

CURRICULUM VITAE

Amy-Joan Lorna Ham, Ph.D.

Associate Professor

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ACADEMIC TRAINING

B.S., Chemistry with math/physics minor, 1988, University of Arizona, Tucson, AZ

M.S., Toxicology, 1991, University of Arizona, Tucson, AZ

Thesis Title: Substrate Specificity of Rat Liver Aldehyde Dehydrogenase with Chloroacetaldehydes

Research Advisor: Dean E. Carter, Ph.D.

Ph.D., Pharmacology and Toxicology, 1995, University of Arizona, Tucson, AZ

Dissertation Title: Antioxidant Reactions of Vitamin E in Rat Liver

Research Advisor: Daniel C. Liebler, Ph.D.

Postdoctoral, University of North Carolina at Chapel Hill, Chapel Hill, NC

Studied the role of lipid peroxidation in the formation of endogenous exocyclic DNA adducts. Developed sensitive and specific mass spectrometric analysis methods for DNA adducts.

Research Advisor: James A. Swenberg, D.V.M., Ph.D.

ACADEMIC APPOINTMENTS

1995-2001: Postdoctoral Fellow, Department of Pathology, University of North Carolina at Chapel Hill

2001-2003: Associate Research Scientist, Department of Pharmacology and Toxicology, College of Pharmacy, University of Arizona

- 2003-2008: Research Assistant Professor, Department of Biochemistry, Vanderbilt University School of Medicine, Nashville, TN
- 2003-2008: Associate Director, Proteomics Laboratory, Mass Spectrometry Research Center, Vanderbilt University School of Medicine, Nashville, TN
- 2008-2012: Research Associate Professor, Department of Biochemistry, Jim Ayers Institute for Precancer Detection and Diagnosis, Vanderbilt University School of Medicine, Nashville, TN
- 2012-2015: Adjunct Research Associate Professor, Department of Biochemistry, Jim Ayers Institute for Precancer Detection and Diagnosis, Vanderbilt University School of Medicine, Nashville, TN
- 2012-2017: Assistant Professor, Department of Pharmaceutical, Social and Administrative Science, College of Pharmacy, Belmont University, Nashville, TN
- 2015-2023: Adjunct Assistant Professor, Department of Medicine, Vanderbilt University School of Medicine, Nashville, TN
- 2021-2022 Director of Co-Curricular Education, College of Pharmacy, Belmont University, Nashville, TN
- 2015-present Adjoint Assistant Professor of Chemistry, Department of Chemistry, Vanderbilt University, Nashville, TN
- 2017-present: Associate Professor, Department of Pharmaceutical, Social and Administrative Science, College of Pharmacy and Health Sciences, Belmont University, Nashville, TN

ADDITIONAL RESEARCH EXPERIENCE

- 1988: Undergraduate Research Project, Department of Chemistry, University of Arizona. Worked on the synthesis of the antitumor agent deoxybouvardin. Advisor: Robert Bates, Ph.D.
- 1987-1988: Student Laboratory Assistant, Department of Pharmacology and Toxicology, College of Pharmacy, University of Arizona
- 1989-1995: Graduate Research Associate, Department of Pharmacology and Toxicology, College of Pharmacy, University of Arizona

OTHER TRAINING/TEACHING CERTIFICATES

- 2013: Teaching Scholars Summer Institute, June 3-7, 2013 – A weeklong teaching institute focused on teaching health professional students. West Virginia University, Morgantown, West Virginia
- 2016: Test2Learn Community-Based Pharmacogenomics Certificate and Train-the-Trainer Program, Sept. 26-27, 2016, University of Pittsburg, Pittsburg, Pennsylvania

PROFESSIONAL MEMBERSHIPS

Current membership:

American Society for Mass Spectrometry (ASMS)
American Association of Colleges of Pharmacy (AACP)
International Society for Extracellular Vesicles (ISEV)
National Community Oncology Dispensing Association (NCODA)
Clinical Pharmacogenomics Implementation Consortium (CPIC)
Pharmacogenomics Research Network (PGRN)

Prior membership:

Society of Toxicology (SOT)
American Association for Cancer Research (AACR)
American Chemical Society (ACS)
Hospital Oncology Pharmacists Association (HOPA)

TEACHING EXPERIENCE

University of Arizona

Analytical Toxicology (1990-1994) (1 hr lecture/yr)

Molecular and Cellular Toxicology (2003) (3 hrs lecture/yr)

University of North Carolina Chapel Hill

Biochemical Toxicology (1996-2001) (1.5 hrs lecture/yr)

Vanderbilt University

Analytical Proteomics (2004-2012) (4-6 hrs lecture/yr)

Mass Spectrometric Analysis of Protein Post-Translational Modifications (2011) (2 credit course)

-Course Coordinator/Developer, developed course with lecture and lab technique components

Belmont University College of Pharmacy and Health Sciences (formerly College of Pharmacy)

PHM 6120: Anatomy and Physiology (2012, 2016-2021) (3 credit course)

-2012, 2017-2021 – taught half of the course

-2016 – Course Coordinator; taught entire course

-2017, 2021 – Course Coordinator; taught half of the course

PHM 6110: Pharmacodynamics I (2012-2023) (3 credit course)

