



## Objective

My goal is to promote deeper critical thinking skills by engaging students in practical applications of chemistry.

## Education

Vanderbilt University, Nashville, TN

### Ph.D., Department of Chemistry

Advisor: Dr. David E. Cliffl

Conferred: May 13, 2011

“Gravimetric Detection of Pathogens and an Electrochemical Study of the Immunological Consequences of Tuberculosis Exposure”

Freed-Hardeman University, Henderson, TN

### B.S., Biochemistry

Conferred: May 13, 2006

- Minor: Mathematics
- Graduated *magna cum laude* with Honors

## Teaching Experience

### Professor

August 2020 – Present *Austin Peay State University*, Clarksville, TN

- Teaching courses in quantitative analysis, instrumental analysis, senior seminar, data analysis (graduate and undergraduate), research, introductory chemistry, and general chemistry
- Developed Arduino content for use in teaching Instrumental Analysis. Created a website for this content (lesliehiatt.com). Working with other professors (Carrie Brennan at APSU, Matthew Vergne at Lipscomb, Gabriel LeBlanc at University of Tulsa, and Susan Sutton at Vanderbilt) to develop this content further.
- Created a lightboard for personal and departmental use to aid the creation of quality video lecture materials.
- Continue responsibilities that originated as an associate professor, including academic advising, committees, taskforces, mentoring of junior faculty
- Helped acquire an LCMS-MS from Aegis Sciences Corporation. Rebuilt and brought the instrument to a working status.
- Led a study abroad chemistry course in London in Summer 2022

### Associate Professor

August 2015 – Present *Austin Peay State University*, Clarksville, TN

- Teaching courses in quantitative analysis, instrumental analysis, senior seminar, special topics, research, introductory chemistry and general chemistry
- Continue responsibilities that originated as an assistant professor, including academic advising
- Help with departmental activities, such as research symposiums and website maintenance
- Mentor junior colleagues in their research and in achieving publications
- Serve on an abundance of college and university committees and taskforces

### Assistant Professor

August 2012 – July 2015 *Austin Peay State University*, Clarksville, TN

- Taught courses in quantitative analysis, instrumental analysis, senior seminar, research, general chemistry, chemistry majors in the classroom, and chemistry for non-chemistry majors
- Taught accompanying labs for quantitative analysis, instrumental analysis, general chemistry, and chemistry for non-chemistry majors
- Coordinated monthly general chemistry meetings
- Organized seminar speakers

- Advised pre-pharmacy chemistry majors
- Mentored six students on three different research projects

### **Chemistry Lecturer and College of Arts and Science Pre-Major Academic Adviser**

August 2011 – July 2012 *Vanderbilt University*, Nashville, TN

- Advised over 250 students on course selection and career objectives
- Developed and taught a new chemistry writing course on science and society
- Guided student analytical thinking to develop evidence-based arguments
- Began foundational experiments for research on carotenoid electrochemistry

### **Adjunct Faculty**

January 2011 – May 2012 *Lipscomb University*, Nashville, TN

- Developed new course content for advanced analytical chemistry which focused on electrochemistry and forensic chemistry
- Reinforced learning in advanced analytical chemistry with reviews and examples from current literature
- Applied pedagogical practices to teach general chemistry lecture and labs

### **Adjunct Faculty**

January – July 2011 *Austin Peay State University*, Clarksville, TN

- Instructed undergraduate labs in the areas of general chemistry and chemistry for non-science majors
- Prepared quizzes and pre-lab lessons to improve student understanding of the course objectives
- Encouraged non-science majors to find direct application of the lab to their current career choices

### **Weekend Academy at Vanderbilt University Lecturer**

February 26 – 27, 2011 *Vanderbilt University Programs for Talented Youth*, Nashville, TN

- Designed an accelerated two-day course for middle school students on the chemistry of microfluidic devices
- Provided students with hands on learning through jell-o and other materials to explore the field of lab-on-a-chip technologies
- Expanded on student interest in global problems by investigating the current methodologies behind disease diagnostics

### **Vanderbilt Summer Academy Lecturer**

June 14 – 18, 2010 *Vanderbilt University Programs for Talented Youth*, Nashville, TN

- Utilized discussion based lectures to introduce forensic chemistry to 8<sup>th</sup> graders
- Assessed students misconceptions about forensic science and prepared activities that could combat these ideas
- Facilitated laboratory experiments to supply a framework and motivation for their daily lessons
- Coordinated group projects to familiarize students with instruments common to forensic chemistry

### **Teaching Affiliate**

August 2009 – December 2010 *Vanderbilt University Center for Teaching*, Nashville, TN

- Designed and conducted a teaching workshop for new teaching assistants
- Served as a mentor to these new teaching assistants for their first semester
- Produced a video to highlight student expectations for future workshops

### **Forensics Teaching Assistant**

January – May 2008 *Vanderbilt University*, Nashville, TN

- Supervised lab sessions focused on forensic science
- Developed methods for improving student scientific writing
- Coordinated field applications with the Tennessee Bureau of Investigation

#### **Vanderbilt Student Volunteers for Science (VSVS)**

January – May 2007 *Vanderbilt University*, Nashville, TN

- Instructed four basic scientific lessons to 5<sup>th</sup> and 6<sup>th</sup> grade students at Martha Vaught Middle School and West End Middle School
- Organized and mentored two teams of four undergraduates to teach these lessons
- Set up lessons and coordinated supply acquisition

#### **General Chemistry Teaching Assistant**

August – December 2006 *Vanderbilt University*, Nashville, TN

- Instructed weekly laboratory experiments of approximately 22 students
- Assisted students with data analysis during office hours and study sessions
- Graded written lab reports and exams

#### **Organic Chemistry Teaching Assistant**

August 2004 – May 2006 *Freed-Hardeman University*, Henderson, TN

- Helped students understand course material through study sessions
- Oversaw weekly laboratory sessions
- Graded lab notebooks

## **Research Experience**

#### **Associate Professor to Professor**

August 2015 – Present *Austin Peay State University*, Clarksville, TN

- Continue regular troubleshooting, rebuilding, installation, training, and maintenance on specific instruments in the instrumental laboratory (MS, AA, HPLC, UV-Vis, Fluorimeter, EChem, and GCMS)
- Expanded research in collaboration with Prof. Meagan Mann, Dr. Anuradha Pathirana, Dr. Will Ward, and Dr. Mollie Cashner
- Mentored 24 undergraduate students and 3 research theses to date
- Resumed carotenoid research to build on approaches established by previous graduated research students

#### **Assistant Professor**

August 2012 – July 2015 *Austin Peay State University*, Clarksville, TN

- Regular troubleshooting, rebuilding, installation, training, and maintenance on specific instruments in the instrumental laboratory
- Collaborated with Prof. Meagan Mann to quantitate the amount of nicotine present in electronic cigarettes using HPLC
- Collected electrochemical data on  $\beta$ -carotene to establish methodology for analysis of purified carotenoids
- Separated and characterized carotenoid content of red bell peppers and egg yolk as a precursor for electrochromic pigments
- Trained two research students on the fluorimeter for biochemical assay usage
- Developed a collaboration with Prof. Jesse Carrick at TN Tech for HPLC analysis of chiral molecules for advanced instrumental analysis course in spring 2015

