

CURRICULUM VITAE

August 2016

NAME

SUSAN L. MERCER, Ph.D.

TITLE

Associate Professor
Department of Pharmaceutical Sciences
Lipscomb University College of Pharmacy
One University Park Drive
Nashville, TN 37204

Email: Susan.Mercer@Lipscomb.edu
Phone: 615.966.7178
Fax: 615.966.7163

Adjunct Assistant Professor
Department of Pharmacology
Vanderbilt University School of Medicine
Nashville, TN 37240

EDUCATION

University of Maryland, Baltimore
School of Pharmacy

Ph.D. in Pharmaceutical Sciences – 2008
Discipline: Medicinal Chemistry
Mentor: [Andrew Coop, Ph.D.](#)

Dissertation Title:

Synthesis and Characterization of Meperidine Analogs at the P-Glycoprotein Efflux Transporter

Seton Hill University
Greensburg, PA 15601

B.S. in Chemistry – 2004
ACS Certified

PROFESSIONAL EXPERIENCE

Lipscomb University College of Pharmacy, Nashville, TN 37204

- Associate Professor in the Department of Pharmaceutical Sciences
- Assistant Professor in the Department of Pharmaceutical Sciences

February 2014 – Present
September 2008 – February 2014

Vanderbilt University School of Medicine, Nashville, TN 37240

- Adjunct Assistant Professor in the Department of Pharmacology

November 2008 – Present

University of Maryland, Baltimore, MD 21201

- Graduate Research Assistant in Department of Pharmaceutical Sciences, School of Pharmacy
Mentor: Andrew Coop, Ph.D.

September 2004-August 2008

- Graduate Rotation Student in Department of Pharmaceutical Sciences, School of Pharmacy
Supervisor: Angela Wilks, Ph.D.

Summer 2004

Seton Hill University, Chemistry Department, Greensburg, PA 15601

- Chemistry Lab Work-Study / Lab Assistant
Supervisor: Susan Yochum, S.C., Ph.D.
- Analytical Chemistry Independent Study
Supervisor: Susan Yochum, S.C., Ph.D.

August 2000-May 2004

Spring 2004

Case Western Reserve University, Cleveland, OH 44106

- Summer Undergraduate Research Student in Department of Pharmacology, School of Medicine
Supervisor: John Mieyal, Ph.D.

May 2002-August 2002

Bayer Corporation, Pittsburgh, PA

- Summer Internship Student in OEM Coating and Colorants Laboratory
Supervisor: Patricia Jacobs, Ph.D.

May 2001-August 2001

TEACHING EXPERIENCE

Lipscomb University College of Pharmacy, Nashville, TN 37204

Spring 2016

Pharmacological Basis of Therapeutics I (PHSC 1613) – 4 Lecture Hours
Pharmacological Basis of Therapeutics III (PHSC 2633) – 3 Lecture Hours
Integrated Biomedical Sciences Laboratory II (PHSC 1522) – 18 Lecture Hours
Drugs of Abuse and Addiction (PHPR 3782) – 22 Lecture Hours
Applied Christian Values (PHAD 1111) – 6 Lecture Hours

Fall 2015

Pharmaceutical & Medicinal Chemistry (PHSC 1413) – 29 Lecture Hours
Integrated Biomedical Sciences Laboratory (PHSC 1512) – 18 Lecture Hours
Pharmacological Basis of Therapeutics II (PHSC 2623) – 13 Lecture Hours
Natural Medicines (PHPR 3312) – 2 Lecture Hours
Applied Christian Values (PHAD 1111) – 6 Lecture Hours

Summer 2015

Pharmaceutical & Medicinal Chemistry (PHSC 1413) – 29 Lecture Hours

Spring 2015

Pharmacological Basis of Therapeutics I (PHSC 1613) – 4 Lecture Hours
Pharmacological Basis of Therapeutics III (PHSC 2633) – 3 Lecture Hours
Integrated Biomedical Sciences Laboratory II (PHSC 1522) – 18 Lecture Hours
Applied Christian Values (PHAD 1111) – 6 Lecture Hours

Fall 2014

Pharmaceutical & Medicinal Chemistry (PHSC 1413) – 29 Lecture Hours
Integrated Biomedical Sciences Laboratory (PHSC 1512) – 18 Lecture Hours
Pharmacological Basis of Therapeutics II (PHSC 2623) – 13 Lecture Hours
Natural Medicines (PHPR 3312) – 2 Lecture Hours
Applied Christian Values (PHAD 1111) – 6 Lecture Hours
Introduction to Research (PHSC 3912) – 30 Contact Hours

Spring 2014

Pharmacological Basis of Therapeutics I (PHSC 1613) – 4 Lecture Hours
Pharmacological Basis of Therapeutics III (PHSC 2633) – 3 Lecture Hours
Integrated Biomedical Sciences Laboratory II (PHSC 1522) – 18 Lecture Hours
Applied Christian Values (PHAD 1111) – 6 Lecture Hours

Fall 2013

Pharmaceutical & Medicinal Chemistry (PHSC 1413) – 37 Lecture Hours
Integrated Biomedical Sciences Laboratory (PHSC 1512) – 18 Lecture Hours
Pharmacological Basis of Therapeutics II (PHSC 2623) – 14 Lecture Hours
Natural Medicines (PHPR 3312) – 2 Lecture Hours
Applied Christian Values (PHAD 1111) – 6 Lecture Hours
Introduction to Research (PHSC 3912) – 16 Contact Hours

Spring 2013

Pharmacological Basis of Therapeutics I (PHSC 1613) – 4 Lecture Hours
Pharmacological Basis of Therapeutics III (PHSC 2633) – 3 Lecture Hours
Integrated Biomedical Sciences Laboratory II (PHSC 1522) – 27 Lecture Hours
Drugs of Abuse and Addiction (PHPR 3782) – 22 Lecture Hours
Applied Christian Values (PHAD 1111) – 6 Lecture Hours
IPPE Preceptor: Research – 20 Contact Hours

Fall 2012

Pharmaceutical & Medicinal Chemistry (PHSC 1413) – 40 Lecture Hours
Integrated Biomedical Sciences Laboratory (PHSC 1512) – 18 Lecture Hours
Pharmacological Basis of Therapeutics II (PHSC 2623) – 14 Lecture Hours
Natural Medicines (PHPR 3312) – 3 Lecture Hours
Applied Christian Values (PHAD 1111) – 6 Lecture Hours
Introduction to Research (PHSC 3912) – 13 Contact Hours

Spring 2012

Pharmacological Basis of Therapeutics I (PHSC 1613) – 5 Lecture Hours
Pharmacological Basis of Therapeutics III (PHSC 2633) – 3 Lecture Hours
Integrated Biomedical Sciences Laboratory II (PHSC 1522) – 27 Lecture Hours
Applied Christian Values (PHAD 1111) – 5 Lecture Hours

Fall 2011

Pharmaceutical & Medicinal Chemistry (PHSC 1413) – 40 Lecture Hours
Integrated Biomedical Sciences Laboratory (PHSC 1512) – 18 Lecture Hours
Pharmacological Basis of Therapeutics II (PHSC 2623) – 16 Lecture Hours
Drug Design (PHPR 3752) – 20 Lecture Hours
Natural Medicines (PHPR 3312) – 3 Lecture Hours
Applied Christian Values (PHAD 1111) – 6 Lecture Hours

Spring 2011

Pharmacological Basis of Therapeutics I (PHSC 1613) – 6 Lecture Hours
Pharmacological Basis of Therapeutics III (PHSC 2633) – 3 Lecture Hours
Integrated Biomedical Sciences Laboratory II (PHSC 1522) – 3 Lecture Hours
Drugs of Abuse and Addiction (PHPR 3782) – 22 Lecture Hours
Applied Christian Values (PHAD 1111) – 5 Lecture Hours

