VITA

October, 2025

Joseph E. Deweese

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Freed-Hardeman University
158 E. Main Street
Henderson, TN 38340

Current Roles:

Professor of Biochemistry

Director of Undergraduate Research

Summer Research Program Director (2022-present)

EDUCATION

Institution (Name, City, State)	Degree	Major	Graduation Date	Honors and Awards (OPTIONAL)
Vanderbilt University School of Medicine, Nashville, TN	Ph.D.	Biochemistry	May, 2009	
Freed-Hardeman University, Henderson, TN	B.S.	Biochemistry	May, 2004	*summa cum laude* Faculty Scholarship Leadership Award

Dissertation Title: ***The DNA Cleavage Reaction of Human Type II Topoisomerases*** (Advisor: Neil Osheroff, Ph.D.)

ADDITIONAL EDUCATIONAL INFORMATION

LICENSES OR CERTIFICATIONS OBTAINED

Pharmacogenomics Certificate Program for Pharmacists, March, 2016, Orlando, FL.
Online Learning Consortium Certificate in Online Learning, 2014.
American Red Cross CPR Certification, 2009-2021.

TEACHING EXPERIENCE

Institution (Name, City, State)	Position Title	Dates	Description of types of courses taught
Freed-Hardeman University, Henderson, TN	Professor of Biochemistry	August, 2021-Present	Biochemistry I and II Cellular Biology and Molecular Genetics; Seminar; Research; Bible and Science; Honors Seminar in Research Methods
Lipscomb University, College of Pharmacy and Health Sciences, Nashville, TN	Adjunct Professor of Pharmaceutical Sciences	August 2021-2022	Biomolecular Chemistry
Vanderbilt University School of Medicine, Nashville, TN	Adjunct Associate Professor of Biochemistry	June, 2009-Present	
Lipscomb University, College of Pharmacy and Health Sciences, Nashville, TN	Associate Professor of Pharmaceutical Sciences (Tenured)	March 2015-July, 2021	Biomolecular Chemistry, Cellular Physiology, Anticancer Pharmacology, Integrated Biomedical Sciences Lab, Applied Christian Values in Pharmacy
Lipscomb University, College of Pharmacy and Health Sciences, Nashville, TN	Assistant Professor of Pharmaceutical Sciences	June 2009-March, 2015	Biomolecular Chemistry, Anticancer Pharmacology, Integrated Biomedical Sciences Lab, Applied Christian Values in Pharmacy

OTHER RELEVANT PROFESSIONAL WORK EXPERIENCE

Employer (Name, City, State)	Position Title	Dates	Brief Description
Freed-Hardeman University, Henderson, TN	Director of Undergraduate Research	August, 2021-Present	Coordinate and develop resources and opportunities for research
Freed-Hardeman University, Henderson, TN	Summer Research Program Director	May-June 2022 and 2023	Coordinate the summer research program; train students and oversee summer research activities
Freed-Hardeman University, Henderson, TN	Principle Investigator, Laboratory Director	August, 2021-Present	Oversee biochemistry and molecular biology research
Lipscomb University, College of Pharmacy and Health Sciences, Nashville, TN	Principle Investigator, Laboratory Director	May, 2010-July, 2021	Coordinated research projects, trained students, wrote grants and manuscripts

RESEARCH EXPERIENCE

PROFESSIONAL PUBLICATIONS

Research Manuscripts:

1. White, R., Reeves, E.B., Fudge, G.L., Zigakova, D., Deweese, J.E., and Keener, J. (2025) Using Network Models to Understand Biological Signaling Architecture. *IEEE Transactions on Molecular, Biological, and Multi-Scale Communications*. https://ieeexplore.ieee.org/document/11217234.
2. Nartey, C.M. and Deweese, J.E. (2025) Evaluating AlphaFold 3 Folding of the Intrinsically Disordered DNA Topoisomerase IIα C-Terminal Domain. *DNA*, 5(4), 46; https://doi.org/10.3390/dna5040046.
3. Chang, J.W., O'Brian, A.K., Thomas, A.J., Hardin, M.R., Latham, B.D., Ngabonziza, D., Simpson, L.G., Wade, B.D., Kühnhenrich, L, Thompson, N.M., Endsley, C.E., and Deweese, J.E. (2025) Mutagenesis of Intrinsically Disordered Domain Impacts Topoisomerase IIα Catalytic Activity. *Int. J. Mol. Sci.*, *26*(8), 3604; https://doi.org/10.3390/ijms26083604.
4. Endsley, C.E., Moore, K.A., Townsley, T.A., Durston, K.K., and Deweese, J.E. (2024) Bioinformatic Analysis of the C-terminal Domain of Topoisomerase IIα Reveals Interdomain Interdependencies and Critical C-Terminal Domain Interdependencies. *Int. J. Mol. Sci. 25*(11), 5674; https://www.mdpi.com/1422-0067/25/11/5674.

