

**Education**

- 2007-2011 **Miami University**, Oxford, OH  
Bachelor of Science in Zoology  
Minor: Molecular Biology  
Cumulative GPA: 3.76/4.0, *magna cum laude*
- 2011-2016 **University of Kentucky**, Lexington, KY  
Doctor of Philosophy (Ph.D.) in Nutritional Sciences  
University of Kentucky College of Medicine  
Cumulative GPA: 3.581

**Research Experience**

- 2009-2010 **University of Cincinnati**, Cincinnati, OH  
American Society for Pharmacology and Experimental Therapeutics Summer Undergraduate Research Fellow  
*Mentor:* W. Keith Jones, Ph.D.  
*Project title:* Investigation into the Transcriptional and Post-Transcriptional Regulation of Heat Shock Protein 70.3 (Hsp70.3) in Myocardial Late Ischemic Preconditioning
- 2011-2016 **University of Kentucky**, Lexington, KY  
Ph.D., Nutritional Sciences  
*Mentor:* Changcheng Zhou, Ph.D.  
*Project title:* The Role of PXR and IKK $\beta$  Signaling in Cardiometabolic Disease
- 2016-2017 **Cleveland Clinic Foundation**, Cleveland, OH  
Postdoctoral Fellow; Department of Cellular and Molecular Medicine  
*Mentor:* J. Mark Brown, Ph.D.  
*Project title:* Targeting the Gut Microbiome for the Treatment of Alcoholic- and Nonalcoholic-Induced Liver Disease
- 2017-2018 **Medpace**, Cincinnati, OH  
Clinical Trial Manager  
Managed clinical trials in infectious diseases, cardiovascular disease, and chronic kidney disease.
- 2018-2019 **University of Cincinnati**, Cincinnati, OH  
Clinical Trial Manager; Department of Internal Medicine  
*Mentors:* Dylan Steen, MD and Sarah Couch, PhD, RD  
*Project title:* Supermarket and Web-Based Intervention Targeting Nutrition for Cardiovascular Risk Reduction.
- 2019-2021 **University of Kentucky**, Lexington, KY  
Postdoctoral Fellow; Division of Pediatrics, Department of Gastroenterology, Hepatology, and Nutrition  
*Mentors:* Gregory Graf, PhD, and Samir Softic, MD  
*Project title:* Elucidating Molecular Mechanisms Linking Fructose to Cholesterol Metabolism.
- 2022-2023 **University of Kentucky**, Lexington, KY  
Research-Track Assistant Professor; Department of Pharmacology and Nutritional Sciences  
University of Kentucky College of Medicine
- 2023-present **University of Kentucky**, Lexington, KY

Tenure-Track Assistant Professor; Department of Internal Medicine, Division of Endocrinology,  
Diabetes, and Metabolism  
University of Kentucky College of Medicine

### Professional Memberships

2009-present American Society for Pharmacology and Experimental Therapeutics (ASPET)  
2013-present American Heart Association (AHA)  
2015-present The American Association for the Advancement of Science (AAAS)  
2021-present American Association for the Study of Liver Diseases (AASLD)  
2024-present American Society for Biochemistry and Molecular Biology (ASBMB)  
2024-present American Physiological Society (APS)

### Teaching Activities

Fall 2013 Teaching Assistant for Integrated Biomedical Sciences 610  
11/15/2022 One hour lecture on nutrition and cardiovascular disease in Integrated Nutritional Sciences 601 (NS601)  
11/10/2023 One hour lecture on nutrition and cardiovascular disease (NS601)  
09/25/2023 Two hour lecture on fatty acid and PPAR signaling in Molecular Biological Applications in Nutrition (NS606)  
10/16/2023 Two hour lecture on amino acid sensing (NS606)  
11/06/2023 Two hour lecture on xenobiotic metabolism (NS606)  
11/07/2023 Two hour lecture on nutrition and cardiovascular disease (NS601)  
11/13/2023 Two hour lecture on manipulation of gene expression (NS606)  
10/22/2024 Two hour lecture on the structure, function, and absorption of lipids (NS601)  
10/24/2024 One hour lecture on lipid metabolism (NS601)  
10/31/2024 One hour lecture on essential fatty acids and eicosanoids (NS601)  
11/07/2024 One hour lecture on lipid oxidation and ketogenesis (NS601)  
11/12/2024 Two hour lecture on nutrition and cardiovascular disease (NS601)  
11/14/2024 One hour lecture on dietary and pharmacological strategies for cardiovascular risk reduction (NS601)  
09/29/2025 Two hour lecture on fatty acid and PPAR signaling (NS606)  
10/20/2025 Two hour lecture on amino acid sensing (NS606)  
10/23/2025 One hour lecture on the structure, function, and absorption of lipids (NS601)  
10/30/2025 One hour lecture on the structure, function, and absorption of lipids (NS601)  
11/04/2025 Two hour lecture on essential fatty acids, eicosanoids, and metabolism (NS601)  
11/06/2025 One hour lecture on lipid oxidation and ketogenesis (NS601)  
11/10/2025 Two hour lecture on xenobiotic metabolism (NS606)  
11/11/2025 Two hour lecture on nutrition and cardiovascular disease etiology (NS601)  
11/13/2025 One hour lecture on dietary and pharmacological strategies for cardiovascular risk reduction (NS601)  
11/17/2025 Two hour lecture on manipulation of gene expression in obesity (NS606)

### Mentoring Activities

Fall 2023 External Advisor for PhD Defense (M. Woodrum)  
2023-2024 PhD Committee Member (W.H. Lee)  
2024-present PhD Committee Member (I. Stephens)  
2024-2026 PhD Committee Member (E. Bates)  
2026-present PhD Committee Member (K. Muonio)

### Direct Advisor Activities

Summer 2022 Advisor for Undergraduate Research in Diabetes and Obesity (S. Foster)  
2022-2023 Co-Advisor for PhD student (M. Zelows)  
Summer 2023 Advisor for Undergraduate Research in Diabetes and Obesity (N. Dharanipragada)  
Fall 2023 Advisor for Undergraduate Research in Nutritional Sciences 395 (N. Dharanipragada)  
2023-present Advisor for MD/PhD student (G. Anspach)

2024-2025	Advisor for USTiCR Fellow (N. Dharanipragada) <b>Recipient of the Diachun Research Award from the UKY Lewis Honors College</b>
2024-present	Advisor for Undergraduate Student (A. McDougal)
Spring 2025	Advisor for HS Student (L. Lunne)
2025-present	Advisor for Undergraduate Student (B. Angoma)
Summer 2025	Advisor for Medical Student (Q. Moss)
2026-present	Advisor for HS Student (M. Johnston)

