

CURRICULUM VITAE

Timothy E. Long, Ph.D.

Associate Professor

Pharmaceutical Science and Research, SKH 335

Marshall University, School of Pharmacy

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I. Education

- 12/2003 Ph.D. in Chemistry
University of South Florida, Tampa, FL
Advisor, Professor Edward Turos
- 08/1999 B.S. in Biology
University of South Florida, Tampa, FL

II. Positions and Employment

- 04/2020- Graduate Studies Director
School of Pharmacy
Marshall University, Huntington, WV
- 07/2019- Associate Professor
Department of Pharmaceutical Science & Research
Marshall University, Huntington, WV
- 08/2014- Adjunct Faculty Member
Department of Biomedical Sciences
Marshall University, Huntington, WV
- 08/2014-19 Research Staff Associate
Huntington VA Medical Center
Huntington, WV
- 05/2013-19 Assistant Professor
Department of Pharmaceutical Science & Research
Marshall University, Huntington, WV
- 08/2006-13 Assistant Professor
Department of Pharmaceutical & Biomedical Sciences
University of Georgia, Athens, GA
- 01/2004-06 Postdoctoral Fellow (Professor Marvin J. Miller)
Department of Chemistry & Biochemistry
University of Notre Dame, Notre Dame, IN
- 05/2002-03 Graduate Research Assistant (Professor Edward Turos)
Department of Chemistry
University of South Florida, Tampa, FL
- 08/1999-02 Graduate Teaching Assistant
Department of Chemistry
University of South Florida, Tampa, FL

III. Professional Affiliations

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| 2015-17 | American Association of Pharmaceutical Scientists (AAPS), member |
| 2011- | Phi Delta Chi Professional Pharmacy Fraternity, member and advisor |
| 2003-2015 | American Chemical Society (ACS), member |

IV. Recognitions

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| 2020 | Dean's Award for Research Excellence, Marshall School of Pharmacy |
| 2018 | Instructor of the Year Award, P2 Class, Marshall School of Pharmacy |
| 2018 | Course Team of the Year Award, P2 Class, Marshall School of Pharmacy |
| 2017 | Instructor of the Year Award, P2 Class, Marshall School of Pharmacy |
| 2017 | Course Team of the Year Award, P2 Class, Marshall School of Pharmacy |
| 2016 | Course Team of the Year Award, P2 Class, Marshall School of Pharmacy |
| 2013 | Faculty of the Year, Phi Delta Chi Professional Pharm. Fraternity, Alpha Iota Chapter |
| 2012 | Faculty of the Year, Phi Delta Chi Professional Pharm. Fraternity, Alpha Iota Chapter |
| 2002 | Fred L. & Helen M. Tharp Scholarship |

V. Research Interests

My lab in the Marshall University School of Pharmacy is focused on discovering new treatment strategies for multi-drug resistant infections. We are currently investigating the repurposing potential of disulfiram (Antabuse) to treat vancomycin-resistant *Staphylococcus aureus* and fluconazole-resistant *Candida* infections. In *S. aureus*, it was discovered that disulfiram is able to lower the minimum inhibitory concentration (MIC) of vancomycin to increase its susceptibility to this first-line antibiotic for MRSA infections. Mechanistic studies have revealed that disulfiram functions as an antimetabolite and this action may counteract the vancomycin-resistance mechanism in *S. aureus*. In *Candida*, disulfiram was found to be a fungicidal agent and have synergism with copper, but through a fungistatic mechanism. The contrasting mechanisms are also being investigated through pharmacological studies.

VI. Teaching and Research Activities

a. Courses - Marshall University:

1. PHAR 542: Immunology and Medical Microbiology (2014 to present): First year Pharm.D. curriculum course taught every Fall semester. The course is divided into 2 sections: Medical Microbiology and Immunology. I am responsible for medical microbiology portion over 12 class meetings.
2. PHAR 661/761: Therapeutics II (2013 to present): Team-taught second year Pharm.D. curriculum course. I have served as course coordinator between 2014-present and I teach on the pathophysiology of infectious diseases, medicinal chemistry, and the pharmacology of antimicrobials over 19-20 class meetings.

b. Courses - University of Georgia:

1. PHRM 4180: Drug Therapy of Infectious Disease (2007-2012): Pharm.D. curriculum course that is taught every Fall semester. The class size ranges from 130-140 students and meets two times per week for 15 weeks. The course is divided into 3 sections: Medical Microbiology (5 weeks); Antimicrobials (5 weeks); and Clinical Microbiology (5 weeks). I was responsible for teaching the first two sections (22 lectures) and served as the course coordinator.
2. PHRM 8210: Methods in Synthetic Organic Chemistry, Advance Topics in the Pharmaceutical and Biomedical Sciences (2011): Journal-based discussion courses on modern methods of organic synthesis. I served as course coordinator and was responsible for the class lectures.
3. PHRM 8200: Graduate Seminar (2011): Seminar course required of all graduate students in the Pharmaceutical and Biomedical Sciences program. Team-taught course. My role during the spring 2011 semester was to assist in arranging outside speakers for the weekly seminar series.

4. PHRM 8010: Biochemical Targets of Drug Design (2009): Graduate lecture course that focused on the mechanism of actions of drugs. The class met two times per week for 15 weeks. I served as course coordinator and was responsible for the class lectures.
5. PHRM 8020/8030: Principles of Pharmaceutical and Biomedical Sciences (2008-2012): A departmental curriculum course taught by multiple faculty members that is taken by first-year graduate students every fall and spring as an introduction to pharmaceutical and biomedical sciences pertaining to drug development. My contributions were lectures on microbiology, immunology, target validation, binding affinity determination, combinatorial libraries, high throughput screening, and medicinal chemistry.

c. Major Professor for M.S. and Ph.D. Students:

1. Xiao Lu, Ph.D. student (01/08-08/12); Dissertation Title: “The Design and Synthesis of Heteroatom-Containing Small Molecule for the Chemotherapy of Infectious Diseases” ([link](#)); postdoctoral researcher in the laboratory of Dr. Raymond Schinazi at Emory University, Atlanta, GA (08/12-07/15) and currently a Research Associate in The National Center for Advancing Translational Science at NIH
2. Sravan Kumar Patel, M.S. student, University of Georgia, College of Pharmacy, (01/08-07/09); Thesis Title: “Synthesis of Vinylglycines and Haloenol Lactones” ([link](#)); went on to complete a Ph.D. at Duquesne University, Pittsburgh, PA and postdoctoral fellow at the University of Pittsburgh. Currently an Assistant Professor in the Department of Pharmaceutical Sciences and the Rohan Laboratory in the School of Pharmacy at the University of Pittsburgh
3. Ali Altharawi, M.S. student, University of Georgia, College of Pharmacy, (03/12-05/13); Thesis Title: “Design and synthesis of NADH mimics that target mitochondrial electron transport of plasmodium parasites ([link](#))”; Completed his thesis research in my lab. Dr. Warren Beach was reassigned as major professor after I moved to Marshall University; continued graduate training in the Ph.D. program at Kings College London and is now an Assistant Professor in the College of Pharmacy at Prince Sattam Bin Abdulaziz University, Saudi Arabia.
4. Yogesh Meka, M.S. student (09/21-05/22), Marshall University, School of Pharmacy
5. Surya Teja Naidu. M.S. student (09/22-present, Marshall University, School of Pharmacy

d. Thesis and Dissertation Advisory Committee Member:

1. Sarah Evans, Ph.D. student, Marshall University, School of Medicine
2. Denise Dawley, M.S. student, Marshall University, School of Pharmacy
3. Lexie Keding, Ph.D. student, Marshall University, School of Medicine
4. Roy Al Ahmar, Ph.D. student, Marshall University, School of Medicine
5. Laura Hanold, Ph.D. student, University of Georgia, College of Pharmacy
6. Cary McGinnis, Ph.D. student, University of Georgia, College of Pharmacy
7. Jason N. Mock, Ph.D. student, University of Georgia, College of Pharmacy
8. Feng Liang, Ph.D. student, University of Georgia, College of Pharmacy
9. Brigitte E. Townsend, M.S. student, University of Georgia, College of Pharmacy

e. Research Supervisor:

1. Hayden Hess, B.S. Biology student, West Virginia Wesleyan University 5/22-8/22.
2. Hannah Carreon, Pharm.D. student, Marshall University 5/21-8/21
3. Cameron Rice, Pharm.D. student, Marshall University, 7/20-8/20
4. Katie Watson, Pharm.D. student, Marshall University, 7/20-8/20
5. Taylor Riedel, Pharm.D. major, Marshall University, 1/20-3/20.
6. Claire Shanholtzer, Pharm.D./M.S. Pharm Sci major, Marshall University 8/20-5/21
7. Alex Lewis, Pharm.D. major, Marshall University, 1/20-3/20.
8. Kaitlyn Jobe, B.S. Chemistry student, Marshall University 1/20-04/21
9. Denise Dawley, B.S. Chemistry student, Marshall University 1/19-4/18
10. Jonah Moore, Pharm.D. student, APPE rotation student, Marshall University, 3/18-4/18
11. Tiffany M. Kummer, Pharm.D. student, Marshall University, 1/18-07/18
12. Michaela Meakin, Pharm.D. student, Marshall University, 1/18-07/18
13. Mikaela Earl, Pharm.D. student, Marshall University, 1/18-07/18

14. Keely Frazier, Pharm.D. student, Marshall University, 5/17-8/17
15. Jordan Sheppard, Pharm.D. student, Marshall University, 5/16-8/17
16. Lexie Keding, Ph.D. research rotation student, Biomedical Sciences, Marshall University, 08/15
17. Demetria Lewis, Pharm.D. student, APPE rotation student, Marshall University, 7/15-8/15
18. Alexandria Carter, B.S. Biology student, University of Charleston, co-research mentor WV INBRE program 05/15-08/15.
19. Eric Slayton, Pharm.D./M.P.H. student, Marshall University, 05/14-08/14
20. Patricia Mihm, B.S. Chemistry, , capstone honors student, Marshall University, 01/14-12/14
21. Emily Nicole Hanson, Pharm.D. student, University of Georgia, 01/12-04/12
22. Keeko Villaveces, high school student, co-research mentor Young Scholars Program, 06/11-07/11.
23. John P. Taliaferro, B.S. graduate, CURO Honors student, University of Georgia, 08/08-05/10,
24. Vinh Dong, B.S. student, CURO Apprentice, University of Georgia, 01/09-12/09
25. Parag Kumar, Pharm.D. student, University of Georgia, 05/09-07/09
26. Navid Amlani, Pharm.D. student, 01/09-05/09
27. Susan Elrod, Ph.D. research rotation student, School of Pharmacy, University of Georgia, 01/09
28. Brian Ferslew, Pharm.D. student, University of Georgia, 05/07-07/07

VII. Peer Reviewed Publications

† Pharm.D. student

‡ Ph.D. or M.S. student

* Corresponding author

1. Chavva, H.; Meka, Y.‡; Long, T.E.* “Antimicrobial Pharmacodynamics of Vancomycin and Disulfiram (Antabuse®) in *Staphylococcus aureus*,” *Front. Microbiol.* **2023**, 13:1092257. [link](#)
2. Brown K.C.; Modi K.J., Light R.S.; Cox A.J.; Long T.E.; Gadepalli R.S.; Rimoldi J.M.; Miles S.L.; Rankin G.; Valentovic M.; Denning K.L.; Tirona M.T.; Finch P.T.; Hess J.A.; Dasgupta P.* “Anticancer Activity of Region B Capsaicin Analogs,” *J Med Chem.* **2023**, 66, 4294–4323. [link](#)
3. Shanholtzer, C. N.†; Rice, C.†; Watson, K.†; Carreon, H.†; Long, T. E.* “Effect of Copper on the Antifungal Activity of Disulfiram (Antabuse®) in Fluconazole-resistant *Candida* Strains,” *Med. Mycol.* **2022**, 60, [link](#).
4. Adeluola, A.A.‡, Bosomtwe, N., Long, T.E., Amin, A.R.M. R. “Context-dependent Activation of p53 Target Genes and Induction of Apoptosis by Actinomycin D in Aerodigestive Tract Cancers,” *Apoptosis*, **2022** [link](#)
5. Lewis, A.D.†; Riedel, T.M.†; Kesler, M.B.A.†; Varney, M.E.; Long, T.E.* “Pharmacological Evaluation of Disulfiram Analogs as Antimicrobial Agents and Their Application as Inhibitors of FosB-Mediated Fosfomycin Resistance,” *J. Antibiot.* **2022** 75, 146–15. [link](#)
6. Custodio, M.; Sparks, J.; Long, T.E.* “Disulfiram: A Repurposed Drug in Preclinical and Clinical Development for the Treatment of Infectious Diseases,” *Anti-Infect. Agents* **2022** [link](#)
7. Clay, T. B.*; Orwig, K. W.; Stevens, R. A.†; Davis, E. P.†; Jennings, T. M.†; Long, T. E.; Riley, B. L.; Hambuchen, M. B. “Correlation of MRSA Polymerase Chain Reaction (PCR) Wound Swab Testing and Wound Cultures in Skin and Soft Tissue Infections,” *Diagn. Microbiol. Infect. Dis.* **2021**, 100, 115389. [link](#)
8. Cabal M.-P.*; Long T. E.; Turos E.; García A.-B.; Allen J. L.; Budny B. G.; Shaw L. N. “Spiropiperidyl Rifabutins: Expanded *In Vitro* Testing Against ESKAPE Pathogens and Select Bacterial Biofilms,” *J. Antibiot.* **2020**, 868–872. [link](#)
9. Moore, J. A. †; Meakin, M. †; Earl, M. A. †; Kummer, T. M. †; McAleer, J. M.; Long, T. E.* “Effects of Caspofungin, Tolcapone, and Other FDA-Approved Medications on MRSA Susceptibility to Vancomycin,” *J. Glob. Antimicrob. Resist.* **2020**, 22, 283-289. [link](#)
10. Valentine, M.; Kirby, B.; Withers, T. R.; Johnson, S. L.; Long, T.; Hao, Y.; Lam, J.; Niles, R.; Yu, H.* “Generation of a Highly Attenuated Strain of *Pseudomonas aeruginosa* for Commercial Production of Alginate,” *Microb. Biotechnol.* **2020**, 13, 162-175. [link](#)