#### **Chemistry Lecturer**

January – May 2012 *Vanderbilt University*, Nashville, TN

#### Independent Research Proposal

- Utilized the research proposal written as part of graduation requirements to initiate autonomous research with collaborators in chemistry and chemical and biomolecular engineering
- Characterizing  $\beta$ -carotene spectroelectrochemistry and electrochemistry with the intent of incorporation into a thin-layer cell
- Determining if  $\beta$ -carotene would be suitable for incorporation into an electrochromic device

#### Research Assistant

February 2007 – February 2011 *Vanderbilt University*, Nashville, TN

Advisor: Dr. David E. Cliffler

- Designed and implemented a method to detect *Mycobacterium tuberculosis*
- Constructed a microfluidic electrochemical assay for the detection of oxidative burst
- Mentored the research of a high school student, an undergraduate student, and multiple graduate students as they worked in our lab
- Provided training to peers who required usage of the materials printer or quartz crystal microbalance in collaboration with Vanderbilt Institute of Nanoscale Science and Engineering (VINSE)

#### Lab Assistant

August 2004 – May 2006 *Cancer Research Institute of West Tennessee*, Henderson, TN

Advisor: Dr. Jerry Thornthwaite

- Performed DNA analysis using flow cytometry
- Analyzed literature looking for new methods for the prevention of angiogenesis

#### Research Experience for Undergraduates (REU)

May – August 2004 *University of Memphis*, Memphis, TN

Advisor: Dr. Theodore Burkey

- Performed synthetic organic chemistry in an oxygen-free environment while networking with peers that I would see at future conferences
- Monitored synthetic progress using  $^1\text{H}$  NMR
- Studied organometallic systems through photo substitution and characterization for ultrafast IR studies for a joint project with National Institute of Standards and Technology Laboratories

#### Research Summary

The popularity of electronic cigarettes has increased drastically over recent years. While e-cigarettes are often marketed as safer alternatives to traditional cigarettes, the lack of government regulation of e-cigarettes presents a potential for products that could vary significantly from the labels of the products. The FDA has approved legislation that has begun to increase the regulation of e-cigs, but mainly only the sale to minors. Recent illnesses are suggesting a correlation between vaping and lung disease. Assuming more stringent regulations will be developed, our group is working to develop an assay for the detection of nicotine in complex samples using electrochemistry and colorimetry. This assay could be used commercially to help small stores demonstrate the quality of their product. We are also continuing to use chromatography and mass spectrometry to analyze the amount of nicotine in electronic cigarettes and chemicals created during the vaping process.

Carotenoids are being studied using UV-Vis, electrochemistry, HPLC, and LC-MS/MS. This research characterizes and quantitates carotenoids, which are organic pigments that occur naturally in plants and other photosynthetic organisms. This research experience works toward separating carotenoids from their natural carrier, either red bell peppers, egg yolk, or fish cellular material. The carotenoids are being characterized and assessed for whether they are suitable for incorporation into electrochromic devices. The carotenoids in fish will be assessed for their importance in fish mating behaviors. We are working to establish methodology and backgrounds

for this project, focusing mainly on HPLC methods that will be expanded to LC-MS/MS in collaboration with Murray State University.

## Scientific Skills

**HPLC-** Trained multiple students on the high performance liquid chromatography instrumentation and supervised student-led training for new interested students

**Mass Spectrometry-** LC-MS, MALDI, GC-MS, and MS. Completely rebuilt an ESI/TOF/MS using the rebuild as a teaching lesson for multiple students. Procured and set up a newer LCQ Advantage ESI/MS/MS. Trained numerous students and faculty on GC-MS.

**Electrochemistry-** Amperometry, voltammetry, chronoamperometry, electrode fabrication, spectroelectrochemistry, electrolysis, electrode polishing

**Cell Culture-** Maintained cell lines for doctoral research (seeding, splitting, plating, etc.)

**Microfluidic design-** PDMS fabrication, troubleshooting, profilometry, plasma and silanization treatments, clean room techniques, spin-coating, photocurable PDMS

**Quartz crystal microbalance (QCM)-** Instrument repair, kinetics analysis, software creation, piranha cleaning, self-assembled monolayer formation

**National Instruments LabVIEW Software-** Interfaced multiple SRS QCMs with one computer and setup electronic control of syringe pumps interfaced with microfluidic systems

**Arduino software-** utilize components to help students design and build analytical instrumentation and troubleshoot coding

**Additional techniques-** Materials printing, ELISA, FTIR, DLS, UVO cleaner, <sup>1</sup>H NMR, AA and UV-Vis Spectroscopy, Fluorescence, SEM, TEM

**Software-** Microsoft Office 2007, Endnote, Dreamweaver website design, Adobe Suite, ChemBioDraw, SciFinder Scholar, OriginPro Graphing Software, LoggerPro

## Publications & Grants

Hannah B. Musgrove, William M. Ward, **Leslie A. Hiatt**. "Escape from Quant Lab: Using Lab Skill Progression and a Final Project to Engage Students". *J. Chem. Educ.* **2021**, 98 (7), 2307–2312. DOI: 10.1021/acs.jchemed.1c00026.

Parth H. Patel, Kristofer L. Conrad, Anuradha L. Pathirana, **Leslie A. Hiatt**. "Practical Applications of Organic Chemistry: Improving Student Knowledge of GC–MS through Qualitative Analysis of Nicotine in Electronic Cigarette Vapors" *J Chem Ed*, **2020**, 97(11), 4117–4122. DOI: 10.1021/acs.jchemed.0c00179.

Monica. B. Pan, Macy L. Osborne, Autumn L. Maczko, **Leslie A. Hiatt**, Anuradha Liyana Pathirana. "Utilizing HIV-1 Protease Inhibitor Drugs to Teach Drug Discovery and Molecular Modelling in the Organic Chemistry Lab" *Chem. Educator*. **2019**, 24, 102-106.

Jacob L. Williams, Taylor A. R. Oberman, Kristoffer L. Conrad, Martin E. Miller, Parth H. Patel, Meagan K. Mann, and **Leslie A. Hiatt**. "Inductive Data Analysis: A New Pedagogical Approach Using Simultaneous Methods of Quantitation" *Chem. Educator* **2018**, 23, 179-185.

Jacob Williams, Martin E. Miller, Brianna Avitabile, Dillon Burrow, Allison Schmittou, Meagan Mann, and **Leslie Hiatt**. "Teaching Students to be Instrumental in Analysis: Peer-Led Team Learning in the Instrumental Laboratory" *J Chem Ed*, **2017**, 94(12), 1889-1895. DOI: 10.1021/acs.jchemed.7b00285.

October 27, 2017 Awarded an APSU internal Research Support Grant entitled, "Quinone Modified Carbon Paste Electrodes for the Detection of Nicotine in Electronic Cigarettes" for \$5,000. Worked with students May 2018 and submitted a post-report on 10-25-2018.

Danielle W. Kimmel, Mika E. Meschievitz, **Leslie A. Hiatt**, and David E. Cliffel. "Multianalyte Microphysiometry of Macrophage Responses to Phorbol Myristate Acetate, Lipopolysaccharide, and Lipoarabinomannan" *Electroanal*, **2013**, 25, 1706-1712.

**Leslie A. Hiatt** and David E. Cliffel. "Real time Recognition of *Mycobacterium tuberculosis* and Lipoarabinomannan using the Quartz Crystal Microbalance." *Sens Actuators, B*, **2012**, 174, 245-252.