-2012-2013, taught half of the course

-2014 – Course Coordinator; taught entire course

-2015-2022 – Course Coordinator; taught half of the course

PHM 6210: Pharmacodynamics III (2013-2015, 2018, 2022, 2023) (3 credit course)

-2013-2015 - Course Coordinator, taught half of the course

-2018 - taught half of the course

-2022-2023 - taught 20% of the course

PHM 6240: Pharmacodynamics IV (2013-2024) (3 credit course)

- Taught half of course*
- 2017-2024 – Course Coordinator*

PHM 6991-05: Special Topics in Pharmacotherapy-Pharmacogenomics and Personalized Medicine (2012, 2014-2024) (2 credit course)

- Course Coordinator, developed course in 2012, teach entire course*

PHM 6991-03 Special Topics in Pharmacotherapy-Toxicology (2013-2023) (2 credit course)

- Course Coordinator, redesigned course in 2013, teach entire course*

PHM 6360 Seminar (2012-2021, 2023) (taught in 2-3 sections each spring semester, 1 credit course)

- 2018-2021, 2023 - Course Coordinator for 3-5 sections*

PHM 6991-13: Special Topics in Pharmacotherapy-Research Elective (2018-2022) (2 credit course)

- Course Coordinator, designed course in 2018, teach entire course*

PHM 6330: Introductory Pharmacy Practice Experience 4 (2018-2021) (2 credit course)

- Preceptor for students doing their research project*
- As of 2021, a total of 6 student precepted*

PHM 6995/6999: Advanced Pharmacy Practice Experience (2014-2023) (4 credit course)

- One-month rotations for P4 students in either Research (PHM6995) or Informatics (PHM6999)*
- As of 2023, a total of 28 students precepted*

Belmont Teaching Certificate Program in Pharmacy for PGY1 Residents

- Preceptor for teaching certificate program. Residents teach in my Pharmacogenomics and Precision Medicine elective in the spring semester. Guide students in preparing a teaching philosophy, lecture objectives, lectures to be given in class and in class activities and assignments.*
- As of Spring 2023, a total of 5 residents have been precepted.*

Belmont University College of Science and Math

CEM 3990: Special Studies in Chemistry (2019) (1 or 2 credit course)

- Course Coordinator*
- 1 credit spring 2019 - Elizabeth (Libby) Nunn*

BIO 4700: Biological Research (2019, 2024) (4 credit course)

- Course Coordinator*
- Fall 2019 - Senior Research Project for Elizabeth (Libby) Nunn*
- Fall 2024 – Senior Research Projects for Renee Boone and Ceclia Osthoff*

CEM 3100 Foundations of Research in Chemistry II (2019-2020, 2022) (1 or 2 credit course)

- Course Coordinator, designed course
- 2 credits fall 2019 – James Wareham
- 1 credit spring 2020 – Nancy Henin
- 1 credit fall 2022 – Kenzie Rushing

CEM 4700: Research in Chemistry II (2023) (2 credit course)

- Course Coordinator
- Fall 2023 - Senior Research Project for Kenzie Rushing

Belmont University – Guest Lectures

Cardiology Elective – College of Pharmacy (2015-2024) (2 credit course)

- one 1hr 40min lecture on *Pharmacogenomics in Cardiology*

Advanced Laboratory Techniques in Biochemistry – College of Science and Math, Department of Chemistry (2019) (1 credit laboratory course)

- one 3hr lecture on *Proteomics and Mass Spectrometry, including a lab tour.*

Continuing Education Delivered

1. “Personalized Medicine in Pharmacy Practice” – Developed content. Belmont University Homecoming Continuing Education Seminars, February 8, 2014, Belmont University, Nashville, TN - 1 hour of Continuing Education for Pharmacists
2. “Precision Medicine in Pharmacy Practice” – Developed content. Belmont University Homecoming Continuing Education Seminars, February 25, 2017, Belmont University, Nashville, TN - 1 hour of Continuing Education for Pharmacists
3. “Pharmacogenomics and Precision Medicine in Pharmacy Practice” – Developed content. June 21, 2018, Georgia Pharmacy Association Annual Convention, Omni Hotel, Nashville, TN – 2 hours of Continuing Education for Pharmacists.
4. “NACDS Test2Learn™ Community-Based Pharmacogenomics Certificate Program” – Utilized content developed by University of Pittsburg and NACDS. October 26, 2018, Belmont University, Nashville, TN – 8 hours of Continuing Education for Pharmacists
5. “Test2Learn™ Community-Based Pharmacogenomics Certificate Program” – Utilized content developed by University of Pittsburg. September 9, 2023, Belmont University, Nashville, TN – A certificate and 8 hours (out of a total of 20 hours) of Continuing Education for Pharmacists and student pharmacists.

Workshops

- 2003-2008 Biannual/triannual workshops on interpretation of proteomic data, Proteomics Laboratory, Mass Spectrometry Research Center, Vanderbilt University School of Medicine, organizer, significant development of content and speaker.