11. Geldenhuys, W. J.; Long, T. E.; Saralkar, P.; Iwasaki, T.; Nuñez, R. A.; Nair, R. R.; Konkle, M. E.; Menze, M. A.; Pinti, M. V.; Hollander, J. M.; Hazlehurst, L. A.; Robart, A. R. "Crystal Structure of the Mitochondrial Protein MitoNEET Bound to a Benze-sulfonide Ligand," *Commun. Chem. – Nature* **2019**, 2, doi:10.1038/s42004-019-0172-x. [link](#)
12. Kirby, B.; Ahmar, R. A.; Withers, T. R.; Valentine, M.; Valentovic, M.; Long, T. E.; Gaskins, J.; Yu, H.* "Efficacy of Aerosolized Rifaximin Versus Tobramycin for the Treatment of *Pseudomonas aeruginosa* Pneumonia in Mice," *Antimicrob. Agents Chemother.* **2019**, 63, pii: e02341-18; doi: 10.1128/AAC.02341-18. [link](#)
13. Geldenhuys, W. J.*; Skolik, R.; Konkle, M. E.; Menze, M. A.; Long, T. E.; Robart, A. E. "Binding of Thiazolidinediones to the Endoplasmic Reticulum Protein Nutrient-Autophagy Factor 1," *Bioorg. Med. Chem. Lett.* **2019**, 29, 901-904 [link](#)
14. Frazier, K. R.†; Moore, J. A.†; Long T. E.* "Antibacterial Activity of Disulfiram and its Metabolites," *J. Applied Microbiol.* **2019**, 126, 79-86. [link](#)
15. Sheppard, J. G.†; Frazier, K. R.†; Saralkar, P.; Hossain, M. F.; Geldenhuys W. J.; Long T. E.* "Disulfiram-based Disulfides as Narrow-spectrum Antibacterial Agents," *Bioorg. Med. Chem. Lett.* **2018**, 28, 1298-1302. [link](#)
16. Sheppard, J. G.†; McAleer, J. P.; Saralkar, P.; Geldenhuys, W. J.; Long, T. E.* "Allicin-inspired Pyridyl Disulfides as Antimicrobial Agents for Multidrug-resistant *Staphylococcus aureus*," *Eur. J. Med. Chem.* **2018**, 143, 1185-1195. [link](#)
17. Long T. E.*. "Repurposing Thiram and Disulfiram as Antibacterial Agents for Multi-drug Resistant *Staphylococcus aureus* Infections," *Antimicrob. Agents Chemother.* **2017**, 61:e00898-17. [link](#)
18. Sheppard, J. G.†; Long, T. E.* "Allicin-Inspired Thiolated Fluoroquinolones as Antibacterials Against ESKAPE Pathogens," *Bioorg. Med. Chem. Lett.* **2016**, 26, 5545-5549. [link](#)
19. Slayton, E. T.†; Hay, A. S.; Babcock, C. K.; Long, T. E.* "New Antibiotics in Clinical Trials for *Clostridium Difficile*," *Expert Rev. Anti. Infect. Ther.* **2016**, 14, 789-800. [link](#)
20. Long, T. E.*; Keding, L. C.‡; Lewis, D.†; Anstead, M. I.; Withers, T. R.; Yu, H. D. "Anionic Fluoroquinolones as Antibacterials Against Biofilm-producing *Pseudomonas aeruginosa*," *Bioorg. Med. Chem. Lett.* **2016**, 26, 1305-1309. [link](#)
21. Long, T. E.*; Williams, J. "Cephalosporins Currently in Early Clinical trials for the Treatment of Bacterial Infections," *Expert Opin. Investig. Drugs* **2014**, 23, 1375-1387. [link](#)
22. Lu, X.‡; Altharawi, A.‡; Gut, J.; Rosenthal, P. J.; Long, T. E.* "1,4-Naphthoquinone Cations as Antiplasmodial Agents: Hydroxy-, Acyloxy-, and Alkoxy-Substituted Analogs," *ACS Med. Chem. Lett.* **2012**, 3, 1029-1033. [link](#)
23. Lu, X.‡; Altharawi, A.‡; Hansen, E. N.†; Long, T. E.* "Phase-Transfer Catalysts in the O-Alkylation of 2-Hydroxynaphthoquinones," *Synthesis* **2012**, 44, 3225-3230. [link](#)
24. Mock, J.‡; N; Taliaferro, J. P.; Lu, X.‡; Patel, S. K.‡; Cummings, B. S.; Long, T. E.* "Haloenol Pyranones and Morpholinones as Antineoplastic Agents of Prostate Cancer," *Bioorg. Med. Chem. Lett.* **2012**, 22 4854-4858. [link](#)
25. Long, T. E.*; Lu, X.‡; Galizzi, M.; Docampo, R.; Gut, J.; Rosenthal, P. J. "Phosphonium Lipocations as Antiparasitic Agents," *Bioorg. Med. Chem. Lett.* **2012**, 22, 2976-2979. [link](#)
26. Lu, X.‡; Long, T. E.* "Asymmetric Synthesis of Monocyclic β -Lactams from L-Cysteine Using Photochemistry," *Tetrahedron Lett.* **2011**, 52, 5051-5054. [link](#)
27. Lu, X.‡; Long, T. E.* "o-Nitrophenyl Sulfoxides: Efficient Precursors for the Mild Preparation of Alkenes," *J. Org. Chem.* **2010**, 75, 249-252. [link](#)
28. Patel, S. K.‡; Long, T. E.* "Preparation of Vinylglycines by Thermolysis of Homocysteine Sulfoxides," *Tetrahedron Lett.* **2009**, 50, 5067-5070. [link](#)

From Postdoctoral and Graduate Studies:

29. Wenczewicz, T.; Long, T. E.; Möllmann, U.; Miller, M. J.* "Trihydroxamate Siderophore Fluoroquinolone Conjugates are Selective Sideromycin Antibiotics that Target *Staphylococcus aureus*," *Bioconjugate Chem.* **2013**, 24, 473-486.