Reese S. Harry, **Leslie A. Hiatt**, Danielle W. Kimmel, Clare K. Carney, Kristin C. Halfpenny, David E. Cliffel and David W. Wright. "Metabolic Impact of 4-Hydroxynonenal on Macrophage-Like RAW 264.7 Function and Activation." *Chem Res Toxicol*, **2012**, 25, 1643-1651.

**Leslie A. Hiatt**, Jennifer R. McKenzie, Leila F. Deravi, Reese S. Harry, David W. Wright, and David E. Cliffel. "A printed superoxide dismutase coated electrode for the study of macrophage oxidative burst." *Biosens Bioelectron*, **2012**, 33, 128-133.

Scott A. Miller, **Leslie A. Hiatt**, Robert G. Keil, David E. Cliffel, and David W. Wright. "Multifunctional nanoparticles as simulants for a gravimetric immunoassay" *Anal Bioanal Chem*, **2011**, 399, 1021-1029.

## Personal Presentations

1. *Southeastern Regional Meeting of the American Chemical Society*  
Savannah, GA  
Chemistry Education: Active Learning Methods (Invited)  
Regional Meeting, Oral Presentation- October 21, 2019  
Leslie A Hiatt, Hannah B. Musgrove, Will M. Ward  
"Escaping from Quant Lab: Using Competition and Teamwork to Build Critical Lab Skills"
2. *The American Chemical Society National Meeting and Exposition*  
San Diego, CA  
Division of Chemical Education  
National Meeting, Oral Presentation- August 25, 2019  
Leslie A Hiatt, Hannah B. Musgrove, Will M. Ward  
"Electrochemical and spectrophotometric analysis of chocolate to increase student understanding in quantitative analysis"
3. *The 69<sup>th</sup> Annual Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy*  
Orlando, FL  
Session: Innovations in Teaching  
National Meeting, Oral Presentation- February 26, 2018  
Leslie A Hiatt, Jacob Williams, Martin E. Miller, Meagan K. Mann, Taylor Oberman  
"Gas Chromatography of Electronic Cigarettes: A Demonstration of the Importance of Internal Standards in Quantitative Analysis"
4. *The 68<sup>th</sup> Southeastern Regional Meeting of the American Chemical Society*  
Columbia, SC  
Session: Chemical Education  
Regional Meeting, Oral Presentation- October 25, 2016  
Leslie A. Hiatt, Meagan K. Mann  
"Electronic cigarettes: Teaching students to be instrumental in analysis"
5. *The 68<sup>th</sup> Southeastern Regional Meeting of the American Chemical Society*  
Columbia, SC  
Session: Women Chemists in the Southeast  
Regional Meeting, Invited Oral Presentation (service)- October 24, 2016  
Susan Verberne-Sutton, Leslie Hiatt, Jennifer McKenzie  
"Volunteerism: Jumping in feet-first"

6. *Tennessee State University College of Agriculture, Human and Natural Science Dean's Seminar Series*  
Invited by TSU's Chemistry Department, chosen to be a joint lecture in the Dean's Seminar Series  
Nashville, TN  
Invited Presentation, Oral Presentation- October 23, 2014  
"Plant Chemistry: The answer to color changing, low energy devices?"
7. *The 66<sup>th</sup> Southeastern Regional Meeting of the American Chemical Society*  
Nashville, TN  
Session: Analytical Chemistry Poster Session  
Regional Meeting, Poster Presentation- October 17, 2014  
Leslie A Hiatt, Jonathon Pezzuto, Lolita A Hicks, James Thomas  
"Spectroscopic, electrochemical, and chromatographic examination of carotenoids"
8. *Tennessee Technological University Chemistry Seminar Series*  
Cookeville, TN  
Invited Presentation, Oral Presentation- April 4, 2014  
"Spectroelectrochemical Study of Carotenoids for use in Electrochromic Devices"
9. *The 247<sup>th</sup> American Chemical Society National Meeting and Exposition*  
Dallas, TX  
Division of Analytical Chemistry  
National Meeting, Poster Presentation- March 18, 2014  
Leslie A Hiatt, Jonathon Pezzuto, James Thomas  
"Spectroelectrochemical study of carotenoids for use in electrochromic devices"
10. *The 61<sup>st</sup> Annual Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy*  
Orlando, FL  
SEAC Organized Session: Bioanalytical Applications of Electrochemistry II  
National Meeting, Oral Presentation- March 2, 2010  
Leslie A Hiatt, David E Cliffl  
"A Superoxide Dismutase Coated Electrode for the Study of Macrophage Oxidative Burst"
11. *Chemical and Biological Defense Science and Technology Conference*  
Dallas, TX  
Session: Novel Analytical Techniques for Biological and Chemical Agents: Detection and Diagnosis  
National Meeting, Oral Presentation- November 20, 2009  
Leslie Hiatt, Yibin Zhang, Brian Turner, Brian Huffman, Robert Keil, David Cliffl  
"Rapid Detection of Biological Threat Agents by Using Quartz Crystal Immunosensors"
12. *The 60<sup>th</sup> Southeastern Regional Meeting of the American Chemical Society*  
Nashville, TN  
Session: Analytical Chemistry-I  
Regional Meeting, Oral Presentation- November 12, 2008  
Leslie A Hiatt, David E Cliffl  
"Detection Strategy for Mycobacterium Tuberculosis"
13. *The 59<sup>th</sup> Annual Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy*  
New Orleans, LA  
Session: Adsorption-Based Sensors  
National Meeting, Poster Presentation- March 5, 2008  
Leslie Ann Hiatt, David Cliffl  
"Quartz Crystal Microbalance Detection of Tuberculosis using Gold-Thiol Chemistry"

## Student Presentations

The following presentations were given by research students, where the presenting student names are highlighted.

*APSU Chemistry Department Thirteenth Annual Undergraduate Research Symposium*  
Clarksville, TN  
Department Symposium, Poster Presentation- November 17, 2022

1. Shauna A. Caddell, Leslie A. Hiatt  
"Arduino in Instrumental Chemistry"
2. Dakota J. Nipper, Leslie A. Hiatt  
"Chemical Degradation of Polylactic Acid to Increase Hydrophilicity"
3. Charlie F. Plata, Joseph D. Dotson, Leslie A. Hiatt, Cody Covington  
"Swelling Properties of 3D Printed Polylactic Acid Substrates"
4. Chloe Dion, Meagan K. Mann, Leslie A. Hiatt  
"Progress in GC-MS Methodology for the Identification of Boswellic Acids"

*APSU Chemistry Department Thesis Defense*  
Clarksville, TN  
Oral Presentation- April 22, 2022

Committee Members: Leslie Hiatt, Cody Covington, Lisa Sullivan

1. Jason Snyder: "An Inexpensive LC-Visible Spectrometer for Undergraduate Education Applications"

*APSU Chemistry Department Twelfth Annual Undergraduate Research Symposium*  
Clarksville, TN  
Department Symposium, Poster Presentation- April 20, 2022

