

KLARISSA D. JACKSON, PH.D.

FORMERLY KLARISSA D. HARDY

PERSONAL INFORMATION:

Office Address

UNC Eshelman School of Pharmacy
301 Pharmacy Lane
Kerr Hall, Room 3320
The University of North Carolina at Chapel Hill
Chapel Hill, NC 27599
Office: (919) 962-5551
Email: klarissa.jackson@unc.edu

EDUCATION:

Doctor of Philosophy in Pharmacology

August 2006 – May 2011

Department of Pharmacology
School of Medicine
Vanderbilt University
Nashville, Tennessee

Project: *Formation and Metabolism of 15-Deoxy- $\Delta^{12,14}$ -Prostaglandin J_2 In Vivo*
Mentors: Jason D. Morrow, M.D., Division of Clinical Pharmacology
L. Jackson Roberts, II, M.D, Division of Clinical Pharmacology

Bachelor of Science in Chemistry

August 2002 – May 2006

American Chemical Society Certified
Department of Chemistry
College of Science, Engineering, and Technology
Jackson State University
Jackson, Mississippi

POSTDOCTORAL TRAINING:

Postdoctoral Research Fellow

August 2011 – June 2013

Department of Medicinal Chemistry
School of Pharmacy
University of Washington
Seattle, Washington

Project: *Defining the Molecular Mechanisms of Lapatinib-Induced Hepatotoxicity*
Mentors: Sidney D. Nelson, Ph.D., Department of Medicinal Chemistry
Allan E. Rettie, Ph.D., Department of Medicinal Chemistry

PROFESSIONAL EXPERIENCE:

Assistant Professor

July 2019 - present

Division of Pharmacotherapy and Experimental Therapeutics
UNC Eshelman School of Pharmacy
The University of North Carolina at Chapel Hill
Chapel Hill, North Carolina

Assistant Professor

July 2013 – June 2019

Department of Pharmaceutical Sciences
College of Pharmacy & Health Sciences
Lipscomb University
Nashville, Tennessee

Adjunct Assistant Professor

September 2013 – June 2019

Department of Pharmacology
School of Medicine
Vanderbilt University
Nashville, Tennessee

Postdoctoral Research Fellow

August 2011 – June 2013

Department of Medicinal Chemistry
School of Pharmacy
University of Washington
Seattle, Washington
Mentors: Sidney Nelson, Ph.D.,
Allan Rettie, Ph.D.

Research Associate

May 2011 – July 2011

Division of Clinical Pharmacology
School of Medicine
Vanderbilt University
Nashville, Tennessee
Supervisor: Ginger Milne, Ph.D.

Graduate Research Assistant

August 2006 – May 2011

Department of Pharmacology
School of Medicine
Vanderbilt University
Nashville, Tennessee
Mentors: Jason Morrow, M.D.,
L. Jackson Roberts, II, M.D.

Student Summer Research Intern

May 2006 – August 2006

Department of Drug Metabolism
Merck Research Laboratories
Merck & Co.
West Point, Pennsylvania
Supervisor: Thomas Rushmore, Ph.D.

- Student Summer Research Intern** May 2005 – August 2005
 Department of Drug Metabolism
 Merck Research Laboratories
 Merck & Co.
 West Point, Pennsylvania
 Supervisor: Thomas Rushmore, Ph.D.
- Student Research Assistant** October 2004 – May 2006
 Department of Chemistry
 College of Science, Engineering, and Technology
 Jackson State University
 Jackson, Mississippi
 Mentor: Ken Lee, Ph.D.
- Student Summer Research Intern** May 2004 – August 2004
 Department of Pharmacology
 School of Medicine
 Vanderbilt University
 Nashville, Tennessee
 Mentor: Brian Wadzinski, Ph.D.
- Student Summer Research Intern** May 2003 – August 2003
 Department of Biochemistry and Cell Biology
 Wiess School of Natural Sciences
 Rice University
 Houston, Texas
 Mentor: Kathleen Matthews, Ph.D.

HONORS AND AWARDS:

- Second Place Award for Poster Presentation, NIH/NCI Center to Reduce Cancer Health Disparities (CRCHD) Professional Development Workshop* 2016
- Mentored Research Scientist Development Award (K01) to Promote Diversity, NIH/NCI* 2014
- New Investigator Award, American Association of Colleges of Pharmacy (AACP)* 2014
- Postdoctoral Science Research Fellowship, United Negro College Fund (UNCF) – Merck Science Initiative* 2011
- Award for Oral Presentation, Research Symposium, Vanderbilt Institute of Chemical Biology* 2010
- First Place Oral Presentation, Pharmacology Department Retreat, Vanderbilt University* 2009
- Ruth L. Kirschstein National Research Service Award Individual Pre-doctoral Fellowship (F31) to Promote Diversity, NIH/NIA* 2009
- Young Investigator's Award, Society for Free Radical Biology and Medicine Annual Meeting* 2007

<i>Director's Award, Interdisciplinary Graduate Program, Vanderbilt University</i>	2006
<i>Jacksonian Award, Jackson State University Alumni Association</i>	2006
<i>Top Senior Chemistry Student Award, Department of Chemistry, Jackson State University</i>	2006
<i>Poster Award in Chemical Sciences, Annual Biomedical Research for Conference for Minority Students</i>	2005
<i>Undergraduate Scholarship and Internship, UNCF–Merck Science Initiative</i>	2005
<i>Top Junior Chemistry Student Award, Department of Chemistry, Jackson State University</i>	2005
<i>Minority Access to Research Careers (MARC) Fellowship Award, NIH/NIGMS</i>	2004
<i>First Place Poster Award, Louis Stoke's Mississippi Alliance for Minority Participation State Conference</i>	2004
<i>John A. Peoples Science and Mathematics Scholarship, Jackson State University</i>	2004

STUDENT HONORS AND AWARDS:

<i>Award for Undergraduate Student Podium Presentation</i> Lipscomb University Student Scholars Symposium Pharm.D. Student Awardee: Arsany Abouda Faculty Mentor: Jackson	2019
<i>Award for Undergraduate Student Poster Presentation</i> Lipscomb University Student Scholars Symposium Pharm.D. Student Awardee: Jennifer Bissada Faculty Mentor: Jackson	2019
<i>Undergraduate Student Travel Award</i> American Society for Pharmacology and Experimental Therapeutics (ASPET) April 6-9, 2019 Undergraduate Student Awardee: Arsany Abouda Faculty Mentor: Jackson	2019
<i>Student Travel Award</i> Annual Biomedical Research Conference for Minority Students (ABRCMS) November 14-17, 2018 Undergraduate Student Awardee: Jennifer Bissada Faculty Mentor: Jackson	2018
<i>Student Travel Award</i> Annual Biomedical Research Conference for Minority Students November 14-17, 2018 Undergraduate Student Awardee: Arsany Abouda Faculty Mentor: Jackson	2018

<p><i>ASPET Individual Summer Undergraduate Research Fellowship</i> Amount: \$2,800 Undergraduate Student Awardee: Arsany Abouda Faculty Mentor: Jackson</p>	2018
<p><i>ASPET Young Scientist Travel Award</i> 18th World Congress of Basic and Clinical Pharmacology Amount: \$3,000 Pharm.D. Student Awardee: Jessica L. Murray Faculty Mentor: Jackson</p>	2018
<p><i>AACP Walmart Scholar Program</i> Amount: \$1,000 Pharm.D. Student Awardee: Jessica L. Murray Faculty Mentor: Jackson</p>	2017
<p><i>Gateway to Research Scholarship</i> American Foundation for Pharmaceutical Education (AFPE) Amount: \$5,000 Pharm.D. Student Awardee: Jessica L. Murray Faculty Mentor: Jackson</p>	2016
<p><i>Award for Graduate Student Podium Presentation</i> Lipscomb University Student Scholars Symposium Pharm.D. Student Awardee: Jessica L. Murray Faculty Mentor: Jackson</p>	2016
<p><i>Award for Graduate Student Poster Presentation</i> Lipscomb University Student Scholars Symposium Pharm.D. Student Awardee: Rebecca N. Clark Faculty Mentor: Jackson</p>	2016
<p><i>Award for Graduate Student Poster Presentation</i> Lipscomb University Student Scholars Symposium Pharm.D. Student Awardee: David S. Bourgeois Faculty Mentor: Jackson</p>	2015

Peer Reviewed Book Chapter

1. Brooks, J.D., Cox, B.E., **Hardy, K.D.**, Sanchez, S.C., Koestner, T.R., Howard, J.R., and Milne, G.L. "The Isoprostanes: Accurate Markers and Potent Mediators of Oxidant Injury *In Vivo*". In Biomarkers for Antioxidant Defense and Oxidative Damage: Principles and Practical Applications. Wiley-Blackwell, 65-84. October 2010.

Refereed Articles

1. Murray, J.L., Mercer, S.L., and **Jackson, K.D.** Impact of Cytochrome P450 Variation on Meperidine *N*-Demethylation to the Neurotoxic Metabolite Normeperidine. *Xenobiotica*. 2019 Mar 22;1-56.
2. Staveness, D., Sodano, T.M., Li, K., Burnham, E.A., **Jackson, K.D.**, and Stephenson, C.R.J. Providing New Aniline Bioisostere through the Photochemical Production of 1-Aminonorbornanes. *Chem*. 2019 Jan 10;5(1):215-226.
3. **Jackson, K.D.**, Durandis, R., and Vergne, M.J. Role of Cytochrome P450 Enzymes in the Metabolic Activation of Tyrosine Kinase Inhibitors. *Int J Mol Sci*. 2018 Aug 11;19(8):2367.
4. Amaya, G.M., Durandis, R., Bourgeois, D.S., Perkins, J.A., Abouda, A.A., Wines, K.J., Mohamud, M., Starks, S.A., Daniels, R.N., and **Jackson, K.D.** Cytochromes P450 1A2 and 3A4 Catalyze the Metabolic Activation of Sunitinib. *Chem Res Toxicol*. 2018 Jul 16;31(7):570-584.
5. Wilson, J.T., Fief, C.A., **Jackson, K.D.**, Mercer, S.L., and Deweese, J.E. HU-331 and Oxidized Cannabidiol Act as Inhibits of Human Topoisomerase II α and β . *Chem Res Toxicol*. 2018 Feb 19;31(2):137-144.
6. Towles, J.K., Clark, R.N., Wahlin, M.D., Uttamsingh, V., Rettie, A.E., and **Jackson, K.D.** Cytochrome P450 3A4 and CYP3A5-Catalyzed Bioactivation of Lapatinib. *Drug Metab Dispos*. 2016 Oct;44(10):1584-1597.
7. Ho, H.K., Chan, C.Y., **Hardy, K.D.**, and Chan E.C.Y. Mechanism-based Inactivation of CYP450 Enzymes: A Case Study of Lapatinib. *Drug Metab Rev*. 2015 Feb;47(1):21-28.
8. **Hardy, K.D.**, Wahlin, M.D., Papageorgiou, I., Unadkat, J.D., Rettie, A.E., and Nelson, S.D. Studies on the Role of Metabolic Activation in Tyrosine Kinase Inhibitor (TKI)-dependent Hepatotoxicity: Induction of CYP3A4 Enhances the Cytotoxicity of Lapatinib in HepaRG Cells. *Drug Metab Dispos*. 2014 Jan;42(1):162-171.
9. Milne, G.L., Yin, H., **Hardy, K.D.**, Davies, S.S., and Roberts, L.J., II. Isoprostane Generation and Function. *Chem Rev*. 2011 Oct 12;111(10):5973-5996.
10. **Hardy, K.D.**, Cox, B.E., Milne, G.L., Yin, H., and Roberts, L.J., II. Nonenzymatic Free Radical-catalyzed Generation of 15-Deoxy- $\Delta^{12,14}$ -Prostaglandin J₂-like Compounds (Deoxy-J₂-Isoprostanes) *in Vivo*. *J Lipid Res*. 2011 Jan;52(1):113-124.