5. Townsley, T., Durston, K., Wilson, J.T., Akers, H., Cordova, S., Wallace, T.L., and Deweese, J.E. (2022) PSICalc: A Novel Approach to Identifying and Ranking Critical Non-proximal Interdependencies within the Overall Protein Structure. 2(1). https://doi.org/10.1093/bioadv/vbac058.
6. Gibson, E. G. and Deweese, J. E. Structural and Biochemical Basis of Etoposide Resistant Mutations in Topoisomerase IIα. (2022) *Symmetry*, 14(7), 1309. https://doi.org/10.3390/sym14071309.
7. Lisic, E.C., Grossarth, S.N., Bowman, S.B., Hill, J.L., Beck, M.W., Deweese, J.E., and Jiang, X. (2022) New Copper(II), Palladium(II), and Platinum(II) 2-Acetylpyrazine Tert-Butylthiosemicarbazone Complexes: Inhibition of Human Topoisomerase IIα and Activity against Breast Cancer Cells. *Open Journal of Medicinal Chemistry,* 12:1-13. DOI: 10.4236/ojmc.2022.121001.
8. Dougherty, A.C., Hawaz, M.G., Hoang, K.G., Trac, J., Keck, J.M., Ayes, C., and Deweese, J.E. (2021) Exploration of the Role of the C-terminal Domain of Human DNA Topoisomerase IIa in Catalytic Activity. *ACS Omega*. http://doi.org/10.1021/acsomega.1c02083.
9. Murphy, M. B., Kumar, P., Bradley, A. M., Barton, C. E., Deweese, J. E., & Mercer, S. L. (2020) Synthesis and Evaluation of Etoposide and Podophyllotoxin Analogs Against Topoisomerase IIα Activity and in Cancer Cells. *Bioorganic and Medicinal Chemistry*, 28(22), 115773. https://doi.org/10.1016/j.bmc.2020.115773.
10. Keck, J.M., Conner, J. D., Wilson, J.T., Jiang, X., Lisic, E. C., and Deweese, J. E. (2019) Clarifying the Mechanism of Copper (II) α-(*N*)-Heterocyclic Thiosemicarbazone Complexes on DNA Topoisomerase IIα and IIß. *Chemical Research in Toxicology*, 32(10):2135-2143, doi: 10.1021/acs.chemrestox.9b00311.
11. Deweese, J.E., and Cordova, S. (2019) Unknotting the Nucleus: Regulation and Domain Modularity of Type II Topoisomerases. *CRSQ*, 55(4):196-211.
12. Fief, C. A., Hoang, K. G., Phipps, S. D., Wallace, J. L., and Deweese, J. E. (2019) Examining the Impact of Antimicrobial Fluoroquinolones on Human DNA Topoisomerase IIα and IIβ. *ACS Omega*, 4(2):4049-4055.
13. Morris, W. H., Ngo, L., Wilson, J. T., Medwala, W., Brown, A. R., Conner, J. D., Fanbunmi, F., Cashman, D. J., Lisic, E. C., Yu, T., Deweese, J. E., Jiang, X. (2019) "Structural and Metal Ion Effects on Human Topoisomerase IIα Inhibition by α-(N)-Heterocyclic Thiosemicarbazones," *Chemical Research in Toxicology,* 32(1):90-99, https://pubs.acs.org/doi/10.1021/acs.chemrestox.8b00204.
14. Wilson, J. T., Fief, C. R., Jackson, K. D., Mercer, S. L., and Deweese, J. E. (2018) "HU-331 and Oxidized Cannabidiol Act as Inhibitors of Human Topoisomerase IIα and β," *Chemical Research in Toxicology,* 31(2):137-144, doi: 10.1021/acs.chemrestox.7b00302.
15. Gibson, E. G., King, M. M., Mercer, S. L., & Deweese, J. E. (2016). "A Two-Mechanism Model for the Interaction of Etoposide Quinone with Topoisomerase IIα," *Chemical Research in Toxicology*, 29 (9):1541-1548, doi: 10.1021/acs.chemrestox.6b00209.
16. Conner, J. D., Medawala, W., Stephens, M. T., Morris, W. H., Deweese, J. E., Kent, P.L., Rice, J.J., Jiang X., Lisic, E.C. (2016). Cu(II) Benzoylpyridinetheiosemicarbazone Complexes: Inhibition of Human Topoisomerase IIα and Activity Against Breast Cancer Cells. *Open Journal of Inorganic Chemistry, 6 (2)*, 146-154.
17. Wilson, J. T., Jiang, X., McGill, B. C., Lisic, E. C., & Deweese, J. E. (2016). Examination of the Impact of Copper(II) α-(N)-Heterocyclic Thiosemicarbazone Complexes on DNA Topoisomerase IIα. *Chemical Research in Toxicology, 29 (4)*, 649-658, doi: 10.1021/acs.chemrestox.5b00471.
18. Lindsey, R. H., Pendleton, M. J., Ashley, R. E., Mercer, S. L., Deweese, J. E., Neil Osheroff (2014). The Catalytic Core of Human Topoisomerase IIα: Insights into Enzyme-DNA Interactions and Drug Mechanism. *Biochemistry, 53 (41)*, 6595-6602, doi: 10.1021/bi5010816.
19. Smith, N. A., Byl, J. W., Mercer, S. L., Deweese, J. E., & Osheroff, N. (2014). Etoposide quinone is a covalent poison of human topoisomerase IIβ. *Biochemistry, 53 (19)*, 3229-3236.
20. Regal, K. M., Mercer, S. L., & Deweese, J. E. (2014). HU-331 Is a Catalytic Inhibitor of Topoisomerase IIα. *Chemical Research in Toxicology, 24 (12)*, 2044-2051, doi: 10.1021/tx500245m.
21. Jacob, D. A., Gibson, E. G., Mercer, S. L., & Deweese, J. E. (2013). Etoposide catechol is an oxidizable topoisomerase II poison. *Chemical Research in Toxicology, 26*, 1156-1158.
22. Lee, S., Jung, S., Heo, K., Byl, J. W., Deweese, J. E., Neil Osheroff, Sungchul Hohng (2012). DNA cleavage and opening reactions of human topoisomerase IIα are regulated via Mg2+-mediated dynamic bending of gate-DNA. *Proceedings of the National Academy of the Sciences, 109 (8)*, 2925-2930.
23. Jacob, D. A., Mercer, S. L., Osheroff, N., & Deweese, J. E. (2011). Etoposide Quinone is a Redox-Dependent Topoisomerase II Poison. *Biochemistry, 50 (25)*, 5660-5667.
24. Schmidt, B. H., Burgin, A. B., Deweese, J. E., Osheroff, N., & Berger, J. M. (2010). A novel and unified two-metal mechanism for DNA cleavage by type II and IA topoisomerases. *Nature, 465 (7298)*, 641-644.
25. Deweese, J. E., Burch, A. M., Burgin, A. B., & Osheroff, N. (2009). Use of divalent metal ions in the DNA cleavage reaction of human type II topoisomerases. *Biochemistry, 48 (9)*, 1862-1869.
26. Deweese, J. E. & Osheroff, N. (2009). Coordinating the two protomer active sites of human topoisomerase IIα: Nicks as topoisomerase II poisons. *Biochemistry, 48 (7)*, 1439-1441.