30. Wencewicz, T. A.; Möllmann, U; Long, T. E.; Miller, M. J.* “Is Drug Release Necessary for Antimicrobial Activity of Siderophore-drug Conjugates? Syntheses and Biological Studies of the Naturally Occurring Salmycin “Trojan Horse” Antibiotics and Synthetic Desferridanoxamine-antibiotic Conjugates,” *Biomaterials* **2009**, *22*, 633-648.
31. Chen, D; Falsetti, S. C.; Frezza, M.; Milacic, V.; Kazi, A.; Cui, Q. C; Long, T. E.; Turos, E.; Dou, Q.* “Anti-tumor Activity of *N*-Thiolated β -Lactam Antibiotics,” *Cancer Lett.* **2008**, *268*, 63-69.
32. Revell, K. D.; Heldreth, B.; Long T. E.; Jang, S.; Turos, E.* “*N*-Thiolated β -Lactams: Studies on the Mode of Action and Identification of a Primary Cellular Target in *Staphylococcus aureus*,” *Bioorg. Med. Chem.* **2007**, *15*, 2453-2467.
33. Turos, E.*; Long, T. E.; Heldreth B.; Leslie, J. M.; Reddy, G. S. K.; Wang, Y.; Coates, C.; Konaklieva, M.; Dickey, S.; Lim, D. V.; Gonzalez, A. E. “*N*-Thiolated β -Lactams: A New Family of Anti-Bacillus Agents. *Bioorg. Med. Chem. Lett.* **2006**, *16*, 2084-2090.
34. Heldreth B; Long T. E.; Jang, S.; Reddy, G.; Turos, E.*; Dickey, S.; Lim, D. " *N*-Thiolated beta-Lactam Antibacterials: Effects of the *N*-Organothio Substituent on Anti-MRSA Activity," *Bioorg Med Chem.* **2006**, *14*, 3775-3784.
35. Turos, E.*; Coates, C. M.; Shim, J.-Y.; Wang, Y.; Leslie J. M.; Long T. E.; Reddy, G. S. K.; Ortiz, A.; Culbreath, M.; Dickey, S.; Lim, D. V.; Alonso, E.; Gonzalez, J. “*N*-Methylthio β -Lactam Antibacterials: Effects of the C₃/C₄ Ring Substituents on Anti-MRSA Activity,” *Bioorg. Med. Chem.* **2005**, *13*, 6289-6308.
36. Kazi, A.; Hill, R.; Long, T. E.; Kuhn, D. J.; Turos, E.; Dou, Q.* “Novel *N*-Thiolated β -Lactam Antibiotics Selectively Induce Apoptosis in Human Tumor and Transformed, But Not Normal or Nontransformed, cells,” *Biochem. Pharmacol.* **2004**, *67*, 365-374.
37. Carr, J. A.; Al-Azemi, T. F.; Long, T. E.; Shim, J.-Y.; Coates, C. M.; Turos, E.; Bisht, K. S.* “Lipase-Catalyzed Resolution of 4-Aryl-Substituted β -Lactams: Effect of Substitution on the 4-Aryl Ring,” *Tetrahedron* **2003**, *59*, 9147-9160.
38. Long, T. E.; Turos, E.*; Konaklieva, M.; Blum, A. L.; Amry, A.; Baker, E. A.; Suwandi, L. S.; McCain, M. D.; Rahman, M.; Dickey, S.; Lim, D. V.; “Effect of Aryl Ring Fluorination on the Antibacterial Properties of C₄ Aryl-Substituted *N*-Methylthio β -Lactams,” *Bioorg. Med. Chem.* **2003**, *11*, 1859-1863.
39. Coates, C.; Long, T. E.; Turos, E.*; Dickey, S.; Lim, D. V. “*N*-Thiolated β -lactam Antibacterials: Defining the Role of Unsaturation in the C₄ Side Chain,” *Bioorg. Med. Chem.* **2003**, *11*,193-196.
40. Long, T. E.* “Recent Progress Toward the Clinical Development of New Anti-MRSA Antibiotics,” *IDrugs* **2003**, *6*, 351-359. [link](#)
41. Smith, D.M.; Kazi, A.; Smith, L.; Long, T. E.; Heldreth, B.; Turos, E.; Dou, Q. P.* “A Novel β -Lactam Antibiotic Activates Tumor Cell Apoptotic Program by Inducing DNA Damage,” *Mol. Pharmacol.* **2002**, *61*, 1348-1358.
42. Turos, E.*; Long, T. E.; Konaklieva, M. I.; Coates, C.; Shim J.-Y.; Dickey, S.; Lim, D. V.; Cannons, A. “*N*-Thiolated β -Lactams: Novel Antibacterial Agents for Methicillin-Resistant *Staphylococcus aureus*,” *Bioorg. Med. Chem. Lett.* **2002**, *12*, 2229-2223.
43. Long, T. E.; Turos, E.* “*N*-Thiolated β -Lactams,” *Curr. Med. Chem.: Anti-Infective Agents* **2002**, *1*, 251-268.

VIII. Patents

1. Long, T. E.*; Patel, S. K. “Preparation of Alkenes by Mild Thermolysis of Sulfoxides,” PCT International Application, filed 11/17/09, Serial No.: US 8580998 B2; PCT/US09/64708; WO 2,010,068,371. [link](#)
2. Turos, E.*; Carpenter, E.; Long, T. E.; Lim, D. V.; Dickey, S. S. “*N*-Thiolated β -Lactam Antibiotics,” U.S. Patent, filed 08/24/00, issued 11/05/02, Serial No.: 09/6476015 B1. [link](#)