11. Dostalek, M., **Hardy, K.D.**, Milne, G.L., Morrow, J.D., Chen, C., Gonzalez, F.J., Gu, J., Ding, X., Johnson, D.A., Johnson, J.A., Martin, M. V., and Guengerich, F.P. Development of oxidative stress by cytochrome P450 induction in rodents is selective for barbiturates and related to loss of pyridine nucleotide-dependent protective systems. *J Biol Chem*. 2008 Jun 20;283(25):17147-17157.
12. Dostalek, M., Brooks, J.D., **Hardy, K.D.**, Milne, G.L., Moore, M.M., Sharma, S., Morrow, J.D., and Guengerich, F.P. *In vivo* Oxidative Damage in Rats is Associated with Barbiturate Response but not other Cytochrome P450 Inducers. *Mol Pharmacol*. 2007 Dec;72(6):1419-24.

Invited Oral Presentations

1. Bioactivation of Lapatinib by CYP3A4 and CYP3A5: Impact of Genetic Polymorphism. Redox Enzymology Meeting, Vanderbilt University School of Medicine, Nashville, TN, December 2018.
2. Metabolic Activation of Tyrosine Kinase Inhibitors: Case Studies with Lapatinib and Sunitinib. Invited seminar presentation. Department of Medicinal Chemistry and Department of Pharmaceutics, University of Washington, School of Pharmacy, Seattle, WA, October 2018.
3. Metabolic Activation of Tyrosine Kinase Inhibitors Associated with Hepatotoxicity: Case Studies with Lapatinib and Sunitinib. Invited seminar presentation. Division of Pharmacotherapy and Experimental Therapeutics, The University of North Carolina, Eshelman School of Pharmacy, Chapel Hill, NC, June 2018.
4. Research at Lipscomb University. Invited podium presentation. Faculty Research Series, Center for Teaching and Learning, Lipscomb University, Nashville, TN, March 2018.
5. Exploring Your Career Path in Research. Invited podium presentation. MARC and RISE Undergraduate Research Program Seminar Series, Winston-Salem State University, Winston-Salem, NC, March 2018.
6. Role of Cytochrome P450 Enzymes in the Metabolic Activation of Tyrosine Kinase Inhibitors. Invited seminar presentation. Biology Department Seminar, Lipscomb University, Nashville, TN, February 2018.
7. Role of Drug Metabolism in Drug-Induced Liver Injury by Tyrosine Kinase Inhibitors. Invited seminar presentation. Department of Chemistry Seminar, Tennessee State University, Nashville, TN, October 2017.
8. Metabolism and Bioactivation of Anti-Cancer Tyrosine Kinase Inhibitors by Cytochrome P450 Enzymes. Invited seminar presentation. Haim G. and Jane Graumann Nagirner Weinsten Symposium Series, Rosalind Franklin University of Medicine and Science, North Chicago, IL, September 2017.
9. Exploring Your Career Path in Research. Invited podium presentation. Distinguished Lectures in Drug Discovery, Vanderbilt Summer Science Academy Research Symposium, Nashville, TN, August 2017.
10. Career Panel Discussion. Invited podium presentation. NIH/NIGMS Training, Workforce Development, and Diversity Program Directors' Meeting, Baltimore, MD, June 2017.

11. Pharmaceutical Sciences Career Development. Invited seminar presentation. American Association of Pharmaceutical Scientist (AAPS) Student Chapter Meeting, Vanderbilt University School of Medicine, Nashville, TN, March 2017.
12. Metabolism and Bioactivation of Sunitinib: Implications for Drug-induced Liver Injury. Invited seminar presentation. Redox Enzymology Meeting, Vanderbilt University School of Medicine, Nashville, TN, February 2017.
13. Mechanisms of Drug-Induced Liver Injury by Tyrosine Kinase Inhibitors. Invited seminar presentation. Biology Department Seminar, Lipscomb University, Nashville, TN, February 2016.
14. Mechanisms of Drug-Induced Liver Injury by Tyrosine Kinase Inhibitors. Invited seminar presentation. Redox Enzymology Meeting, Vanderbilt University School of Medicine, Nashville, TN, January 2016.
15. Molecular Mechanisms of Drug-induced Liver Injury by Tyrosine Kinase Inhibitors. Invited podium presentation. American Association of Colleges of Pharmacy (AACCP) Annual Meeting, National Harbor, MD, July 2015. (**New Investigator Award*)
16. My Career Path: Lessons Along the Journey. Invited guest speaker. American Chemical Society (ACS) Student Chapter, Lipscomb University, Nashville, TN, March 2015.
17. My Career Path in Research: Lessons Along the Journey. Invited podium presentation. Louise Stoke's Mississippi Alliance for Minority Participation (LS MAMP) Symposium, Jackson State University, Jackson, MS, February 2015.
18. Graduation Ceremony - Faculty Charge. Invited speaker. Lipscomb University, Nashville, TN, December 2014.
19. Investigating Mechanisms of Lapatinib-induced Hepatotoxicity in HepaRG Cells. Invited podium presentation. Gordon Research Conference on Drug Metabolism, Holderness, NH, July 2012.
20. Defining the Chemical and Biochemical Mechanisms of Drug-induced Liver Injury. Guest lecturer. Undergraduate and Graduate Chemistry Seminar Series. Jackson State University, Department of Chemistry and Biochemistry, Jackson, MS, March 2012.
21. Formation and Metabolism of 15-Deoxy- $\Delta^{12,14}$ -Prostaglandin J₂. Podium presentation, Vanderbilt Institute of Chemical Biology (VICB) Research Symposium, Nashville, TN, August 2010. (**Award for Oral Presentation*)

Scientific Abstracts (Presenting Author)

Formerly Klarissa D. Hardy

1. Bissada, J.E., Truong, V., Abouda, A.A., and **Jackson, K.D.** Cytochrome P450 3A Activity is a Key Determinant of Lapatinib Metabolic Activation. Poster presentation at the NIH National Cancer Institute, Center to Reduce Cancer Health Disparities, Professional Development Workshop. Bethesda, MD, June 2019.