27. Deweese, J. E., Guengerich, F. P., Burgin, A. B., & Osheroff, N. (2009). Metal ion interactions in the DNA cleavage/ligation active site of human topoisomerase IIα. *Biochemistry, 48 (38)*, 8940-8947.
28. Deweese, J. E., Burgin, A. B., & Osheroff, N. (2008). Human topoisomerase IIα uses a two-metal-ion mechanism for DNA cleavage. *Nucleic Acids Research, 36 (15)*, 4883-4893.
29. Deweese, J. E., Burgin, A. B., & Osheroff, N. (2008). Using 3'-bridging phosphorothiolates to isolate the forward DNA cleavage reaction of human topoisomerase IIα. *Biochemistry, 47*, 4129-4140.

Review Articles and Book Chapters:

1. Thomas, A.J., Latham, B.D., O'Brian, A.K., Harding, M.R., and Deweese, J.E. Plasmid DNA Cleavage Assay with Eukaryotic Topoisomerase II. (2025) In DNA Topoisomerases: Methods and Protocols, pp. 89-95. Methods in Molecular Biology Series. Ed. J.E. Deweese. Springer Nature. https://link.springer.com/protocol/10.1007/978-1-0716-4550-5_8.
2. Chang, J.W., Ngabonziza, D., and Deweese, J.E. Plasmid DNA Binding Electrophoretic Mobility Shift Assay with Eukaryotic Topoisomerase II. (2025) In DNA Topoisomerases: Methods and Protocols, pp. 109-114. Methods in Molecular Biology Series. Ed. J.E. Deweese. Springer Nature. https://link.springer.com/protocol/10.1007/978-1-0716-4550-5_10.
3. Fielding, L.G. and Deweese, J.E. Topoisomerase II N-Terminal ATPase Clamp Stabilization. (2025) In DNA Topoisomerases: Methods and Protocols, pp. 115-122. Methods in Molecular Biology Series. Ed. J.E. Deweese. Springer Nature. https://link.springer.com/protocol/10.1007/978-1-0716-4550-5_11.
4. O'Brian, A.K., Harding, M.R., Thomas, A.J., Latham, B.D., and Deweese, J.E. Kinetoplast DNA Decatenation Assay with Eukaryotic Topoisomerase II. (2025) In DNA Topoisomerases: Methods and Protocols, pp. 197-204. Methods in Molecular Biology Series. Ed. J.E. Deweese. Springer Nature. https://link.springer.com/protocol/10.1007/978-1-0716-4550-5_16.
5. Endsley, C.E., Kuhl, M.J., Townsley, T.D., Durston, K.K., Soda, M., Wallace, T.L., and Deweese, J.E. Using PSICalc to Identify Protein Sequence Interdependencies. (2025) In DNA Topoisomerases: Methods and Protocols, pp. 223-232. Methods in Molecular Biology Series. Ed. J.E. Deweese. Springer Nature. https://link.springer.com/protocol/10.1007/978-1-0716-4550-5_18.
6. Jiang, X., Fielding, L, Davis, H., Carroll, W., Lisic, E.C., and Deweese, J.E. (2023). Inhibition of Topoisomerases by Metal Thiosemicarbazone Complexes. *International Journal of Molecular Sciences,* 24(15), https://doi.org/10.3390/ijms241512010.
7. Trac, J. Keck, J.M., and Deweese, J. E. (2021) Cannabidiol Oxidation Product HU-331 Is a Potential Anticancer Cannabinoid Quinone. *Journal of Cannabis Research*, 3:11. https://rdcu.be/cjhvw.
8. Hoang, K. G., Menzie, R. A., Rhoades, J. M., Fief, C. A., and Deweese, J. E. (2020) Reviewing the Modification, Interactions, and Regulation of the C-terminal Domain of Topoisomerase IIα: as a Prospect for future Therapeutic Targeting. *EC Pharmacology & Toxicology*, 8(6):27-43.
9. Murphy, M. B., Mercer, S. L., and Deweese, J. E. Inhibitors and Poisons of Mammalian Type II Topoisomerases. (2017) In: Advances in Molecular Toxicology, Volume 11. Eds. J.C. Fishbein and J. Heilman. Academic Press.
10. Deweese, J. E. (2017). A Scientific Analysis of *Adam and the Genome*, *Sufficient Evidence: A Journal of Christian Apologetics*, 7(2), pp. 131-157.
11. Deweese, J. E. (2016). DNA Topoisomerases: The 'Relaxers' and 'Unknotters' of the Genome. *J. of Cr., 30 (2)*, 92-101.
12. Gibson, E. G. & Deweese, J. E. (2013). Covalent Poisons of Topoisomerase II. *Current Topics in Pharmacology, 17 (1)*, 1-12.
13. Deweese, J. E. & Osheroff, N. (2010). The Use of Divalent Metal Ions by Type II Topoisomerases. *Metallomics, 2 (7)*, 450-459.
14. Deweese, J. E. & Osheroff, N. (2008). The DNA cleavage reaction of topoisomerase II: Wolf in sheep's clothing. *Nucleic Acids Research, 37 (3)*, 738-748.