Fall 2010

Pharmaceutical & Medicinal Chemistry (PHSC 1413) – 40 Lecture Hours
Integrated Biomedical Sciences Laboratory (PHSC 1512) – 18 Lecture Hours
Pharmacological Basis of Therapeutics II (PHSC 2623) – 16 Lecture Hours
Natural Medicines (PHPR 3312) – 2 Lecture Hours
Perspectives in Psychiatric Pharmacy (PHPR 3722) – 2 Lecture Hours
Applied Christian Values (PHAD 1111) – 7 Lecture Hours

Spring 2010

Pharmacological Basis of Therapeutics I (PHSC 1613) – 7 Lecture Hours
Pharmacological Basis of Therapeutics III (PHSC 2633) – 5 Lecture Hours
Integrated Biomedical Sciences Laboratory II (PHSC 1522) – 18 Lecture Hours

Fall 2009

Pharmaceutics (PHSC 1413) – 31 Lecture Hours
Integrated Biomedical Sciences Laboratory (PHSC 1512) – 3 Lecture Hours
Pharmacological Basis of Therapeutics II (PHSC 2623) – 6 Lecture Hours

Spring 2009

Pharmacological Basis of Therapeutics I (PHSC 1613) – 16 Lecture Hours
Integrated Biomedical Sciences Laboratory II (PHSC 1522) – 18 Lecture Hours

Fall 2008

Pharmaceutics (PHSC 1413) – 30 Lecture Hours
Integrated Biomedical Sciences Laboratory (PHSC 1512) – 9 Lecture Hours

University of Maryland, Baltimore, MD 21201

- Supervision of undergraduate students
 - Tesia Stephenson (University of Maryland, Baltimore County) Fall 2007 – Spring 2008
 - Deepti Patel (Villa Julie College, MD) Fall 2006
 - Megan Pierson (College of Notre Dame, MD) Summer 2006
 - Lidiya Stavitskaya (Villa Julie College, MD) Fall 2005
 - Maura O'Neill (College of Notre Dame, MD) Summer 2005
- Supervision of Pharm. D. students
 - Kelly Martin Fall 2006
 - James Pappadatos Summer 2006

University of Maryland, Baltimore, MD 21201

2004-2005

- Graduate Teaching Assistant
 - Supervisors: Andrew Coop, Ph.D., Gary Hollenbeck, Ph.D.*
 - Administration and grading of exams, assistance in Physical Chemistry laboratory.

Seton Hill University, Greensburg, PA 15601

- Chemistry and Physics Tutor 2001-2004
 - Supervisors: Francis Blanco-Yu, Ph.D., John Cramer, Ph.D., Douglas Koebler, Tony Parker, Ph.D., and Susan Yochum, S.C., Ph.D.*
 - Instruction of supplemental discussion sessions, individual and group tutor sessions for General Chemistry, Chemical Principles, Organic Principles, Chemistry for Living and General Physics.
- Science Quest Lab Assistant and Resident Assistant July 2003
 - Supervisor: Susan Yochum, S.C., Ph.D.*
 - Prepared and instructed laboratory exercises for middle school students; guided students in preparing exhibits for Mini-Science Fair.

RESEARCH INTEREST

Design and synthesis of molecules as potential tools to study biological systems concerned with drugs of abuse; fundamental chemistry of drugs of abuse and improvement of known procedures. Development of structure activity relationships (SAR) and rational drug design.

LABORATORY MEMBERS AND THEIR SELECTED ACHIEVEMENTS

Pharmaceutical Sciences Summer Research Students

- Patrick Nickell, Pharm.D. – *Class of 2012* 2009
- Rachel (Stephens) Crouch, Pharm.D. – *Class of 2012* 2009
 - ❖ AACP Walmart Scholar (2011)
 - ❖ Lipscomb University Pharmaceutical Sciences Impact Award (2012)
- Andreea Rose, Pharm.D. – *Class of 2013* 2010
- Andrew Jacob, Pharm.D. – *Class of 2013* 2011
 - ❖ Lipscomb University Pharmaceutical Sciences Research Scholar (2013)
- Brittany (Duerk) Spitznagel, *Pharm.D. Candidate – Class of 2016* 2012
 - ❖ AACP Walmart Scholar (2014)
 - ❖ Lipscomb University Pharmaceutical Sciences Impact Awards (2016)
- Brian Davis, *Pharm.D. Candidate – Class of 2016* 2013
- Sean Salonga (B.S., M.S. Molecular Biology, May 2015) 2013
- James Pokorny, *Pharm.D. Candidate – Class of 2017* 2014

- Rebecca Clark, *Pharm.D. Candidate – Class of 2017* 2014
- Emily Holder, *Pharm.D. Candidate – Class of 2018* 2014
- Zachary Benzio, *Pharm.D. Candidate – Class of 2018* 2015
- Matthew Murphy, *Pharm.D. Candidate – Class of 2019* 2015 and 2016
 - ❖ AFPE Gateway to Research Scholarship Award (**2016-2017**)

Undergraduate Research Assistants

- Rachel Saylor (B.S. Biochemistry, May 2012) 2010 – 2012
 - ❖ ACS Leadership Development Award (**2011**)
 - ❖ Pharmaceutical Sciences Summer Research Student (**2011**)
 - ❖ Behavioral Biology and Chemistry: Translational Research in Addiction Conference
 - Travel Award (**2012**)
 - Outstanding Oral Presentation (**2012**)
 - ❖ Lipscomb University Student Scholars Symposium, Second Place Oral Presentation (**2012**)
 - ❖ Lipscomb University Pharmaceutical Sciences Research Scholar (**2012**)
- Emily Holder (B.S. Biochemistry, May 2014) 2012 – 2014
 - ❖ Pharmaceutical Sciences Summer Research Student (**2012 and 2014**)
 - ❖ Lipscomb University Student Scholars Symposium, First Place Oral Presentation (**2013**)
- Naltalie Shrull (B.S. Pharmacology, May 2017) 2014 – Present
 - ❖ Pharmaceutical Sciences Summer Research Student (**2016**)

PROFESSIONAL MEMBERSHIPS

- | | |
|--|------------|
| American Association of Colleges of Pharmacy (AACP) | Since 2008 |
| American Association of Pharmaceutical Scientists (AAPS) | Since 2005 |
| American Chemical Society (ACS) | Since 2000 |
| Tennessee Pharmacists Association (TPA) | Since 2008 |
| Vanderbilt Institute of Chemical Biology (VICB) | Since 2009 |

MANUSCRIPT REVIEWER

[American Journal of Pharmaceutical Education](#)

[Bioorganic and Medicinal Chemistry](#)

[Bioorganic and Medicinal Chemistry Letters](#)

[Current Drug Metabolism](#)

[Current Medicinal Chemistry](#)

[Drug and Alcohol Dependence](#)

[European Journal of Medicinal Chemistry](#)

[Journal of Pharmaceutical Sciences](#)

[Substance Abuse and Rehabilitation](#)

TEXTBOOK REVIEWER

Medicinal Chemistry: Foundational Concepts and Therapeutic Applications (ASHP) August 2010

Contemporary Pharmaceutics in the 21st Century (Elsevier) March 2010

EDITORIAL REVIEW BOARDS

[Journal of Pharmaceutical Sciences](#) July 2013 – June 2016

- Scientific Advisor to the Editors of *JPharmSci*
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ATTENDED CONFERENCES