### Fellowships, Awards, and Honors

2009	ASPET Summer Undergraduate Research Fellowship (University of Cincinnati)
2009	1st place in ASPET SURF poster competition
2010	ASPET Summer Undergraduate Research Fellowship (University of Cincinnati)
2010	4th place in Summer Student Poster Competition (University of Cincinnati; 112 Participants)
2010	Undergraduate Presentation Award (Miami University) to EB in Anaheim, CA
2010	ASPET Undergraduate Travel Award to EB Meeting in Anaheim, CA
2011	Undergraduate Presentation Award (Miami University) to EB in Washington, D.C.
2011	ASPET Undergraduate Travel Award to EB Meeting in Washington, D.C.
2012	T32 Cardiovascular Training Fellowship (5T32HL072743-09)
2013	4th place in the ASPET Cardiovascular Pharmacology Division Best Graduate Student Abstract Competition at the Experimental Biology Conference in Boston, MA
2013	ASPET Graduate Student Travel Award to EB National Meeting in Boston, MA
2014	University of Kentucky Graduate School Travel Award to the Arteriosclerosis, Thrombosis and Vascular Biology (ATVB) Conference in Toronto, ON
2014	2nd place at the Ohio Valley Affiliates for Life Sciences Conference in Metabolic Diseases Poster Competition in Cincinnati, OH
2014	4th place in the poster competition at the Barnstable Brown Kentucky Diabetes and Obesity Research Day in Lexington, KY
2014	T32 Nutrition and Oxidative Stress Training Fellowship (5T32DK007778-14)
2014	Finalist in the Obesity Prevention Poster Competition at the SEC Symposium in Atlanta, GA
2015	PhRMA Foundation Predoctoral Fellowship
2015	1st place in the poster competition at the Barnstable Brown Kentucky Diabetes and Obesity Research Day in Lexington, KY
2015	University of Kentucky Graduate School Travel Award to the Metabolic Signaling and Disease: From Cell to Organism Conference at Cold Spring Harbor, NY
2015	1st place in the poster competition at the Saha Cardiovascular Research Day Lexington, KY
2016	ATVB Travel Award for Young Investigators
2016	Department of Pharmacology and Nutritional Sciences Graduate Student of the Year Award
2016	Miami University "18 of the last 9" Nominee
2016	Outstanding Postdoctoral Fellow Poster Presentation "The Stewart Whitman Award"
2017	American Heart Association Postdoctoral Fellowship
2017	Young Investigator Awards Platform Session – ASPET Division for Translational and Clinical Pharmacology
2019	1st place in the poster competition at the Saha Cardiovascular Research Day Lexington, KY
2019	Invited Speaker at Southeast Lipid Research Conference, Cincinnati, OH
2020	Invited Speaker at Miami University Alumni Career Panel
2021	Outstanding Postdoctoral Fellow Poster Presentation "The Stewart Whitman Award"
2021	Invited Speaker at Department of Pharmaceutical Sciences Seminar Series, Lexington, KY
2021	Invited Speaker at Don Fredrickson Lipid Research Conference in 2022, Durham, NC
2022	Impact Kentucky: University of Kentucky Vice President for Research "Researcher of the Month"
2022	Invited Speaker at the Annual CCTS Spring Conference, Lexington, KY
2023	Invited Speaker at the University of Kansas Metabolism, Obesity, and Diabetes Seminar Series, Kansas City, Kansas
2023	Invited Speaker at the Sex Differences Workshop, Cleveland, OH
2023	Runner-Up for the Roger Davis Award, Kern Lipid Conference, Vail, CO
2024	Elected as a 2024 Fellow for the NCI-funded Transdisciplinary Research on Energetics and Cancer Training Workshop Hosted by Yale Cancer Center, Westbrook, CT
2025	Recipient of the 2025 Walter A. Shaw Young Investigator in Lipid Research Award (ASBMB)

## Professional/Academic Service

2011-present The Academy for Future Science Faculty, University of Northwestern  
2013-2014 Vice President of the Nutritional Sciences Students Association  
2013 Teaching Assistant for Integrated Biomedical Sciences 610  
2015-2017 ASPET Cardiovascular Division Recruitment Committee  
2016-2017 ASPET Cardiovascular Division Competition Committee  
2017 ASPET Partnering for Success Peer Mentoring Program at EB 2017  
2018-present Biological Sciences Advisory Committee for Miami University, OH  
2019-present Clinical Trial Consultant (NCT03895580)  
2019-present *Ad-Hoc* Reviewer for Arteriosclerosis, Thrombosis, and Vascular Biology (ATVB)  
2020-present *Ad-Hoc* Reviewer for Journal of Hepatology, Adipocyte, Life Science Alliance, Journal of the American Heart Association (JAHA), Biomedicines, and Scientific Reports  
2020-present ASPET Division for Translational and Clinical Pharmacology Awards Committee  
2020-present International Journal of Molecular Sciences Board of Reviewers  
2021-present Editorial Board for Frontiers in Cardiovascular Medicine  
2021 Career Development Moderator at the Don Fredrickson Lipid Research Conference  
2023 NIH Early Career Reviewer, DBDT Study Section  
2024 Junior Associate Editor, *Journal of Lipid Research* (2024-2026)  
2024 Session Moderator, Gordon Research Conference on Lipids and Lipoproteins  
2024 Session Moderator, Kern Lipid Research Conference  
2024 Board of Directors, Kern Lipid Research Conference  
2024 Board of Directors, Fredrickson Lipid Research Conference  
2025 Executive Committee, Kentucky Physiological Society  
2025 Top Reviewer for 2025, *Journal of Lipid Research*  
2026 NIH Study Section – Special Emphasis Panel on Diet, Lipid Metabolism, and Cancer  
2026 NIH Study Section – Cancer Therapeutics  
2026 *Journal of Lipid Research* Reviews Committee

## Research Support

### Active Research Support:

**R01DK139147**

**PI: Helsley, RN**

**09/05/2025-09/04/2029**

National Institutes of Diabetes and Digestive and Kidney Diseases (NIDDK)

Deciphering the Mechanisms by which Long Chain Fatty Acid Oxidation Influences Spatial Microvesicular Steatosis.

Goal: This project focuses on understanding the mechanism(s) by which fatty acid oxidation controls lipid droplet accumulation across the periportal-pericentral axis.

Role: PI

**K01DK128022-01A1**

**PI: Helsley, RN**

**01/01/2022-12/31/2026**

National Institutes of Diabetes and Digestive and Kidney Diseases (NIDDK)

Elucidating Molecular Mechanisms Linking Fructose to Cholesterol Metabolism

Goal: This project focuses on understanding the mechanism(s) by which fructose promotes hyperlipidemia.

Role: PI

**No ID**

**PI: Gustafson**

**01/01/2024-12/31/2027**

University of Kentucky

Emerging Theme for Research at the University of Kentucky - Food as Health Alliance

Goal: Develop a comprehensive state-wide food as health infrastructure connecting community and clinical partners to reduce food insecurity, healthcare costs, and improve diet-sensitive outcomes.

Role: Co-I

**No ID**

**PI: Helsley, RN**

**05/01/2024-05/01/2026**

University of Kentucky – Advancing Research Collaborations in Diabetes and Obesity

The Role of Hepatic Fatty Acid Oxidation in Obesity-mediated Protection in Sepsis

Goal: To determine if CPT1a-mediated fatty acid oxidation is required for the protection observed with obesity in sepsis.

Role: PI

### Pending Research Support:

**No ID** **PI: Helsley, RN** **10/01/2026-09/30/2030**  
American Cancer Society (ACS)  
Mitochondrial Fatty Acid Oxidation in Diet-induced Hepatocellular Carcinoma.  
Goal: This project aims to identify the mechanism(s) by which fatty acid oxidation influences diet-induced HCC.  
A0 Submission: **Grant received "Excellent" review. A1 resubmitted November 2025.**  
Role: PI

**R01DK150166** **Co-PI: Helsley, RN** **09/01/2026-08/31/2031**  
National Institutes of Diabetes and Digestive and Kidney Diseases (NIDDK)  
Mitochondria in the Enterohepatic Regulation of Lipoprotein Metabolism.  
Goal: This project focuses on understanding the mechanism(s) by which fatty acid oxidation and mitochondrial metabolism modulates sterol and lipoprotein metabolism.  
Role: Co-PI (with Dr. Gregory Graf)

**R01D147137** **PI: Czuba, LC** **09/01/2026-08/31/2031**  
National Institutes of Diabetes and Digestive and Kidney Diseases (NIDDK)  
Secondary Bile Acids in the Pathogenesis of Fatty Liver Disease  
Goal: This project focuses on identifying the mechanism(s) by which specific secondary bile acids play in the pathogenesis of chronic liver disease.  
Role: Co-I (5% effort)

### Completed Research Support:

**23CDA1051959** **PI: Helsley, RN** **04/01/2023-03/31/2026**  
American Heart Association (AHA)  
Identification of Carnitine Palmitoyltransferase 1a (CPT1a) as a Novel Regulator of Lipoprotein Metabolism  
Goal: This proposal is focused on determining the impact of hepatic CPT1a as a modulator of peripheral lipoprotein metabolism.  
Role: PI