Educational Manuscripts:

1. Brooks, W.S., Deweese, J.E. and Wilson, A.B. (2024) Faith and Facts: Exploring the Intersection of Religion and Science Among Anatomy Educators. Editorial. *Anatomical Sciences Education.* http://doi.org/10.1002/ase.2400.
2. Deweese, J.E., Campbell, T., Wilcox, D., McCormack, J., Terry, C.L., and Davis, R.L. (2022). Incorporating Values and Ethics into a Course: Implementation and Assessment of Applied Christian Values in Pharmacy. *International Journal of Christianity & Education*, 26(1), https://doi.org/10.1177/20569971211040068d.
3. Pace, A. C., Greene, J., Deweese, J. E., Brown, D. A., Nesbit, J., Wensel, T.M., (2017). "Measuring pharmacy student attitudes toward prayer: the Student Prayer Attitude Scale (SPAS)," *Christian Higher Education*, *16 (4)*, 200-210.
4. Deweese, J. E., Osheroff, M. A., & Osheroff, N. (2009). DNA topology and topoisomerases: teaching a 'knotty' subject. *Biochemistry and Molecular Biology Education, 37 (1)*, 2-10.

Editorials and Invited Manuscripts:

1. Deweese, J.E. and Osheroff, N. (2023) No Time to Relax and Unwind: Exploration of Topoisomerases and a Growing Field of Study. Editorial. *Int. J. Mol. Sci.* **2023**, *24*(17), 13080; https://doi.org/10.3390/ijms241713080.

Manuscripts Under Review:

Preprints:

1. Musselman, J.R., England, D.C., Fielding, L.F., Durham, C.T., Baxter, E., Jiang, X., Lisic E.C., and Deweese, J.E. (2023) Topoisomerase IIα C-terminal Domain Mutations and Catalytic Function. *BioRxiv*. https://doi.org/10.1101/2023.07.29.551120.