GRADUATE STUDENT TRAINING

Kristin Carpenter – Committee member, M.S., graduated May 2012

PHARMACY STUDENT RESEARCH MENTORING:

Belmont University College of Pharmacy and Health Sciences (formerly College of Pharmacy) (voluntary, may also include coursework)

- Amy Schnees, Class of 2016
 - Voluntary - Summer 2013
 - APPE Class 2015
- Alexis Dimitriou, Class of 2019
 - Voluntary - Fall 2015-Fall 2017
 - APPE Class – May 2018
- SunPhil Choi, Class of 2020
 - Voluntary - 2017-2019
 - Research Elective Class – 2018
 - APPE Class - June 2019
- Macy England, Class of 2020
 - Voluntary - 2017-2019
 - Research Elective Class – 2018
 - APPE Class - June 2019
- Travis Holmes, Class of 2020
 - Voluntary - 2017-2019
 - Research Elective Class – 2018
 - APPE Class - July 2019
- Julie Nguyen, Class of 2021
 - Voluntary - 2018-2019
 - IPPE IV Class – Fall 2018
 - APPE Class - June 2020
- Sarah Green, Class of 2022
 - Voluntary - 2020
 - Research Elective Class – 2020
 - APPE Class - June 2021
- MacKenzie Firek, Class of 2022
 - Voluntary - 2020
 - Research Elective Class – 2020
- Katherine Moutis, Class of 2024
 - Voluntary - 2021
 - Research Elective Class – 2022
 - APPE Class - June 2023
- Jasmine Assadollahzedah, Class of 2024
 - Voluntary - 2021
 - Research Elective Class – 2022
- Nancy Henin, Class of 2024
 - Voluntary – 2020-2023
 - APPE Class - June 2023

- Lori Bennett, Class of 2024
-Voluntary - 2022
- Sarah Layne, Class of 2025
-Voluntary –2022-2023
- MacKenzie Baumann, Class of 2025
-Voluntary –2022-2023
-APPE Class – June 2024
- Ethan Encinias, Class of 2026
-Voluntary –2023-present

UNDERGRADUATE STUDENT RESEARCH TRAINING

Belmont Undergraduate Students:

- Aditi Buch (Neuroscience)
 - o Summer Undergraduate Research Fellowship: 2017
 - o Voluntary Research fall 2017
- Karina Glushchak (Neuroscience)
 - o Summer Undergraduate Research Fellowship: 2017
 - o Voluntary Research 2017-2018
- Nancy Sharkawy (Neuroscience):
 - o Summer Undergraduate Research Fellowship: 2018
 - o Voluntary Research 2018-2019
- Elizabeth Nunn (Biology) 2018-2020:
 - o Summer Undergraduate Research Fellowship: 2018, 2019
 - o Voluntary research 2018-2020
 - o Course work:
 - CEM 3990: Special Studies in Chemistry (2019) (1 credit course)
 - BIO 4700: Biological Research (2019) (4 credit course)
 - Senior Research Project
- James Wareham (Pharmaceutical Sciences Major)
 - o Course work:
 - CEM 3100 Foundations of Research in Chemistry II (2019) (2 credit course)
 - o Voluntary research (2020)
 - o Member of Pre-Professional Interview Panel
- Nancy Henin (Pharmaceutical Sciences/Pharmacy student)
 - o Course work
 - CEM 3990: Special Studies in Chemistry (2020) (1 credit course)
 - o Voluntary research 2020-2022
- Elise Coughlan (Biology, Chemistry/Music minors) 2021:
 - o Summer Undergraduate Research Fellowship: 2021
 - o Member of Pre-Professional Interview Panel
- Joshua Sawiers (Biology, Chemistry minor) 2021:
 - o Summer Undergraduate Research Fellowship: 2021
- Kenzie Rushing (Chemistry major, Pre-med)

- Summer Undergraduate Research Fellowship: 2022
- Course work:
 - CEM 3100: Foundations of Research in Chemistry II (fall 2022) (1 credit course)
 - CEM 4700: Research in Chemistry II (Fall 2023) (2 credit course)
 - Senior Research Project
- Kyra Thomas (Biochemistry major)
 - Summer Undergraduate Research Fellowship: 2022
- Renee Boone (Biochemistry major)
 - Summer Undergraduate Research Fellowship: 2023
 - Will be doing Senior Research Project Fall 2024
- Cecilia Osthoff (Biology major)
 - Summer Undergraduate Research Fellowship: 2023
 - Will be doing Senior Research Project Fall 2024
- Anisley Foster
 - Summer Undergraduate Research Fellowship: 2024
- Rylan Wolkonowski
 - Summer Undergraduate Research Fellowship: 2024