5. Dakota J. Nipper, Charlie F. Plata, Leslie A. Hiatt  
"Progress Towards an Electrochemical Sensor for Nicotine Detection"
6. Joseph D. Dotson, Leslie A. Hiatt  
"Analysis of Carotenoids using Chromatography and Mass Spectrometry"
7. Jason M. Snyder, Leslie A. Hiatt, Cody Covington  
"Creation of Liquid Chromatography with Visible Spectroscopy Instrumentation for use in Undergraduate Laboratories"
8. Isaiah Dowlan, Chloe Dion, Alexander O'Donnell, Hannah Richards, Meagan Mann, Leslie Hiatt  
"Analysis of frankincense essential oil using LC-MS"

*APSU Chemistry Department Eleventh Annual Undergraduate Research Symposium*  
Clarksville, TN  
Department Symposium, Poster Presentation- November 30, 2021

9. Shelby L. Batson, Claudine M. Habib\*, Abigail G. Mills, Leslie A. Hiatt  
"Development of a Quinone Self-Assembled Monolayer for the Electrochemical Detection of Nicotine"
10. Jason M. Snyder, Leslie A. Hiatt, Cody Covington  
"Validation and Troubleshooting of Components for Liquid Chromatography Applications"
11. Hannah A. Richards, Alexander O'Donnell, Meagan K. Mann, Leslie A. Hiatt  
"Progress in GC-MS Methodology for the Identification of Boswellic Acids"

*APSU Chemistry Department Tenth Annual Undergraduate Research Symposium*  
Clarksville, TN  
Department Symposium, Poster Presentation- May 4, 2021

12. Kaylan R. Beaty, Miranda C. Parker, Anuradha L Pathiranage, Leslie A. Hiatt



“Gas Chromatography-Mass Spectroscopy Analysis of CBD Oil: An organic chemistry laboratory experiment”

*APSU Chemistry Department Thesis Defense*

Clarksville, TN

Oral Presentation- April 30, 2020

Committee Members: Leslie Hiatt, Will Ward, Lisa Sullivan

13. B. Page Richardson: “An examination of various electrode fabrication methods for the quantification of nicotine in electronic cigarette liquids”

*129<sup>th</sup> Meeting of the Tennessee Academy of Science*

Columbia, TN

Poster Presentation- November 22, 2019

14. Monica B. Pan, Macy L. Osborne, Autumn L. Maczko, Leslie A. Hiatt, Anuradha Liyana Pathiranaage “Utilizing HIV-1 Protease inhibitor drugs to teach drug discovery and molecular modelling in the organic chemistry lab” – 2<sup>nd</sup> Place

*APSU Chemistry Department Eighth Annual Undergraduate Research Symposium*

Clarksville, TN

Department Symposium, Poster Presentation- November 22, 2019

15. Parth H. Patel, Kristofer L. Conrad, Anuradha L. Pathiranaage, Leslie A. Hiatt “Improving Student Knowledge of GC-MS through Analysis of Electronic Cigarettes in Organic Chemistry”

*Southeastern Regional Meeting of the American Chemical Society*

Savannah, GA

Poster Presentation- October 21, 2019

16. Parth Patel, Kristofer Conrad, Anuradha Pathiranaage, Leslie A. Hiatt “Improving student knowledge of GC-MS through analysis of electronic cigarettes in organic chemistry”

*14<sup>th</sup> Annual Research and Creativity Forum*

Clarksville, TN

APSU Symposium, Poster Presentation- April 11, 2019

17. Marea J. Blake, Leslie A. Hiatt “Raman, GC-MS, and LC-MS Analysis of Carotenoids”
18. Steven Doan, Kristofer Conrad, Leslie Hiatt “Quantitation of Gluten for Analysis of Denaturing Processes in Beer”
19. Parth H. Patel, Kristofer L. Conrad, Leslie A. Hiatt, Anuradha L. Pathiranaage “Practical Applications of Organic Chemistry: Improving Student Knowledge of GC-MS through Analysis of Electronic Cigarettes”
20. B. Page Richardson, John Hansen, Kristofer Conrad, Parth Patel, Leslie Hiatt, Meagan Mann, Anuradha Pathiranaage “Utilizing Screen-Printed Electrodes to Improve Carbon Paste Electrode Fabrication”

*Posters at the Capitol*

Nashville, TN

Legislative Event, Poster Presentation- February 26, 2019

21. Kristofer L. Conrad, Parth H. Patel, Meagan K. Mann, Anuradha L. Pathiranaage, Leslie A. Hiatt “Analysis of Electronic Cigarettes Using GCMS and a Student-Built Smoking Machine”

*APSU Chemistry Department Seventh Biannual Undergraduate Research Symposium*

Clarksville, TN

Department Symposium, Poster Presentation- November 30, 2018

22. Marea J. Blake, Leslie A. Hiatt  
"GC-MS and Raman Analysis of Carotenoids"
23. Kristofer L. Conrad, Parth H. Patel, Meagan K. Mann, Anuradha L. Pathiranage, Leslie A. Hiatt  
"Quantitation of Nicotine using GC-MS"
24. Hannah B. Musgrove, Will M. Ward, Leslie A. Hiatt  
"Quantitation of Copper using Titrimetric and Electrochemical Methods for Chocolate Analysis"
25. Parth H. Patel, Kristofer L. Conrad, Meagan K. Mann, Anuradha L. Pathiranage, Leslie A. Hiatt  
"Development of an Electronic Cigarette Smoke Collection Device for Nicotine Extraction and Analysis"
26. Brianna P. Richardson, John M. Hansen, Kristofer Conrad, Parth Patel, Anuradha Pathiranage, Meagan K. Mann, Leslie A. Hiatt  
"Modification of carbon paste electrodes to increase sensitivity and selectivity for nicotine detection"
27. Denver R. Hall, Meagan K. Mann, Leslie A. Hiatt  
"Determination of  $\beta$ -Boswellic acid in Frankincense Oil"
28. Duncan S. Sullivan, Meagan K. Mann, Leslie A. Hiatt  
"Synthesis of 8'-apo- $\beta$ -carotenal and Benzyl Chloride through the use of a Wittig Reaction"

128<sup>th</sup> Meeting of the Tennessee Academy of Science  
Clarksville, TN

Regional Meeting at APSU, Poster Presentation- November 17, 2018

29. Kristofer L. Conrad, Parth H. Patel, Leslie A. Hiatt, "GCMS quantitation of nicotine from electronic cigarette smoke collected using a student-built smoking machine"

*APSU Chemistry Department Thesis Defense*

Clarksville, TN

Oral Presentation- April 25, 2018

Committee Members: Leslie Hiatt, Meagan Mann, Lisa Sullivan

30. Jacob Williams: "Determination of a Quantification Method for the Concentration of Nicotine in Electronic Cigarettes"

*APSU Chemistry Department Sixth Biannual Undergraduate Research Symposium*

Clarksville, TN

Department Symposium, Poster Presentation- April 20, 2018

31. A.N. Schmittou, M.K. Mann, L.A. Hiatt  
"An Electrochemical Study of Thiochrome"
32. T.A.R. Oberman, J.M. Hansen, B. Avitabile, D.L. Burrow, K.L. Conrad, B.P. Richardson, A.N. Schmittou, J.L. Williams, M.K. Mann, A.L. Pathiranage, L.A. Hiatt  
"Proposed electrochemical assay for quantitation of nicotine in electronic cigarettes"
33. D. Hall, L.A. Hiatt, M.K. Mann  
"A Critical Analysis of Literature Regarding the Purification and Characterization of  $\beta$ -Boswellic Acid from Frankincense Essential Oils"
34. D. Sullivan, L.A. Hiatt, M.K. Mann  
"A Proposed Synthesis for Addition of Polycyclic Aromatic Hydrocarbons to 8'-Apo- $\beta$ -Carotenal Using the Wittig Reaction"