Manuscripts in Preparation:

PROFESSIONAL PRESENTATIONS, ABSTACTS, and POSTERS (Most Recent 25)

1. Chumley, E.A., Vance, E.D., White, O.K., Smith, B.C., Simpson, L.G., Sullivan, J.L., O'Brian, A.K., Moore, J.T., Mahlaha, T., Brown, J., Fabich, A.J., Shipman, C., Taylor, S., and Deweese, J.E. Preparing, Sequencing, and Analyzing Ancient DNA Samples Using Oxford Nanopore Sequencing. SERMACS/SWRMACS Joint Meeting, Orlando, FL, October, 2025. (Poster)
2. Simpson, L.G., Wade, B.D., Lampley, M.M., Falkenheim, X.L., and Deweese, J.E. Examining the Synergistic Effects of Etoposide and ICRF-193 against Topoisomerase IIα. SERMACS/SWRMACS Joint Meeting, Orlando, FL, October, 2025. (Poster)
3. Falkenheim, X.L. and Deweese, J.E. Exploring Computational Folding of the Unstructured C-Terminal Domain Topoisomerase IIb by AlphaFold3. SERMACS/SWRMACS Joint Meeting, Orlando, FL, October, 2025.
4. Deweese, J.E. Ordering the Disorder: Examining Unstructured Protein Domains Using AlphaFold. CELS, Seattle, WA, July, 2025. (Poster)
5. Simpson, L.G., Elliana Chumley, Brayden Smith, Olivia White, Carissa Shipman, Andrew J. Fabich, Barry Cross, Steve Taylor, Joseph E. Deweese Refinement of Fossil DNA Extraction Protocols in Preparation for DNA Sequencing, CRS Annual Meeting, St. Louis, MO, July, 2025.
6. O'Brian, A.K., Sullivan, J.L., Shipman, C. Fabich, A., Taylor, S., and Deweese, J.E. Detection of dsDNA Extracted from Fossil Samples Using a DNA-Specific Fluorescent Dye. ASMS National Meeting, Baltimore, MD, 2025. (Poster)
7. J. Luke Sullivan, Addison K. O'Brian, Carissa Shipman, Andrew Fabich, Stephen Taylor, and Joseph E. Deweese (2025) Developing Tools for Extraction and Sequencing of DNA from Fossil Samples, ICC New Scholars' Conference, Flagstaff, AZ.
8. Clark E. Endsley, Kori A. Moore, and Joseph E. Deweese, (2024) PSICalc Identifies Interdependencies in Intrinsically Disordered Regions of Topoisomerase IIα, American Chemical Society National Meeting, New Orleans, LA, March, 2024.
9. Deweese, J.E. (February 2024). *Seeing the Invisible: A Case for Design*. FHU Annual Bible Lectureship. [Presentation].
10. Deweese, J.E. and Harrison, J. (February 2024). *Path to Freedom: Accountability in Recovery.* FHU Annual Bible Lectureship. [Presentation].
11. Deweese, J.E. and Rogers, J. Bible vs. Science. Dear Church Podcast. Host: Chris McCurley. Episode 233, October 19, 2023. https://www.youtube.com/watch?v=G6-xnizBTgw.
12. Deweese, J.E. Bible and Science. Dear Church Podcast. Host: Chris McCurley. Episode 229, September 21, 2023. https://www.youtube.com/watch?v=kNFY6cumaq4.
13. Deweese, J.E. Why Adam and Eve Matter. FHU Center for Excellence in Spiritual Leadership, Podcast. Host: Josh Ketchum. October 2023. https://www.podbean.com/ew/pb-xazcb-14c19d9.
14. Deweese, J.E. (June, 2023) The Tail of the Tale: Using PSI-Calc to Analyze the C-terminal Domain of Topoisomerase IIα. Conference on Engineering in Living Systems, Dallas, Texas.
15. Burgess, S., Deweese, J.E., Reeves, E., and Fudge, J. (June, 2023) Lessons on the Collaboration of Biologists and Engineers, panel discussion. Moderator: B. Miller. Conference on Engineering in Living Systems, Dallas, Texas.
16. Deweese, J.E. Are the Bible and Science in Conflict? FHU Center for Excellence in Spiritual Leadership, Podcast. Host: Josh Ketchum. May 2023. https://www.podbean.com/ew/pb-gi24s-14977cb.
17. Tale of the Tail: How Unstructured Protein Domains Provide Insight into Complex Design. Research Day Presentation. Southern Adventist University, Collegedale, TN. April 2023.
18. Without Excuse: Exploring God's Power Through Science, Southern Adventist University, Convocation. Collegedale, TN. April 2023.