American Association of Pharmaceutical Scientists, Orlando, FL October 2015

American Association of Colleges of Pharmacy, National Harbor, MD July 2015

American Association of Pharmaceutical Scientists, San Diego, CA November 2014

American Association of Colleges of Pharmacy, Grapevine, TX July 2014

American Association of Pharmaceutical Scientists, San Antonio, TX November 2013

American Association of Colleges of Pharmacy, Chicago, IL July 2013

American Association of Pharmaceutical Scientists, Chicago, IL October 2012

International Narcotics Research Conference, Kansas City, MO July 2012

American Association of Colleges of Pharmacy, Kissimmee, FL July 2012

Behavior, Biology and Chemistry: Translation Research in Addiction, San Antonio, TX March 2012

American Association of Colleges of Pharmacy, San Antonio, TX July 2011

American Association of Pharmaceutical Scientists, New Orleans, LA November 2010

American Association of Colleges of Pharmacy, Seattle, WA July 2010

American Association of Pharmaceutical Scientists, Los Angeles, CA November 2009

American Association of Colleges of Pharmacy, Boston, MA July 2009

Tennessee Pharmacists Association, Chattanooga, TN July 2008

American Association of Colleges of Pharmacy, Chicago, IL July 2008

National Medicinal Chemistry Symposium, Pittsburgh, PA June 2008

ACS Leadership Development Institute, Dallas, TX January 2008

American Association of Pharmaceutical Scientists, San Diego, CA November 2007

College on Problems of Drug Dependence, Scottsdale, AZ June 2006

Pittcon, Chicago, IL March 2004

ACS Regional Meeting, Pittsburgh, PA	October 2003
ACS National Meeting, New Orleans, LA	April 2003
Pittcon, New Orleans, LA	March 2001

LEADERSHIP POSITIONS

American Association of Pharmaceutical Scientists (AAPS)

- Drug Discovery and Development Interface (DDDI) Section
 - ❖ Immediate Past-Chair 2015 - Present
 - ❖ Chair 2014 – 2015
 - ❖ Chair-Elect 2013 – 2014
 - ❖ Vice Chair 2012 – 2013
 - ❖ Secretary/Treasurer 2009 – 2012
- Program Coordination Committee (PCC) DDDI Section Rep 2015 - Present
- Nomination Committee - DDDI Section Rep 2014 – 2015
- eLearning Task Force Member 2014 – 2015
- 2014 Annual Meeting Program Committee (AMPC) DDDI Section Rep 2013 – 2014
- Finance Committee Member 2011 – 2014
- Member Groups Coordination Committee (MGCC) DDDI Section Rep 2010 – 2011

American Chemical Society (ACS) – [Maryland Section](#)

- Committee Chair - MD ACS Student Grants December 2006 – May 2008
- Student Affiliate Liaison to the Executive Committee May 2006 – May 2008
- Election Committee - Preparation of MD ACS 2007 election ballot June – September 2006

University of Maryland, Baltimore – Pharmaceutical Sciences Graduate Student Association (PGSA)

- Graduate Student Association (GSA) Representative 2006-2007
- Vice-President 2005-2006

University of Maryland, Baltimore – [AAPS Student Chapter](#)

- Events Coordinator 2005-2006

Seton Hill University, Greensburg, PA 15601

- Class of 2004 Reunion Gift Chair November 2008 - June 2009
- Student Ambassador 2002-2004
- SA-ACS Chemistry Club – ranked “Outstanding” during all years of involvement
 - President 2002-2003 and 2003-2004
 - Secretary 2001-2002

Society for Analytical Chemists of Pittsburgh (SACP), Student Affiliates

- Chairman 2002-2003
- Chairman-Elect 2001-2002

Carriages at Russett Condominium Association, Laurel, MD 20724

- President 2007-2008

SERVICE

Lipscomb University, Nashville, TN 37204

• Academic Committee Appointments

- College of Pharmacy ACPE Self Study Committee – Member 2015 - Present
- College of Pharmacy Promotion and Tenure Committee – Member 2014 – Present
- College of Pharmacy Knowledge Integration Committee – Member 2013 – Present
- College of Pharmacy Scholarship and Awards – Member 2011 – 2012, 2014 – Present
- College of Pharmacy Admissions Committee – Member 2008 – 2012, 2015 – Present
 - Alternate Member 2012 – 2015
- College of Pharmacy Environmental Health & Safety – **Chair** 2009 – 2014
- College of Pharmacy Graduation – Member 2010 - 2012
- College of Pharmacy Dual Degrees – Member 2010 - 2011
- College of Pharmacy Curriculum – Member 2008 – 2009
- Lipscomb University Faculty Senate Council 2015 – Present
 - College of Pharmacy & Health Sciences Representative
- Lipscomb University AAPS Student Chapter August 2012 – Present
 - Advisor
- Lipscomb University Student Scholar Symposium 2013 – Present
 - Organizing Committee
- Lipscomb University Student Affiliates of the American Chemical Society 2008 – 2012
 - Co-Advisor
- Committee Chair – Pharmacy Research Day 2010 January 2010 – October 2010
- Committee Chair – Laboratory Coordinator Search September 2009 – January 2010
- Science Olympiad – Event Supervisor for Science Crime Busters & Forensics February 2010, 2011
- Nursing & Healthcare Academy – Intro to Pharmacy & Pharmaceutical Sciences July 2010, 2011, 2012
- CSI Academy – Pharmacy Involvement Coordinator July 2012
- Service Day Spring 2009-2010, 2012-2013, 2015-2016

Vanderbilt University, Nashville, TN

- Poster Judge at VICB Graduate Student Research Symposium Aug 2009, 2010, 2011

American Chemical Society

- Reviewer of Student Affiliate Chapter Reports

American Association of Colleges of Pharmacy

- AACP House of Delegates
 - Faculty Delegate 2013 – 2014
 - Alternate Delegate 2012 – 2013
- Chemistry Section
 - Strategic Planning Task Force 2014 – 2015
 - New Investigator Award Reviewer 2014, 2015
 - Abstract Reviewer for AACP Annual Meeting 2013
 - Ad-Hoc Section Rules and Bylaws Review Committee 2012 – 2013
 - Mission and Vision Task Force 2010 – 2012

American Association of Pharmaceutical Scientists

- Mentoring Breakfast at Annual Meeting 2010, 2012, 2014, 2015
- Drug Discovery and Development Interface (DDDI) Section
 - ❖ 2014 Annual Meeting Program Organizer and Moderator: Thinking Outside the Box – The Academic Drug Discovery Paradigm 2014
 - ❖ Abstract Reviewer for Annual Meeting 2009 – 2013
 - ❖ DDDI Graduate Student Symposium Session Moderator 2012
 - ❖ DDDI Research Achievement Award Session Moderator 2012

University of Maryland, Baltimore, MD 21201

- Involved in Chemistry Faculty Candidate Search December 2007 – January 2008
- PSC Graduate Program Steering Committee June 2007 – January 2008
- Mentor for Exploration in Science Research Awareness Program (ESRAP) May 2007
- Volunteer at Ph.D. Hooding Ceremony May 2007
- Coordinator and Participant in Ronald McDonald House Dinner (PGSA sponsored event) June 2006
- Involved in Faculty Candidate Selection Process December 2005
- Participated in Student Interview session for Graduate Program Coordinator November 2005
- Tutor for “A Bridge to Academic Excellence” (ABAE) Fall 2005
- Co-Captain of Department Team in Susan G. Komen, Race for the Cure, MD October 2005
- Facilitated organization of MD ACS dinner meeting held at UMB November 2004

