

Hollie I. Swanson, Ph.D.

University of Kentucky
Director, Women's Executive Leadership Development Program
Professor, Department of Pharmacology and Nutritional Sciences
Member of the UK Board of Trustees

MS 305, UKMC
Lexington, KY 40536
(859) 323-1463, hollie.swanson@uky.edu

EDUCATIONAL BACKGROUND

Doctor of Philosophy 1991	Purdue University, West Lafayette, IN Food Science/Toxicology
Master of Science 1988	Oregon State University, Corvallis, OR Food Science/Food Toxicology
Bachelor of Science 1985	South Dakota State University, Brookings, SD Major: Chemistry Minor: Economics

LEADERSHIP ENHANCEMENT BACKGROUND

Circle of Powers Leadership Development, Participant, 1999-2000.
Dean's Mentored Leadership Development Program, Participant, 2005-2006. As the inaugural participant of this program, I shadowed Dean Perman, College of Medicine.
UK HealthCare Management and Executive Leadership Program, Certified Participant, 2009.

ADMINISTRATIVE AND PROFESSIONAL POSITIONS

Director, Integrated Biomedical Sciences Graduate Program

July, 2020-present

University of Kentucky College of Medicine

Office Of Biomedical
Education

Responsibilities: Direct recruiting efforts for the IBS program including initiatives to improve program diversity. Advise first year IBS students regarding course work, laboratory rotations, and selection of a primary lab to complete a dissertation and meet career goals. Oversee the first year IBS curriculum and perform periodic reviews to ensure student success and competitiveness in the science work force. Track student learning outcomes and prepare reports.

Director, Women's Executive Leadership Development Program (WELD)

November, 2015-present

University of Kentucky
Office of Associate Provost
for Faculty Advancement

Responsibilities: Organize recruitment and selection of participants. Recruit and communicate with session facilitators. Develop expertise in current literature on leadership and university leadership programs. Develop and implement leadership curriculum. Chair and communicate with WELD advisory committee. Organize annual WELD "Kick"-Off lectures. Communicate with—

participants. Organize and implement shadowing experiences. Assess program effectiveness. Serve as a liaison with Women in Medicine and Science and board member of the Kentucky ACE Women's Network.

Major accomplishments: Developed and implemented a 8 month program that has been very well received by the participants. "Graduated" 97 participants. Hosted four successful and well attended campus-wide "Kick-Off lecture events featuring nationally recognized speakers.

Director, Summer Research Undergraduate Programs

2016-present

University of Kentucky

Department of Pharmacology and Nutritional Sciences

Responsibilities: Obtain external funding to support student research. Recruit students, faculty mentors and near-peer mentors. Working with faculty committees, select qualified students. Develop and implement orientation session. Recruit facilitators for sessions on careers and research areas. Organize activities and field trips. Organize undergraduate research poster session. Assess program effectiveness.

Major accomplishments: Obtained funding to support 17 undergraduate students; the SURF program initiated in 2016 supports 5 and the SURES program initiated in 2017 supports 12 students. Approximately 50 applications from a variety of institutions apply yearly. I recruit eligible and diverse participants and work with two faculty committees to select the participants- more than 30 faculty mentors are involved. I have presented research posters at national meetings and published one manuscript. The majority of students who have participated in the program are currently enrolled or applying for graduate (PhD) or professional (MD) programs.

Director, Undergraduate Research

October 2014-October 2015

University of Kentucky

College of Medicine
Office of Biomedical Education

Responsibilities: Form and chair faculty undergraduate advisory committee, organize college-wide undergraduate efforts, communicate with Undergraduate Research Office, match faculty mentors with student mentees, attend monthly Biomedical Education meetings.

Major accomplishments: Provided leadership for a faculty advisory committee focused on undergraduate research in the College of Medicine. Matched qualified students with faculty mentors. Developed orientation curriculum. Collaborated with Office of Undergraduate Research to host SPIRIT program. Developed Biomedical Undergraduate Research Certificate.