*APSU Chemistry Department Fifth Biannual Undergraduate Research Symposium*

Clarksville, TN

Department Symposium, Poster Presentation- December 6, 2017

35. J.L. Williams, M.E. Miller, T.A.R. Oberman, A.N. Schmittou, L.A. Hiatt, M.K. Mann  
Awarded Third Place by peer judges  
"Quantitation of nicotine in electronic cigarettes"
36. T.A.R. Oberman, B. Avitabile, D.L. Burrow, A. N. Schmittou, J.L. Williams, L.A. Hiatt, M.K. Mann, A.P. Pathiranage

- Awarded Best Communicator by peer judges  
 "Proposed electrochemical assay for quantitation of nicotine in electronic cigarettes"
37. A.N. Schmittou, M.K. Mann, A.L. Pathiranage, L.A. Hiatt  
 "An electrochemical study of xylenol orange"
  38. N.Fuller, D. Hall, L.A. Hiatt, M.K. Mann  
 Awarded "Spirit of XEM" by peer judges  
 "Synthesis of  $\beta$ -carotene derivatives for use in photochromaic devices using the Wittig reaction"

*APSU Chemistry Department Inaugural Spring Undergraduate Research Symposium*  
 Clarksville, TN

Department Symposium, Poster Presentations- April 21, 2017

39. Brianna Avitabile, Leslie A. Hiatt, Megan K. Mann  
 "Assay and Method Development to Analyze the Oxidative Properties of Flavored Electronic Cigarette Fluids"
40. Dillon L. Burrow, Allison N. Schmittou, Leslie A. Hiatt, Meagan K. Mann  
 "Using instrumental analysis to determine the reaction of p-chloranil and L-nicotine"
41. Taylor A. R. Oberman, Jacob L. Williams, Martin E. Miller, Allison N. Schmittou, Leslie A. Hiatt, Meagan K. Man  
 "Analysis of Electronic Cigarettes using HPLC and GC"
42. Eric Popa, Leslie A. Hiatt  
 "Detection of Nickel in Zinc Sulfate Matrix via Atomic Absorption Spectroscopy"
43. Nicholas Harriel, Nathan Fuller, Eden Buchanan, Crystal Wallenius, Leslie Hiatt, Meagan Mann  
 Awarded First Place Overall Presenters by peer judges  
 "Synthetic carotenoid derivatives for electrochromic applications"
44. Eden Buchanan, Crystal Wallenius, Nicholas Harriel, Nathan Fuller, Leslie Hiatt, Meagan Mann  
 Awarded Best Overall Research Poster Award by peer judges  
 "Synthesizing Carotenoid Derivatives for Potential Use in Electrochromic Applications"

*The 126<sup>th</sup> Meeting of the Tennessee Academy of Science*  
 Clarksville, TN

Regional Meeting, Chemistry Division, Poster Presentations- November 19, 2016

45. Dillon Burrow, Leslie A. Hiatt, Meagan K. Mann  
 Awarded third place in the chemistry division  
 "Fluorescence assay analyzing the oxidative properties of nicotine"
46. Allison N. Schmittou, Brianna C. Avitabile, Leslie A. Hiatt, Meagan K. Mann  
 Awarded honorable mention in the chemistry division  
 "A Simple Assay for Nicotine: Colorimetric and Electrochemical Characterization of Electronic Cigarettes"
47. Jacob L. Williams, Martin E. Miller, Allison N. Schmittou, Leslie A. Hiatt, Meagan K. Mann  
 "Quantification of nicotine concentration in electronic cigarettes"
48. Becca Rae Campbell, Leslie A. Hiatt, Meagan K. Mann  
 "Lycopene in watermelon"

*The Third Annual Fall Undergraduate Research Symposium of APSU Chemistry Department*  
 Clarksville, TN

Department Symposium, Poster Presentations- November 18, 2016

49. Allison Schmittou, Leslie A. Hiatt, Meagan K. Mann  
 Awarded second place by peer judges  
 "A Simple Assay for Nicotine: Colorimetric and Electrochemical Characterization of Electronic Cigarettes"
50. Dillon Burrow, Leslie A. Hiatt, Meagan K. Mann  
 "Oxidative and Colorimetric Properties of Nicotine in Electronic Cigarettes"
51. Jacob Williams, Martin Miller, Allison Schmittou, Leslie A. Hiatt, Meagan K. Mann  
 "Quantification of Nicotine Concentration in Electronic Cigarettes"

52. Rae Campbell, Leslie A. Hiatt, Meagan K. Mann  
"Extraction of Lycopene from Watermelon for Electrochromic Analysis"

*11th Annual Research and Creativity Forum and Graduate Research Extravaganza*  
Clarksville, TN

APSU Symposium, Poster Presentation- April 15, 2016

53. Brianna Avitabile, Leslie A. Hiatt, Meagan K. Mann  
"Assay and Method Development to Analyze the Oxidative Properties of Flavored Electronic Cigarette Fluids"
54. Dillon Burrow, Leslie A. Hiatt, Meagan K. Mann  
"The Study of the Oxidative Properties of Nicotine Using Di-chlorofluorescein"
55. M. Eric Miller, Allison N. Schmittou, Jacob L. Williams, Leslie A. Hiatt, Meagan K. Mann  
"Analysis of Nicotine Levels in Electronic Cigarettes"

*The 67th Annual Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy*  
Atlanta, GA

Session: Undergraduate Poster Session

National meeting, Poster Presentation- March 9, 2016

56. Martin E. Miller, Jacob Williams, Dillon Burrow, Leslie A. Hiatt, Meagan K. Mann  
"Analysis of Nicotine Levels in Electronic Cigarettes"

*The Second Annual Fall Undergraduate Research Symposium of APSU Chemistry Department*  
Clarksville, TN

Department Symposium, Poster Presentation- November 13, 2015

57. M. Eric Miller, Jacob Williams, Leslie A. Hiatt, Meagan K. Mann  
Awarded first place by peer judges  
"Quality control analysis of nicotine levels in electronic cigarettes using high performance liquid chromatography"
58. Brianna Avitabile, Dillon Burrow, Leslie A. Hiatt, Meagan K. Mann  
Awarded second place by peer judges  
"Assay and Method Development to Analyze the Oxidative Properties of Flavored Electronic Cigarette Fluids"

*Tennessee Undergraduate Posters at the Capitol*

Nashville, TN

Poster Presentation- February 25, 2015

59. M Eric Miller, Jacob L Williams, Leslie A Hiatt, Meagan K Mann  
"Quality of Nicotine within Electronic Cigarettes"

*The Inaugural Fall Undergraduate Research Symposium of APSU Chemistry Department*  
Clarksville, TN

Department Symposium, Poster Presentation- November 21, 2014

60. M Eric Miller, Jacob L Williams, Leslie A Hiatt, Meagan K Mann  
Awarded first place by peer judges  
"Quality control analysis of nicotine levels in electronic cigarettes using high performance liquid chromatography"

*The 66th Southeastern Regional Meeting of the American Chemical Society*

Nashville, TN

Session: Undergraduate Poster Session: Analytical Chemistry I

Regional Meeting, Poster Presentation- October 19, 2014

61. M Eric Miller, Jacob L Williams, Leslie A Hiatt, Meagan K Mann  
"Quality control analysis of nicotine levels in electronic cigarettes using high performance liquid chromatography"

*APSU Research and Creativity Forum*

Clarksville, TN

Office of Undergraduate Research, Oral Presentation- April 13, 2013

62. Jonathon Pezzuto and Leslie Hiatt

"Evaluation of Extraction Methods of Carotenoids in Red Bell Peppers and HPLC Characterization"

## Professional Development

*August 10, 2022* Completed ACS Outreach Training Program

*August 12, 2021* Attended STEM OSHA/TOSHA training at APSU.