American Chemical Society (ACS) – Maryland (MD) Section

- “Chemistry in the Library” NCW Outreach Activities (Howard County) October 2007
- Coordinator and Participant of Spring '07 Student Networking Event April 2007
- Chemists Celebrate Earth Day – Herring Run Watershed Cleanup April 2007
- “Chemistry in the Library” Outreach Activity (Howard County) April 2006

Muscular Dystrophy Association (MDA)

- Team Leader for “Stride-n-Ride” Fundraiser August 2003
- Cabin Leader / Volunteer Assistant for Summer Camp (1 Week) August 1999, 2000, and 2001
- Volunteer Assistant for Summer Camp (1 Week)

EDUCATIONAL ENRICHMENT (PROFESSIONAL DEVELOPMENT)

- AACP Academic Research Fellows Program (ARFP) 2014 – 2015 AY
- Mental Health America of Middle TN: Aging & Behavioral Health Symposium June 2013
- NIH Neurotherapeutics Drug Discovery and Development Training Course for Academic Scientists February 2013
- NIH Office of Extramural Research. Successfully completed the NIH web-based training course “Protecting Human Research Participants” February 2013
- Lipscomb Connect 2012 September 2011 – June 2012
- Vanderbilt Summer Science Academy – Mentorship Workshop May 2010
- TN Campus Compact Grant Writing Workshop April 2010
- AACP Education Scholars Program 2009-2010
- Advanced Cardiovascular Life Support, American Heart Association 2008, 2010, 2012
- Humane Handling of Rodents, University of Maryland, School of Medicine July 2007
- University of Maryland, Baltimore Seminars
- Grants and Proposal Writing March 2008
 - Instructional EndNote Class October 2005
 - NIH Peer Review June 2005
 - How to Write a Successful NIH Proposal March 2005

GRANT APPLICATIONS SUBMITTED

- Antidotes for GHB Overdose
Submitted to NIH, NIDA as NRSA (1F31 DA021041-01) April 2005
- The Activity of Meperidine Analogs at P-glycoprotein Transporters
Submitted to NIH, NIDA as NRSA (1F31 DA022811-01) April 2006, Dec 2006
- Toxic Metabolite Elimination of Meperidine / Novel Analgesics with Reduced Constipation
Submitted to ACS Medicinal Chemistry Division as Pre-doc Fellowship March 2007
- Novel Analgesics with Reduced Constipation
Submitted to UMB – PSC as Departmental/Internal Fellowship July 2007
FUNDED (September 1, 2007 – August 31, 2008) AMOUNT \$25,000
- Abuse Potential of Daytrana® Transdermal Methylphenidate Patches for ADHD Treatment
Submitted to Lipscomb University as Faculty Enhancement Grant September 2008
FUNDED (2008-2009 Academic Year) AMOUNT \$1,000
- A Small Molecule Activator of Heme Sensing in Bacterial Pathogens
Submitted to VICB as Pilot Project Grant October 2009
Co-Investigator with Eric Skaar (Vanderbilt Dept. of Microbiology and Immunology)
FUNDED (January 1, 2010 – December 31, 2010) AMOUNT \$40,000

- Small Molecule Activators of the *Staphylococcus aureus* Heme Sensing System
Submitted to NIAID, NIH as R01 (R01 AI091873) February 2010
Subcontract with Vanderbilt University Medical Center
- Meperidine Analogs as Novel Analgesics Lacking P-glycoprotein and CYP3A4 Interactions
Submitted to AACP as New Investigator Award September 2010
Submitted to AACP as New Investigator Award September 2011
FUNDED (January 20, 2012 – January 19, 2013) AMOUNT \$10,000
- Elucidating the Leukemogenic Mechanism of Etoposide Utilizing Metabolically Stable Analogs
Submitted to the PhRMA Foundation as Research Starter Grant September 2012
- Examining the Leukemogenic Properties of Etoposide with Metabolically Stable Analogs
Submitted to AACP as New Investigator Award September 2012
- Rational Design of Opioids Lacking P-glycoprotein Activity
Submitted to NIDA, NIH as R21/R33 EChem (1 R21 DA036732-01) February 2013
- Role of Etoposide Metabolites in Topoisomerase II-Mediated DNA Damage
Submitted to NIH as R15 AREA (1 R15 CA182743-01) February 2013
Submitted to NIH as R15 AREA (1 R15 CA182743-02) November 2013
- Synthesis and Pharmacological Evaluation of Novel Etoposide Analogs
Submitted to the PhRMA Foundation as Research Starter Grant September 2013
- Examination of the Topoisomerase II Covalent Poisoning Mechanism of Etoposide Quinone
Submitted to AACP as New Investigator Award September 2013
FUNDED (January 1, 2014 – December 31, 2014) AMOUNT \$10,000
- Synthesis and Evaluation of Loperamide Analogs at P-glycoprotein
Submitted to Lipscomb University as 2014 Faculty Summer Grant October 2013
- Acquisition of a Multinuclear 400 MHz NMR Spectrometer for Multidisciplinary Research at Lipscomb University
Submitted to the NSF as CHE – Major Research Instrumentation Grant January 2014
- Examining the Contribution of Etoposide Metabolites to Secondary Leukemias
Submitted to the Elsa U. Pardee Foundation February 2014
- American Foundation for Pharmaceutical Education (AFPE) Gateway to Research Scholarship
Nominator and Research Mentor for Brittany Duerk (2016) March 2014
- Elucidating the Leukemogenic Mechanism of Etoposide Utilizing Metabolically Stable Analogs
Submitted to the PhRMA Foundation as Research Starter Grant September 2014
- Development of Opioid Receptor Ligands Lacking P-gp Affinity as Novel Analgesics Possessing an Improved Side Effect Profile
Submitted to the AAAS Marion Mason Awards for Women in the Chemical Sciences September 2014
- Investigation of CYP3A4 Metabolism of Sterically Hindered Meperidine Analogs
Submitted to Lipscomb Pharmacy as 2014 Dean's Call for Grants October 2014
FUNDED (January 1, 2015 – December 31, 2015) AMOUNT \$4,400
- Bridging the GAP between Pharmacy Practice and Science – Qualitative Analysis of a Compounded Preparation to Teach the Importance of Quality
Submitted to Lipscomb Pharmacy as 2014 Dean's Call for Grants October 2014
FUNDED (January 1, 2015 – May 31, 2017) AMOUNT \$4,500

- Examination of the Involvement of Etoposide Metabolites in Therapy-Related Leukemias
Submitted to NIH NCI as R15 AREA June 2015
- Examination of the Involvement of Etoposide Metabolites in Therapy-Related Leukemias
Submitted to the Elsa U. Pardee Foundation October 2015
- Rational Design of Opioids Lacking P-glycoprotein Activity
Submitted to NIH NIDA as R15 AREA October 2015
- Synthesis and Pharmacological Evaluation of Novel Metabolically Stable Etoposide Analogs as Tools for
Elucidating the Etiology of Secondary Leukemias
Submitted to AFPE Gateway to Research Scholarship February 2016
FUNDED (June 30, 2016 – June 30, 2017) AMOUNT \$5,000
- Investigation of Meperidine Metabolism by CYP450 Enzymes: Implications for Normeperidine-Induced Toxicity
Submitted to AFPE Gateway to Research Scholarship February 2016
FUNDED (June 30, 2016 – June 30, 2017) AMOUNT \$5,000
- Design, Synthesis and Evaluation of Opioid Receptor Ligands Lacking P-glycoprotein Activity
Submitted to the AAAS Marion Mason Awards for Women in the Chemical Sciences March 2016
- The Involvement of Etoposide Metabolites in Therapy-Related Leukemias
Submitted to NIH NCI as R15 AREA June 2016