Chair, Faculty Council

September 2013-August 2014

University of Kentucky

College of Medicine

Responsibilities: Chair monthly Faculty Council Meetings and quarterly General Faculty Meetings. Communicate with the Provost, Dean and Associate Deans, Departmental Chairs and Faculty of the College of Medicine regarding faculty concerns. Facilitate Faculty Council review of educational programming. Advise on College of Medicine faculty and educational policies. Advocate for College of Medicine Faculty.

Major accomplishments: As Chair of the Educational Productivity Committee, reviewed "best practices, assessed the status and made recommendations pertaining to faculty (educational) workload in a report submitted to the Dean of the College of Medicine. Led college-wide

discussions to ensure that College of Medicine policies pertaining to faculty workload and performance reviews were aligned with University-wide policies (i.e., Administrative Regulations 3:8). Initiated and facilitated activities that resulted in the re-invigoration of the Practice Plan Committee in accordance with Administrative Regulations 3:14. Initiated and facilitated activities that resulted in the appointment of two College of Medicine faculty representatives to the American Association of Medical Colleges.

Chair, University Senate Council

June 2010-May 2012

Office of the President

Responsibilities: Supervise staff in Senate Council Office. Chair weekly Senate Council Meetings, monthly University Senate meetings and Reinstatement Committee. Communicate with and support chairs of University Senate Committees. Facilitate Senate approval of educational programming. Advise on regulatory policies pertaining to students and faculty. Organize monthly faculty meetings with the President. Advocate for the faculty. Communicate with the Chair of the Board of Trustees. Attend regularly scheduled meetings of the Board of Trustees. Meet monthly with the President, Provost and Associate Provost for Faculty Advancement to share concerns of the faculty. Mediate and advise on faculty disciplinary issues. Represent the faculty on university-wide committees. Communicate with the faculty, staff, administration and media. Facilitate annual evaluation of the president by the faculty. Represent the University of Kentucky faculty at Coalition of Senate and Faculty Leadership for Higher Education.

Major Accomplishments: Took the lead role in revitalizing University Senate committees, formalized reporting processes, and restructured weekly Senate Council and monthly University Senate meetings. Participated in the selection of President Capilouto. Initiated efforts that resulted in revisions to faculty evaluation of the President. Collaborated with Staff Senate to host monthly "Leadership Forums" and submit a joint report advocating for a university-wide faculty/staff ombudsman office. As Chair of the Review Committee, wrote a report that assessed the status of the University of Kentucky. As Chair of the Recruitment, Review and Rewards wrote a report that reviewed "best practices" and assessed the effectiveness of faculty policies. Initiated efforts that culminated in the implementation of an electronic system for course and program review (eCATS). Assisted the Associate Provost for Undergraduate Studies in obtaining Senate approval of UK CORE and UK Honors Program. Worked closely with the Associate Provost for Institutional Effectiveness to obtain University of Kentucky reaccreditation. Worked closely with the Associate Provost of Faculty Affairs to address faculty grievances and revise faculty policies (i.e., Administrative Regulations 2 and 3 and Governing Regulations VII and X).

Director, Seminar Program

June 2001-August 2005

University of Kentucky

Department of Molecular and Biomedical Pharmacology

Responsibilities: Collaborate with the faculty to identify internal and external seminar speakers. Engage the graduate students in seminar program. Organize seminar scheduling and programming. Host/cohost seminar speakers.

Accomplishments: Increased the profile of the seminar program by co-sponsoring joint seminars with other departments and centers. Organized mini-symposiums focused on current topics in pharmacology. Developed graduate student-centered seminars focused on career skills and opportunities. Engaged graduate students in hosting outside speakers including a Nobel Prize Laureate.