*August 13, 2020* Attended STEM OSHA/TOSHA training at APSU.

*February 12, 2019* Completed CITI training for Social/Behavioral Research

*Fall 2018* Gained additional training on the GCMS which allowed me to more readily train students and faculty on this instrument.

*November 17, 2018* Attended the Tennessee Academy of Science's symposium hosted at APSU.

*Spring 2016* Participated in APSU's Faculty Leadership Program (FLP) where I worked with other faculty to understand leadership across our university and how we can make a difference. Researched institutional repositories as a way of increasing cross-campus collaboration.

*March 8, 2016* Attended a short course at PittCon (Pittsburg Conference on Analytical Chemistry and Applied Spectroscopy) entitled, "Highly Successful Strategies for LC/MS Quantitation: Current Applications and Emerging Technologies".

*Fall 2015* Participated in APSU's Faculty Advising Program (FAP). Participated in a small faculty cohort to study, evaluate, and develop ideas for improved advising across campus. This leadership program allowed me to identify weaknesses in our advising and advising systems across the university, while working on a plan for improving these shortcomings. I also learned how to improve my own advising practices based on those I worked with weekly.

*November 4, 2015* Attended a training session put on by the Center for Teaching on behalf of the department in order to learn how to conduct accessibility audits, and then conducted these audits for our general chemistry courses

*April 4-6, 2013* Attended the Southeastern Association of Advisors for the Health Professions (SAAHP) to network and learn more about pre-professional schools in order to serve as a stronger resource in the department for advising APSU students

*October 5-6, 2012* Attended a session to increase skills and knowledge utilizing nuclear magnetic resonance (NMR)

*January – May 2012* Deliberate Pedagogy Work Group at Vanderbilt University- voluntarily met twice a month with colleagues from various disciplines to discuss teaching practices and conduct classroom observations

*March 29, 2012* Small Group Analysis- worked with Vanderbilt's Center for Teaching to gain feedback about the pedagogical practices employed in my first-year writing seminar

Center for Teaching Graduate Student Teaching Event for Professional Development (GradSTEP) 2008- 2011:

*January 22, 2011* GradSTEP participated in sessions focusing on alternative assessment, teaching science to non-science students, and using visual thinking in the classroom

*January 23, 2010* GradSTEP incorporated learning about giving effective presentations as well as working towards an ecological pedagogy

*January 17, 2009* GradSTEP included a session on course design for student learning and a session on assessment and grading

*January 19, 2008* GradSTEP focused on engaging students and using formative assessment to recognize when learning is occurring in the classroom

August 22-23, 2007 and August 18-21, 2008 Led practice teaching sessions as part of Vanderbilt Center for Teaching's (CFT) Teaching Assistant Orientation (TAO) workshop

### **Scholarly Proposals and Student Related Activities**

*November 17, 2022* Organized and ran the Chemistry Department's Thirteenth Annual Undergraduate Research Symposium. A total of 11 students presented their research.

*November 7, 2022* Hosted Prof Viktor Nemykin from the University of Tennessee Knoxville for a presentation on "Creating new electron-deficient types of functional dyes that are potentially useful as electron acceptors in solar cells"

*November 4, 2022* Hosted Prof. Daniel Nascimento from the University of Memphis for a presentation on "Exploring perturbative techniques for the efficient simulation of core-level spectroscopies"

*November 3, 2022* Hosted and organized a Chemistry Career Fair and first Tri-Section meeting of the Nashville, KY Lake, and Memphis Local Sections of the American Chemistry Society

*September-October 2022* Conducted optional outreach training for chemistry majors and with Dr. Pathiranage's STEM Scholar's class (Four sessions)

*May 10, 2022* Awarded APSU Technology Access Fee (TAF) funds to purchase a nitrogen generator for our department. (\$16,000)

*May 2, 2022* Awarded funding for a Student Academic Success Initiatives (SASI) entitled, "2022-2023 Chemistry Research Symposiums" (\$600)

*April 22, 2022* Served on Hannah Richard's Thesis Committee

*April 20, 2022* Organized and ran the Chemistry Department's Twelfth Annual Undergraduate Research Symposium. A total of 19 students presented their research.

*January 21, 2022* Submitted APSU Technology Access Fee (TAF) funds to purchase a Gas Chromatography system for our department. (Not Funded)

*June 30, 2021* Awarded funding for a Student Academic Success Initiatives (SASI) entitled, "2021-2022 Chemistry Seminar Speakers and Research Symposiums" (\$1175)

*April 30, 2020* Awarded funding for a Student Academic Success Initiatives (SASI) entitled, "2020-2021 Chemistry Seminar Speakers and Research Symposiums" (\$1375)

*October 2019* Received Keys to the World Funds for Iceland Trip (\$7,500)- *Trip cancelled due to COVID*

*April 23, 2019* Received IRB approval for study number 18-088 entitled, "Assessment of Student Learning in Quantitative Analysis". The results of this study will be submitted to the *Journal of Chemical Education* after the conclusion of the Fall 2019 semester.

*April 10, 2019* Received IRB approval for study number 18-085 entitled, "Improving Student Knowledge of GCMS through Analysis of Electronic Cigarettes". The results of this study are under review at the *Journal of Chemical Education*. An amendment will be submitted to continue this study Fall 2019 and the edits to the article will be submitted.

*January 24, 2019* Submitted (not awarded) an APSU Technology Access Fee (TAF) proposal to purchase a LCMS for our department. (\$50,000)

*April 30, 2019* Awarded funding for a Student Academic Success Initiatives (SASI) entitled, "2019-2020 Chemistry Senior Seminar Speakers and Research Symposiums" (\$1375).

*April 24, 2018* Awarded funding for a Student Academic Success Initiatives (SASI) entitled, "Chemistry Senior Seminar Speakers and Research Symposiums" (\$1600).

*May 3, 2017* Awarded funding for a Student Academic Success Initiatives (SASI) entitled, "Chemistry Senior Seminar Speakers and Research Symposiums" (\$1300). This will fund two departmental research symposiums and seminars throughout the fall and spring 2017-2018 semesters.

*April 21, 2017* Organized and ran the Chemistry Department's first Spring Chemistry Research Symposium. These poster presentations involved almost 100 people in attendance and 20 student presenters.

*April 6, 2017* Received amendment approval for IRB study number 16-020 entitled, "Using Instruments for Analysis of Electronic Cigarette Content in the Classroom". The results of this study were presented at SERMACS on October 25, 2016. The amendment allowed additional supplemental materials to be included in the publication of this study in the *Journal of Chemical Education*, 2017 Article ASAP, DOI: 10.1021/acs.jchemed.7b00285.