**IRG2215234** **PI: Helsley, RN** **06/01/2023-08/01/2024**  
American Cancer Society (ACS)  
Identification of Mechanisms Controlling Fatty Acid Metabolism in Sexually Dimorphic Obesity-Driven Liver Cancer  
Goal: This proposal focuses on understanding the key mechanisms by which CPT1a influences obesity-driven liver cancer.  
Role: PI

**5P30GM127211-05** **PI: Helsley, RN** **01/01/2023-07/01/2024**  
National Institute of General Medical Sciences (NIGMS)  
COCVD COBRE Pilot Study: Fatty Acid Oxidation in Sexually Dimorphic Obesity and Associated NAFLD.  
Goal: This proposal is focused on determining the impact of ovarian sex hormones and *Cpt1a* tissue specificity on obesity and associated NAFLD.  
Role: Pilot Project PI (PI: Cassis)

**CCTS Early Career Pilot Study** **PI: Helsley, RN** **12/01/2021-12/01/2022**  
University of Kentucky, Center for Clinical and Translational Science (CCTS)  
CPT1a: A Novel Regulator of Cholesterol-Driven Liver Injury  
Goal: This project focuses on understanding the role of hepatocyte-specific *Cpt1a* on cholesterol and lipoprotein metabolism.  
Role: PI

**No ID** **PI: Couch, SC** **12/02/2019-12/31/2021**  
University of Cincinnati, Division of Cardiology  
Supermarket and Web-Based Intervention Targeting Nutrition (SuperWIN) for Cardiovascular Risk Reduction

Goal: This project focuses on understanding the impact of a point-of-purchase dietary intervention delivered in the aisles of Kroger grocery stores on cardiovascular disease risk (NCT03895580).

Role: Consultant

**17POST3285000**

**PI: Helsley, RN**

**01/01/2017-09/05/2017**

American Heart Association

The Role of Hepatocyte ABHD6-Driven Lipid Turnover in Obesity-Associated Insulin Resistance

Goal: This project investigated the molecular mechanism by which hepatocyte-specific ABHD6 influences obesity and accompanying metabolic disorders.

Role: PI

**No ID**

**PI: Helsley, RN**

**07/01/2015-07/01/2016**

Pharmaceutical Research and Manufacturers of America (PhRMA) Foundation

A Novel Mechanism for ARV-Drug Associated Dyslipidemia

Goal: This project investigates the role of PXR in mediating antiretroviral (ARV) drug-elicited dyslipidemia and atherosclerosis.

Role: PI

**5T32DK007778-14**

**PI: Cassis, LA**

**05/01/2014-06/01/2015**

National Institutes of Health - NRSA

Investigation of IKK $\beta$  in Adipogenesis and Diet-Induced Obesity

Goal: This project investigates the role of IKK $\beta$  signaling in diet-induced obesity and metabolic disorders.

Role: Trainee

**5T32HL072743-09**

**PI: Randall, DC**

**07/01/2012-04/01/2014**

National Institutes of Health - NRSA

The Role of the Pregnane X Receptor in Xenobiotic-Induced Hyperlipidemia

Goal: This project investigates the molecular mechanism through which PXR regulates lipid homeostasis.

Role: Trainee

**Publications and Presentations**

**A. Original Peer-Reviewed Manuscripts (\*Co-first authors):**

1. Tranter, M., **Helsley, R.N.**, Paulding, W., McGuinness, M., Brokamp, C., Haar, L., Ren, X., and Jones, W.K. (2011) Coordinated post-transcriptional regulation of the Hsp70.3 gene by micro-RNA and alternative polyadenylation. *Journal of Biological Chemistry*. 286(34): 29828-37. PMID: 21757701
  2. Park, S-H., Sui, Y., Gizard, F., Xu, J., Pillier-Rios, J., **Helsley, R.N.**, Han, S-S., and Zhou, C. (2012) Myeloid-specific IKK $\beta$  deficiency decreases atherosclerosis in LDL receptor-deficient mice. *Arteriosclerosis, Thrombosis, and Vascular Biology*. 32(12): 2869-76. PMID: 23023371
  3. **Helsley, R.N.\***, Sui, Y.\*, Ai, N., Park, S-H., Welsh, W.J., and Zhou, C. (2013) Pregnane x receptor mediates dyslipidemia induced by the HIV protease inhibitor amprenavir in mice. *Molecular Pharmacology*. 83(6):1190-9. PMID: 23519392
  4. Sui, Y., Park, S-H., **Helsley, R.N.**, Sunkara, M., Gonzalez, F.J., Morris, A.J., and Zhou, C. (2014) Bisphenol A increases atherosclerosis in pregnane x receptor-humanized ApoE deficient mice. *Journal of the American Heart Association*. 3(2): e000492. PMID: 24755147
  5. Sui, Y., Park, S.H., Xu, J., Monette, S., **Helsley, R.N.**, Han, S-S., and Zhou, C. (2014) IKK $\beta$  links vascular inflammation to obesity and atherosclerosis. *Journal of Experimental Medicine*. 211(5): 869-886. PMID: 24799533
- Highlighted in Rockefeller University Press Releases on 05/06/2014. Highlighted in Science Daily, The Medical News, MedicalXpress, Newswise, Scicasts, and Diagnostic and Interventional Cardiology.**
6. Sui, Y.\*, **Helsley, R.N.\***, Park, S.H., Song, X., Liu, Z., and Zhou, C. (2015) Intestinal PXR links xenobiotic exposure and hypercholesterolemia. *Molecular Endocrinology*. 29(5): 765-776. PMID: 25811240
  7. **Helsley, R.N.**, Sui, Y., Park, S-H., Liu, Z., Lee, R.G., Zhu, B., Kern, P.A., and Zhou, C. (2016) Targeting IKK $\beta$  in adipocyte lineage cells for treatment of obesity and metabolic dysfunctions. *Stem Cells*. 34(7): 1883-95. PMID: 26991836
  8. Park, S-H., Liu, Z., Sui, Y., **Helsley, R.N.**, Zhu, B., Powell, D.K., Kern, P.A., and Zhou, C. (2016) IKK $\beta$  is

