

# CURRICULUM VITAE

June 2011

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## NAME

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SUSAN L. MERCER, Ph.D.

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## TITLE

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

Email: [Susan.Mercer@Lipscomb.edu](mailto: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

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## EDUCATION

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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

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## PROFESSIONAL EXPERIENCE

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Vanderbilt University School of Medicine, Nashville, TN 37240

November 2008 – Present

- Adjunct Assistant Professor in the Department of Pharmacology

Lipscomb University College of Pharmacy, Nashville, TN 37204

September 2008 – Present

- Assistant Professor in the Department of Pharmaceutical Sciences

University of Maryland, Baltimore, MD 21201

September 2004-August 2008

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

University of Maryland, Baltimore, MD 21201

Summer 2004

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

Seton Hill University, Chemistry Department, Greensburg, PA 15601

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

August 2000-May 2004

- Analytical Chemistry Independent Study  
*Supervisor: Susan Yochum, S.C., Ph.D.*

Spring 2004

Case Western Reserve University, Cleveland, OH 44106 May 2002-August 2002  
• Summer Undergraduate Research Student in Department of Pharmacology, School of Medicine  
*Supervisor: John Mieyal, Ph.D.*

Bayer Corporation, Pittsburgh, PA May 2001-August 2001  
• Summer Internship Student in OEM Coating and Colorants Laboratory  
*Supervisor: Patricia Jacobs, Ph.D.*

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## TEACHING EXPERIENCE

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Lipscomb University College of Pharmacy, Nashville, TN 37204

### 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 111) – 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 111) – 7 Lecture Hours

### Summer 2010

Pharm.D. Summer Research Student: Andreea Rose (Class of 2013)

### 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

### Summer 2009

Pharm.D. Summer Research Student: Patrick Nickell (Class of 2012)

### Spring 2009

Pharmacological Basis of Therapeutics I (PHSC 1613) – 16 Lecture Hours  
Integrated Biomedical Sciences Laboratory II (PHSC 1522) – 18 Lecture Hours  
Pharm.D. Research Students: Nicole Otte and Rachel Stephens (Class of 2012)

### Fall 2008

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

University of Maryland, Baltimore, MD 21201  
Health Sciences and Human Services Library  
SciFinder Scholar: The Basics Class

March 2007, October 2007, April 2008

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.

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RESEARCH INTEREST

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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.

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PROFESSIONAL MEMBERSHIPS

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American Association of Colleges of Pharmacy ( <a href="#">AACP</a> )	Since 2008
American Association of Pharmaceutical Scientists ( <a href="#">AAPS</a> )	Since 2005
American Chemical Society ( <a href="#">ACS</a> )	Since 2000
Tennessee Pharmacists Association ( <a href="#">TPA</a> )	Since 2008
Vanderbilt Institute of Chemical Biology ( <a href="#">VICB</a> )	Since 2009

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MANUSCRIPT REVIEWER

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[Biorganic and Medicinal Chemistry Letters](#)

[Current Medicinal Chemistry](#)

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TEXTBOOK REVIEWER

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<i>Medicinal Chemistry: Foundational Concepts and Therapeutic Applications</i> (ASHP)	August 2010
<i>Contemporary Pharmaceuticals in the 21<sup>st</sup> Century</i> (Elsevier)	March 2010

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ATTENDED CONFERENCES

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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

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LEADERSHIP POSITIONS

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American Association of Pharmaceutical Scientists

- Secretary/Treasurer – Drug Design and Discovery (DDD) Section 2010 and 2011
- DDD Section Rep – Member Groups Coordination Committee (MGCC) 2010 and 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

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SERVICE

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Lipscomb University, Nashville, TN 37204

- Academic Committee Appointments
  - College of Pharmacy Dual Degrees – Member 2010 - Present
  - College of Pharmacy Graduation – Member 2010 - Present
  - College of Pharmacy Environmental Health & Safety – Chair 2009 – Present
  - College of Pharmacy Admissions – Member 2008 – Present
  - College of Pharmacy Curriculum – Member 2008 – 2009
- Student Affiliates of the American Chemical Society September 2008 – Present
  - 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