*March 15, 2017* Awarded APSU Technology Access Fee (TAF) funds to purchase a GCMS for our department. (\$65,000)

*January 17, 2017* Took 18 students to learn about the chemistry of Sharpies at Newell Rubbermaid in Manchester, TN and the chemistry of aquariums at the Tennessee Aquarium in Chattanooga, TN. This was funded by the Student Academic Success Initiatives (SASI) entitled, "Analytical Laboratory Field Trip".

*November 18, 2016* Organized and ran the Chemistry Department's Third Annual Fall Research Symposium. A total of 13 students presented their research.

*November 2, 2016* Helped write a NSF IUSE Grant to fund the purchase of a LCMS for our department, "Hands on Experimental Learning Using LCMS to Support Chemistry and Biology Curriculum at APSU". My role was writing the technical, instrument specific areas of the grant, as well as many other areas deemed appropriate. This grant was not funded.

*July 6, 2016* As part of the ACS Nashville Section, I helped write and was awarded a "Bridging the Gap Mini-Grant" (\$500) to help increase the technology for our section. This grant has enabled multiple seminars (first seminar we hosted at APSU) to be live streamed for collaborations across the section.

*May 4, 2016* Received approval for a new IRB study entitled, "Using Instruments for Analysis of Electronic Cigarette Content in the Classroom". (Study number 16-020)

*April 21, 2016* Awarded funding for two Student Academic Success Initiatives (SASI) entitled, "Analytical Laboratory Field Trip" (\$1625) and "Chemistry Senior Seminar Speakers and Fall Research Symposium" (\$1285). These have funded our chemistry symposium (12 students presented to almost 100 people in attendance), multiple fall seminars, and snacks for a seminar speaker from the Indianapolis Museum of Art. It will fund more seminars and a trip to an analytical laboratory this spring.

*February 11, 2016* Received continuing approval for an IRB study entitled "Systematic Comparison of Classroom Learning based on Class Structure: Online, Face-to-face and Face-to-face with Structured Learning Assistance (SLA)." (Study number 14-001.)

*November 13, 2015* Organized and ran the Chemistry Department's Second Annual Fall Research Symposium. A total of 9 students presented their research.

*May 3, 2015* Awarded funding for a Student Academic Success Initiative (SASI) entitled "Chemistry Senior Seminar Speakers and Fall Research Symposium" for \$1,460. This money was used to hold our second annual undergraduate fall research symposium and seminar speakers. Our inaugural symposium was such a success, that the department wanted to continue the tradition and hold another symposium this past fall. The symposium took place on November 13, 2015. A total of 9 students presented 7 posters. Most seminar speakers will be hosted in the spring.

*January 21, 2015* Received continuing approval for an IRB study entitled "Systematic Comparison of Classroom Learning based on Class Structure: Online, Face-to-face and Face-to-face with Structured Learning Assistance (SLA)." (Study number 14-001.)

*December 10, 2014* Awarded an E<sup>3</sup> Explore Activities Grant entitled "Chemists Without Borders Invited Speaker" for \$1,250. This grant was initiated by students in XEM and used to bring in a founding member from Chemists Without Borders. This speaker discussed with the students the global opportunities that are available to them that could allow them to use their education within their field to serve the developing world.

*November 21, 2014* Organized and ran the Chemistry Department's Inaugural Fall Research Symposium. A total of 11 students presented their research.

*April 14, 2014* Awarded funding for a Student Academic Success Initiative (SASI) entitled "Fall Chemistry Senior Seminar Speakers and Research Symposium" for \$1,400. This initiative allowed students to practice networking by meeting with speakers in a lunch environment prior to seminars. We created the inaugural annual chemistry research symposium which showcased research within the department and provided students a place to see potential research opportunities. This required organization and collaboration to host a total of 90 students plus faculty, staff, and guests. A total of 11 students presented 9 posters. The symposium took place on November 21, 2014. Four seminars took place during the fall 2014 semester and more will take place during spring of 2015.

*April 8, 2014* Received approval for an Institutional Review Board (IRB) study entitled "Project-Based Experimental Design in the Instrumental Lab." (Study number 14-012.) This IRB study allowed me to examine the outcome of a new approach to teaching laboratory experiments in instrumental analysis.

*January 22, 2014* Received approval for an IRB study entitled "Systematic Comparison of Classroom Learning based on Class Structure: Online, Face-to-face and Face-to-face with Structured Learning Assistance (SLA)." (Study number 14-001.) This IRB study is allowing me to examine the learning occurring within our CHEM 1010 course. This course is now being taught with SLA, without SLA, and online. As more classes are being placed online, our department is wanting to determine the pros and cons of each type of class structure. This IRB was renewed for 2015 and continuing review will be requested for 2016 in January of 2016.



## Awards

November 11, 2017 Inducted into the Athletic Hall of Fame at Freed-Hardeman University for performance in Women's Soccer from 2002-2005

2015 Nominated for the 2015-2016 Student Organization and Leader Award: Exemplary Faculty Member of the Year (not awarded)

2006-2007 Graduate Assistance in Areas of National Need Fellow, Vanderbilt University

2006 Outstanding Chemistry Graduate, Freed-Hardeman University

2005-2006 Alpha Chi National Honor Society, President, Freed-Hardeman University

2005-2006 Honors Council, Vice President, Freed-Hardeman University

2004-2005 NAIA Academic All-American, Freed-Hardeman University

2003-2005 TranSouth Scholar Athlete, Freed-Hardeman University

2002-2006 Trustee's Academic Scholarship, Freed-Hardeman University

## Volunteer Work

December 2, 2022 Completed a review of a journal article submitted to the *Journal of Chemical Education*.

October 27, 2022 Completed a review of a journal article submitted to the *Journal of Chemical Education*.

October 21, 2022 Assisted Dr. Pathiranage with her NCW celebration and presentation about Dyeing Fabrics

October 18, 2022 Performed science demonstrations with four APSU students at White Bluff Elementary School for the entire school, two sessions of around 250 students at each session

October 2022 Served as National Chemistry Week Coordinator for the Nashville Local Section of the ACS

September 8, 2022 Performed science outreach at White Bluff Elementary School with the entire second grade class discussing the chemistry and science of volcanoes and habitats

August 23, 2022 Completed a review of a journal article submitted to the *Journal of Chemical Education*.

May 27, 2022 Completed a review of a journal article submitted to the *Journal of Chemical Education*.

February 21, 2022 Completed a review of a journal article submitted to the *Journal of Chemical Education*.

February 1, 2022 Presented "Mystery, Passion, and Chocolate: The Scientific Method" at APSU's Science on Tap at Strawberry Alley Ale Works

September 2021 – Present Serve as Girl Scout Troop leader for Troop 196

December 27, 2021 Completed a review of a journal article submitted to the *Journal of Investigative Surgery*.

October 27, 2021 Completed a review of a journal article submitted to the *Journal of Chemical Education*.

July 24, 2021 Completed a review of a journal article submitted to the *Journal of Chemical Education*.

May 7, 2021 Completed a review of a journal article submitted to the *Journal of Chemical Education*.

February 17, 2021 Completed a review of a journal article submitted to the *Journal of Chemical Education*.

February 2, 2021 Completed a review of a journal article submitted to the *Journal of Chemical Education*.

October 20, 2020 Completed a review of a journal article submitted to the *Journal of Chemical Education*.

July 10, 2020 Completed a review of a journal article submitted to the *Journal of Chemical Education*.