2. Abouda, A.A., Bissada J.E., and **Jackson, K.D.** Interindividual Variation in Sunitinib Metabolism by Cytochrome P450 3A in Primary Human Hepatocytes. Podium presentation at the Lipscomb University Student Scholars Symposium, Nashville, TN, April 2019. (**Award for Undergraduate Student Oral Presentation*)
3. Bissada J.E., Abouda, A.A., and **Jackson, K.D.** CYP3A Activity Influences Lapatinib Metabolism in CYP3A5-Genotyped Primary Human Hepatocytes. Poster presentation at the Lipscomb University Student Scholars Symposium, Nashville, TN, April 2019. (**Award for Undergraduate Student Poster Presentation*)
4. Truong, V. and **Jackson, K.D.** Metabolism of Lapatinib in Human Liver Microsomes. Poster presentation at the Lipscomb University Student Scholars Symposium, Nashville, TN, April 2019. (**Award for Graduate Student Poster Presentation*)
5. Abouda, A.A., Bissada J.E., and **Jackson, K.D.** Cytochrome P450 1A2 Catalyzes Metabolism of Sunitinib in Primary Human Hepatocytes via Oxidative Defluorination. Poster presentation at the Lipscomb University Student Scholars Symposium, Nashville, TN, April 2019. (**Award for Undergraduate Student Oral Presentation*)
6. Bissada, J.E., Abouda, A.A., and **Jackson, K.D.** Lapatinib Metabolism in CYP3A5-Genotyped Primary Human Hepatocytes. Poster presentation at the American Society for Pharmacology and Experimental Therapeutics Annual Meeting, Experimental Biology, Orlando, FL, April 2019.
7. Abouda, A.A., Bissada, J.E., and **Jackson, K.D.** Interindividual Variation in Sunitinib Metabolism in Primary Human Hepatocytes. Poster presentation at the American Society for Pharmacology and Experimental Therapeutics Annual Meeting, Experimental Biology, Orlando, FL, April 2019. (**ASPET Student Travel Award*)
8. Bissada, J.E., Abouda, A.A., and **Jackson, K.D.** Characterization of Lapatinib Metabolism in Genotyped Primary Human Hepatocytes. Poster presentation at the Annual Biomedical Research Conference for Minority Students, Indianapolis, IN, November 2018. (**ABRCMS Student Travel Award*)
9. Abouda, A.A., Wines, K.J., and **Jackson, K.D.** Characterization of Individual Differences in CYP3A5 Activity In Vitro. Poster presentation at the Annual Biomedical Research Conference for Minority Students, Indianapolis, IN, November 2018. (**ABRCMS Student Travel Award*)
10. **Jackson, K.D.**, Abouda, A.A., and Wines, K.J. Characterization of Individual Differences in CYP3A5 Activity Using a CYP3A5-Selective Marker Reaction In Vitro. Poster presentation at the North America International Society for the Study of Xenobiotics Meeting, Montréal, Canada, July 2018.
11. Murray, J.L., Mercer, S.L., and **Jackson, K.D.** Metabolic Characterization of the Opioid Analgesic Meperidine and Pharmacogenetic Implications for Generation of the Neurotoxic Metabolite Normeperidine. Poster presentation at the World Congress of Basic and Clinical Pharmacology Meeting, Kyoto, Japan, July 2018. (**ASPET Young Scientist Travel Award*)
12. **Jackson, K.D.**, Amaya, G.M., Durandis, R., Wines, K.J., Abouda, A.A., Starks, S.A., and Daniels, R.N. Metabolic Activation of Sunitinib: Implications for Sunitinib-Induced Toxicities. Poster presentation at the American Association for Cancer Research Annual Meeting, Chicago, IL, April 2018.

13. Abouda, A.A., Wines, K.J., and **Jackson, K.D.** Characterization of Individual Differences in CYP3A5 Activity *In Vitro*. Poster presentation at the Lipscomb University Student Scholars Symposium, Nashville, TN, April 2018.
14. Durandis, R., Amaya, G.M., and **Jackson, K.D.** CYP1A2 Activity Impacts Sunitinib Reactive Metabolite Formation. Poster presentation at the Lipscomb University Student Scholars Symposium, Nashville, TN, April 2018.
15. Amaya, G.M., Durandis, R, Bourgeois, D.S., and **Jackson, K.D.** Metabolic Activation of Sunitinib by Cytochrome P450 1A2 and CYP3A4. Poster presentation at the American Association of Colleges of Pharmacy Annual Meeting, Nashville, TN, July 2017.
16. Wilson, J.T., Fief, C.A., **Jackson, K.D.**, Mercer, S.L., and Deweese, J.E. Oxidized Products of Cannabidiol Inhibit Topoisomerase II α . Poster presentation at the American Association of Colleges of Pharmacy Annual Meeting, Nashville, TN, July 2017.
17. Amaya, G.M. and **Jackson, K.D.** Sunitinib Metabolism and Implications for Drug-Induced Liver Damage. Poster presentation at the National Conference for Undergraduate Research, Memphis, TN, April 2017.
18. Murray, J.L., Mercer, S.L., and **Jackson, K.D.** An In Vitro Characterization of Meperidine *N*-Demethylation by Cytochrome P450 Enzymes. Podium presentation at the Lipscomb University Student Scholars Symposium, Nashville, TN, April 2017.
19. Amaya, G.M. and **Jackson, K.D.** Sunitinib Metabolism and Implications for Drug-Induced Liver Damage. Podium presentation at the Lipscomb University Student Scholars Symposium, Nashville, TN, April 2017.
20. Wilson, J.T., **Jackson, K.D.**, Mercer, S.L., and Deweese, J.E. Oxidized Products of Cannabidiol Inhibit Topoisomerase II α . Podium presentation at the Lipscomb University Student Scholars Symposium, Nashville, TN, April 2017.
21. Wilson, J.T., **Jackson, K.D.**, Mercer, S.L., and Deweese, J.E. Oxidized Metabolites of Cannabidiol Inhibit Topoisomerase II α . Poster presentation at the Association of Pharmaceutical Scientist Annual Meeting, Denver, CO, November 2016.
22. **Jackson, K.D.**, Perkins, J.A., Bourgeois, D.S., and Mohamud, M. Metabolism and Bioactivation of the Multi-Targeted Tyrosine Kinase Inhibitor Sunitinib. Poster presentation at the NIH National Cancer Institute, Center to Reduce Cancer Health Disparities, Professional Development Workshop. Bethesda, MD, May 2016. (**Second Place Award for Poster Presentation*)
23. Clark, R.N., Towles, J.K., and **Jackson, K.D.** Cytochrome P450 3A4 and CYP3A5-Catalyzed Bioactivation of Lapatinib. Poster presentation at the Lipscomb University Student Scholars Symposium, Nashville, TN, April 2016. (**Award for Graduate Student Poster Presentation*)
24. Murray, J.L., Mercer, S.L., and **Jackson, K.D.** Meperidine Metabolism: Roles of CYP2B6, CYP2C19, and CYP3A4 in Generation of the Neurotoxic Metabolite, Normeperidine. Podium presentation at the Lipscomb University Student Scholars Symposium, Nashville, TN, April 2016. (**Award for Graduate Student Oral Presentation*)