Additional Leadership and Positions at the University of Kentucky

2020-present	Elected Faculty Representative, University of Kentucky Board of Trustees
2007-2009	Chair, University of Kentucky Senate Advisory Committee on Privilege and Tenure.
2009-present	Professor, Department of Pharmacology and Nutritional Sciences/Molecular and Biomedical Pharmacology, University of Kentucky College of Medicine. Member of Markey Cancer Center and Graduate Center for Nutritional Sciences.
2001-2009	Associate Professor, Department of Molecular and Biomedical Pharmacology, University of Kentucky Medical School.
1995-2001	Assistant Professor, Department of Pharmacology, University of Kentucky Medical School.
1996-2014	Assistant Professor, Joint Appointment, Toxicology Program, University of Kentucky.
1992-1995	Postdoctoral Research Assistant, Department of Molecular Pharmacology and Biological Chemistry, Northwestern University Medical School.
1991-1992	Postdoctoral Research Assistant, Department of Biochemistry, Michigan State University.

Honors and Awards

Chemistry Departmental Scholarship, South Dakota State University, 1981
Music Departmental Scholarship, South Dakota State University, 1981-1983
Out-Of State Honors Scholarship, Oregon State University, 1985-1986
Clorox Scholarship, 1985
David Ross Fellowship, Purdue University, 1988-1990
Environmental Toxicology Postdoctoral Training Fellowship (PHS) Michigan State University, 1991-1992
National Research Service Award (NIH), 1992-1995
Wethington Research Award (UK), 2003-2006
John B. Wyatt Traveling Fellowship, 2010
Omicron Delta Kappa National Leadership Honor Society, Student nominated, 2012
Selected Fellow, Professional Mentoring Skills Enhancing Diversity (PROMISED) Program, 2017-2018
Women in Medicine and Science Leadership Award, University of Kentucky College of Medicine, 2017
Nominee, Sarah Bennett Holmes Award, University of Kentucky, 2018

Abraham Flexner Excellence in Medical Education (Teaching), 2019

Media Coverage

Association for Women in Science Kentucky Affiliate Interview, October 30, 2018

<https://awiskygrp.wordpress.com/blog/>

SURF 25th Anniversary, The Pharmacologist, December Volume 59 (4), 2017

RESEARCH AND SCHOLARSHIP

CURRENTLY FUNDED EDUCATIONAL PROJECTS

“Summer Research in Environmental Health Sciences”

NIH R25 ES027684-01

5/1/17-4/30/22

8% effort (H. Swanson, PI) \$495,325 (total direct costs)

The goal of this project is to recruit first-generation students from the Appalachia region who are rising juniors and under-represented minorities and introduce them to environmental health sciences research and related careers.

“Summer Undergraduate Research Fellowship Program”,

American Society of Pharmacology and Experimental Therapeutics

6/1/16-8/1/22

(H. Swanson, PI) \$27,000 (total direct costs)

The goal of this project is to recruit first-generation students from the Appalachia region who are rising juniors and under-represented minorities and introduce them to pharmacology research.

“Student Retention and Success in STEM through collaborative and multi-layered STEMCats Freshman Program”

Howard Hughes Medical Institute

9/1/14-8/20/19

Sustaining Excellence in Undergraduate Education

(V. Cassone, PI)(Swanson, Faculty Participant) \$380,000/yr (direct costs)

The goal of this project is to support the freshman experience and enhance student retention diversity and success in the STEM majors

CURRENTLY FUNDED RESEARCH PROJECTS

“Postnatal Complications and Interventions Against Halogenated Organics Exposures during

Pregnancy” NIH P42ES007380

4/1/20-3/31/25

8% effort (K. Pearson, PI, H. Swanson CoPI) \$260,000/year (direct costs)

The goal of this project is to examine the molecular impact of environmental contaminant toxicity to the developing fetus during a narrow window of susceptibility and provide evidence for cost-effective solutions such as maternal exercise.

“Center for Appalachian Research in Environmental Sciences”

NIH 1P30ES026529-01A1

05/1/17 – 04/1/22

5% effort (E. Hahn, PI, H. Swanson, Col) Total Award: ~\$7.5 million

The overall goal of this project is to support and develop environmental health science research and community engagement at the University of Kentucky.

