Reviewer for the American Chemical Society Petroleum Research Fund
- 2017 External Peer Reviewer for the American Chemical Society Petroleum Research Fund
- 2018 External Peer Reviewer for the Vermont Genetics Network
- 2019 External Peer Reviewer for the American Chemical Society Petroleum Research Fund
- 2019 Member, NSF Division of Chemistry Grant Review Panel
- 2020 Member, NSF Division of Chemistry Grant Review Panel
- 2021 Member, NSF Division of Chemistry Grant Review Panel
- 2022 Member, NSF Division of Chemistry Grant Review Panel

Journal Peer Review:

Journal of the American Chemical Society, Journal of Organic Chemistry, Angewandte Chemie International Edition, Organic Letters, Chemistry a European Journal, Journal of Chemical Education, Tetrahedron Letters, Tetrahedron, Synthesis, Beilstein Journal of Organic Chemistry, Phosphorus Silicon Selenium and the Related Elements, Chemical Communications, Molecules