19. A Novel Computational Tool for Identifying Features of Submolecular Protein Structure. Tennessee Tech University Department of Chemistry Seminar Series. September 23, 2022.
20. Cordova, S., Deweese, J.E., Sanford, J., and Wittler, H. (July, 2022) The Protein Orchard (Rather than a Universal Tree) is Unwittingly Adopted in Modern Bioinformatics. CRS Conference, Lynchburg, VA. [Abstract; Presentation by SC].
21. Deweese, J. E. (February, 2022). *The Greatest Catch of Fish*. FHU Annual Bible Lectureship. [Presentation]
22. Deweese, J. E. and Reeves, E.E. (June, 2021). *Biology Tutorial for Engineers*. Conference on Engineering in Living Systems, Dallas, Texas. [Presentation]
23. Deweese, J. E. (June, 2021). *Molecular Scissors as a Case Study in Protein Engineering*. Conference on Engineering in Living Systems, Dallas, Texas. [Presentation]
24. Deweese, J. E., Trac, J. N., Keck, Myles, J. M., Dougherty, A. C., and Hawaz, M. G. (June, 2021). *Mapping the Functional Domains of the C-terminal Domain of Topoisomerase IIa.* Christian Scholars Conference, Nashville, Tennessee. [Presentation]
25. Deweese, J. E., Townsley, T. T., Wallace, T. L., Cordova, S., and Durston, K. K. (June, 2021). *PSICalc: Development of a Software Tool for Exploring Protein Sequence Interdependencies*. Christian Scholars Conference, Nashville, Tennessee. [Presentation]

PROFESSIONAL DEVELOPMENT

PROFESSIONAL ORGANIZATIONS

Association of Biochemistry Educators, 2010-
American Chemical Society, 2009-
Creation Research Society, 2015-
Tennessee Academy of Sciences, 2022-
American Association of Colleges of Pharmacy, 2009-2020
Tennessee Pharmacists' Association, 2009-2020
American Society for Biochemistry and Molecular Biology, 2013-2022

PROFESSIONAL CONFERENCES

Research Oriented Conferences and Meetings (Most Recent):

- SERMACS/SWRMACS, Orlando, FL, October, 2025.
- Conference on Engineering in Living Systems, Seattle, WA, July, 2025.
- Creation Research Society Annual Meeting, St. Louis, MO, July, 2025.
- ICC New Scholar's Conference, Flagstaff, AZ, April, 2025.
- Creation Research Society Annual Meeting, Williamstown, KY, 2024.
- American Chemical Society, National Meeting, New Orleans, LA, 2024.
- Tennessee Academy of Sciences, Annual Meeting, TSU, Memphis, TN, 2023.
- Conference on Engineering in Living Systems, Dallas, Texas, June, 2023.
- Tennessee Academy of Sciences, Annual Meeting, TSU, Nashville, TN, 2022.
- EMBO 2021 DNA Topology, Online, Virtual, September, 2021.
- Christian Scholars Conference, Lipscomb University, Nashville, TN, June, 2021.
- Conference on Engineering in Living Systems, Dallas, Texas, June, 2021.
- Experimental Biology - FASEB Annual Meeting, Virtual, April, 2021.
- Christian Scholars Conference, Lubbock Christian University, Lubbock, Texas, June, 2019.
- Experimental Biology - FASEB Annual Meeting, Orlando, Florida, April, 2019.
- Christian Scholars Conference, Lipscomb University, Nashville, Tennessee, June, 2018.
- Christian Scholars Conference, Lipscomb University, Nashville, Tennessee, June, 2017.
- Christian Scholars Conference, Lipscomb University, Nashville, Tennessee, June, 2016.
- Precision Medicine Conference, University of Florida College of Pharmacy, Orlando, FL, March, 2016.