RESEARCH FUNDING

- AFPE Gateway to Research Scholarship June 30, 2016 – June 30, 2017
*Synthesis and Pharmacological Evaluation of Novel Metabolically Stable Etoposide Analogs as Tools for
Elucidating the Etiology of Secondary Leukemias*
Award Amount: \$5,000
Role: Faculty Mentor
- AFPE Gateway to Research Scholarship June 30, 2016 – June 30, 2017
Investigation of Meperidine Metabolism by CYP450 Enzymes: Implications for Normeperidine-Induced Toxicity
Award Amount: \$5,000
Role: Faculty Co-Mentor
- Lipscomb University College of Pharmacy 2014 Dean's Call for Grants January 2015 – May 2017
*Bridging the GAP between Pharmacy Practice and Science – Qualitative Analysis of a Compounded Preparation
to Teach the Importance of Quality*
Award Amount: \$4,500
Role: Co-Investigator
- Lipscomb University College of Pharmacy 2014 Dean's Call for Grants January 2015 – December 2015
Investigation of CYP3A4 Metabolism of Sterically Hindered Meperidine Analogs
Award Amount: \$4,400
Role: Investigator
- AACP New Investigator Award January 2014 – December 2014
Examination of the Topoisomerase II Covalent Poisoning Mechanism of Etoposide Quinone
Award Amount: \$10,000
Role: Co-Investigator
- AACP New Investigator Award January 2012 – January 2013
Meperidine Analogs as Novel Analgesics Lacking P-glycoprotein and CYP3A4 Interactions
Award Amount: \$10,000

Role: Investigator

Vanderbilt Institute of Chemical Biology Pilot Project Grant <i>A Small Molecule Activator of Heme Sensing in Bacterial Pathogens</i> Award Amount: \$40,000 Role: Co-Investigator	January 2010 – January 2011
Lipscomb University Faculty Enhancement Grant <i>Abuse Potential of Daytrana® Transdermal Methylphenidate Patches for ADHD Treatment</i> Award Amount: \$1,000 Role: Investigator	2008-2009
Recipient of <i>Dr. Frank J. Slama Fellowship</i> and <i>Dr. Jerome and Mitzie Holen Schwartz Graduate Fellowship in Pharmaceutical Sciences</i> University of Maryland, School of Pharmacy <i>Covered stipend for one academic year</i>	2007-2008

AWARDS

AACP Academic Research Fellows Program	2014-2015
AACP Walmart Scholar – Faculty Mentor	2014
NIH Neurotherapeutics Training Course in Drug Discovery & Development for Academic Scientists	2013
INRC Young Investigator Symposium Award	2012
AACP Walmart Scholar – Faculty Mentor	2011
Distinguished Recent Alumni Award, Seton Hill University	2009
National Medicinal Chemistry Symposium Travel Award	2008
ACS Leadership Development Award from the Younger Chemists Committee	2008
Pharmaceutical Sciences Competitive Departmental Merit Award University of Maryland, School of Pharmacy	2007-2008
Who's Who Among Students in American Universities and Colleges	2004
ACS Analytical Chemistry Award	2004
College Chemistry Award presented by The Society for Analytical Chemists of Pittsburgh	2004
ACS Undergraduate Student Travel Award to National Meeting	2003
Howard Hughes Medical Institute (HHMI) Undergraduate Summer Research Fellowship	2002
CRC Freshman Chemistry Achievement Award	2001

BIBLIOGRAPHY

MAIDEN NAME: GILLENBERGER

PUBLICATIONS

1. Koek W, Chen W, **Mercer SL**, Coop A, France CP. Discriminative stimulus effects of gamma-hydroxybutyrate (GHB): role of training dose. *J. Pharmacol. Exp. Ther.* **2006**; 317(1): 409-417. PMID:16330491

2. **Mercer SL**, Hassan HE, Cunningham CW, Eddington ND, Coop A. Opioids and efflux transporters. Part 1: P-Glycoprotein substrate activity of *N*-substituted analogs of meperidine. *Bioorg. Med. Chem. Lett.* **2007**; 17(5): 1160-1162. PMID:17251015
3. Koek W, **Mercer SL**, Coop A. Cataleptic effects of gamma-hydroxybutyrate (GHB), its precursor gamma-butyrolactone (GBL), and GABA_B receptor agonists in mice: differential antagonism by the GABA_B receptor antagonist CGP35348. *Psychopharmacology* **2007**; 192(3): 407-414. PMID:17277933
4. Cunningham CW, **Mercer SL**, Hassan HE, Traynor JR, Eddington ND, Coop A. Part 2: P-Glycoprotein substrate activity of 3- and 6-substituted morphine analogs. *J Med Chem.* **2008**; 51(7): 2316-2320. PMID:18311899
5. **Mercer SL**, Shaikh J, Traynor JR, Matsumoto RR, Coop A. Nitrile analogs of meperidine as high affinity and selective sigma-1 receptor ligands. *Eur. J. Med. Chem.* **2008**; 43(6): 1304-1308. PMID:17988766
6. **Mercer SL**, Cunningham CW, Eddington ND, Coop A. Opioids and efflux transporters. Part 3: P-glycoprotein substrate activity of 3-hydroxyl addition to meperidine analogs. *Bioorg. Med. Chem. Lett.* **2008**; 18(12): 3638-3640. PMID:18499452
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17. Regal KM, **Mercer SL**, Deweese JE. HU-331 Is a Catalytic Inhibitor of Topoisomerase II α . *Chem. Res. Tox.* **2014**; 27(12): 2044-2051. PMID:25409338.
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19. Miller, LN and **Mercer SL**. Drugs of Abuse and Addiction: An Integrated Approach to Teaching. *Am. J. Pharm. Educ.* **2016**. Accepted.