- essential for adipocyte survival and adaptive adipose remodeling in obesity. *Diabetes*. 65(6): 1616-29. PMID: 26993069
9. **Helsley, R.N.** and Zhou, C. (2017) Epigenetic impact of endocrine disrupting chemicals on lipid homeostasis and atherosclerosis: a pregnane X receptor-centric view. *Environ Epigenet*. 3(4): 1-15 PMID: 29119010
  10. Ferguson, D., Zhang, J., Davis, M.A., **Helsley, R.N.**, et al. (2017) The lipid droplet-associated protein perilipin 3 facilitates hepatitis C virus-driven hepatic steatosis. *J Lipid Res*. 58(2): 420-432. PMID: 27941027
  11. Schugar, R.C., Shih, D.M., Warriar, M., **Helsley, R.N.**, et al. (2017) The TMAO-Producing Enzyme Flavin-Containing Monooxygenase 3 Regulates Obesity and the Beiging of White Adipose Tissue. *Cell Rep*. 19(12): 2451-2461. PMID: 28683320
  12. Gromovsky, A.D., Schugar, R.C., Brown, A.L., **Helsley, R.N.**, et al (2018)  $\Delta$ -5 Fatty Acid Desaturase *FADS1* Impacts Metabolic Disease by Balancing Proinflammatory and Proresolving Lipid Mediators. *Arterioscler Thromb Vasc Biol*. 38(1): 218-231. PMID: 29074585
  13. Gwag, T., Meng, Z., Sui, Y., **Helsley, R.N.**, Park, S.H., Wang, S., Greenberg, R.N., and Zhou, C. (2019) Non-nucleoside reverse transcriptase inhibitor efavirenz activates PXR to induce hypercholesterolemia and hepatic steatosis. *J Hepatol*. 70(5): 930-940. PMID: 30677459
  14. **Helsley, R.N.**, Venkateshwari, V., Brown, A.L., et al (2019) Obesity-Linked Suppression of Membrane-Bound O-Acyltransferase 7 (MBOAT7) Drives Non-Alcoholic Fatty Liver Disease. *eLife*. PMC6850774
  15. Anthony, S.R., Guarnieri, A.R., Gozdiff, A., **Helsley, R.N.**, Owens, A.P., and Tranter, M. (2019) Mechanisms Linking Adipose Tissue Inflammation to Cardiac Hypertrophy and Fibrosis. *Clin Sci*. 133(22):2329-2344. PMID: 31777927
  16. Brown, A.L., Conrad, K., Allende, D.S., Gromovsky, A.D., Neumann, C., Owens, P.A., Tranter, M., and **Helsley, R.N.** (2019) Choline Supplementation Attenuates High Fat Diet-Induced Hepatocellular Carcinoma (HCC) in Mice. *J Nutr*. 150(4):775-783. PMID: 31851339
  17. **Helsley, R.N.** and Softic, S. (2020) Fructose metabolism by the guts cuts liver fat. *J Mol Med*. 98(5):733-734. PMID: 32318746
  18. Pathak, P., **Helsley, R.N.**, Brown, A.L., Buffa, J.A., et al. (2020) Small Molecule Inhibition of Gut Microbial Choline Trimethylamine Lyase Activity Alters Host Cholesterol and Bile Acid Metabolism. *Am J Physiol Heart Circ Physiol*. PMC7311702
  19. Anthony, S.R., Guarnieri, A., Lanzillotta, L., Gozdiff, A., Green, L.C., O'Grady, K., **Helsley, R.N.**, Owens, P.A., and Tranter, M. (2020) HuR Expression in Adipose Tissue Mediates Energy Expenditure and Acute Thermogenesis Independent of UCP1 Expression. *Adipocyte*. PMC7469577
  20. **Helsley, R.N.\***, Moreau, F.\*, Gupta, M.K., Radulescu, A, DeBosch, B., and Softic, S. (2020) Tissue-Specific Fructose Metabolism in Obesity and Diabetes. *Curr Diab Rep*. 20(11):64 PMID: 33057854
  21. Damen, M.S.M.A, Stankiewicz, T., Park, S-H., **Helsley, R.N.**, et al. (2021) Non-hematopoietic IL-4Ra expression contributes to fructose-driven obesity and metabolic sequelae. *Int J Obes (Lond)*. PMC8528699
  22. Park, S.H., **Helsley, R.N.**, et al. (2021) A Luminescence-Based Protocol for Assessing Fructose Metabolism via Quantification of Ketohehexokinase Enzymatic Activity in Mouse or Human Hepatocytes. *STAR Protoc*. PMC8361265
  23. Schugar, R.C., Gliniak, C.M., Osborn, L.J., Massey, W., Sangwan, N., Horak, A., Banerjee, R., Orabi, D., **Helsley, R.N.**, et al. (2022) Gut microbe-targeted choline trimethylamine lyase inhibition improves obesity via rewiring of host circadian rhythms. *eLife*. PMC8813054
  24. **Helsley, R.N.\***, Miyata, T.\*, Kadam, A.\*, et al (2022) Gut microbial trimethylamine is elevated in alcohol-associated hepatitis and contributes to ethanol-induced liver injury in mice. *eLife*. PMC8853661.
  25. Couch, S.C., **Helsley, R.N.**, et al. (2022) Design and rationale for the supermarket and web-based intervention targeting nutrition (SuperWIN) for cardiovascular risk reduction trial. *Am Heart J*. 248:21-34. PMID: 35218725
  26. Steen, D., **Helsley, R.N.**, et al. (2022) Efficacy of Supermarket and Web-based Interventions for Improving Dietary Quality: A Randomized, Controlled Trial. *Nat Med*. PMID: 36456831
  27. Inci, M.K., Park, S.H., **Helsley, R.N.**, et al. (2022) Fructose Impairs Fat Oxidation: Implications for the Mechanism of Western-Diet Induced NAFLD. *J Nutr Biochem*. PMID: 36403701
  28. **Helsley, R.N.**, Park, S-H., Vekaria, V., et al. (2023) Ketohehexokinase-C Mediates Global Protein Acetylation to Decrease Carnitine Palmitoyltransferase 1a Mediated Fatty Acid Oxidation. *J Hepatol*. PMID: 36822479
  29. Benson, T.W., Conrad, K.A., Li, X.S., Wang, Z., **Helsley, R.N.**, et al. (2023) Gut Microbiota-derived Trimethylamine N-oxide Contributes to Abdominal Aortic Aneurysm Through Inflammatory and Apoptotic Mechanisms. *Circulation*. PMC10071415
  30. Park, S.H., **Helsley, R.N.**, Fadhul, T. et al. (2023) Fructose Induced KHK-C Increases ER Stress and

Modules Hepatic Transcriptome to Drive Liver Disease in Diet-Induced and Genetic Models of NAFLD. *Metabolism*. PMID: 37230214

31. Zelows, M.M., Cady, C., Dharanipragada, N., Mead, A.M., Kipp, Z.A., Bates, E.A., Varadharajan, V., Banerjee, R., Park, S-H, Shelman, N.R., Clarke, H.A., Hawkinson, T.R., Medina, T., Sun, R.C., Lydic, T.A., Hinds, T.D., Brown, J.M., Softic, S., Graf, G.A. and **Helsley, R.N.** (2023) Loss of Carnitine Palmitoyltransferase 1a Reduces Docosahexaenoic Acid-Containing Phospholipids and Drives Sexually Dimorphic Liver Disease in Mice. *Mol Metab*. PMC10568566
32. Varadharajan, V., Ramachandiran, L., Massey, W.J., Jain, R., Banerjee, R., Horak, A.J., McMullen, M.R., Huang, E., Bellar, A., Lorkowski, S.W., Guilshan, K., **Helsley, R.N.**, et al. (2024) Membrane Bound O-Acyltransferase (Mboat7) Shapes Lysosomal Lipid Homeostasis and Function to Control Alcohol-Associated Liver Injury. *eLife*. PMC11034944
33. Bates, E.A., Kipp, Z.A., Lee, W-H., Martinez, G.J., Weaver, L., Becker, K.N., Paus, S.N., Creeden, J.F., Anspach, G.A., **Helsley, R.N.**, et al. (2024) FOXS1 is Increased in Liver Fibrosis and Regulates TGF $\beta$  Responsiveness and Proliferation Pathways in Human Hepatic Stellate Cells. *J Biol Chem*. PMC10878791
34. Hohe, R., Banerjee, R., Cao, S., Jung, B.M., Horak, A.J., Massey, W.J., Varadharajan, W., Zajczenko, N., Burrows, A.C., Dutta, S., Goudarzi, M., Carter, A., **Helsley, R.N.**, et al. (2024) The Nonvesicular Sterol Transporter Aster-C Plays a Minor Role in Whole Body Cholesterol Balance. *Front. Physiol*. PMC11061533
35. **Helsley, R.N.**<sup>#</sup>, Zelows, M.M., Noffsinger, V.P., Anspach, G.B., Dharanipragada, N., Mead, A.E., Cobo, I., Carter, A., Wu, Q., Shalurova, I., Saito, K., Morganti, J.M., Gordon, S.M., and Graf, G.A.<sup>#</sup> (2025) Hepatic Inactivation of Carnitine Palmitoyltransferase 1a Lowers Apolipoprotein B Containing Lipoproteins in Mice. *ATVB*. PMC12286734. <sup>#</sup> co-corresponding authors.