January 16, 2020 Completed a review of a journal article submitted to the *Analytical Sciences*.

December 17, 2019 Chemistry demonstration for a local scouting group of American Heritage Girls

November 7, 2019 Community Helper Day for White Bluff Elementary School kindergartners - chemistry demonstration

October 18, 2019 Completed a review of a journal article submitted to the *Journal of Chemical Education*.

August 29, 2019 Completed a review of a journal article submitted to the *Journal of the Electrochemical Society*.

August 5, 2019 Migrated the Nashville Local Section of the American Chemical Society's (ACS) website. <https://www.acs.org/nashville>

July 29, 2019 Completed a review of a journal article submitted to the *Journal of Chemical Education*.

July 10, 2019 Completed a review of a revised journal article submitted to the *Journal of the Electrochemical Society*.

June 11, 2019 Performed chemistry demonstrations at summer camp

March 21, 2019 Completed a review of a revised journal article submitted to the *Journal of the Electroanalytical Chemistry*.

March 14, 2019 Judged science fair posters at White Bluff Elementary School and conducted chemistry experiment demonstrations.

February 7, 2019 Helped bring New York Times best selling author Sam Kean to Campus for a joint CoSTEM, Chemistry Department, and OSRI seminar.

January 23, 2019 Completed a review of a journal article submitted to the *Journal of Chemical Education*.

December 26, 2018 Completed a review of a journal article submitted to the *Journal of the Electroanalytical Chemistry*.

October 26, 2018 Completed a review of a Pearson Publishing textbook chapter.

September 1, 2018 Completed a review of a journal article submitted to the *Journal of Chemical Education*.

April 12, 2018 Judged science fair posters at White Bluff Elementary School and conducted chemistry experiment demonstrations.

April 6, 2018 Completed a review of a journal article submitted to the *Journal of Chemical Education*.

March 22, 2018 Conducted chemistry experiment demonstrations at a Burns Church of Christ Ladies Night.

December 5, 2017 Completed a review of a journal article submitted to the *Journal of Chemical Education*.

November 8, 2017 Assisted PPH conduct mock interviews for pre-professional health week.

October 13, 2017 Observed Dr. Anuradha Pathirana in the classroom and met with her after to provide feedback on her teaching.

October 7, 2017 Represented the chemistry department at AP day

February – September 2017 Helped prepare APSU Chemistry website for migration and then worked on the website during the summer.

April 22, 2017 Represented the Chemistry Department at APSU's Academic Signing Day. Helped the student group present about Chemistry majors and served liquid nitrogen ice cream.

March 29, 2017 Taught a class to elementary age students at Burns Church of Christ on the story of Joseph and the coat of many colors and chemistry. Used friction and the mentos and coke reaction to teach about self-control. Taught about specific heat and temperature affects and then finished with a liquid nitrogen ice cream demo.

March 10, 2017 Served on the Peay Read book selection committee

March 2, 2017 Helped judge science fair projects at White Bluff Elementary School

March 1, 2017 Set up our first joint seminar with MTSU by working with other ACS board members to broadcast MTSU's seminar to a watch party in Sundquist Science Complex at APSU.

November 27 & 30, 2016 Taught class to two groups of elementary age students at Burns Church of Christ on the story of the flood using chemistry. We look at diffraction, buoyancy, and measurements.

October 1, 2016 Represented the chemistry department at AP day

August 2015 – Present Appointed webmaster of the Nashville local section of the American Chemical Society. Serving by maintaining the website and by attending board meetings. This is a regional section that serves 23 counties in Tennessee and 6 counties in Kentucky.

Fall 2012 – Spring 2018 Serve as a faculty advisor to our chemistry club, XEM. In this capacity, I recruit students outside of meetings, help with event planning, maintain XEM website (apsu.edu/xem) and social media, and co-wrote an E<sup>3</sup> grant with officers for a Spring 2015 activity

November 10, 2015 Represented the Chemistry Department at APSU's Career Night by rotating through rooms telling each group about careers in chemistry

October 31, 2015 Represented the chemistry department at AP day

September 26, 2015 Helped students prepare for the E<sup>3</sup> Family Weekend by making them a poster they could use for the presentation about our explore activities event entitled "Chemists Without Borders Invited Speaker"

September 22, 2015 Participated in the Fall 2015 Peay Read Creative Response Competition and the 2015-2016 Freshman Legacy Project book by serving as a poetry reviewer

March 19, 2015 Judged science fair posters for the ACS award as part of the Middle TN Science and Engineering Fair (MTSEF) hosted at APSU

November 4, 2014 Introduced high school students to analytical chemistry investigative work and instrumentation available to chemists as part of Scientist for a Day (SciFAD)

November 1, 2014 Represented the chemistry department at AP day

June 2, 2014 Submitted a review of Chapters 14-17 of Harris's Quantitative Chemical Analysis 9e textbook.

April 16, 2014 Completed a review of a journal article submitted to *Chromatography*.

March 20, 2014 Judged science fair posters as part of the Middle TN Science and Engineering Fair (MTSEF) hosted at APSU

November 8, 2013 Introduced high school students to analytical chemistry investigative work and instrumentation available to chemists as part of Scientist for a Day (SciFAD)

October 8, 2013 Represented the Chemistry Department at APSU's Career Night

May 31, 2013 Completed a review of a journal article submitted to *The Chemical Educator*.

March 21, 2013 Judged science fair posters for the ACS award as part of the Middle TN Science and Engineering Fair (MTSEF) hosted at APSU

November 3, 2012 Helped represent the Chemistry Department and XEM at AP day

October 2, 2012 Helped represent and assist the Chemistry Department at APSU's Career Night

February 19, 2011 Judged a Science Olympiad at Lipscomb University for middle and high school students

Spring 2009-2010 Judged science fair projects at Head Magnet Middle School

August 2008 - May 2009 Served on Vanderbilt's chemistry graduate student steering committee to help greet first year students at the department's annual picnic and bring in lecturers for the student-organized annual lectures

August - December 2006 Served as a mentor to inner city Nashville children working as a tutor through Youth Encouragement Services (YES)

## **Professional Affiliations & Committees**

American Chemical Society (ACS) local section webmaster (August 2015-Present), Council on Undergraduate Research (CUR), and Tennessee Academy of Science (TAS)

Current APSU Committees: University Library Advisory Committee (2022-2025)

Past APSU Committees: Fee Adjustment Standing Committee (2019-2021), Dean search committee (Spring 2020), APSU 1000 Taskforce (2018-2019, spring 2020), Wintermester Taskforce (Spring 2019), Undergraduate Research & Creative Activities Committee (Fall 2016-Spring 2019), Environmental Health and Safety Advisory Committee (Fall 2018-Spring 2019), Retention and Tenure College Committee (Fall 2018-Spring 2018), RSG Reviewer Committee (Fall 2018), Student Academic Suspension Appeal Committee (Fall 2014- Spring 2017) and Environmental Affairs Committee (Fall 2014 – Spring 2016), APSU ACS student chapter (XEM) advisor (Fall 2013-Spring 2018)

Chemistry Department Committees: Served on search committees, RTP committees, general chemistry committee (Fall 2014-Spring 2019, coordinator Fall 2014-Spring 2016, 2022), and research and travel committees, and Continuity of Operations Departmental Committee.

## **References**

Available on request