AWARDS

- 1989: Graduate College Fellowship, University of Arizona
- 1991-1992: Graduate Fees Scholarship, University of Arizona
- 1994: Society of Toxicology Graduate Student Awards for Meritorious Research in Mechanisms of Toxicology – Honorable Mention
- 1997-1998: National Research Service Award, Postdoctoral Fellowship
- 1998: AACR-AFLAC Young Investigator Award, AACR Special Conference “Endogenous Sources of Mutation”, **Ham, A.-J.L.**, Ranasinghe, A., & Swenberg, J.A. (1998) 4-Hydroxynonenal and Ethyl Linoleate form N^2 ,3-Ethenodeoxyguanosine from Deoxyguanosine and Calf Thymus DNA under Peroxidizing Conditions.
- 1999: Risk Assessment Award for Best Student/Postdoctoral Paper, Society of Toxicology, Morinello, E.J., **Ham, A.-J.L.**, & Swenberg, J.A. (1999) Molecular Dosimetry of N^2 ,3-Ethenoguanine in Control and Vinyl Chloride-Exposed Rats. *Toxicological Sciences* 48(1-S):232.
- 2013: Belmont University Teaching Center Travel Award, Awarded to attend *The Teaching Scholars Summer Institute* for teaching health professional students in June 2013
- 2019: Belmont University Teaching Center Travel Award, Awarded to attend *Pharmacy Education 2019, 120th Annual meeting for the American Association for Colleges of Pharmacy*, Atlanta, GA, July 13-17, 2019.

2022 Belmont University Teaching Center Travel Award, Awarded to attend
Lilly Conference Asheville 2022, Asheville, NC, Aug 8-10, 2022.

EDITORIAL DUTIES

Ad hoc reviewer

American Association of Colleges of Pharmacy
American Journal of Physiology-Lung Cellular and Molecular Physiology
Analytical Chemistry
Biochimica et Biophysica Acta
BMC Medical Genomics
Chemical Research in Toxicology
Currents in Pharmacy Teaching and Learning
Expert Review of Proteomics
Journal of Proteome Research
Journal of the American Society for Mass Spectrometry
Molecular and Cellular Proteomics
Proteomics
Toxicologic Pathology
Trends in Genetics

SERVICE AND OTHER PROFESSIONAL ACTIVITIES

Belmont University College of Pharmacy and Health Sciences (formerly College of Pharmacy)

- Admissions Committee member, 2012-2013, 2017-present, Chair 2018-2020
- Assessment Committee member, 2013- 2015
- Faculty Search Committee for Department of Pharmaceutical, Social and Administrative Sciences, 2012-2013 & 2015
- Search Committee, Assistant to the Dean, 2013
- ACPE Accreditation Site Visit Preparation Committee, 2013-2014
- Instructional Resources Committee, 2014-2017
- Faculty Search Committee for the Department of Pharmacy Practice, 2015, 2020-2021
- Faculty Advisory Committee, Chair-Elect (2015/2016), Chair (2016/2017), 2015-2017
- Pharmacy Curriculum Committee, member, 2015-2018; 2020-present
- Rho Chi Society, Faculty Advisor, 2016-2024
- Belmont University Student Affairs Committee, 2017-2021
- Belmont University College of Pharmacy, Class of 2021 Faculty Advisor, 2017-2021
- Academic and Professional Standards Committee, 2018-2022
- Belmont Teaching Certificate Program (2020-2021, 2022-present)

- Faculty advisor for PGY1 residents teaching in Pharmacogenomics and Precision Medicine Elective (5 residents as of Spring 2024)
- Belmont Chapter of the National Community Oncology Dispensing Association Professional Student Organization (NCODA-PSO), Faculty Advisor, 2020-present
- Chair, Faculty Search Committee for Pharmaceutical, Social and Administrative Science Department, Pharmacology faculty search, 2021-2022
- Diversity, Equity, and Inclusion (DEI) Task Force, 2021-2022
- Search Committee for Dean, College of Pharmacy and Health Sciences, 2022-2023
- Vice-Chair, Pharmacy Administration Team, 2023-present
- CPHS Research Committee, 2023-present

Belmont University

- Honors Court Faculty Advisors Committee, 2014-2017
- Educational Technology Advisory Committee, 2018-2022, Chair-elect 2020-2021, Acting Chair 2021, Chair 2021-2022
- Bridges to Belmont Faculty Mentor, 2017-2021
- Pre-Professional Interview Committees in College of Science and Mathematics, 2020-2022
 - 3 Students: James Wareham, Elise Coughlan, Kenzie Rushing
- Mental Health Panel, sponsored by BUCOP student organizations SNAPhA and CPNP, 2021
- New Academic Programs Committee (formerly Improvement of Teaching and New Programs Committee), 2022-2024

National/International

- American Association for Colleges of Pharmacy
 - Reviewer for poster abstracts for the Annual Meeting, 2020, 2022
 - Reviewer for New Investigator Awards, 2015, 2018, 2022
 - Judge for Trainee Posters, 2018, 2020, 2021
 - Biological Science Section
 - Committee for Teaching Awards – 2022-2023
 - Developed new award for publication in teaching and learning
 - Reviewed applications and determined award winners
 - Co-Chair Pharmacological Sciences Task Force, 2023-present
 - Pharmacogenomics Special Interest Group (PGx SIG)
 - Committee to develop repository for case studies in pharmacogenomics, 2020-2021
 - Subcommittee to develop Google intake form for case study repository, 2021
 - Committee for the development of “Innovation in Pharmacogenomics Teaching Award”, 2021

- Committee for review and selection of the “Innovation in Pharmacogenomics Teaching Award”, 2020-2021, 2021-2022
- Committee Chair for review and selection of the “Innovation in Pharmacogenomics Teaching Award”, 2022-2023
- Chair-Elect, 2023-2024
- Chair, 2024-2025
- American Society for Mass Spectrometry
 - Judge for Undergraduate Research Posters, 2019