**Selected as Editors Pick and Cover for August Issue (2025).**

36. Anspach, G.B., Kaur, R., Chauhan, I., Savage, E.L., Poole, B., Noffsinger, V.P., Fu, X., Wang, Z., Temel, R.E., Gordon, S.R., **Helsley, R.N.**, and Graf, G.A. (2025) ABCG5 ABCG8-independent Mechanisms Fail to Maintain Sterol Balance in Mice Fed a High Cholesterol Diet. *JLR*. PMC12550799
37. Orabi, D., Massey, W.J., Fung, K.K., Varadharajan, V., Ramachandiran, I., Banerjee, R., Silver, D.J., Osborn, L.J., Brown, A.L., Marshall, S., Ferguson, D., Cao, S., Schugar, R.C., Finney, C., Neumann, C., Burrows, A.C., Horak, A.J., Pathak, P., **Helsley, R.N.**, Bulfon, D., Zimmermann, R., Leung, Y.H., Madiraju, S.R.M., Prentki, M., Lee, R.G., Mullick, A.E., Zergeeva, O., Dasarathy, S., Lee, Z., Allende, D.S., Aucejo, F., Lathia, J.D., and Brown, J.M. (2025) The Lipid Hydrolase ABHD6 is a Therapeutic Target in Metabolic Dysfunction-Associated Steatotic Liver Disease (MASLD)-Related Hepatocellular Carcinoma. *BioRxiv*. *In peer review at Mol Metab*. PMC12324370
38. Turner, M.B., Pangilinan, H-R, Park, S-H, Angoma, B., **Helsley, R.N.**, and Loria, A.S. (2025) Adipocyte-specific Deletion of the Mineralocorticoid Receptor Improves Glucose Homeostasis and Associates With FGF21-adiponectin Signaling in Obese Male Mice. *Diabetes Obes Metab*. PMID: 41153082.
39. Anspach, G.B., Flight, R.M., Park, S-H., Moseley, H.N.B., and **Helsley, R.N.** (2026) An Integrated Multi-omic Analysis Reveals Novel Gene-Metabolite Relationships in Human Steatohepatic Hepatocellular Carcinoma. *MedRxiv* doi: <https://doi.org/10.64898/2026.01.28.26344977>. *In peer review at JLR*.
40. Sewell, K.M., Oriakh, K., Tenlep, S.Y.N., Weaver, M., Bawa, M.S., Vsevolozhskaya, O., Park, S-H., **Helsley, R.N.**, Softic, S., and Rashid, C.S. (2026) A Ubiquitous Organophosphate Flame Retardant Disrupts Energy and Glucose Homeostasis in Mice. *Ecotoxicol Environ Saf*. PMID: 41650571
41. Ganjaji, M.S., Krauss, T.A., Demster, G.E., Park, S-H., Anspach, G.B., Anthony, S.R., Wang, S., Tranter, M., **Helsley, R.N.**, and Baumann, C.W. (2026) Systemic Consequences of Chronic Ethanol Intake: From Microbiome Shifts to Metabolic Impairment. *In-press at Compr Physiol*.

**B. Abstracts:**

1. **Helsley, R.N.**, Tranter, M., Paulding, W., and Jones, W.K. Micro-RNA regulation of Hsp70 protein expression in late ischemic preconditioning. Experimental Biology Conference, 2010. Anaheim, CA  
**Recipient of ASPET Undergraduate Student Travel Award**
2. **Helsley, R.N.**, Tranter, M., Paulding, W., and Jones, W.K. NF- $\kappa$ B and HSF-1 coordinated transcriptional regulation of the Hsp70.3 promoter. Experimental Biology Conference, 2011. Washington, DC.  
**Recipient of ASPET Undergraduate Student Travel Award**
3. **Helsley, R.N.**, Sui, Y., Ai, N., Park, S-H., Welsh, W.J., and Zhou, C. HIV protease inhibitors activate PXR and induce dyslipidemia in mice. Saha Cardiovascular Research Day, 2012. Lexington, KY
4. **Helsley, R.N.**, Sui, Y., Ai, N., Park, S-H., Welsh, W.J., and Zhou C. Pregnane x receptor mediates dyslipidemia induced by the HIV protease inhibitor amprenavir in mice. Experimental Biology Conference, 2013. Boston, MA  
**Recipient of ASPET Graduate Student Travel Award**

5. **Helsley, R.N.**, Sui, Y., Ai, N., Park, S-H., Welsh, W.J., and Zhou C. Pregnane x receptor mediates dyslipidemia induced by the HIV protease inhibitor amprenavir in mice. Barnstable Brown Kentucky Diabetes and Obesity Research Day, 2013. Lexington, KY
6. **Helsley, R.N.**, Sui, Y., Ai, N., Park, S-H., Welsh, W.J., and Zhou, C. Pregnane x receptor mediates dyslipidemia induced by the HIV protease inhibitor amprenavir in mice. Saha Cardiovascular Research Day, 2013. Lexington, KY.
7. **Helsley, R.N.**, Sui, Y., Park, S-H., Liu, Z., and Zhou, C. Pregnane x receptor mediates dyslipidemia induced by the HIV protease inhibitor amprenavir in mice. South East Lipid Research Conference, 2013. Pine Mountain, GA
8. Sui, Y., Park, S-H., **Helsley, R.N.**, Sunkara, M., Gonzalez, F.J., Morris, A.J., and Zhou, C. Bisphenol A increases atherosclerosis in pregnane x receptor-humanized ApoE deficient mice. ATVB Conference, 2014. Toronto, ON

**Recipient of the University of Kentucky Graduate School Travel Award**

9. **Helsley, R.N.**, Sui, Y., Ai, N., Park, S-H., Welsh, W.J., and Zhou, C. Pregnane x receptor mediates dyslipidemia induced by the HIV protease inhibitor amprenavir in mice. 11th Annual Ohio Valley Affiliates for Life Sciences Conference in Metabolic Diseases, 2014. Cincinnati, OH

**Awarded 2nd place in the poster competition**

10. **Helsley, R.N.**, Sui, Y., Park, S-H., Liu, Z., and Zhou, C. Phthalate substitute plasticizers activate PXR and induce dyslipidemia in mice. Barnstable Brown Kentucky Diabetes and Obesity Research Day, 2014. Lexington, KY

**Awarded 4th place in the poster competition**

11. **Helsley, R.N.**, Sui, Y., Park, S-H., Liu, Z., and Zhou, C. Phthalate substitute plasticizers activate PXR and induce dyslipidemia in mice. COBRE Annual Review and Competing Renewal Retreat, 2014. Lexington, KY
12. **Helsley, R.N.**, Sui, Y., Park, S-H., Liu, Z., and Zhou C. Activation of intestinal PXR by phthalate substitute plasticizers stimulates NPC1L1 expression and induces hyperlipidemia in mice. Saha Cardiovascular Research Day, 2014. Lexington, KY
13. **Helsley, R.N.**, Sui, Y., Park, S-H., Liu, Z., and Zhou, C. Activation of intestinal PXR by phthalate substitute plasticizers stimulates NPC1L1 expression and induces hyperlipidemia in mice. South East Lipid Research Conference, 2014. Pine Mountain, GA
14. **Helsley, R.N.**, Sui, Y., Liu, Z., Park, S-H., and Zhou, C. Targeted deletion of IKK $\beta$  protects mice from obesity and metabolic disorders. SEC symposium on obesity prevention, 2014. Atlanta, GA

**Poster competition finalist**

15. **Helsley, R.N.**, Sui, Y., Liu, Z., Park, S-H., and Zhou, C. I $\kappa$ B Kinase  $\beta$  signaling in adipose progenitor cells promotes obesity and metabolic disorders. ATVB Conference, 2015. San Francisco, CA
16. **Helsley, R.N.**, Sui, Y., Liu, Z., Park, S-H., Zhu, B., Kern, P.A., and Zhou, C. IKK $\beta$  signaling in adipose progenitor cells promotes obesity and metabolic disorders. Barnstable Brown Obesity and Diabetes Research Day, 2015. Lexington, KY