IX. Presentations at National, Regional, and Local Meetings

† Pharm.D. student

‡ Ph.D. or M.S. student

* Corresponding author

1. Evans, S.‡; Meka, Y.‡; Valentine, M.; Yu, H.; Long, T. E.* 35h Annual Health Sciences Research Day, "Effects of Disulfiram (Antabuse) on the Intestinal Microbiome," Marshall University School of Medicine, Huntington, WV. November 10, 2023.
2. Meka, Y.‡; Chavva, H.; Long, T. E.*; 34th Annual Health Sciences Research Day, "In-vitro Pharmacodynamic Interactions of Vancomycin and Disulfiram (Antabuse®) in Staphylococcus aureus," Marshall University School of Medicine, Huntington, WV. October 28, 2022. [link](#)
3. Mim, O.; Long, T. E.; Valentovic, M.; 34th Annual Health Sciences Research Day, "Development of Vancomycin HPLC Methodology for Analysis of Microliter Plasma samples Using HPLC," Marshall University School of Medicine, Huntington, WV. October 28, 2022. [link](#)
4. Tetteh-Quarshie, S. ‡, Jones, C., Long, T. "Exploring Rheological Properties of Chitosan Gel and Antimicrobial Activities of 5-FU Against Diabetic Wound Pathogens," 97th Annual West Virginia Academy of Science Meeting, Fairmont State University, Fairmount, WV, April 23, 2022. [link](#)
5. Rice, C.†; Watson, K. †; Long, T. "Detecting for Effects of Copper Supplementation on Antimicrobial Activity of Disulfiram," Midyear Clinical Meeting, American Society of Health-System Pharmacists, December 9, 2021. [link](#)
6. Shanholtzer, C. N.†; Carreon, H.†; Rice, C.†; Watson, K.†; Long, T. E. "Evaluation of the Addition of Divalent Metal Salts to Disulfiram and Its Primary Metabolite for the Treatment of Fluconazole-resistant Candida Infections," Midyear Clinical Meeting, American Society of Health-System Pharmacists, December 9, 2021. [link](#)
7. Shanholtzer, C. N.†; Carreon, H.†; Long, T. E. "Antifungal Activity of Antabuse and its Primary Metabolite with Copper, Against Fluconazole Resistant Candida Strains," 33rd Annual Health Sciences Research Day, Marshall University, Huntington, WV, October 29, 2021. [link](#)
8. Adeluola, A.‡; Long, T.; Amin, R. A. R. M. "Low dose Actinomycin D Predominantly Activates p53-p21 Pathway in Aerodigestive Tract Cancers: Implications for Cyclotherapy," 33rd Annual Health Sciences Research Day, Marshall University, Huntington, WV, October 29, 2021. [link](#)
9. Brazeau, D.; Stevens, T.; Long, T.; Karamchi, M.; Guilford, M. E.; "Evaluating DNA Preservation, Quantification and Inactivation of Methicillin-resistant Staphylococcus aureus from a Collection and Transport System for Rapid Point-of-care Diagnostic Tests," World Microbe Forum, June 20, 2021, Abstract CPHM12 Molecular Diagnostic Microbiology – NGS [link](#)
10. Shelton, M.; Adkins, T.; Hesson, J.; Long, T.; Karamchi, M.; Brazeau, B. "Evaluation of Gram-positive Bacterial DNA Recovery From a Swab Collection and Transport system for Point-of-Care Diagnostic Tests," 32nd Annual Health Sciences Center Research Day, Marshall University, Huntington, WV, March 6, 2020. [link](#)
11. Jennings, T. M.; Babcock, C.; Long, T.; McAleer, J. "Sterility of Evzio® Brand Naloxone After Expiration," Health Sciences Center Health Sciences Center 32nd Annual Research Day, Marshall University, Huntington, WV, March 22, 2019. [link](#)
12. Kummer, T. M. †; Meakin, M. †; Long, T. E.* "Analysis of FDA-approved Drugs Altering the Treatment of Infections Due to MRSA," Midyear Clinical Meeting, American Society of Health-System Pharmacists, Anaheim, CA, December 3, 2018.
13. Meakin, M. †; Kummer, T. M. †; Long, T. E.* "Repurposing Dronedarone, Caspofungin, and Tolcapone as Anti-MRSA Antibiotics," Midyear Clinical Meeting, American Society of Health-System Pharmacists, Anaheim, CA, December 3, 2018.
14. Moore, J. A.†; Earl, M. H.†; Meakin, M.†; Kummer, T. M.†; Long, T. E.* "Alterations of MRSA Susceptibility to Vancomycin by Approved, Experimental, and Homeopathic Drugs," West Virginia Clinical and Translational Science Institute Annual Meeting, Morgantown, WV, May 16, 2018.
15. Sheppard, J. G.†; Frazier, K. R.†; Hossain, M. F.; Long T. E.*. "Disulfiram-based Disulfides as Narrow Spectrum anti-MRSA Antibiotics," Joan C. Edwards School of Medicine 30th Annual Research Day, Marshall University, Huntington, WV, March 30, 2018. [link](#)
16. Sheppard, J. G.†; McAleer, J.; Long, T. E.* "Allicin-Inspired Pyridyl Disulfides as Anti-MRSA Antibiotics" Joan C. Edwards School of Medicine 29th Annual Research Day, Marshall University, Huntington, WV, March 24, 2017. [link](#)

17. Keding, L. C.‡; Long, T. E.*; Anstead, M. I.; Yu, H. D. “A Novel *In Vitro* Assay to Assess Antibiotic Penetration in Respiratory Mucus,” Joan C. Edwards School of Medicine 28th Annual Research Day, Marshall University, Huntington, WV, March 11, 2016. [link](#)
18. Lewis, D.†; Long, T. E.*; Keding, L.C.‡; Withers, T. R.; Yu, H. D. “Growth Inhibition and Penetration Ability of Anionic Fluoroquinolone Derivatives Against Mucoïd *Pseudomonas aeruginosa*,” 50th Annual ASHP Midyear Clinical Meeting and Exposition, New Orleans, LA, December 8, 2015, Abstract-388593.
19. Keding, L. C.‡; Long, T. E.*; Lewis, D.†; Withers, T. R.; Yu, H. D. “Anionic Fluoroquinolones as Antibacterials Against Mucoïd *Pseudomonas aeruginosa*,” Appalachian Regional Cell Conference, Huntington, WV, November 21, 2015.
20. Long, T. E.*; Withers, T. R.; Yu, H. D. “Alginate Biomaterials from a Genetically Engineered Variant of *Pseudomonas aeruginosa*,” 2015 AAPS Annual Meeting and Exposition, Orlando, FL, October 29, 2015, Abstract-373. [link](#)
21. Carter, A. K.‡; Long, T. E.*; Withers, T. R.; Yu, H. D.* “The Development of a Novel Treatment Strategy for *Pseudomonas aeruginosa* Lung Infections in Cystic Fibrosis Patients,” West Virginia IDeA Network of Biomedical Research Excellence Research Symposium, Huntington, WV, July 27, 2015.
22. Worely, G.; Long, T. E.*; Withers, T.R.; Yu, H. D.* “Overexpression of C5-Mannuronan Epimerase AlgG in *Pseudomonas aeruginosa*,” West Virginia IDeA Network of Biomedical Research Excellence Research Symposium, Huntington, WV July 27, 2015.
23. Anderson, S. I.*; Anderson, H. G.; Booth, C.J.; Broedel-Zaugg, K.; Brown, A. S.; Gillette, C.; Hao, J.; Kimble, C.; Long, T. E.; McAleer J.; Mohan S.; Riley, B.; Rockich-Winston, N.; Stanton, R.; Train, B. C. "Reliability and Validity of Student Peer OSCE Scoring," 116th American Association of Colleges of Pharmacy Annual Meeting, National Harbor, MD, July 2015
24. Kimble, A.*; Williams, J.; Long, T. E. “Improving the First Offering of an Infectious Disease Module that Utilized Flipped Classroom,” 115th American Association of Colleges of Pharmacy Annual Meeting, Grapevine, TX, July 2014. [link](#)
25. Lu, X.‡; Long, T. E.* "Asymmetric Synthesis of Monocyclic β -Lactams from L-Cysteine Using Photochemistry," University of Georgia Conference on Drug Discovery, Athens, GA, November 2011.
26. Lu, X.‡; Long, T. E.* "Asymmetrical Approach to Synthesize Monocyclic beta-Lactams Using Photochemistry," American Chemical Society Southeastern Regional Meeting, Richmond, VA, October 2011.
27. Lu, X.‡; Long, T. E.* "Asymmetric Synthesis of Monocyclic β -Lactams from L-Cysteine Using Photochemistry," 242nd American Chemical Society National Meeting, Denver, CO, August 2011.
28. Long, T. E.*; Taliaferro, J. P.; Patel, S. K.‡ “Haloenol Lactone-Containing Peptides: Novel Serinase Inhibitors for Leads in Drug Discovery,” Georgia Research Alliance/Center for Disease Control Collaboration Roundtable, Center for Disease Control, Atlanta, GA, February 26, 2010.
29. Lu, X.‡; Long, T. E.* “Synthesis of Novel Heterocycles as Antibacterial Agents,” University of Georgia Conference on Drug Discovery, Athens, GA, November 5, 2009.
30. Taliaferro, J. P.; Patel, S. K.‡; Long, T. E.* “Novel Synergistic Inhibitors of MRSA,” University of Georgia Conference on Drug Discovery, Athens, GA, November 5, 2009.
31. Mock, J. N.‡; Patel, S. K.‡; Lu, X.‡; Long, T. E.; Cummings, B. S.* “Novel Bromoenol Lactone-Based Ca²⁺-Independent Phospholipase A2 Inhibitors Induce Cytotoxicity in Prostate Cancer Cells,” University of Georgia Conference on Drug Discovery, Athens, GA, November 5, 2009.
32. Patel, S. K.‡; Long, T. E.* “Novel Methods to Synthesize α -Vinyllic Amino Acids,” American Association of Pharmaceutical Scientists Annual Meeting and Exposition, Atlanta, GA, November 16, 2008.
33. Lu, X.‡; Long, T. E.*; “New Antimicrobials for Multi-Resistant Bacteria,” UGA/CDC Research Symposium, Center for Disease Control, Atlanta, GA, September 4, 2008.
34. Long, T. E.* “Design and Synthesis of New Antibiotics for Drug Resistant Infections,” Inaugural University of Georgia Conference on Drug Discovery, Athens, GA, April 2007.