Community Service

- Williamson Youth Track Club, Volunteer Track Coach, 2008-2009.
- Hillsboro Middle School’s Track Team (inaugural year), Volunteer Track Coach, 2011.
- Hillsboro Tomorrow, Board Member, Chair-Oversight Committee, 2011-2013.
- Hillsboro Athletic Booster Club, Board Member, Treasurer, 2011-2012 and 2012-2013 academic year.
- Wings of Skill Youth Track Club, Volunteer Track Coach, 2011-2014.
- Meet Director for the 1st and 2nd Annual Wings of Skill Youth Track Invitational, 2013, 2014
- Meet Director for Southeastern AAU Track and Field District Qualifier, 2014
- Second Harvest Food Bank, Volunteer, 2017
- Project Cure, Volunteer, 2018
- Nashville Rescue Mission, Volunteer, 2019, 2022
- Volunteer Research Advisor for 4 students for Page High School, Williamson County Schools; 2021-2022
- Senior Olympics District Qualifier, Track official and other duties; 2013, 2015, 2017-2023
- Senior Olympics State Games, Track official and other duties; 2013, 2015-2023
- More than Pink Walk, Susan G. Komen Foundation, Participant/Fundraiser, 2021, 2023
- National Marrow Donor Program (NMDP, formerly Be the Match), helped organize and run a registry drive and raise funds for the organization, 2023-2024

AWARDS

- 1989: Graduate College Fellowship, University of Arizona
- 1991-1992: Graduate Fees Scholarship, University of Arizona

- 1994: Society of Toxicology Graduate Student Awards for Meritorious Research in Mechanisms of Toxicology – Honorable Mention
- 1997-1998: National Research Service Award, NIH, Postdoctoral Fellowship
- 1998: AACR-AFLAC Young Investigator Award, AACR Special Conference “Endogenous Sources of Mutation”, **Ham, A.-J.L.**, Ranasinghe, A., & Swenberg, J.A. (1998) 4-Hydroxynonenal and Ethyl Linoleate form N^2 ,3-Ethenodeoxyguanosine from Deoxyguanosine and Calf Thymus DNA under Peroxidizing Conditions.
- 1999: Risk Assessment Award for Best Student/Postdoctoral Paper, Society of Toxicology, Morinello, E.J., **Ham, A.-J.L.**, & Swenberg, J.A. (1999) Molecular Dosimetry of N^2 ,3-Ethenoguanine in Control and Vinyl Chloride-Exposed Rats. *Toxicological Sciences* 48(1-S):232.
- 2013: Belmont University Teaching Center Travel Award, Awarded to attend *The Teaching Scholars Summer Institute* for teaching health professional students in June 2013
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- 2022 Belmont University Teaching Center Travel Award, Awarded to attend *Lilly Conference Asheville 2022*, Asheville, NC, Aug 8-10, 2022.

GRANTS AND FELLOWSHIPS

- '97-'98 F32 ES005779-01 (Ham), NIH/NIEHS, Endogenous Adducts and Environmental Carcinogens
Role: Principal Investigator
- '04-'09 5P30 CA68485-12 (Pietenpol), NIH/NCI, Vanderbilt Cancer Center Core Support Grant
Role: Co-Investigator
- '05-'07 5R01 CA062212-11 (Arteaga), NIH/NCI, TGF-Betas and Receptors and Human Breast Cells
Role: Co-Investigator
- '05-'07 5R01 CA82556-08 (Ballard), NIH/NCI, Deregulation of Cellular I κ B Kinases by HTLV1 Tax
Role: Co-Investigator
- '05-'08 5P01 ES013125-03 (Porter), NIH/NIEHS, Lipid Peroxidation and Antioxidant Mechanisms
Role: Co-Investigator
- '05-'11 5R56 DK070856-02 (Goldenring), NIH/NIDDK, Molecular Characteristics of the Apical Recycling System
Role: Co-Investigator

- '05-'10 2P50 CA098131-06 (Arteaga), NIH/NCI, SPORE in Breast Cancer, Pilot Project: Quantitation of Phosphotyrosine Signaling in Human Breast Cancer
Role: Principal Investigator
- '06-'08 5P50 HL081009-02 (Vaughan), NIH/NHLBI, SCCOR in Hemostatic and Thrombotic Diseases
Role: Co-Investigator
- '06-'11 5U24 CA126479-02 (Liebler), NIH/NCI, Clinical Proteomic Technology Assessment for Cancer
Role: Co-Investigator
- '07-'12 5 P50 CA095103-10 (Coffey), NIH/NCI (Project 1) SPORE in GI Cancer
Role: Co-investigator
- '09-'11 5U24 CA126479-04S1 (Liebler), NIH/NCI, Clinical Proteomic Technology Assessment for Cancer
Role: Co-Investigator
- '09-'11 3R01DK071590-02S1 (Goldenring), NIH/NIDDK, Mechanisms of Gastric Mucous Cell Metaplasia
Role: Co-Investigator
- '09-'11 70NANB9H9001 (Liebler), NIST/Dept of Commerce, Coordinating Support Laboratory for the Clinical Proteomic Technologies Assessment for Cancer Program
Role: Co-investigator
- '10-'12 5U01CA152647-02 (Liebler), NIH/NCI, Vanderbilt Biomarker Development Laboratory
Role: Co-Investigator
- '10-'12 5R01 CA080195-11 (Arteaga), NIH/NCI, Erbb2 targeted antitumor strategies in Breast Cancer
Role: Co-investigator
- '11-'12 1U24 CA159988-01 (Liebler), NIH/NCI, Vanderbilt Proteome Characterization Center
Role: Co-investigator