**Awarded 1st place in the poster competition**

17. **Helsley, R.N.**, Sui, Y., Liu, Z., Park, S-H., Zhu, B., Kern, P.A., Lee, R.G., and Zhou, C. IKK $\beta$  signaling in adipose progenitor cells promotes obesity and metabolic disorders. Metabolic Signaling and Disease: From Cell to Organism, 2015. Cold Spring Harbor, NY
18. **Helsley, R.N.**, Sui, Y., Liu, Z., Park, S-H., Zhu, B., Kern, P.A., Lee, R.G., and Zhou, C. IKK $\beta$  signaling in adipose progenitor cells promotes obesity and metabolic disorders. COBRE Retreat, 2015. Lexington, KY
19. **Helsley, R.N.**, Sui, Y., Park, S-H., Liu, Z., Lee, R.G., Zhu, B., Kern, P.A., and Zhou, C. Targeting IKK $\beta$  in adipose progenitor cells for treatment of obesity and metabolic disorders. Saha Cardiovascular Research Day, 2015. Lexington, KY

**Awarded 1st place in the poster competition**

20. **Helsley, R.N.**, Sui, Y., Park, S-H., Liu, Z., Lee, R.G., Zhu, B., Kern, P.A., and Zhou, C. Targeting I $\kappa$ B Kinase  $\beta$  in adipocyte lineage cells for treatment of obesity and metabolic dysfunctions. ATVB Conference, 2016. Nashville, TN

**ATVB Travel Award for Young Investigators**

21. **Helsley, R.N.**, Sui, Y., Park, S-H., Liu, Z., Lee, R.G., Zhu, B., Kern, P.A., and Zhou, C. Targeting I $\kappa$ B Kinase  $\beta$  in adipocyte lineage cells for treatment of obesity and metabolic dysfunctions. Vanderbilt Cardiovascular Symposium, 2016. Nashville, TN
22. **Helsley, R.N.**, Marshall, M.M., Schugar, R.C., Ferguson, D., Gromovsky, A.D., Neumann, C., Lee, R.G., Hazen, S.L., Nagy, L.E., and Brown, J.M. The gut microbe-derived, trimethylamine (TMA), contributes to the etiology of ethanol-induced liver disease. Cleveland Clinic Research Day, 2016. Cleveland, OH.

23. **Helsley, R.N.**, Marshall, M.M., Schugar, R.C., Ferguson, D., Gromovsky, A.D., Neumann, C., Lee, R.G., Hazen, S.L., Nagy, L.E., and Brown, J.M. The gut microbe-derived, trimethylamine (TMA), contributes to the etiology of ethanol-induced liver disease. Saha Cardiovascular Research Day, 2016. Lexington, KY  
**Outstanding Postdoctoral Fellow Poster Presentation “The Stewart Whitman Award”**
24. Brown, A.L., Conrad, K., Allende, D.S., Gromovsky, A.D., Neumann, C., Owens, P.A., Tranter, M., and **Helsley, R.N.** Choline Supplementation Attenuates High Fat Diet-Induced Hepatocellular Carcinoma (HCC) in Mice. Case Western Reserve Cancer Symposium, 2019. Cleveland, OH
25. Brown, A.L., Conrad, K., Allende, D.S., Gromovsky, A.D., Neumann, C., Owens, P.A., Tranter, M., and **Helsley, R.N.** Choline Supplementation Attenuates High Fat Diet-Induced Hepatocellular Carcinoma (HCC) in Mice. South East Lipid Research Conference, 2019. Cincinnati, OH  
**Trainee wins best presentation award**
26. **Helsley, R.N.**, Venkateshwari, V., Brown, A.L., et al (2019) Obesity-Linked Suppression of Membrane-Bound O-Acyltransferase 7 (MBOAT7) Drives Non-Alcoholic Fatty Liver Disease. Saha Cardiovascular Research Day, 2019. Lexington, KY.  
**Awarded 1st place in the poster competition**
27. **Helsley, R.N.**, Park, S.H., Meyer, J.G., Schilling, B., Newgard, C.B., Kahn, R., and Softic, S. Dietary Fructose Influences Fatty Acid Metabolism through Transcriptional and Post-Translational Modifications of Mitochondrial Proteins. COBRE Annual Retreat, 2020. Lexington, KY.
28. **Helsley, R.N.**, Park, S.H., Meyer, J.G., Schilling, B., Newgard, C.B., Kahn, R., and Softic, S. Dietary Fructose Influences Fatty Acid Metabolism through Transcriptional and Post-Translational Modifications of Mitochondrial Proteins. Digestive Health Center Annual Scientific Retreat, 2020. Cincinnati, OH.
29. **Helsley, R.N.**, Park, S.H., Hemendra, V.J., Sullivan, P.G., Meyer, J.G., Schilling, B., Newgard, C.B., Kahn, R., and Softic, S. Dietary Fructose Decreases Fatty Acid Oxidation via Post-Translational Regulation of CPT1a. University of Kentucky College of Medicine Trainee Showcase, 2021. Lexington, KY.
30. **Helsley, R.N.**, Park, S.H., Hemendra, V.J., Sullivan, P.G., Meyer, J.G., Schilling, B., Newgard, C.B., Kahn, R., and Softic, S. Dietary Fructose Decreases Fatty Acid Oxidation via Post-Translational Regulation of CPT1a. Saha Cardiovascular Research Day, 2021. Lexington, KY.  
**Outstanding Postdoctoral Fellow Poster Presentation “The Stewart Whitman Award”**
31. Steen, D.L., **Helsley, R.N.**, Bhatt, D.L., King, E., Summer, S.S., Fenchel, M., Saelens, B.E., Eckman, M.H., Lenchitz, B., and Couch, S.C. A Multisite, Randomized Trial of Supermarket and Web-Based Intervention Targeting Nutrition for Cardiovascular Risk Reduction. American College of Cardiology Meeting, 2022. Washington, D.C.
32. **Helsley, R.N.**, Zelows, M.M., Kaur, R., Williams, K., Softic, S., and Graf, G. CPT1a Modulates Lipoprotein and Hepatic Lipid Metabolism in a Sex-Specific Manner. CCTS Research Day, 2022. Lexington, KY.
33. Zelows, M.M., Kaur, R., Williams, K., Graf, G., and **Helsley, R.N.** CPT1a Modulates Lipoprotein Metabolism. Vascular Discoveries, 2022. Seattle, WA.
34. Zelows, M.M., Kaur, R., Williams, K., Softic, S., Graf, G., and **Helsley, R.N.** Carnitine Palmitoyltransferase 1a Serves as a Gatekeeper of Sexually Dimorphic NAFLD. Frederickson Lipid Research Conference, 2022. Durham, NC.
35. Zelows, M.M., Kaur, R., Williams, K., Graf, G. and **Helsley, R.N.** Carnitine Palmitoyltransferase 1a Modulates Lipoprotein Metabolism. Saha Cardiovascular Research Day, 2022. Lexington, KY.  
**Trainee Wins Outstanding Poster Presentation “The Deneys Van der Westhuyzen Award”**
36. Zelows, M.M., Kaur, R., Williams, K., Softic, S., Graf, G., and **Helsley, R.N.** Carnitine Palmitoyltransferase 1a Modules Sexually Dimorphic NAFLD in Mice. Barnstable Brown Obesity and Diabetes Research Day, 2022. Lexington, KY  
**Trainee Wins 2<sup>nd</sup> Place at Poster Competition**
37. Zelows, M.M., Kaur, R., Williams, K., Softic, S., Graf, G., and **Helsley, R.N.** Carnitine Palmitoyltransferase 1a Modules Sexually Dimorphic NAFLD in Mice. Kentucky Chapter of the American Physiological Society, 2022. Lexington, KY  
**Trainee Wins 2<sup>nd</sup> Place at Poster Competition**
38. Anspach, G.B., Zelows, M., Dharanipragada, N., Graf, G.A., and **Helsley, R.N.** Exploring Altered Fatty Acid Metabolism in Human Hepatocellular Carcinoma. Frederickson Lipid Research Conference, 2023. Nashville, TN.
39. Gonzalez, L., Steen, D., **Helsley, R.N.**, Summers, S., and Couch, S.C. The Impact of a Supermarket-based Dietary Intervention on Ultra-Processed Food Consumption Among Adults at Cardiovascular Disease Risk. Food and Nutrition Conference and Expo, 2023. Denver, CO.
40. Dharanipragada, N., Zelows M.M., Anspach, G.B., Graf, G.A. and **Helsley, R.N.** “Uncovering a Role for Carnitine Palmitoyltransferase 1a in Adipocytes.” Barnstable Brown Diabetes and Obesity Rising Stars

Symposium, 2023. Lexington, KY.