25. Murray, J.L., Mercer, S.L., and **Jackson, K.D.** Meperidine Metabolism: Roles of CYP2B6, CYP2C19, and CYP3A4 in Generation of the Neurotoxic Metabolite, Normeperidine. Poster presentation at the Society of Toxicology Annual Meeting, New Orleans, LA, March 2016.
26. **Hardy, K.D.**, Perkins, J.A., Vongkhamchanh, R., and Bourgeois, D.S. Molecular Mechanisms of Drug-induced Liver Injury by Tyrosine Kinase Inhibitors. Poster presentation at the American Association of Colleges of Pharmacy Annual Meeting, National Harbor, MD, July 2015.
27. **Hardy, K.D.** and Weiler, J.K. Role of Cytochrome P450 3A5 in the Metabolism and Bioactivation of Lapatinib. Poster presentation at the NIH National Cancer Institute, Center to Reduce Cancer Health Disparities, Professional Development Workshop. Rockville, MD, June 2015.
28. Bourgeois, D.A., Perkins, J.A., Vongkhamchanh, R., and **Hardy, K.D.** Metabolism and Bioactivation of Sunitinib *In Vitro*. Poster presentation at the Lipscomb University Student Scholars Symposium, Nashville, TN, April 9, 2015. (*Award for Graduate Student Poster Presentation)
29. Weiler, J.K. and **Hardy, K.D.** Role of Cytochrome P450 3A5 in Lapatinib Metabolism and Bioactivation. Poster presentation at the Lipscomb University Student Scholars Symposium, Nashville, TN, April 9, 2015.
30. **Hardy, K.D.**, Perkins, J.A., Vongkhamchanh, R., and Bourgeois, D.S. Metabolism and Bioactivation of Sunitinib *In Vitro*. Poster presentation at the Society of Toxicology Annual Meeting, San Diego, CA, March 2015.
31. Perkins, J., Vongkhamchanh, R., and **Hardy, K.D.** Characterization of the Biotransformation of Sunitinib *In Vitro*. Poster presentation at the 66th Annual Southeastern Regional Meeting of the American Chemical Society. Nashville, TN, October 2014.
32. **Hardy, K.D.**, Wahlin, M.D., and Rettie, A.E. Role of CYP3A5 in the Metabolic Activation of Lapatinib. Poster presentation at the Society of Toxicology Annual Meeting, Phoenix, AZ, March 2014.
33. **Hardy, K.D.**, Wahlin, M.D., Rettie, A.E., and Nelson S.D. Induction of CYP3A4 by Dexamethasone Enhances the Cytotoxicity of Lapatinib in HepaRG Cells. Poster presentation at the New England Drug Metabolism Discussion Group and the International Society for the Study of Xenobiotics Joint Workshop, Cambridge, MA, April 2013.
34. **Hardy, K.D.**, Wahlin, M.D., Rettie, A.E., and Nelson S.D. Bioactivation by CYP3A Plays a Critical Role in Lapatinib-induced Hepatocellular Injury. Poster presentation at the International Society for the Study of Xenobiotics, 18th Annual Regional Meeting, Dallas, TX, October 2012.
35. Wahlin, M.D., **Hardy, K.D.**, Rettie, A.E., and Nelson S.D. Metabolic Activation by CYP3A plays a critical role in lapatinib-induced hepatocellular injury. Poster presentation at the Society of Toxicology Annual Meeting, San Francisco, CA, March 2012.
36. **Hardy, K.D.**, Milne, G.L., Yin, H., Roberts, L.J., II. Cyclopentenone Prostaglandin 15-Deoxy- $\Delta^{12,14}$ -Prostaglandin J₂ is Metabolized in Primary Human Hepatocytes via Conjugation with Glutathione. Poster presentation at the Keystone Symposium – Bioactive Lipids: Biochemistry and Diseases, Kyoto Japan, June 2010.