Vanderbilt University, Nashville, TN

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

American Association of Colleges of Pharmacy

- Chemistry Section
  - Strategic Planning Task Force July 2010 - Present

University of Maryland, Baltimore, MD 21201

- Involved in Chemistry Faculty Candidate Search December 2007 – January 2008
- PSC Graduate Program Steering Committee June 2007 - present
- 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 March 2004
- Cabin Leader / Volunteer Assistant for Summer Camp (1 Week) August 2003
- Volunteer Assistant for Summer Camp (1 Week) August 1999, 2000, and 2001

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RESEARCH FUNDING

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Vanderbilt Institute of Chemical Biology Pilot Project Grant January 2010 – January 2011  
A Small Molecule Activator of Heme Sensing in Bacterial Pathogens  
Award Amount: \$40,000

Lipscomb University Faculty Enhancement Grant 2008-2009  
Abuse Potential of Daytrana® Transdermal Methylphenidate Patches for ADHD Treatment  
Award Amount: \$1,000

Recipient of *Dr. Frank J. Slama Fellowship* and *Dr. Jerome and Mitzie Holen Schwartz Graduate Fellowship in Pharmaceutical Sciences*  
University of Maryland, School of Pharmacy 2007-2008  
*Covered stipend for one academic year*

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AWARDS

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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

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SCHOLARSHIPS

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Bayer Scholar 2000-2004

Elizabeth Seton Presidential 2000-2004

M. Leon Bettwy (Chemistry) 2003-2004

Pennsylvania Sci-Tech 2001-2004

Seton Hill University – Athletic 2000-2002

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EDUCATIONAL ENRICHMENT (CONTINUING EDUCATION)

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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	December 2008
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

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GRANT APPLICATIONS SUBMITTED

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- Antidotes for GHB Overdose  
Submitted to NIDA, NIH as NRSA (1F31 DA021041-01) April 2005
- The Activity of Meperidine Analogs at P-glycoprotein Transporters  
Submitted to NIDA, NIH 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

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<sub>B</sub> receptor agonists in mice: differential antagonism by the GABA<sub>B</sub> 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
7. Hassan HE, **Mercer SL**, Cunningham CW, Coop A, Eddington ND. Evaluation of the P-glycoprotein affinity status of a series of novel and currently available morphine analogs: comparative study with meperidine analogs to identify opioids with minimal P-gp interactions. *Int. J. Pharm.* **2009**; 375(1-2): 48-54. PMID:19481690
8. Koek W, **Mercer SL**, Coop A, France CP. Behavioral effects of GHB, its precursor GBL, and GABA<sub>B</sub> receptor agonists: time course and differential antagonism by the GABA<sub>B</sub> receptor antagonist CGP35348. *J. Pharmacol. Exp. Ther.* **2009**; 330(3): 876-883. PMID:19564487
9. **Mercer SL** and Coop A. Opioid analgesics and P-glycoprotein efflux transporters: A potential systems-level contribution to analgesic tolerance. *Curr. Top. Med. Chem.* **2011**; 11(9): 1157-1164. PMID:21050174
10. **Mercer SL**. ACS Chemical Neuroscience Molecule Spotlight on Qnexa. *ACS Chem. Neurosci.* **2011**; 2(4): 183-184.
11. Jacob DA, **Mercer SL**, Osheroff N, Deweese JE. Etoposide Quinone Is a Redox-Dependent Topoisomerase II Poison. *Biochemistry* **2011**; 50(25): 5660-5667.

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. 9<sup>th</sup> 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. **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**.
22. 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**.
23. 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**.
24. 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**.
25. **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**.
26. DA Jacob, **SL Mercer**, N Osheroff, JE Deweese. Etoposide Quinone is a Redox-Dependent Topoisomerase II Poison. American Association of Colleges of Pharmacy. San Antonio, TX. July **2011**.

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**.