**Trainee (ND) Wins Best Undergraduate Presentation**

41. Dharanipragada, N., Zelows M.M., Anspach, G.B., Graf, G.A. and **Helsley, R.N.** "Uncovering a Role for Carnitine Palmitoyltransferase 1a in Adipocytes." Saha Cardiovascular Research Center, 2023. Lexington, KY.
42. Dharanipragada, N., Mead, A.E., Zelows, M.M., Graf, G.A., and **Helsley, R.N.** "Analyzing Gene Expression Profiles from WT and CPT1A Liver Specific Knockout Mice Reveals Sex-specific Differences in Fatty Acid Metabolism." BBDOC Annual Spring Conference, 2023. Lexington, KY.
43. Bokenkotter, A., **Helsley, R.N.**, Summers, S., Steen, D., and Couch, S.C. The Association Between Dietary Quality Indicators from Supermarket Food Purchases and Multiple Days of Dietary Recall. Food and Nutrition Conference and Expo, 2023. Denver, CO.
44. Anspach, G.B., Dharanipragada, N., and **Helsley, R.N.** "Gene and Lipid Profiling of Metabolically-driven Human Hepatocellular Carcinoma Tumor and Adjacent Nontumor Tissue." Markey Cancer Center Conference, 2024. Lexington, KY.

**Trainee (GA) Wins Best Overall Poster Presentation**

45. Anspach, G.B., Dharanipragada, N., and **Helsley, R.N.** "Gene and Lipid Profiling of Metabolically-driven Human Hepatocellular Carcinoma Tumor and Adjacent Nontumor Tissue." Kern Lipid Conference, 2024. Snowmass, CO.

**Trainee (GA) Selected for Early Career Travel Award**

46. Anspach, G.B., Dharanipragada, N., and **Helsley, R.N.** "Gene and Lipid Profiling of Metabolically-driven Human Hepatocellular Carcinoma Tumor and Adjacent Nontumor Tissue." Barnstable Brown Rising Stars Symposium, 2024. Lexington, KY.

**Trainee (GA) Wins Best Overall Poster Presentation**

47. Dharanipragada, N., Anspach, G.B., Park, S-H., and **Helsley, R.N.** "Deletion of Carnitine Palmitoyltransferase 1a from Adipocytes Leads to Insulin Resistance in Female Mice." Barnstable Brown Rising Stars Symposium, 2024. Lexington, KY.
48. Anspach, G.B., Flight, R., Dharanipragada, N., McDougal, A., Park, S-H., Moseley, H., and **Helsley, R.N.** "Gene Expression and Lipid Profiling of Metabolically-driven Human Hepatocellular Carcinoma Tumor and Adjacent Nontumor Tissue." ASBMB Deuel Conference on Lipids, 2025. Long Beach, CA.
49. Dharanipragada, N., Anspach, G.B., Park, S-H., and **Helsley, R.N.** "Deletion of Carnitine Palmitoyltransferase 1a from Adipocytes Leads to Insulin Resistance in Female Mice." ASBMB Deuel Conference on Lipids, 2025. Long Beach, CA.

**Trainee (ND) Wins Best Overall Poster Presentation**

50. Anspach, G.B., Flight, R., Dharanipragada, N., McDougal, A., Park, S-H., Moseley, H., and **Helsley, R.N.** "Liver-specific CPT1a Deletion Promotes Tumorigenesis in a Mouse Model of Obesity-driven Hepatocellular Carcinoma." CCTS Annual Spring Conference, 2025. Lexington, KY.
51. Dharanipragada, N., Anspach, G.B., Park, S-H., and **Helsley, R.N.** "Deletion of Carnitine Palmitoyltransferase 1a from Adipocytes Leads to Insulin Resistance in Female Mice." AHA Vascular Discovery Conference, 2025. Baltimore, MD.
52. Park, S-H, Dharanipragada, N., Anspach, G.B., Johnson, L.A., Kern, P.A., Nikolajczyk, B.S., and **Helsley, R.N.** "Deletion of Carnitine Palmitoyltransferase 1a from Adipocytes Leads to Insulin Resistance in Female Mice." Frederickson Lipid Research Conference, 2025. Milwaukee, WI.

**Staff Scientist (SP) Wins Best Postdoc/Staff Poster Presentation**

53. Anspach, G.B., Flight, R., Dharanipragada, N., McDougal, A., Park, S-H., Moseley, H., and **Helsley, R.N.** "Liver-specific CPT1a Deletion Promotes Tumorigenesis in a Mouse Model of Obesity-driven Hepatocellular Carcinoma." Frederickson Lipid Research Conference, 2025. Lexington, KY.

**C. Podium Presentations:**

1. **Helsley, R.N.**, Sui, Y., Ai, N., Park, S-H., Welsh, W.J., and Zhou, C. HIV protease inhibitors activate PXR and induce dyslipidemia in mice. Saha Cardiovascular Research Day, 2012. Lexington, KY
2. **Helsley, R.N.**, Sui, Y., Ai, N., Park, S-H., Welsh, W.J., and Zhou, C. The role of the pregnane x receptor in xenobiotic-induced dyslipidemia. Graduate Center for Nutritional Sciences Seminar Series, University of Kentucky College of Medicine, 2013. Lexington, KY
3. **Helsley, R.N.**, Sui, Y., Ai, N., Park, S-H., Welsh, W.J., and Zhou, C. Pregnane x receptor mediates dyslipidemia induced by the HIV protease inhibitor amprenavir in mice. Experimental Biology Conference, 2013. Boston, MA