37. **Hardy, K.D.**, Cox, B.E., Milne, G.L., Yin, H. Morrow, J.D., Roberts, L.J., II. Formation of the Highly Reactive Cyclopentenone Eicosanoid of 15-deoxy- $\Delta^{12,14}$ -prostaglandin J₂ *in Vivo* via the Isoprostane Pathway. Poster presentation at the Society for Free Radical Biology and Medicine Annual Meeting, San Francisco, CA, November 2009.
38. **Hardy, K.D.**, Milne, G.L., Yin, H. Morrow, J.D., Roberts, L.J., II. Formation of the Highly Reactive Cyclopentenone Eicosanoid of 15-deoxy- $\Delta^{12,14}$ -prostaglandin J₂ *in Vivo* via the Isoprostane Pathway. Abstract for oral presentation. Vanderbilt University - Pharmacology Department Retreat, Cadiz, KY, October 2009.
39. **Hardy, K.D.**, Milne, G.L., Yin, H. Morrow, J.D., Roberts, L.J., II. Formation and Metabolism of 15-deoxy- $\Delta^{12,14}$ -prostaglandin J₂ *in Vivo*. Podium presentation at the Annual Graduate Student Research Symposium, Nashville, TN, March 2009.
40. **Hardy, K.D.**, Milne, G.L., Yin, H., Roberts, L.J., II, Morrow, J.D. Formation of 15-deoxy- $\Delta^{12,14}$ -prostaglandin J₂ (15-d-PGJ₂) via Nonenzymatic Oxidation of Arachidonic Acid. Poster presentation at the Society for Free Radical Biology and Medicine Annual Meeting, Indianapolis, IN, November 2008.
41. **Hardy, K.D.**, Dostalek, M., Brooks, J.D., Milne, G.L., Moore, M.M., Sharma, S., Morrow, J.D., Guengerich, F.P. *In Vivo* Oxidative Damage in Rats is Associated with Barbiturate Response but Not Other Cytochrome P450 Inducers. Poster presentation at the Society for Free Radical Biology and Medicine Annual Meeting, Washington D.C, November 2007. (* *Young Investigator Award*)
42. **Hardy, K.D.**, Eisenhandler, R., Rushmore, T. An LC/MS/MS Method for the Assay of 1'-Hydroxymidazolam and Midazolam in a CYP3A4 Bioreactor. Poster presentation at the Annual Biomedical Research Conference for Minority Students, Atlanta, GA, November 2005. (* *Poster Award in Chemical Sciences*)
43. **Hardy, K.D.**, Coffee, L., Adams, D., Wadzinski, B.E. Role of PP2A in the mTOR/p70 S6 Kinase Signal Transduction Pathway. Poster presentation at the Louise Stoke's Mississippi Alliance for Minority Participation (LSMAMP) – State Conference, Jackson, MS, October 2004. (* *First Place Poster Award*)

Other Products: Electronic Media

1. **Jackson, K.D.** Lipscomb Leads – Klarissa Jackson.
Video at: <https://www.lipscomb.edu/now/embodying-faith-academics>
Date: January 25, 2019
2. **Jackson, K.D.** Bison Talk Podcast: Klarissa Jackson discusses the road to her NIH-funded cancer research.
Lipscomb University
Podcast at: <https://www.lipscomb.edu/cphs/archive/detail/184/32146>
Date: December 1, 2017
3. **Jackson, K.D.** HBCU Voices of STEM Excellence: Jackson State's Klarissa Jackson.
HBCU Digest
Podcast at: <https://hbcudigest.com/hbcu-voices-of-stem-excellence-jackson-states-klarissa-jackson/>
Date: August 9, 2017

RESEARCH FUNDING:

Formerly Klarissa D. Hardy

Active Research Support

1R01 GM127774

Title: *Photochemical Synthesis of Bioactive Molecules*
Sponsor: NIH/NIGMS
Total Amount: \$25,000/year (sub-award; Direct Costs: \$18,382/year)
Date: 9/20/18 – 8/31/22
Role: Stephenson C, Principal Investigator (PI); **Jackson KD, Co-Investigator (Co-I)**
Effort: 7.5%

5K01 CA190711

Title: *Role of Cytochrome P450 3A5 in the Metabolism and Hepatotoxicity of Lapatinib*
Award: Mentored Research Scientist Development Award (K01) to Promote Diversity
Sponsor: NIH/NCI
Total Amount: \$131,828/year (Direct Costs: \$121,000-122,063/year)
Date: 9/17/14 – 8/31/19
Role: **Jackson KD, PI**
Effort: 75%

T32 GM007628

Title: *Training in Pharmacological Sciences, Vanderbilt University, Department of Pharmacology*
Sponsor: NIH/NIGMS
Amount: \$565,559 (budget period)
Date: 7/01/18 – 6/30/23
Role: Barnett JV, PI; **Jackson KD, Faculty Preceptor**
Effort: 0%

Completed Research Support

Faculty Research Start-up Fund

Title: *Metabolism, Disposition, and Toxicology of Tyrosine Kinase Inhibitors*
Sponsor: Lipscomb University College of Pharmacy
Amount: \$120,000
Date: 7/1/13 – 5/31/19
Role: **Jackson KD, PI**
Effort: 5%

Dean's Grant

Title: *Investigation of CYP3A4 Metabolism of Sterically Hindered Meperidine Analogs*
Sponsor: Lipscomb University College of Pharmacy
Amount: \$4,400
Date: 1/27/15 – 12/31/15
Role: Mercer SL, PI; **Jackson KD, Co-I**
Effort: 5%

New Investigator Award

Title: *Molecular Mechanisms of Drug-induced Liver Injury by Tyrosine Kinase Inhibitors*
Sponsor: AACCP
Amount: \$10,000
Date: 1/1/14 – 12/31/14
Role: **Hardy KD, PI**
Effort: 10%

Postdoctoral Research Fellowship

Title: *Defining the Molecular Mechanisms of Lapatinib-induced Hepatotoxicity*
Sponsor: UNCF – Merck Science Initiative
Amount: \$92,000
Date: 9/01/11 – 2/28/13
Role: **Hardy KD, PI**
Effort: 100%

F31 AG035483

Title: *Formation and Metabolism of 15-Deoxy- $\Delta^{12,14}$ -Prostaglandin J_2 In vivo*
Award: Ruth L. Kirschstein National Research Service Award Individual Pre-doctoral Fellowship (F31) to Promote Diversity
Sponsor: NIH/NIA
Date: 3/15/10 – 5/15/11
Role: **Hardy KD, PI**

TEACHING ACTIVITIES:

Instructor

*Doctor of Pharmacy (PharmD) Program
Lipscomb University College of Pharmacy & Health Sciences*

Spring 2019

Course title: PHSC 1522 Integrated Biomedical Sciences Lab II (18 lab hours)
Course title: PHSC 2633 Pharmacologic Basis of Therapeutics III (2 lecture hours)
Course title: PHAD 1111/2111/3111 Applied Christian Values (8 contact hours)