ABSTRACTS, POSTERS, PRELIMINARY AND MISCELLANEOUS REPORTS

1. **SL Gillenberger**, DW Starke, AJ Berdis, JJ Mieyal. Comparative Characterization of the Two Mammalian Glutaredoxins. ACS National Meeting. New Orleans, LA; April **2003**, CHED 256.
2. R Lees, **SL Gillenberger**, T Harshberger, S Hileman. SHU Reacts with You. ACS National Meeting. New Orleans, LA. April **2003**, CHED 1136.
3. **SL Gillenberger**. SHU: Advocating Women in Science. ACS Regional Meeting. Pittsburgh, PA. October **2003**.
4. **SL Mercer**, CW Cunningham, HE Hassan, ND Eddington, A Coop. The Relative Activity of Meperidine Analogs as P-glycoprotein Substrates. University of Maryland, Baltimore, School of Pharmacy Annual Research Day. Baltimore, MD. May **2006**.
5. CW Cunningham, **SL Mercer**, HE Hassan, ND Eddington, A Coop. Effect of 3- and 6-Substitution on P-gp substrate activity of morphine analogs. University of Maryland, Baltimore, School of Pharmacy Annual Research Day. Baltimore, MD. May, **2006**.
6. **SL Mercer**, CW Cunningham, HE Hassan, ND Eddington, A Coop. The Relative Activity of Opioids as P-glycoprotein Substrates. Abstracts of the College on Problems of Drug Dependence. Scottsdale, AZ. June **2006**.
7. CW Cunningham, HE Hassan, **SL Mercer**, ND Eddington, A Coop. Diminished P-gp Substrate Activity of 3- and 6-Substituted Morphine Analogs. International Narcotics Research Conference. Minneapolis, MN. July, **2006**.
8. **SL Mercer**, CW Cunningham, HE Hassan, ND Eddington, A Coop. The Relative Activity of Meperidine Analogs as P-glycoprotein Substrates. International Narcotics Research Conference. Berlin, Germany. July **2007**.
9. **SL Mercer**, CW Cunningham, HE Hassan, ND Eddington, A Coop. The Relative Activity of Meperidine Analogs as P-glycoprotein Substrates. University of Maryland, Baltimore, School of Pharmacy Annual Research Day. Baltimore, MD. April **2008**.
10. TN Stephenson, **SL Mercer**, A Coop. UMB24 Analogs as Potential Methamphetamine Treatments. University of Maryland, Baltimore County (UMBC) Undergraduate Research and Creative Achievement Day. April **2008**.
11. **SL Mercer**, CW Cunningham, ND Eddington, A Coop. Synthesis and Characterization of Meperidine Analogs at the P-glycoprotein Efflux Transporter. National Medicinal Chemistry Symposium. Pittsburgh, PA. June **2008**.
12. CW Cunningham, **SL Mercer**, HE Hassan, JR Traynor, ND Eddington, A Coop. The Effect of 3- and 6-Substitution on the Substrate Activity of Morphine Analogs at P-glycoprotein. National Medicinal Chemistry Symposium. Pittsburgh, PA. June **2008**.
13. CW Cunningham, HE Hassan, **SL Mercer**, JR Traynor, ND Eddington, A Coop. Morphine Analogs and P-Glycoprotein. 9th Winter Conference on Medicinal and Bioorganic Chemistry. Steamboat Springs, CO. January **2009**.
14. JP Nickell, RD Stephens, MW Fowler, **SL Mercer**. Determination of the Abuse Potential of Daytrana Transdermal Patches. Lipscomb University Pharmacy Research Day. Nashville, TN. January **2010**.
15. JP Nickell, RD Stephens, MW Fowler, **SL Mercer**. Determination of the Abuse Potential of Daytrana Transdermal Patches. American Association of Colleges of Pharmacy. Seattle, WA. July **2010**.
16. AC Rose, BR Anderson, LL Anzaldi, O Aranmolate, PR Reid, AG Waterson, GA Sulikowski, EP Skaar, **SL Mercer**. Design and Synthesis of Small Molecule Activators of Heme Sensing in *Staphylococcus aureus*. Vanderbilt University Summer Science Academy Research Symposium. Nashville, TN. August **2010**.

17. A Jacob, **SL Mercer**, N Osheroff, JE Deweese. The Quinone Metabolite of Etoposide Acts as a Redox-Dependent Topoisomerase II Poison. Vanderbilt University Summer Science Academy Research Symposium. Nashville, TN. August **2010**.
18. AC Rose, BR Anderson, LL Anzaldi, O Aranmolate, PR Reid, AG Waterson, GA Sulikowski, EP Skaar, **SL Mercer**. Design and Synthesis of Small Molecule Activators of Heme Sensing in *Staphylococcus aureus*. Vanderbilt Institute of Chemical Biology Graduate Student Research Symposium. Nashville, TN. August **2010**.
19. LL Anzaldi, DL Stauff, PR Reid, O Aranmolate, GM Kurkis, **SL Mercer**, AG Waterson, GA Sulikowski, EP Skaar. A Small Molecule Activator of Heme Biosynthesis Triggers the Heme Stress Response of *Staphylococcus aureus*. Vanderbilt Institute of Chemical Biology Graduate Student Research Symposium. Nashville, TN. August **2010**.
20. AC Rose, BR Anderson, LL Anzaldi, O Aranmolate, PR Reid, AG Waterson, GA Sulikowski, EP Skaar, **SL Mercer**. Design and Synthesis of Small Molecule Activators of Heme Sensing in *Staphylococcus aureus*. Lipscomb University Pharmacy Research Day. Nashville, TN. October **2010**.
21. A Jacob, **SL Mercer**, N Osheroff, JE Deweese. The Quinone Metabolite of Etoposide Acts as a Redox-Dependent Topoisomerase II Poison. Lipscomb University Pharmacy Research Day. Nashville, TN. October **2010**.
22. **SL Mercer**. Analysis of a Model Receptor and de Novo Drug Design – An Integrated Biomedical Sciences Laboratory Experiment. Lipscomb University Pharmacy Research Day. Nashville, TN. October **2010**.
23. WS Akers and **SL Mercer**. An Integrated Laboratory Approach to Drug Dissolution: Focus on Drug Formulation and Release. American Association of Colleges of Pharmacy. San Antonio, TX. July **2011**.
24. WS Akers and **SL Mercer**. Use of a High Throughput Assay to Emphasize Key Concepts in Drug Metabolism and Drug Interactions. American Association of Colleges of Pharmacy. San Antonio, TX. July **2011**.
25. MW Fowler, JE Deweese, HH Dilks, **SL Mercer**, S Phipps, J McCormack, WS Akers. An Integrated Biomedical and Pharmaceutical Sciences Teaching Laboratory for First-Year Pharm.D. Students. American Association of Colleges of Pharmacy. San Antonio, TX. July **2011**.
26. **SL Mercer**. Analysis of a Model Receptor and de Novo Drug Design: An Integrated Biomedical Sciences Laboratory Experiment. American Association of Colleges of Pharmacy. San Antonio, TX. July **2011**.
27. R Saylor and **SL Mercer**. Synthesis of Meperidine Analogs Lacking CYP3A4 and P-Glycoprotein Interactions. Vanderbilt University Summer Science Academy Research Symposium. Nashville, TN. August **2011**.
28. DA Jacob, JE Deweese, **SL Mercer**. Synthesis and Biological Evaluation of Etoposide E-Ring Analogs. Vanderbilt University Summer Science Academy Research Symposium. Nashville, TN. August **2011**.
29. WS Akers and **SL Mercer**. An Integrated Laboratory Approach to Drug Dissolution: Focus on Drug Formulation and Release. Lipscomb University Pharmacy Research Day. Nashville, TN. October **2011**.
30. R Saylor and **SL Mercer**. Synthesis of Meperidine Analogs Lacking CYP3A4 and P-Glycoprotein Interactions. Lipscomb University Pharmacy Research Day. Nashville, TN. October **2011**.
31. DA Jacob, JE Deweese, **SL Mercer**. Synthesis and Biological Evaluation of Etoposide E-Ring Analogs. Lipscomb University Pharmacy Research Day. Nashville, TN. October **2011**.
32. **SL Mercer**. Opioids and P-glycoprotein: Progress towards Novel Analgesic Therapies. Concordia University Wisconsin School of Pharmacy. Mequon, WI. February **2012**.
33. **SL Mercer**. The Quest for Novel Analgesics Lacking Clinically Relevant Side Effects: Synthesis and Biological Evaluation of Meperidine Analogs. Tennessee Technological University, Chemistry Department. Cookeville, TN. February **2012**.