PAST FUNDED PROJECTS

“Role of environmental chemical exposure in the development of obesity, type 2 diabetes and metabolic syndrome” NIH P42ES007380 4/1/14-3/31/19
8% effort (K. Pearson, PI, H. Swanson CoPI) \$226,533/year (direct costs)

The goal of this project is to determine the extent to which in utero exposures to polyhalogenated aromatic hydrocarbons contribute the development of chronic disease states in the adult.

“Transcriptional Effects of Per and Poly Fluorinated Alkyl Substances”
Pilot Grant supported by NIH P30ES026529-01A1 12/1/18-3/31/19
5% effort (Swanson, PI)

The goal of this pilot project is to elucidate the mechanisms by which per and polyfluorinated alkyl substances alter liver metabolism.

“E-cigarettes, nicotine and nicotine receptors in oropharyngeal squamous cell carcinoma”
Seed Grant, Center of Biomedical Research Excellence 9/1/16-8/30/17
(H. Swanson, R. Aouad, CoPI) \$8,000 (direct costs)

The goal of this project is to identify the impact of e-cigarette condensate on the growth and function of oral keratinocytes.

“Alternative targets for novel pharmacotherapies for alcoholism”
Naprogenix 7/1/13-6/30/14
2% effort (H. Swanson, PI) \$160,000 (direct costs)

The goal of this project was to test the efficacy of apple peel flavonoids as therapies using a number of animal models of inflammatory diseases.

" Novel estrogen receptor ligands from plant genomics"
NIH/STTR R42 AT00639-02A 5/1/12-8/31/14
10% effort (J. Littleton, PI, H. Swanson, CoPI) \$116,899 (direct costs)

The goal of this project was to use a plant-based screening technology to identify novel ligands of the estrogen receptor.

"AHR-Protac, a novel AHR antagonist"
NIH R01 ES014849 8/15/06-6/30/11
20% effort (H. Swanson, PI., K.Kim, Col) \$950,000 (total direct costs)

The goal of this project was to develop novel antagonists of the aryl hydrocarbon receptor.

"Chemopreventative properties of aryl hydrocarbon receptor antagonists"
NIH/NCI 1 R03 CA125781-01 12/1/06-11/30/08
10% effort (H. Swanson PI , C. Gairola, Col) \$145,963 (total direct costs)

The goal of this project was to determine whether the aryl hydrocarbon receptor antagonist apigenin and kaempferol inhibit CSC-induced cell transformation and tumor growth in vivo.

" Novel estrogen receptor ligands from plant genomics"
1 R41 CA115093-01 7/1/06-06/30-07

5% effort (J. Littleton, P.I., H. Swanson, Col) \$100,000 (total direct costs)
The goal of this project was to screen plant extracts for estrogenic activities.

"The Aryl hydrocarbon Receptor and Differentiation"
NIH R01 ES11295-01 12/1/01-11/30/06
30% effort (H. Swanson, P.I.) \$1,000,000 (total direct costs)
The goal of this project was to identify the mechanisms by which the activation of the aryl hydrocarbon receptor altered keratinocyte differentiation.

"Convergence of TCDD gene activation with other pathways" 4/1/02-3/31/07
NIH R01 ES 08088-06
35% effort (H. Swanson, P.I.) \$1,000,000 (total direct costs)
The goal of this project was to elucidate the biological consequences of the interaction between the aryl hydrocarbon receptor and myc pathways.

"The Aryl Hydrocarbon Receptor and Lung Cancer" 7/1/99-06/30/00
American Lung Society
20% effort (H. Swanson, P.I.) \$25,000 (total direct costs)
The goal of this project was to identify the cell-type expression of components of the aryl hydrocarbon receptor pathway in the human lung.

INTRAMURAL GRANT SUPPORT

eLearning Innovation, Initiative, Innovation and Design Lab Award, (H. Swanson) 5/1/2014-4/30/15. \$4,000.