BOOK CHAPTERS

Swenberg, J.A., **Ham, A.-J.L.**, McDorman, K.S., Morinello,E.J., Nakamura, J., & Schoonhoven, R (2002) "*Methods for Measuring DNA Adducts and Abasic Sites: I. Isolation, Purification, and Analysis of DNA Adducts in Intact DNA*", Unit 3.8.1-2.8.18 in **Current Protocols in Toxicology**, Issue 12, (Maines, M.D., Costa, L.G, Reed, D.J., Sassa, S., & Sipes, I.G., eds), John Wiley and Sons, New York. ISBN: 9780471140856

Swenberg, J.A., **Ham, A.-J.L.**, Koc, H., La, D.K., Morinello,E.J., Pachkowski, B.F., Ranasinghe, A., & Upton, P.B. (2002) "*Methods for Measuring DNA Adducts and*

Abasic Sites: II. Methods for Measurement of DNA Adducts", Unit 3.9.1-3.9.35 in **Current Protocols in Toxicology**, Issue 12, (Maines, M.D., Costa, L.G, Reed, D.J., Sassa, S., & Sipes, I.G., eds), John Wiley and Sons, New York. ISBN: 9780471140856

Ham, A.-J. (2005) "*Proteolytic Digestion Protocols*" in **The Encyclopedia of Mass Spectrometry, Volume 2 Biological Applications Part A: Peptides and Proteins** (Caprioli, R.M. & Gross, M.L, eds.) pp 10-17, Elsevier Ltd., Kidlington, Oxford, UK. ISBN-13: 978-0080438009

Ham, A.-J. "*Methodologies in Pharmacogenomics*" in **Concepts in Pharmacogenomics** (Martin M Zdanowicz, ed); 2017, American Association of Health-System Pharmacists, Bethesda, MD.

PEER REVEIWD PUBLICATIONS

(* Published and/or presented under maiden name)

1. **Sharpe*, A.L.** & Carter, D.E. (1993) Substrate specificity of rat liver aldehyde dehydrogenase with chloroacetaldehydes, *J. Biochem. Toxicol.* 8: 155-160.
2. **Ham, A.-J.L.** & Liebler, D.C. (1995) Vitamin E oxidation in rat liver mitochondria, *Biochemistry* 34: 5754-5761.
3. Liebler, D.C., Burr, J.A., Philips, L., & **Ham, A.J.L.** (1996) Gas chromatography-mass spectrometry analysis of vitamin E and its oxidation products, *Anal. Biochem.* 236: 27-34.
4. **Ham, A.-J.L.** & Liebler, D.C. (1997) Oxidative turnover of vitamin E in the perfused rat liver: product distribution and effect of dietary supplementation, *Arch. Biochem. Biophys.*, 339:157-64.
5. Liebler, D.C., **Ham, A.J.L.** & Burr, J.A. (1998) Gas chromatography-mass spectrometry analysis of vitamin E and its oxidation products. In Oxidants and Antioxidants (Packer, L., ed.) *Methods in Enzymology*, Vol. 299, Academic Press, New York, pp. 309-318.
6. Swenberg, J.A., Bogdanffy, M , **Ham, A.**, Holt, S., Kim, A., Morinello, E.J., Ranasinghe, A., Scheller, N., & Upton, P. (1999) The formation and repair of DNA adducts in vinyl chloride and vinyl fluoride carcinogenesis. *IARC Scientific Publication No. 150*:29-43.
7. **Ham, A.-J.L.**, Ranasinghe, A., Morinello, E.J., Nakamura, J., Upton, P.B., Johnson, F. & Swenberg, J.A. (1999) Immunoaffinity/gas chromatography/high resolution mass spectrometry method for the detection of N²,3-ethenoguanine. *Chem. Res. Toxicol.* 12:1240-1246.
8. Swenberg, J.A., **Ham, A.**, Koc, H., Morinello, E., Ranasinghe, A., Tretyakova, N., Upton, P. & Wu, K.-Y. (2000) Effects of low exposure to ethylene oxide, vinyl chloride and butadiene. *Mutation Res.* 464:77-86.
9. Hussain, S.P., Amstad, P., Raja, K., Ambs, S., Nagashima, M., Bennett, W.P., Shields, P.G., **Ham, A.-J.**, Swenberg, J.A., Marrogi, A.J., & Harris, C.C. (2000) Increased p53

mutation load in noncancerous colon tissue from ulcerative colitis: A cancer-prone chronic inflammatory disease. *Cancer Res.* 60:3333-3337.