From Postdoctoral and Graduate Studies:

35. Wencewicz, T. A.; Long, T. E.; Miller, M. J.* "The "Trojan Horse" Drug Delivery System: Antibiotic Conjugates of the Bacterial Siderophore Danoxamine," 39th Central Regional Meeting of the American Chemical Society, Covington, KY, May 20, 2007.
36. Ramaraju, P.; Long, T. E.; Turos E.* "Heterosubstituted *N*-Thiolated β -Lactam Antibiotics," 232nd American Chemical Society National Meeting, San Francisco, CA, September 10, 2006, MEDI-340.
37. Long, T. E.; Miller, M. J.* "Siderophore-drug Conjugates of Danoxamine and a Rhodotorulic Acid Analog," 230th American Chemical Society National Meeting, Washington, D.C. August 28, 2005, AEI-55.
38. Coates, C. M.; Shim, J-Y.; Long, T. E.*; Turos, E.; Dickey, S.; Lim, D. V. "Defining the Role of C-3 Substitution on the Activity of *N*-Thiolated β -Lactam Antibacterials," Abstracts of Papers, 225th American Chemical Society National Meeting, New Orleans, LA, March 23, 2003, MEDI-051.
39. Culbreath, M. L.; Turos, E.*; Long, T. E.; Leslie, J. M.; TeStrake D. "*N*-Thiolated β -lactams: New Sources of Antifungal Agents," Abstracts of Papers, 225th American Chemical Society National Meeting, New Orleans, LA, March 23, 2003.
40. Turos, E.*; Shim, J-Y.; Long T, E.; Dickey, S.; Lim, D. V. "Studies on the Influence Fatty Ester Side Chains Have On Antibacterial Activity of *N*-Thiolated β -Lactams," Abstracts of Papers, 223rd American Chemical Society National Meeting, Orlando, FL, April 7, 2002, MEDI-257.
41. Turos, E.*; Long, T. E.; Leslie, J. M.; Heldreth, B.; Coates, C.; Shim J-Y.; Wang, H.; Torres, A.; Ortiz, A.; Dickey S.; Lim, D. V. Chemistry and Biology of *N*-Thiolated β -Lactam Antibiotics," Abstracts of Papers, 224th American Chemical Society National Meeting, Boston, MA, August 18, 2002, MEDI-046.
42. Turos, E.*; Coates, C.; Long, T. E.; Dickey S.; Lim, D. V. "Probing the Effect of Unsaturation in the C-4 Side Chain of *N*-Thiolated β -Lactam Antibacterials," Abstracts of Papers, 223rd American Chemical Society National Meeting, Orlando, FL, April 7, 2002, MEDI-256.
43. Turos, E.*; Heldreth, B.; Long, T. E.; Dickey S.; Lim, D. V. "Structure-activity Studies on *N*-Thiolated β -Lactams: Effect of the Organothio Substituent on Antibacterial Activity," Abstracts of Papers, 223rd American Chemical Society National Meeting, Orlando, FL, April 7, 2002, MEDI-255.
44. Turos, E.*; Long, T. E.; Dickey S.; Lim, D. V. "*N*-Thiolated β -lactams: A Novel Family of Antibacterial Agents for MRSA," Abstracts of Papers, 223rd American Chemical Society National Meeting National Meeting, Orlando, FL, April 7, 2002, MEDI-254.
45. Turos, E.*; Long, T. E.; Heldreth, B.; Coates, C. M.; Shim, J-Y.; Polk, J.; Konaklieva, M. I.; Dickey, S.; Lim, D. V. "*N*-Thiolated β -lactams: Structurally and Mechanistically Novel Antibacterial Agents for MRSA," Abstracts of Papers, 223rd American Chemical Society National Meeting, Orlando, FL, April 7, 2002, MEDI-170.
46. Long, T. E.; Turos, E.* "*N*-Thiolated β -Lactams: A Novel Family of Antibacterial Agents for MRSA," Raymond N. Castle Student Research Conference, University of South Florida, Tampa, FL, April 13, 2002.
47. Long, T. E.; Turos, E.*; Dickey S.; Lim, D. V. "*N*-Thiolated β -lactams: A Novel Family of Antibacterial Agents for MRSA," 223rd American Chemical Society National Meeting, Orlando, FL, April 11, 2002, MEDI-254.
48. Shim, J-Y.; Turos, E.*; Long, T. E.; Dickey S.; Lim, D. V. "Studies on the Influence Fatty Ester Side Chains Have on Antibacterial Activity of *N*-Thiolated β -Lactams," 223rd American Chemical Society National Meeting, Orlando, FL, April 11, 2002, MEDI-257.
49. Coates, C.; Turos, E.*; Long, T. E.; Dickey S.; Lim, D. V. "Probing the Effect of Unsaturation on the C-4 Side Chain of *N*-Thiolated β -Lactam Antibacterials," 223rd American Chemical Society National Meeting, Orlando, FL, April 11, 2002, MEDI-256.
50. Heldreth, B.; Turos, E.*; Long, T. E.; Dickey S.; Lim, D. V. "Structure-activity Studies on *N*-Thiolated β -Lactams: Effect of the Organothio Substituent on Antibacterial Activity," 223rd American Chemical Society National Meeting, Orlando, FL, April 11, 2002, MEDI-255.
51. Long, T. E.; Turos, E.* "Current Research on a Novel Class of β -Lactam Antibacterials," Raymond N. Castle Student Research Conference, University of South Florida, Tampa, FL, April 28, 2001.

52. Turos, E.*; Long, T. E.; Blum, A. L.; Amry, A.; Baker, E. A.; Suwandi, L. S.; McCain, M. D.; Rahman M. F.; Konaklieva, M. I. "Fluorinated Analogs of Novel *N*-Thiolated β -Lactam Antibacterials," 222nd American Chemical Society National Meeting, Chicago, IL, August 26, 2001.
53. Long, T. E.; Turos, E.* "Unusual Monocyclic β -Lactams Having *Staphylococcus* Activity," Florida Academy of Sciences, Tampa, FL, March 6, 1999.