Fall 2018

Course title: PHSC 1512 Integrated Biomedical Sciences Lab I (36 lab hours)
Course title: PHSC 2433 Advanced Biopharmaceutics and Pharmacokinetics (13 lecture hours)
Course title: PHSC 1213 Biomolecular Chemistry (1 lecture hour)
Course title: PHSC 392V Research in Pharmaceutical Sciences I Elective (60 contact hours)
Course title: PHAD 1111/2111/3111 Applied Christian Values (8 contact hours)

Spring 2018

Course title: PHSC 1522 Integrated Biomedical Sciences Lab II (24 lab hours)
Course title: PHSC 1123 Physiologic Basis of Therapeutics II (6 lecture hours)
Course title: PHSC 2633 Pharmacologic Basis of Therapeutics III (2 lecture hours)
Course title: PHAD 1111/2111/3111 Applied Christian Values (8 contact hours)

Fall 2017

Course title: PHSC 1512 Integrated Biomedical Sciences Lab I (36 lab hours)
Course title: PHSC 2433 Advanced Biopharmaceutics and Pharmacokinetics (13 lecture hours)
Course title: PHSC 1213 Biomolecular Chemistry (1 lecture hour)
Course title: PHSC 392V Research in Pharmaceutical Sciences I Elective (60 contact hours)
Course title: PHAE 4664 Research Advanced Pharmacy Practice Experience (60 contact hours)
Course title: PHAE 4734 Research Advanced Pharmacy Practice Experience (60 contact hours)
Course title: PHAD 1111/2111/3111 Applied Christian Values (8 contact hours)

Spring 2017

Course title: PHSC 3922 Research in Pharmaceutical Sciences I Elective (60 contact hours)
Course title: PHSC 1522 Integrated Biomedical Sciences Lab II (18 lab hours)
Course title: PHSC 2633 Pharmacologic Basis of Therapeutics III (2 lecture hours)
Course title: PHAD 1111/2111/3111 Applied Christian Values (8 contact hours)

Fall 2016

Course title: PHSC 1512 Integrated Biomedical Sciences Lab I (36 lab hours)
Course title: PHSC 2433 Advanced Biopharmaceutics and Pharmacokinetics (11.5 lecture hours)
Course title: PHSC 1213 Biomolecular Chemistry (1 lecture hours)
Course title: PHAD 1111/2111/3111 Applied Christian Values (8 contact hours)

Spring 2016

Course title: PHSC 1522 Integrated Biomedical Sciences Lab II (9 lab hours)
Course title: PHSC 2633 Pharmacologic Basis of Therapeutics III (4.5 lecture hours)
Course title: PHAD 1111/2111/3111 Applied Christian Values (8 contact hours)

Fall 2015

Course title: PHSC 1512 Integrated Biomedical Sciences Lab I (18 lab hours)
Course title: PHSC 2433 Advanced Biopharmaceutics and Pharmacokinetics (10 lecture hours)
Course title: PHSC 1213 Biomolecular Chemistry (1 lecture hours)
Course title: PHAE 4664 Research Advanced Pharmacy Practice Experience VI (Nov 2015)
Course title: PHAD 1111/2111/3111 Applied Christian Values (8 contact hours)

Spring 2015

Course title: PHSC 392V Research in Pharmaceutical Sciences I Elective (60 contact hours)
Course title: PHSC 1522 Integrated Biomedical Sciences Lab II (9 lab hours)
Course title: PHSC 2633 Pharmacologic Basis of Therapeutics III (4 lecture hours)
Course title: PHAD 1111/2111/3111 Applied Christian Values (8 contact hours)

Fall 2014

Course title: PHSC 1512 Integrated Biomedical Sciences Lab I (18 lab hours)
Course title: PHSC 2433 Advanced Biopharmaceutics and Pharmacokinetics (8 lecture hours)
Course title: PHSC 1213 Biomolecular Chemistry (2 lecture hours)
Course title: PHAD 1111/2111/3111 Applied Christian Values (8 contact hours)

Spring 2014

Course title: PHSC 1522 Integrated Biomedical Sciences Lab II (9 lab hours)
Course title: PHSC 2633 Pharmacologic Basis of Therapeutics III (2 lecture hours)

Fall 2013

Course title: PHSC 1213 Biomolecular Chemistry (1.5 lecture hours)

Instructor

*Master's Program in Exercise and Nutrition Science
Lipscomb University College of Pharmacy & Health Sciences*

Spring 2017

Course title: EXNS 5403 Intro Pharmacology/Pharmaceutics (1 lecture hour)
Topic: Introduction to Drug Metabolism

Spring 2016

Course title: EXNS 5403 Intro Pharmacology/Pharmaceutics (1.5 lecture hours)
Topic: Introduction to Drug Metabolism

Spring 2015

Course title: EXNS 5403 Intro Pharmacology/Pharmaceutics (1.5 lecture hours)
Topic: Introduction to Drug Metabolism

Spring 2014

Course title: EXNS 5403 Intro Pharmacology/Pharmaceutics (1.5 lecture hours)
Topic: Introduction to Drug Metabolism

Guest Lecturer

*Pharmacology Graduate (PhD) Program
Vanderbilt University School of Medicine*

August 2018

Course title: PHARM-GS 8326 Drug Metabolism & Pharmacokinetics (1 lecture hour)
Topic: Case Study on Polymorphic P450 Metabolism, Specifically the P450 3A Subfamily

Graduate Teaching Fellow

*Interdisciplinary Graduate (PhD) Program
Vanderbilt University School of Medicine*

Fall 2010

Graduate teaching fellow for first-year graduate students to review scientific journal articles in biomedical research; small group discussion facilitator (10 contact hours)

MENTORING***Lipscomb University College of Pharmacy*****Research Students**

Student: Elizabeth Burnham (Pharm.D. candidate) 2018 – 2019
Pharmaceutical Sciences Summer Research Program
Role: Faculty Research Mentor