10. **Ham, A.-J.L.**, Ranasinghe, A., Koc, H., & Swenberg, J.A. (2000) 4-Hydroxy-2-nonenal and ethyl linoleate form $N^2,3$ -ethenoguanine under peroxidizing conditions. *Chem. Res. Toxicol.* 13:1243-1250.
11. Morinello, E. J., **Ham, A.-J.L.**, Ranasinghe, A., Sangaiah, R. & Swenberg, J.A (2000) Simultaneous quantitation of $N^2,3$ -ethenoguanine and $1,N^2$ -ethenoguanine with immunoaffinity/gas chromatography/high resolution mass spectrometry. *Chem. Res. Toxicol.* 14:327-334.
12. Swenberg, J.A., Georgeiva, N., **Ham, A.**, Koc, H., Morinello, E., Ranasinghe, A., Upton, P., and Walker, V. (2002) Linking pharmacokinetics and biomarker data to mechanism of action in risk assessment. *J. Human Ecological Risk Assessment*, 8(6):1315-1338.
13. Morinello, E.J., **Ham, A.-J. L.**, Ranasinghe, A., Nakamura, J., Upton, P.B., and Swenberg, J.A. (2002) Molecular dosimetry and repair of $N^2,3$ -ethenoguanine in rats exposed to vinyl chloride. *Cancer Res.*, 62:5189-95.
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67. Demory Beckler M, Higginbotham JN, Franklin JL, **Ham A-JL**, Halvey PJ, Imasuen IE, Whitwell C, Li M, Liebler DC, Coffey RJ. (2012) Proteomic analysis of exosomes from mutant KRAS colon cancer cells identifies intercellular transfer of mutant KRAS. *Mol Cell Proteomics*. 12(2):343-55 2012 Epub Nov 15 PMC3567858
68. Chen YY, Chambers MC, Li M, **Ham AJ**, Turner JL, Zhang B, Tabb DL. (2013) IDPQuantify: Combining Precursor Intensity with Spectral Counts for Protein and Peptide Quantification. *J Proteome Res*, 2013 Epub Aug 12. 12(9):4111-21 PMC3804902
69. Vassilopoulos A, Pennington DJ, Andresson T, Rees D, Fearnley I, **Ham A**, Yan Y, Flynn CR, Jones K, Kim HS, Deng C, Walker J, Gius D. (2014) SIRT3 Deacetylates ATP Synthase F1 Complex Proteins in Response to Nutrient and Exercise-Induced Stress. *Antioxid Redox Signal*. 21(4):551-64. PMC4085980
<https://doi.org/10.1089/ars.2013.5420>
70. Pace, A.C., **Ham, A-J. L.**, Poole, T. M, Wahaib, K.B. (2016) Validation of the MUSIC Model of Academic Motivation Inventory for Use with Student Pharmacists. *Curr Pharm Teach Learn*, 8(5):589-597. PMC6525643

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71. Priest, V.V., **Ham, A.-J.L.**, Calinski, D, and Gálvez-Peralta, M (2023) Using “Thinking-hat” debates to include controversial topics in the pharmacy curriculum., *Pharmacy Ed.*, 23(1):780-79, <https://doi.org/10.46542/pe.2023.231.780795>

PRESENTATIONS:

INVITED / ORGANIZED / CONTINUING EDUCATION / PROFESSIONAL DEVELOPMENT

1. “Proteomics approaches to identify protein targets of reactive intermediates”, *Toxicology and Risk Assessment Conference*, Cincinnati, OH April 26-30, 2004.
2. “Mapping Protein Modifications Using LC-MS and the P-Mod and SALSA algorithms” *Thermo Electron Proteomics Fall Seminar Series*, December 8, 2004, Atlanta, GA.
3. “Protein Modification Mapping by LC-MS using the P-Mod and SALSA Algorithms” *Thermo Electron Proteomics Spring Seminar Series*, April 28-29, 2005, La Jolla, CA and Seattle, WA.
4. “Post-Translational Modifications”, Workshop at *Clinical Proteomics: Today and Tomorrow*, September 26-30, 2005, Nashville, TN. Invited
5. “Protein ID”, Workshop at *Clinical Proteomics: Today and Tomorrow*, September 26-30, 2005, Nashville, TN.
6. “LC-MS Based Proteomics”, Lecture at *Clinical Proteomics: Today and Tomorrow*, September 26-30, 2005, Nashville, TN
7. “Personalized Medicine in Pharmacy Practice” Belmont University Homecoming Continuing Education Seminars, February 8, 2014, Belmont University, Nashville, TN - 1 hour of Continuing Education for Pharmacists
8. “Mass Spectrometry and Proteomics in the Search for Cancer Therapies”, November 18, 2016, Presented as part of the Belmont University College of Science and Math Research Seminars.
9. “Precision Medicine in Pharmacy Practice” Belmont University Homecoming Continuing Education Seminars, February 25, 2017, Belmont University, Nashville, TN - 1 hour of Continuing Education for Pharmacists
10. “The Proteome and Cancer: Mass Spectrometry as a Tool for Discovery”, October 6, 2017, Presented as part of the Belmont University College of Science and Math Research Seminars.
11. “Turning Up Class Interaction with Turning Point”, April 11, 2018, Presentation at the Belmont University Bring Your Technology Experience (BYTE) Showcase, Nashville, TN.