34. R Saylor and **SL Mercer**. Synthesis of Sterically Hindered Meperidine Analogs: Interactions with CYP3A4 and P-glycoprotein. Behavior, Biology and Chemistry (BBC): Translational Research in Addiction. San Antonio, TX. March **2012**.
35. R Saylor and **SL Mercer**. Synthesis of Sterically Hindered Meperidine Analogs: Continued Opioid SAR Development. Lipscomb University Student Scholars Symposium. Nashville, TN. April **2012**.
36. WS Akers, JE Deweese, MW Fowler, **SL Mercer**. Back to the Basics: Integrating Curricular Content in the Pharmaceutical Sciences Through Laboratory Based Exercises. American Association of Colleges of Pharmacy Annual Meeting – Biological Sciences Section. Kissimmee, FL. July **2012**.
37. EG Gibson, DA Jacob, **SL Mercer**, JE Deweese. Etoposide Metabolites as Topoisomerase II Poisons. American Association of Colleges of Pharmacy. Kissimmee, FL. July **2012**.
38. **SL Mercer**. Investigation of Sterically Hindered Meperidine Analogs at P-glycoprotein and CYP3A4. International Narcotics Research Conference. Kansas City, MO. July **2012**.
39. EK Holder, R Saylor, BB Duerk, **SL Mercer**. Synthesis of 2-Methyl Meperidine Analogs: Studying the SAR of Opioids. Vanderbilt University Summer Science Academy Research Symposium. Nashville, TN. August **2012**.
40. BB Duerk, R Saylor, EK Holder, **SL Mercer**. Synthesis of 2,6-Dimethyl Meperidine Analogs-Continued Opioid SAR Development at P-Glycoprotein. Vanderbilt University Summer Science Academy Research Symposium. Nashville, TN. August **2012**.
41. KM Regal, **SL Mercer**, JE Deweese. Characterization of the Novel Cannabinoid Quinone HU-331. Vanderbilt University Summer Science Academy Research Symposium. Nashville, TN. August **2012**.
42. EK Holder, R Saylor, BB Duerk, **SL Mercer**. Synthesis of 2-Methyl Meperidine Analogs: Studying the SAR of Opioids. Lipscomb University Pharmacy Research Day. Nashville, TN. October **2012**.
43. BB Duerk, R Saylor, EK Holder, **SL Mercer**. Synthesis of 2,6-Dimethyl Meperidine Analogs-Continued Opioid SAR Development at P-Glycoprotein. Lipscomb University Pharmacy Research Day. Nashville, TN. October **2012**.
44. KM Regal, **SL Mercer**, JE Deweese. Characterization of the Novel Cannabinoid Quinone HU-331. Lipscomb University Pharmacy Research Day. Nashville, TN. October **2012**.
45. EK Holder, R Saylor, BB Duerk, **SL Mercer**. Synthesis of 2-Methyl Meperidine Analogs: Studying the SAR of Opioids. Lipscomb University Student Scholar Symposium. Nashville, TN. March **2013**.
46. KM Regal, **SL Mercer**, JE Deweese. Characterization of HU-331 as a Cannabinoid Quinone Inhibitor of Topoisomerase II. Lipscomb University Student Scholar Symposium. Nashville, TN. March **2013**.
47. JE Deweese, DA Jacob, EG Gibson, **SL Mercer**. Etoposide Catechol is an Oxidizable Topoisomerase II Poison. The American Society for Biochemistry and Molecular Biology. Boston, MA. April **2013**.
48. R Saylor, BB Duerk, EK Holder, JR Healy, RR Matsumoto, JS Daniels, **SL Mercer**. Meperidine Analogs as Novel Analgesics Lacking P-glycoprotein and CYP3A4 Interactions. American Association of Colleges of Pharmacy. Chicago, IL. July **2013**.
49. **SL Mercer**. Investigation of Physicochemical Drug Properties Utilizing PubChem: an iPads in the Classroom Activity. American Association of Colleges of Pharmacy. Chicago, IL. July **2013**.
50. KM Regal, **SL Mercer**, JE Deweese. Characterization of the Novel Cannabinoid Quinone HU-331. American Association of Colleges of Pharmacy. Chicago, IL. July **2013**.
51. BA Davis and **SL Mercer**. Synthesis of Loperamide Analogs to Investigate P-glycoprotein Structure Activity Relationships. Vanderbilt University Summer Science Academy Research Symposium. Nashville, TN. August **2013**.

52. SN Salonga, JE Deweese, **SL Mercer**. Progress Towards the Synthesis of Podophyllotoxin Analogs. Vanderbilt University Summer Science Academy Research Symposium. Nashville, TN. August **2013**.
53. KM Regal, **SL Mercer**, JE Deweese. Characterization of the Novel Cannabinoid Quinone HU-331. Vanderbilt University Summer Science Academy Research Symposium. Nashville, TN. August **2013**.
54. BB Duerk, R Saylor, EK Holder, **SL Mercer**. 2,6-Dimethyl Meperidine Analog Synthesis – Continued Opioid SAR Development at P-Glycoprotein. American Association of Pharmaceutical Sciences. San Antonio, TX. *November 2013*.
55. BA Davis and **SL Mercer**. Synthesis of Loperamide Analogs to Investigate P-glycoprotein Structure Activity Relationships. Lipscomb University Pharmacy and Health Sciences Research Day. Nashville, TN. November **2013**.
56. SN Salonga, JE Deweese, **SL Mercer**. Progress Towards the Synthesis of Podophyllotoxin Analogs. Lipscomb University Pharmacy and Health Sciences Research Day. Nashville, TN. November **2013**.
57. KM Regal, **SL Mercer**, JE Deweese. Characterization of HU-331 as a Cannabinoid Quinone Inhibitor of Topoisomerase II. Lipscomb University Pharmacy and Health Sciences Research Day. Nashville, TN. November **2013**.
58. WS Akers, JE Deweese, **SL Mercer**, S Phipps, J McCormack, M Fowler. Back to the Basics: Integrating Curricular Content in the Pharmaceutical Sciences through Laboratory Based Exercises. Lipscomb University Pharmacy and Health Sciences Research Day. Nashville, TN. November **2013**.
59. AD Rosicky, MD Metcalf, HE Hassan, ND Eddington, A Coop, **SL Mercer**, CW Cunningham. Evaluation of a mathematical model for P-gp substrates: Application to opioid receptor ligands. Behavior, Biology and Chemistry (BBC): Translational Research in Addiction. San Antonio, TX. March **2014**.
60. SN Salonga, JE Deweese, **SL Mercer**. Progress Towards the Synthesis of Podophyllotoxin Analogs. Lipscomb University Student Scholar Symposium. Nashville, TN. April **2014**.
61. KM Regal, **SL Mercer**, JE Deweese. Characterization of HU-331 as a Cannabinoid Quinone Inhibitor of Topoisomerase II. The American Society for Biochemistry and Molecular Biology. San Diego, CA. April **2014**.
62. **SL Mercer** and LN Miller. Drugs of Abuse and Addiction: An Integrated Approach to Teaching. American Association of Colleges of Pharmacy. Grapevine, TX. July **2014**.
63. EG Gibson, **SL Mercer**, JE Deweese. Using Etoposide Resistant Mutants to Characterize Etoposide Quinone. American Association of Colleges of Pharmacy. Grapevine, TX. July **2014**.
64. KM Regal, **SL Mercer**, JE Deweese. HU-331 is a Redox-Dependent Inhibitor of Topoisomerase II. American Association of Colleges of Pharmacy. Grapevine, TX. July **2014**.
65. MM King, **SL Mercer**, JE Deweese. Impact of Etoposide Quinone on DNA Binding and Ligation by Topoisomerase II α . Southeastern Regional Meeting of the American Chemical Society. Nashville, TN. October **2014**.
66. **SL Mercer** and LN Miller. Drugs of Abuse and Addiction: An Integrated Approach to Teaching. Lipscomb University Pharmacy and Health Sciences Research Day. Nashville, TN. October **2014**.
67. EK Holder, R Saylor, BD Duerk, **SL Mercer**. Synthesis of a 2-Methyl Meperidine Analog. Lipscomb University Pharmacy and Health Sciences Research Day. Nashville, TN. October **2014**.
68. JT Pokorny, JE Deweese, **SL Mercer**. Current Investigation of Etoposide Structure Activity Relationships. Lipscomb University Pharmacy and Health Sciences Research Day. Nashville, TN. October **2014**.