X. Invited Seminars

1. "Effects of FDA-Approved Medications on MRSA Susceptibility to Vancomycin," Marshall University, Department of Chemistry, Huntington, WV, October 29, 2021.
2. "Effects of FDA-Approved Medications on MRSA Susceptibility to Vancomycin," Marshall University, School of Pharmacy, Huntington, WV, November 22, 2019.
3. "Drug Discovery Research on Disulfide-based Antibiotics for MRSA Infections," Concord University, Department of Physical Sciences, Athens, WV, March 23, 2018.
4. "Drug Discovery Research on New Agents for Antimicrobial-Resistant Infections," Eastern Kentucky University, Department of Chemistry, Richmond, KY, February 26, 2015.
5. "Drug Discovery Research on Antimicrobial Agents for Malaria and Biofilm *Pseudomonas*," West Virginia State University, Department of Chemistry, Institute, WV, scheduled February 18, 2015.
6. "Novel Agents for the Treatment of Infectious Diseases Including Malaria," Marshall University, Department of Chemistry, Huntington, WV, January 28, 2014.
7. "Design of Novel Chemotherapeutic Agents for Malaria and Prostate Cancer," Marshall University, School of Pharmacy, Huntington, WV, February 22, 2013
8. "New Antimicrobial Agents for Bacterial and Tropical Diseases Including Malaria," University of Georgia, Department of Chemistry, Athens, GA, January 19, 2012.
9. "New Antimicrobials for the Treatment of Bacterial and Tropical Diseases Including Malaria," University of Georgia, Department of Infectious Diseases, Athens, GA, October 19, 2011.
10. "New Antimicrobial Agents for Bacterial and Tropical Diseases Including Malaria," North Georgia College & State University, Department of Chemistry, Dahlonega, GA, February 4, 2011.
11. "Synthesis and Evaluation of New Antibacterials for Multi-Resistant Infections," Kennesaw State University, Department of Chemistry and Biochemistry, Kennesaw, GA, November 4, 2010.
12. "New Antimicrobial Agents for Bacterial and Tropical Diseases Including Malaria," Georgia Southern University, Department of Chemistry, Statesboro, GA, October 15, 2010.
13. "Synthesis and Evaluation of Novel Peptide Antimicrobial Agents," Augusta State University, Department of Physics and Chemistry, Augusta, GA, March 24, 2010.
14. "New Antibiotics for Drug-Resistant Infections," College of Veterinary Medicine, University of Georgia, Athens, GA, May 14, 2007.

XI. Funded Projects & Contracts

Title: A Modular Nanoantibiotic Platform for Treatment Against Aerosolized Biothreat Agents

Sponsor: Parabon Nanolabs, Inc.

Period: 2/23-03/24

Budget: \$10,821

Role: PI/PD

Title: Rapid Microbial Identification and Characterization in the Field Subsequent Phase II

Sponsor: Parabon Nanolabs, Inc.

Period: 7/22-01/24

Budget: \$25,022

Role: PI/PD

Title: Discovery of Disulfiram as an Anti-MRSA Antibiotic Adjuvant

Agency: NIH / NIAID (award 1R15AI151970-0)

Period: 03/20-02/23

Budget: \$434,180

Role: PI/PD

Title: Effects of FDA-approved Drugs on the Treatment of MRSA Infections

Agency: NASA West Virginia Space Grant Consortium / NASA EPSCoR Consortium; Research Seed Grant

Period: 04/17-03/18

Budget: \$20,000

Role: PI

Title: Disulfiram-based Antibacterials for Drug-resistant Infections

Agency: Marshall University School of Pharmacy

Period: 7/17-6/18

Budget: \$5,000

Role: PI/PD

Title: Mechanistic Studies of Disulfiram as an Anti-MRSA Drug

Agency: Joan C. Edwards School of Medicine and School of Pharmacy Collaborative Grant Program

Period: 1/18-12/18

Budget: \$50,000

Role: co-PI/PD

Title: Developing MitoNEET Molecular Probes in Parkinsonism

Agency: West Virginia Clinical and Translational Science Institute

Period: 10/17-9/18

Budget: \$50,000

Role: co-PI

Title: Novel Antibiotics for the Treatment of Resistant Infections

Agency: Marshall University School of Pharmacy

Period: 7/16-6/17

Budget: \$10,000

Role: PI/PD

Title: Novel Antibiotics for the Treatment of Anthrax Disease

Agency: Marshall Research Corporation

Period: 2017

Budget: \$208

Role: PI/PD

Title: A Novel In Vitro Assay to Assess Antibiotic Bioavailability in Respiratory Sputum and Pseudomonas Biofilms

Agency: Marshall University School of Pharmacy

Period: 12/15-11/16

Budget: \$20,000

Role: PI/PD

Award: Quinlan Travel Award

Agency: Marshall Research Corporation

Period: 2015

Budget: \$500

Role: PI/PD

Title: Characterization of Biopolymer Production in Pseudomonas aeruginosa

Agency: National Aeronautics and Space Administration; NASA West Virginia Space Grant Consortium;
Joint University Industry Research Opportunity Program (award: 91-175B-MURC)
Period: 07/14-08/15
Budget: \$40,000
Role: Co-PI

Title: Development of Isothiocyanate-based Inhibitors of MD-2/TLR4 to Treat Inflammatory Conditions
Associated with Space Risk Factors
Agency: National Aeronautics and Space Administration; Marshall Research Corporation Internal Grant
Program (award: NASA NNX13AN08A)
Period: 07/14-06/15
Budget: \$5,000
Role: PI

Title: Antiplasmodial Evaluation of Phosphonium Lipocations of Hydroxy-1,4-Naphthoquinones
Agency: University of Georgia Research Foundation (UGARF)
Period: FY 2013
Budget: \$3,000
Role: PI

Agency: DuPont Crop Protection, Collaborative Research and Licensing
Period: FY 2011
Contract: \$1,800

Award: College of Pharmacy Endowment
Agency: University of Georgia Research Foundation (UGARF)
Period: 10/10-06/11
Budget: \$3,000
Role: PI

Award: Hayes Endowment
Agency: University of Georgia Research Foundation (UGARF)
Period: 06/09-4/09
Budget: \$4,969
Role: PI

Title: Novel β -Lactam Antibiotics for Resistant Bacteria
Agency: American Association of Colleges of Pharmacy (AACCP)
Period: 12/08-12/09
Budget: \$10,000
Role: PI

Title: Antibiotic Analogs of Leinamycin
Award: Junior Faculty Grant
Agency: University of Georgia Research Foundation (UGARF)
Period: 01/07-12/07
Budget: \$7,000
Role: PI

XII. Professional Service

a. Ad Hoc Reviewer for Peer-Reviewed Journals (no. of manuscripts reviewed):

1. *ACS Medicinal Chemistry Letters* (1)