#### **Awarded 4th place in the ASPET Cardiovascular Pharmacology Best Abstract Competition**

4. **Helsley, R.N.**, Sui, Y., Park, S-H., Liu, Z., and Zhou, C. PXR links xenobiotic exposure to dyslipidemia and atherosclerosis. Saha Cardiovascular Research Day, 2013. Lexington, KY
5. **Helsley, R.N.**, Sui, Y., Park, S-H., Liu, Z., and Zhou, C. The role of the pregnane x receptor in xenobiotic-induced dyslipidemia. Department of Pharmacology and Nutritional Sciences Seminar Series, University of Kentucky College of Medicine, 2014. Lexington, KY
6. **Helsley, R.N.**, Sui, Y., Park, S-H., Liu, Z., and Zhou, C. IKK $\beta$  signaling in adipose progenitor cells promotes obesity and metabolic disorders. Department of Pharmacology and Nutritional Sciences Seminar Series, University of Kentucky College of Medicine, 2015. Lexington, KY
7. **Helsley, R.N.**, Sui, Y., Liu, Z., Park, S-H., Zhu, B., Kern, P.A., and Zhou, C. IKK $\beta$  signaling in adipose progenitor cells promotes obesity and metabolic disorders. Barnstable Brown Obesity and Diabetes Research Day, 2015. Lexington, KY
8. **Helsley, R.N.**, Sui, Y., Park, S-H., Liu, Z., Zhu, B., Kern, P.A., Lee, R.G., and Zhou, C. Targeting IKK $\beta$  in adipose progenitor cells for treatment of obesity and metabolic disorders. Saha Cardiovascular Research Day, 2015. Lexington, KY
9. **Helsley, R.N.**, Marshall, M.M., Schugar, R.C., Ferguson, D., Gromovsky, A.D., Neumann, C., Lee, R.G., Hazen, S.L., Nagy, L.E., and Brown, J.M. The gut microbe-derived, trimethylamine (TMA) contributes to the etiology of ethanol-induced liver disease. P50 Seminar Series, 2016. Cleveland, OH.
10. **Helsley, R.N.**, Marshall, M.M., Schugar, R.C., Ferguson, D., Gromovsky, A.D., Neumann, C., Lee, R.G., Hazen, S.L., Nagy, L.E., and Brown, J.M. Drugging the gut microbiome for the treatment of alcohol-induced liver injury. Young Investigator Awards Platform Session – ASPET Division for Translational and Clinical Pharmacology, 2017. Chicago, IL.
11. **Helsley, R.N.**, Gromovsky, A.D., Schugar, R.C., Kabbany, M.N., et al. Obesity-Linked Suppression of Membrane-Bound O-Acyltransferase 7 (MBOAT7) Drives Non-Alcoholic Fatty Liver Disease. Heart, Lung, and Vascular Institute (HLVI) Cardiology Seminar Series, 2017. Cincinnati, OH.
12. **Helsley, R.N.**, Venkateshwari, V., Brown, A.L., et al. Obesity-Linked Suppression of Membrane-Bound O-Acyltransferase 7 (MBOAT7) Drives Non-Alcoholic Fatty Liver Disease. South East Lipid Research Conference, 2019. Cincinnati, OH.
13. **Helsley, R.N.** Identification of Molecular Mechanisms Contributing to Liver Disease. Heart, Lung, and Vascular Institute (HLVI) Cardiology Seminar Series, 2019. Cincinnati, OH
14. **Helsley, R.N.** Identification of Molecular Mechanisms Contributing to Liver Disease. University of Kentucky Department of Pharmacology and Nutritional Sciences Seminar Series, 2019. Lexington, KY.
15. **Helsley, R.N.** Identification of Carnitine Palmitoyltransferase 1a (CPT1a) as a Novel Regulator of NAFLD and Associated Hyperlipidemia. University of Kentucky Department of Pharmaceutical Sciences Seminar Series, 2021. Lexington, KY.
16. **Helsley, R.N.** Identification of Mechanisms Linking Fatty Acid Metabolism to NAFLD and Hyperlipidemia. University of Kentucky Department of Pharmacology and Nutritional Sciences Seminar Series, 2021. Lexington, KY.
17. **Helsley, R.N.** Carnitine Palmitoyltransferase 1a Modulates Lipoprotein and Hepatic Lipid Metabolism in a Sex-Specific Manner. CCTS Scholars Presentation, 2022. Lexington, KY.
18. **Helsley, R.N.** Carnitine Palmitoyltransferase 1a Serves as a Gatekeeper of Sexually Dimorphic NAFLD. Frederickson Lipid Research Conference, 2022. Durham, NC.
19. **Helsley, R.N.** Fatty Acid Oxidation in Cardiometabolic Disease. University of Kansas Diabetes Center, 2023. Kansas City, MO.
20. **Helsley, R.N.** Loss of Carnitine Palmitoyltransferase 1a Reduces Polyunsaturated Fatty Acid Levels and Drives Microvesicular Steatosis in Livers of Female Mice. Frederickson Lipid Research Conference, 2023. Nashville, TN.
21. **Helsley, R.N.** Fatty Acid Metabolism in Sexually Dimorphic Obesity-Driven Liver Cancer. Case Western Comprehensive Cancer Center. 2023. Cleveland, OH.
22. **Helsley, R.N.** Fatty Acid Metabolism in Sexually Dimorphic Obesity-Driven Liver Cancer. Yale School of Public Health (TREC Workshop). 2024. Westbrook, CT
23. Anspach, G.B.\* , Dharanipragada, N., and **Helsley, R.N.** Gene Expression and Fatty Acid Profiling of Metabolically-driven Human Hepatocellular Carcinoma. Kern Lipid Conference. Snowmass, CO. \*G. Anspach awarded an early stage investigator award.
24. Dharanipragada, N.\* , Anspach, G.B., and **Helsley, R.N.** Deletion of Carnitine Palmitoyltransferase 1a from Adipocytes Leads to Insulin Resistance in Female Mice. Kentucky Physiological Society (KPS) Meeting. Lexington, KY. \*N. Dharanipragada awarded best undergraduate presentation (oral).
25. **Helsley, R.N.** Defining a Role for Fatty Acid Oxidation in Obesity-associated Liver Disease. Seminar at

- Ohio State University, Department of Molecular Medicine & Therapeutics. 2024. Columbus, OH.
26. Dharanipragada, N.\* , Anspach, G.B., and **Helsley, R.N.** Deletion of Carnitine Palmitoyltransferase 1a from Adipocytes Leads to Insulin Resistance in Female Mice. Saha Cardiovascular Research Center Conference, 2024. Lexington, KY. \*N. Dharanipragada wins best rapid fire presentation.
  27. Dharanipragada, N.\* , Anspach, G.B., and **Helsley, R.N.** Deletion of Carnitine Palmitoyltransferase 1a from Adipocytes Leads to Insulin Resistance in Female Mice. 5-minute Fast Track Undergraduate Competition, 2024. Lexington, KY. \*N. Dharanipragada awarded 2<sup>nd</sup> place in competition (out of 10 competitors).
  28. **Helsley, R.N.** Defining a Role for Fatty Acid Oxidation in Chronic Liver Disease. ASBMB Walter A. Shaw Young Investigator Keynote Lecture, 2025. Chicago, IL.
  29. **Helsley, R.N.** Fatty Acid Metabolism in Obesity-associated Hepatocellular Carcinoma. American Physiology Summit – The Impact of Diet on Metabolic Healthy & Disease, 2025. Baltimore, MD.
  30. **Helsley, R.N.** Liver-specific Deletion of Carnitine Palmitoyltransferase 1a Lowers ApoB-containing Lipoproteins in Mice. AHA Vascular Discoveries Hot Off the Press Abstracts, 2025. Baltimore, MD.
  31. Anspach, G.B., Flight, R., Dharanipragada, N., McDougal, A., Park, S-H, Moseley, H., and **Helsley, R.N.** Understanding How Extra Fat Droplets Cause Obesity-driven Liver Cancer. Four Minutes for Cancer Research Competition – Markey Cancer Center Office of Community Outreach and Engagement, 2025. Lexington, KY. \*G. Anspach awarded 3<sup>rd</sup> place in competition.
  32. Anspach, G.B., Flight, R., Dharanipragada, N., McDougal, A., Park, S-H, Moseley, H., and **Helsley, R.N.** Liver-specific CPT1a Deletion Promotes Tumorigenesis in a Mouse Model of Obesity-driven Hepatocellular Carcinoma. Markey Cancer Center Research Day, 2025. Lexington, KY.
  33. Anspach, G.B., Flight, R., Dharanipragada, N., McDougal, A., Park, S-H, Moseley, H., and **Helsley, R.N.** Liver-specific CPT1a Deletion Promotes Tumorigenesis in a Mouse Model of Obesity-driven Hepatocellular Carcinoma. AOA Groves Memorial Research Symposium, 2025. Lexington, KY.
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  36. **Helsley, R.N.** Regulation of Lipid & Lipoprotein Metabolism via the ACC-CPT1a Axis. University of Cincinnati Cardiovascular Health and Disease Grand Rounds, 2025. Cincinnati, OH.
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