69. NA Shrull, EK Holder, RN Clark, J Weiler, BB Duerk, KD Hardy, **SL Mercer**. Women in Science: Benefits of Student Research in the Pharmaceutical Sciences. Lipscomb University Pharmacy and Health Sciences Research Day. Nashville, TN. October **2014**.
70. MM King, **SL Mercer**, JE Deweese. Impact of Etoposide Quinone on DNA Binding and Ligation by Topoisomerase II α . Lipscomb University Pharmacy and Health Sciences Research Day. Nashville, TN. October **2014**.
71. EK Holder, R Saylor, BD Duerk, **SL Mercer**. Synthesis of a 2-Methyl Meperidine Analog. Lipscomb University Student Scholar Symposium. Nashville, TN. April **2015**.
72. JT Pokorny, JE Deweese, **SL Mercer**. Current Investigation of Etoposide Structure Activity Relationships. Lipscomb University Student Scholar Symposium. Nashville, TN. April **2015**.
73. NA Shrull, EK Holder, RN Clark, J Weiler, BB Duerk, KD Hardy, **SL Mercer**. Women in Science: Benefits of Student Research in the Pharmaceutical Sciences. Lipscomb University Student Scholar Symposium. Nashville, TN. April **2015**.
74. MM King, **SL Mercer**, JE Deweese. Impact of Etoposide Quinone on DNA Binding and Ligation by Topoisomerase II α . Lipscomb University Student Scholar Symposium. Nashville, TN. April **2015**.
75. **SL Mercer**, JR Thompson, R Saakian, CR McCurdy, RL Davis. A Faculty Development Series in Research: Engaging Pharmacy Practice Faculty and the Office of Sponsored Programs. American Association of Colleges of Pharmacy. National Harbor, MD. July **2015**.
76. EG Gibson, MM King, MJ Sansom, WH McDonald, **SL Mercer**, JE Deweese. Examination of the Topoisomerase II Covalent Poisoning Mechanism of Etoposide Quinone. American Association of Colleges of Pharmacy. National Harbor, MD. July **2015**.
77. JL Murray, **SL Mercer**, KD Jackson. Meperidine Metabolism: Roles of CYP2B6, CYP2C19, and CYP3A4 in Generation of the Neurotoxic Metabolite, Normeperidine. Society of Toxicology. New Orleans, LA. March **2016**.
78. NA Shrull, CR McCurdy, **SL Mercer**. Synthesis and Pharmacological Evaluation of Halogenated Loperamide Analogs. Lipscomb University Student Scholar Symposium. Nashville, TN April **2016**.
79. ZT Benzio, NA Shrull, **SL Mercer**. Progress Towards the Synthesis of Conformationally Constrained Loperamide Analogs. Lipscomb University Student Scholar Symposium. Nashville, TN April **2016**.
80. MB Murphy, JE Deweese, **SL Mercer**. Synthetic Progress on Halogenated Etoposide Analogs. Lipscomb University Student Scholar Symposium. Nashville, TN April **2016**.
81. JL Murray, **SL Mercer**, KD Jackson. Meperidine Metabolism: Roles of CYP2B6, CYP2C19, and CYP3A4 in Generation of the Neurotoxic Metabolite, Normeperidine. Lipscomb University Student Scholar Symposium. Nashville, TN April **2016**.
82. JT Wilson, KD Jackson, **SL Mercer**, JE Deweese. Exploring the Metabolism and Topoisomerase II Inhibitory Activity of Cannabidiol. Lipscomb University Student Scholar Symposium. Nashville, TN April **2016**.
83. JT Wilson, KD Jackson, **SL Mercer**, JE Deweese. Exploring the Metabolism and Topoisomerase II Inhibitory Activity of Cannabidiol. American Association of Colleges of Pharmacy. Anaheim, CA. July **2016**.

INVITED and ORAL PRESENTATIONS

1. Clear Solutions. Seton Hill University, Greensburg, PA; October **2001**.
2. Comparative Characterization of the Two Mammalian Glutaredoxins. Case Western Reserve University, Cleveland, OH. August **2002**.

3. Comparative Characterization of the Two Mammalian Glutaredoxins. Seton Hill University, Greensburg, PA; November **2002**.
4. A Journey to an Excited State (Senior Oral Comprehensive). Seton Hill University, Greensburg, PA; April **2004**.
5. Antidotes for GHB Overdose. University of Maryland, Baltimore; April **2005**.
6. The Activity of Meperidine Analogs at P-gp Transporters. (Oral Comprehensive / Advancement to Candidacy) University of Maryland, Baltimore; September **2006**.
7. The Pharmaceutical Sciences Program at the University of Maryland, Baltimore. Morgan State University (Chemistry Club); November **2007**.
8. The Relative Activity of Opioid Analogs at P-glycoprotein Transporters. Lipscomb University College of Pharmacy, Nashville, TN; January **2008**.
9. The Relative Activity of Opioid Analogs at P-glycoprotein Transporters. LECOM-Bradenton School of Pharmacy, Bradenton, FL; February **2008**.
10. Synthesis and Characterization of Meperidine Analogs at P-glycoprotein. University of Maryland, Baltimore; February **2008**.
11. The Relative Activity of Opioid Analogs at P-glycoprotein Transporters. (Committee Meeting) University of Maryland, Baltimore; February **2008**.
12. Synthesis and Characterization of Meperidine Analogs at the P-Glycoprotein Efflux Transporter. (Defense) University of Maryland, Baltimore; August **2008**.
13. Meperidine Analogs and P-glycoprotein. Tennessee State University, Nashville, TN; September **2009**.
14. ADHD and Potential Abuse Liability of Daytrana. Lipscomb University, Biology Department, Nashville, TN; October **2009**.
15. Opioids and P-glycoprotein: Progress towards Novel Analgesic Therapies. Lipscomb University College of Pharmacy, Nashville, TN; December **2011**.
16. Opioids and P-glycoprotein: Progress towards Novel Analgesic Therapies. Concordia University Wisconsin School of Pharmacy, Mequon, WI; February **2012**.
17. The Quest for Novel Analgesics Lacking Clinically Relevant Side Effects: Synthesis and Biological Evaluation of Meperidine Analogs. Tennessee Technological University, Chemistry Department, Cookeville, TN; February **2012**.
18. Back to the Basics: Integrating Curricular Content in the Pharmaceutical Sciences Through Laboratory Based Exercises. American Association of Colleges of Pharmacy Annual Meeting – Biological Sciences Section Symposia. Kissimmee, FL; July **2012**.
19. Investigation of Sterically Hindered Meperidine Analogs at P-glycoprotein and CYP3A4. International Narcotics Research Conference. Kansas City, MO; July **2012**.
20. John Overton High School Career Exploration for Freshman. Nashville, TN. January **2013**.
21. Synthesis and Analysis of Sterically Hindered Meperidine Analogs. American Association of Colleges of Pharmacy Annual Meeting – Chemistry Section: New Investigator Awards Mini-Symposium. Chicago, IL. July **2013**.
22. Academic Career Panel Discussion – The Inaugural PSC Grad Gathering. University of Maryland School of Pharmacy. Baltimore, MD. November **2015**.

FACULTY JOURNAL CLUB PRESENTATIONS

1. Pharm.D. Pathways to Biomedical Research. November 2008.
2. SAR of Salvinorin A. April 2009.
3. SAR of Novel mGluR5 Allosteric Antagonists. October 2009.
4. Porphyrin-Apidaecin Conjugate as a Broad Spectrum Antibiotic. April 2010.
5. Drug Development for Use During Pregnancy: Impact of the Placenta. May 2012.
6. Opioid Formulations Designed to Resist/Deter Abuse. March 2013.