2. *Biomedicine and Pharmacotherapy* (3)
3. *Bioorganic and Medicinal Chemistry* (11)
4. *Bioorganic Chemistry* (1)
5. *Biotechnology Journal* (1)
6. *Clinical & Medical Microbiology* (1)
7. *Current Bioactive Compounds* (1)
8. *European Journal of Medicinal Chemistry* (5)
9. *Expert Review of Anti-Infective Therapy* (2)
10. *Expert Opinion On Drug Discovery* (1)
11. *Expert Opinion On Investigational Drugs* (3)
12. *Free Radical Biology and Medicine* (1)
13. *Journal of Antibiotics* (1)
14. *Journal of Applied Microbiology* (12)
15. *Langmuir* (1)
16. *Letters in Applied Microbiology* (9)
17. *Microbiology and Immunology* (1)
18. *Microbial Drug Resistance* (2)
19. *Molecules* (1)
20. *Nature Scientific Reports* (1)
21. *Open Forum Infectious Diseases* (1)
22. *Tetrahedron* (4)
23. *Tetrahedron Letters* (1)
24. *PLoS ONE* (1)
25. *Therapeutics and Clinical Risk Management* (1)
26. *Open Forum Infectious Diseases* (1)
27. *Organic Syntheses* (1)
 - Served as checker by re-performing experiments on half, full, and double scales for reactions reported in “Synthesis of 2 α -Benzyloxy-8-oxabicyclo[3.2.1]oct-6-en-3-one by [4 + 3] Cycloaddition,” *Org. Synth.* **2006**, 83, 61. [link](#)

b. Grant Reviewer

1. American Association of Colleges of Pharmacy (AACP) New Investigator Awards, 2013
2. Research Corporation for Science Advancement Cottrell College Science Awards, 2013
3. Department of Defense Peer-Reviewed Medical Research Program (PRMRP) Pre Antimicrobial Resistance Grants, 2017
4. West Virginia Clinical and Translational Science Institute (CTSI) Pilot Grants, 2018
5. Department of Defense Peer-Reviewed Medical Research Program (PRMRP) Pre-Antimicrobial Resistance Grants, 2019
6. National Science Foundation (NSF) Phase I: Pharmaceutical Technologies SBIR/STTR Grants, 2020
7. National Science Foundation (NSF) Phase I SBIR/STTR COVID-19 DCL, 2020
8. National Institutes of Health (NIH) ZAI1 MFH-M J1 1, Partnerships for Countermeasures Against Select Pathogens (R01 Clinical Trials Not Allowed) 11/9/20
9. National Science Foundation (NSF) Phase I COVID: Drug Discovery and Delivery 5/4/21
10. National Institutes of Health (NIH) ZRG1 AIDC-S (80) Infectious Diseases and Immunology Research Enhancement Review, 7/19/21
11. National Institutes of Health (NIH) ZRG1 AIDC-D (80) A - AREA/REAP: Infectious Diseases and Immunology, 3/29/22
12. Department of Defense Infection Control and Prevention panel (ICM-1) Defense Medical Research and Development Program (DMRDP) 1/24/23.
13. National Institutes of Health (NIH) NIAD ZAI1 MMO-D (J1) Support for Research Excellence (SuRE) Award (R16 – Clinical Trial Not Allowed) 11/7/23

c. School & University Service:

1. MUSOP Student Affairs Committee member, Marshall School of Pharmacy 2022-
2. MUSOP Progressions Committee member, Marshall School of Pharmacy 2019-21
3. MUSOP Dean Third Year Review Consulting Committee member, Marshall School of Pharmacy 2021
4. MUSOP Assessment Committee member, Marshall School of Pharmacy 2019-22, Chair 2020-22
5. MUSOP Faculty Senate Alternate, Marshall School of Pharmacy 2019-
6. MUSOP search committee chair for pharmaceutical science instructor position, 2018
7. MUSOP search committee for pharmaceutical science faculty position, 2018-19
8. Executive Council, DPSR representative, Marshall School of Pharmacy 2017-19
9. Dean search committee, Marshall School of Pharmacy 2016-17
10. MUSOP Admissions Committee, Marshall School of Pharmacy 2016-19
11. MUSOP OSCE Revamp Committee spring 2017
12. Admissions Coordinator search committee, Marshall School of Pharmacy 2016.
13. Council of Chairs Awards Committee Marshall School University 2015-present
14. ACPE Steering Committee, Marshall School of Pharmacy 2015-17.
15. MUSOP search committee for medicinal chemistry faculty position, 2015-16.
16. Pharmily Campaign, Co-Chair, Marshall School of Pharmacy, 2014-15.
17. Interview Assessment Ad-hoc Committee, Marshall School of Pharmacy, 2015.
18. Faculty Affair Committee Member, Marshall School of Pharmacy, 2014-15.
19. Student Admissions Sub-Committee Chair, Marshall School of Pharmacy, 2014-15.
20. Student Affairs Committee Member, Marshall School of Pharmacy, 2013-present, Chair 2014-15.
21. MUSOP search committee for CNS faculty position, 2013-14.
22. MUSOP search committee for immunology/endocrinology faculty position, 2013-14.
23. University Council Member, UGA College of Pharmacy, 2012-13.
24. Scholarship and Awards Committee, UGA College of Pharmacy, 2010-13, Chair 2011-12.
25. Admissions Committee Member, UGA College of Pharmacy, 2010-13, Chair 2012-13.
26. Computers & Instructional Technologies Committee Member, UGA College of Pharmacy, 2006-09, Chair 2007-09.
27. College of Pharmacy Faculty Council Representative, UGA College of Pharmacy, 2008-11
28. Graduate Admissions Committee, UGA College of Pharmacy, 2008-10, 2011-13
29. NMR Shared Laboratory Supervisor, UGA College of Pharmacy, 2009-13
30. Spectrometer Shared Laboratory Supervisor, UGA College of Pharmacy, 2008-10

d. Other Professional Service:

1. Presented research talk on "Drug Discovery Research on New Agents for Antimicrobial-Resistant Infections," American Chemical Society Lexington Section Meeting, Eastern Kentucky University, Richmond, KY on 2/25/16.
2. Presented research talk on "New Antimicrobial Agents for Bacterial and Tropical Diseases Including Malaria," American Chemical Society Kanawha Valley Section Meeting, University of Charleston, Charleston, WV on 2/18/16.
3. Interviewed by a writer for BioPharm Insight on the experimental antibiotic cadazolid, 12/1/15
4. Invited lecturer for Honors Seminar in New Drug Development, Marshall University, 9/21/15.
5. Representative speaker for the Immunology and Infectious Disease Research Cluster in the Marshall School of Medicine at the 10th Annual Biomedical Sciences Research Retreat 8/14/15.
6. Served as judge for oral presentations at 27th Annual Research Day hosted by Marshall University School of Medicine on 03/03/15.
7. Presented on "Incorporation of Students in Research" for MUSOP Faculty Development Seminar on 01/09/15.
8. Presented research talk on "New Antimicrobial Agents for Bacterial and Tropical Diseases Including Malaria," American Chemical Society Northeast Section Meeting, 11/17/11.
9. Served as faculty advisor for the UGA Pharmacy School Multicultural Health Fair at the J&J Flea market on 04/09/11, Athens, GA.

10. WUOG 90.5 FM radio interview on "Food-borne Illnesses," 10/6/10.
11. Served as faculty advisor for the UGA Pharmacy School Dawgtoberfest Health Fair, 10/14/09
12. WUOG 90.5 FM radio interview on "MRSA Infections," 09/09/09.
13. Served as pharmacy faculty advisor for the Day of Dignity Health Fair, 09/06/09, Atlanta, GA.
14. Served as chair for the Ph.D. defense for Kerriann Greenhalgh, University of South Florida, Department of Chemistry, 09/2007, Tampa, FL.