12. “Pharmacogenomics and Precision Medicine in Pharmacy Practice”, June 21, 2018, Georgia Pharmacy Association Annual Convention, Omni Hotel, Nashville, TN – 2 hours of Continuing Education for Pharmacists.
13. “Turning Up Class Interaction with Turning Point”, August 2, 2018, Presentation at the Belmont University Great Ideas for Teaching (GIFT) Roundtables during New Faculty Orientation.
14. “The Proteome and Cancer: Mass Spectrometry as a Tool for Discovery”, October 19, 2018, Presented as part of the Belmont University College of Science and Math Research Seminars.
15. “NACDS Test2Learn™ Community-Based Pharmacogenomics Certificate Program”, October 26, 2018, Belmont University, Nashville, TN – 8 hours of Continuing Education for Pharmacists
16. “Turning Up Class Interaction with Turning Point”, April 10, 2019, Presentation at the Belmont University Bring Your Technology Experience (BYTE) Showcase
17. “Test2Learn™ Community-Based Pharmacogenomics Certificate Program”, September 9, 2023, Belmont University, Nashville, TN – Certificate program and 8 hours (out of a total of 20 hours) of Continuing Education for Pharmacists and student pharmacists.
18. “Unlocking Precision Medicine: Moving Beyond Pharmaco- “genomics” with a Multi-Omics Approach”, Webinar Organizer and Moderator, *American Association for Colleges of Pharmacy Pharmacogenomics Special Interest Group*. March 4, 2024. Virtual

PEER-REVIEWED PRESENTATIONS (ABSTRACTS)

(* Published and/or presented under maiden name)

1. **Sharpe*, A.L.** & Carter, D.E. (1991) Substrate Specificity of Rat Liver Aldehyde Dehydrogenase with Chloroacetaldehydes. Poster presentation. *Proceedings of the Ninth Annual Meeting, Mountain West Chapter, Society of Toxicology*.
2. **Sharpe*, A.L.** & Carter, D.E. (1992) Substrate Specificity of Rat Liver Aldehyde Dehydrogenase with Chloroacetaldehydes. Poster presentation. *Toxicologist 12*: 420.
3. **Sharpe*, A.L.** & Liebler, D.C. (1992) Vitamin E Turnover and Mitochondrial Function During Oxidative Stress. Platform presentation. *Proceedings of the Tenth Annual Meeting, Mountain West Chapter, Society of Toxicology*.
4. **Sharpe*, A.L.** & Liebler, D.C. (1993) Vitamin E Oxidation and Mitochondrial Function During Oxidative Stress. **Selected for Platform presentation**. *Toxicologist 13*: 240.
5. **Ham, A.L.** & Liebler, D.C. (1993) Oxidation of Vitamin E in Rat Liver Mitochondria Exposed to Peroxyl Radicals. Platform presentation. *Proceedings of the Eleventh Annual Meeting, Mountain West Chapter, Society of Toxicology*.
6. **Ham, A.L.** & Liebler, D.C. (1994) Oxidation of Vitamin E in Rat Liver Mitochondria Exposed to Peroxyl Radicals. Poster presentation. *Toxicologist 14*: 173.

7. **Ham, A.L.** & Liebler, D.C. (1994) Oxidation of vitamin E in rat liver mitochondria supplemented with [¹⁴C]- α -tocopherol *in vitro*. **Platform presentation.** *Proceedings of the Twelfth Annual Meeting, Mountain West Chapter, Society of Toxicology.*
8. Scheller, N., Ranasinghe, A., Gueorguieva, N., Yen, T.-Y., **Ham, A.**, & Swenberg, J. (1996) Detection of endogenous *N*²,3-ethenoguanine by GC/ECNCl/HRMS. *44th ASMS Conf. Mass Spectrom. and Allied Topics*, 781.
9. **Ham, A.-J.L.** & Swenberg, J.A. (1998) Immunoaffinity (IA) gas chromatography/mass spectrometry (GC/MS) method for *N*²,3-ethenoguanine demonstrates importance of hydrolysis method for adduct quantitation. **Poster presentation.** *Toxicological Sciences* 42(1-S):180
10. Ranasinghe, A., **Ham, A.-J.**, Morinello, E., & Swenberg, J.A. (1998) Quantitation of 1,*N*²-ethenoguanine and *N*²,3-ethenoguanine by IAC/GC/ECNCl/HRMS. **Poster presentation.** *46th ASMS Conf. Mass Spectrom. and Allied Topics*, 243.
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64. Henin, N, Moutis, K, Rushing, K., Higginbotham, JN, Franklin, J.L., Coffey, R.J., and **Ham, A-JL**, (2024) Proteomic Characterization of Extracellular Vesicles Purified by Dialysis Membrane Concentration and Electrophoresis as Compared to Standard Ultracentrifugation Techniques. **Accepted Poster presentation**. *To be presented in June 2024 at 72nd ASMS Conference for Mass Spectrometry and Allied Topics*.
65. **Ham, AJ-L** and Mourad, N. (2024) What do we cut? Mapping the key science concepts for integration with practice. **Mini-Session** at the AACP Biological Sciences Section. Presented at *Pharmacy Education 2024, the Annual conference for the American Association for Colleges of Pharmacy (ACCP)*.