"The Development of an On-line Pharmacology Course, PHA 422G, (H. Swanson) eLII Faculty Development Award, 5/1/2014-4/30/2015. \$4,000.

"The Development of Hybrid Technologies in PHA 621" COM eLearning Seed Grant , (Piascik, Swanson, Hadley, Plattner, Porter), 2/1/2014, \$3,410.

"Lecturetools Development Incentive for PHA 621", Academic Planning, Analytics and Technologies Internal Grant (H. Swanson and M. Piascik), 9/1/2013-8/30/2014, \$1,500.

"Role of the Ah Receptor Nuclear Translocator in c-myc Regulation of p53 and Apoptosis" \$13,000, 1996-1997 University of Kentucky Medical Center Research Fund Grant #847 (H. Swanson, P.I.)

"Elucidation of ARNT as a Transcriptional Regulator" \$15,000, 1995-1996, University of Kentucky Medical Center Research Fund Grant #750. (H. Swanson, P.I.)

"Potential Convergence of AH receptor/ARNT and myc/max signaling pathways", \$11,000, 1995-1996, American Cancer Society #IRG-77653. (H. Swanson, P.I.)

NATIONAL SERVICE AND PROFESSIONAL ACTIVITIES **GRANT REVIEWS**

Regular member: NIEHS (July 2000-June 2003) **Alttox 1** study section

Ad hoc: (June 1998, June 1999, October 1999, 2003-present, member conflict and other SEP panels, PPG and NIEHS Center reviews; R25 Educational grants; T32 Training grants)

Ad hoc: **National Science Foundation**

Ad hoc: **Department of Defense**

Ad hoc: **Shriner's Hospital for Research**

EDITORIAL BOARDS

Toxicology and Applied Pharmacology (2002-2015)
Guest Editor, Drug Metabolism and Disposition (2015)
Journal of Medical Education and Curriculum Development (2017-present)
Wiki.J.Med (2019-present)

ADVISORY AND REVIEW BOARDS

Florida A & M University ARCH program (2002-2005)
Kentucky EPA EPSCoR Committee (2002-2005)
Institute of Medicine of the National Academies, Committee to Review the Health Effects in Vietnam Veterans of Exposure to Herbicides (2006-2007, 2008-2009)
UK Superfund Basic Research Program Internal Advisory Board (2006-present)
Kentucky Equine Drug Research Council (2008-2012)
T32 Training Grant Steering Committee (PI, Mary Vore)(2010-2015)
University of California at Davis, Environmental Toxicology Major Review Panel, 2015-2016.

INVITED CHAIRPERSON AT NATIONAL MEETINGS

Gordon Conference, "Mechanisms of Toxicity" July 26-31, 1998
Society of Toxicology National Meeting, (Session Chair) 1993, 1994, 1997-2002
Gordon Conference, "Mechanisms of Toxicity" July 27-August 1, 2008_
Experimental Biology, (Symposium Chair) "Targeting Drug Metabolizing Enzymes for Chemoprevention", April 18-22, 2009
Society of Toxicology National Meeting, (Symposium Chair) "New insights into skin homeostasis and carcinogenesis", March 15-19, 2009
Experimental Biology/American Society of Pharmacology and Experimental Therapeutics, (Symposium CoChair) "Role of Pharmacogenetics in oncology", April 22-25 2012.
Experimental Biology/American Society of Pharmacology and Experimental Therapeutics, (Symposium CoChair) "Role of nuclear receptors in lipid dysregulation and obesity-related diseases". April 22-25 2012.
Experimental Biology/American Society of Pharmacology and Experimental Therapeutics, (Symposium Chair) "Drug Metabolism Division and James Gillette Award and Platform Session" April 22-25, 2012.
Experimental Biology/American Society of Pharmacology and Experimental Therapeutics, (Symposium CoChair) "Improving Maternal Therapeutics: Drug Metabolism and Transport during Pregnancy and Lactation" April 26-30, 2014.
Society of Toxicology National Meeting (Symposium CoChair) "Adaptive Leadership: Anticipating, Initiating and Responding to Change" March 22-26, 2015.
Society of Toxicology National Meeting (Session Chair) "Education, Outreach, Ethical and Social Issues" March 11-15, 2018.