Student: Vivian Truong (Pharm.D. candidate) 2018 – 2019
Pharmaceutical Sciences Summer Research Program
Role: Faculty Research Mentor

Student: Kangjun Li (Pharm.D. candidate) Pharmaceutical Sciences Summer Research Program Role: Faculty Research Mentor	2018 – 2019
Student: Jennifer Bissada (undergraduate) Pharmaceutical Sciences Summer Research Program Role: Faculty Research Mentor	2017 – 2019
Student: Arsany Abouda (undergraduate) ASPET Individual Summer Undergraduate Research Fellow Pharmaceutical Sciences Summer Research Program Role: Faculty Research Mentor	2017 – 2019
Student: Kahari Wines (Pharm.D. candidate) Pharmaceutical Sciences Summer Research Program Role: Faculty Research Mentor	2017
Student: Kevin Flatt (Pharm.D. candidate) Pharmaceutical Sciences Summer Research Program Role: Faculty Research Mentor	2017
Student: Rebecca Durandis, Pharm.D. Pharmaceutical Sciences Research Training Program Research Elective in Pharmaceutical Sciences Role: Faculty Research Mentor	2016 – 2018
Student: Gracia Amaya, B.S. Pharmaceutical Sciences Summer Research Program Role: Faculty Research Mentor	2016 – 2017
Student: Jessica Murray, Pharm. D. AFPE Gateway to Research Scholar Pharmaceutical Sciences Summer Research Program Research Elective in Pharmaceutical Sciences Research APPE Rotations Role: Faculty Research Mentor	2015 – 2018
Student: Rebecca Clark, Pharm. D. Pharmaceutical Sciences Summer Research Program Role: Faculty Research Mentor	2015 – 2017
Student: Mohamed Mohamud, B.S. Pharmaceutical Sciences Summer Research Program Role: Faculty Research Mentor	2015
Student: David Bourgeois, Pharm.D. Research Elective in Pharmaceutical Sciences Research APPE Rotation Role: Faculty Research Mentor	2015
Student: James Perkins, Pharm.D. Pharmaceutical Sciences Summer Research Program Role: Faculty Research Mentor	2014

Student: Rodney Vongkhamchanh, Pharm.D. 2014
Pharmaceutical Sciences Summer Research Program
Role: Faculty Research Mentor

Student: Joanna Towles, Pharm.D. 2014 – 2015
Role: Faculty Research Mentor

Lipscomb University

Student: Sena Seged, B.S. 2016 – 2018
Pre-Pharmacy Mentoring Program
Role: Faculty Mentor

Student: Karley Adams, B.S. 2014 – 2016
Joshua Project Mentoring Program
Role: Faculty Mentor

University of Washington, School of Pharmacy

Graduate Student: Michelle Wahlin, Ph.D. 2011 – 2013
Role: Postdoctoral Research Fellow

PROFESSIONAL SERVICE:

Lipscomb University

Lipscomb University College of Pharmacy

Standing Committees

Scholarship and Awards Committee	2013 – 2014, 2018 – 2019
Admissions Committee	2013 – 2014, 2018 – 2019
Academic Progression Committee	2013 – 2014, 2017 – 2018
Education Assessment Committee	2016 – 2017
Pharmacy Integrity Council (Chair)	2016 – 2017
Pharmacy Integrity Committee	2013 – 2017
Self-Study Committee	2014 – 2015

Ad Hoc Committees

Advisory Committee for Selection of Associate Dean for Academic Affairs	2017
LipscombBOLD Campaign Committee (Team Leader)	2016

Department of Pharmaceutical Sciences

Administrative

Pharmaceutical Sciences Summer Research Program (Co-Coordinator)	2015 – 2019
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Search Committee

Faculty Candidate Review Committee	2017 – 2019
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Other Service

LC-MS/MS Instrument Search Committee	2017 – 2019
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Lipscomb University

Organizing Committee

Student Scholars Symposium 2019

Search Committee

Dean of Intercultural Development 2017

Ad Hoc Committee

Student Success Committee 2017

Miscellaneous

Student Scholars Symposium (Session Chair) 2016 – 2017

Jackson State University

Research Initiative for Scientific Enhancement (RISE) Program, NIH/NIGMS 2012
External Advisory Board

Vanderbilt University

Pharmacology Graduate Student Association 2010 – 2011
(Vice President of Academic Affairs)
Pharmacology Student Forum Organizing Committee 2010
Vanderbilt Institute of Chemical Biology Research Symposium 2010
Student Organizing Committee
Pharmacology Department Retreat Student Organizing Committee 2009 – 2010
Alliance for Cultural Diversity in Research (Community Outreach Coordinator) 2007 – 2010

Professional Organizations

American Association of Colleges of Pharmacy (AACP)

Member 2013 – present

Service

New Investigator Award Review Committee, Chemistry Section 2018 – present

Graduate Research Committee, Biological Sciences Section 2017 – present

Abstract Reviewer, Annual Meeting 2017

New Investigator Award Grant Reviewer, Biological Sciences Section 2016

American Society for Pharmacology and Experimental Therapeutics (ASPET)

Member 2013 – present

Service

Division of Drug Metabolism and Disposition (Councilor Elect) 2019 – present

Mentoring and Career Development Committee 2019 – present

Teaching Institute Symposium (Co-Chair) 2015

International Society for the Study of Xenobiotics (ISSX)

Member 2018 – present

Postdoctoral Member 2012

Society of Toxicology (SOT)

Associate Member

2014 – 2018

Postdoctoral Member

2012

American Chemical Society (ACS)

Member

2014 – present

Society for Free Radical Biology and Medicine (SFRBM)

Graduate Student Member

2007 – 2011

Invited Manuscript Referee

Scientific Reports

2019

Journal of Medicinal Chemistry

2018 – 2019

Drug Metabolism Letters

2016

Chemical Research in Toxicology

2014 – 2016

CERTIFICATIONS:

Pharmacogenomics Certificate, Precision Medicine Conference
University of Florida

March 2016

Teaching Certificate in Pharmacy Education,
University of Washington

January – June 2012