Teaching and Education Oriented Conferences and Meetings (Most Recent):

- Teaching with AI, Auburn University course, LunchGPT sessions hosted by Center for Instructional Innovation (FHU), Fall 2024
- Center for Instructional Innovation (FHU), Presenter on "Research Embedded into Courses: Reflections on CUREs", March 2024.
- Center for Instructional Innovation (FHU), Presenter on "Research Embedded into Courses: Exploring CUREs", October 2023.
- AACU High Impact Practices for Student Success Institute, Online. June, 2023.

- Center for Instructional Innovation (FHU), Presenter on "Building a Culture of Research and Discovery", March 2023.
- Center for Instructional Innovation (FHU), Presenter on "Engaging Students in Research: Strategies and Benefits for Students and Teachers", Sept, 2022.
- American Association of Colleges of Pharmacy (AACP) Annual Meeting, Online. July, 2020.
- AACP Annual Meeting, Chicago, Illinois. July, 2019.
- AACP Annual Meeting, Boston, Massachusetts. July, 2018.
- AACP Annual Meeting, Nashville, Tennessee. July, 2017.
- International Conference of the Association of Biochemistry Educators (ABE), Clearwater Beach, Florida. May, 2017.
- Stanford Medicine X Ed, Stanford University School of Medicine, Palo Alto, California. April, 2017.
- AACP Annual Meeting, Anaheim, California. July, 2016.

OTHER RELEVANT ACTIVITIES AND SERVICES

UNIVERSITY

FHU:
University Scholars' Day. 2021-
Health Arts Committee. 2022-
Engaged Learning Advisory Committee. 2024-
Financial Aid Committee, Chair. 2022-2023

CHURCH

Member, Estes church of Christ, Henderson, TN.
Former Deacon and Bible Class teacher, Walnut Street church of Christ, Dickson, TN.
2024, Rooted: Bible and Sciences Series, Estes Church of Christ, Henderson, TN (Feb-March)
2023, Conversations on Bible and Science Series, Broad St. church of Christ, Lexington, TN (September)

COMMUNITY

2024, October – Valdosta, GA, team leader, Disaster Response Team
2021, December – Benton, KY, tornado relief, Disaster Response Team
2021, August – Waverly, TN, flood relief, Disaster Response Team
FightDMD Board Member, scientific advisor.
Volunteer Organizer, Habitat-for-Humanity, Dickson, TN.

PROFESSIONAL

Editor, *Protocols and Methods for Studying DNA Topoisomerases*, Methods in Molecular Biology, Springer Nature, published (2025).
Guest Co-Editor, Special Issue: Advances in Structure, Function, and Molecular Targeting of Topoisomerases II, International Journal of Molecular Sciences, 2023-2025 - https://www.mdpi.com/journal/ijms/special_issues/J24F128AU7
Guest Co-Editor, Special Issue: Advances in Structure, Function, and Molecular Targeting of Topoisomerases, International Journal of Molecular Sciences, 2022-2023 - https://www.mdpi.com/journal/ijms/special_issues/DNA__topoisomerases
Science Standards Review Committee, Tennessee K-12 education standards, appointed by Governor Bill Lee, 2022
Christian Scholars Conference, Chair of Health Sciences Programming Committee, 2019-2021
Coordinator of Biological Information Discussion Group, 2018-
AACP Biological Sciences Section, Mentorship Committee, 2020-2021
AACP Biological Sciences Section, Abstract and NIA grant application reviewer, 2015-2020
AACP Biological Sciences Section, Mentorship Committee, Peer Mentor, 2017-2021
Journal Reviewer (examples): Chem. Res. Tox., J. Med. Chem., MedChemComm, Biochem. Pharm., J. Bioorganic & Med. Chem. Lett., Drugs., Curr. Trends in Pharm. Ed. and Learn., Anticancer Agents and Med. Chem., Biotechnology Reports, Frontiers in Molecular Sci., Scientific Reports, Aging Cell, Molecular Pharmacology, Bio-Complexity