INVITED PRESENTER FOR WORKSHOPS AT NATIONAL AND LOCAL MEETINGS

Presenter for Continuing Education Program (National Society of Toxicology, Continuing Education Program, Annual Meeting)

1995- 2 one hour lectures "Methods for the Analysis of DNA/Protein Interactions".

1996- 1 one hour lecture "Gene Regulation by the AH receptor and ARNT.

1998- 1 one hour lecture "Methods for Protein/Protein Interactions".

2004-1 one lecture and Chair" Tools for Functional Genomics"

Ohio Valley Society of Toxicology Annual Meeting (2000) Workshop Organizer "Toxicology in the 21st Century: The Environment and your Genes."

"Creating a collaborative environment that fosters clinical and translational science". Workshop presented at Southern Group on Educational Affairs (2007) Louisville KY.

"Developing effective and collaborative groups". Workshop presented at Ohio Valley Society of Toxicology (2007) Indianapolis, IN.

"How to Launch Your Career in Ten Easy Steps". Keynote Speaker, Presented at the University of Kentucky Postdoctoral Scholar's Symposium (2016)

"Overcoming career challenges". Presented at Pedagogicon (2018) Eastern Kentucky University.

"Women's Empowerment", Presented to Women's Forum (2019) University of Kentucky

MANUSCRIPT REFEREE

Drug Metabolism and Disposition, Toxicology and Applied Pharmacology, Biochemistry, Biochemical Pharmacology, Carcinogenesis, Cancer Research, Gene Expression, Journal of Pharmacology and Therapeutics, Journal of Biological Chemistry, Molecular Pharmacology, Toxicology Letters, Toxicology, Chemical Research Toxicology, Toxicological Sciences, Environmental Health Perspectives, Nature Scientific Reports, Journal of Clinical Investigations,

PRESENTATIONS GIVEN AS AN INVITED SPEAKER

Plenary speaker at the Cytochrome P-450 Midwest Symposium, Purdue University, September 15, 1995 "DNA binding of the Ah receptor and ARNT".

Seminar, Department of Biochemistry, University of Louisville, May 19, 1997. "Gene Regulation by the Ah receptor and ARNT".

Plenary speaker at the Cytochrome P-450 Midwest Symposium, Purdue University, September 26, 1997 "DNA binding by the Ah receptor and ARNT-Additional Actors Required".

Seminar, Department of Pharmacology, University of Cincinnati, October 15, 1997. "Gene Regulation by the Ah receptor and ARNT".

Seminar, Department of Biochemistry, Oregon State Health Sciences University, March 6, 1998. "DNA binding of the basic helix loop helix/PAS proteins".

Seminar, Environmental Protection Agency, Cincinnati, OH, September 1, 1999 "DNA binding of the aryl hydrocarbon receptor and beyond".

Seminar, College of Pharmacy, University of New Mexico Health Science Center, October 11, 1999 "Mechanisms that govern the actions of the aryl hydrocarbon receptor".

Seminar, Institute of Chemical Toxicology at Wayne State University, February 8, 2001, "Regulation of keratinocyte differentiation by dioxin and the aryl hydrocarbon receptor".

Seminar, Department of Environmental Medicine and Dentistry, University of Rochester, March 3, 2002, "Alteration of apoptosis, differentiation and senescence by dioxin in keratinocytes".

Symposium speaker, National Society of Toxicology, March 2004 "Regulation of the Aryl Hydrocarbon Receptor Pathway in Keratinocytes".

Symposium speaker, "The George Bailey Symposium" Oregon State University, July 2004, "Mechanisms by which Dioxin Immortalizes Human Keratinocytes".

Seminar, Department of Biochemistry/Chemistry, South Dakota State University, October 6, 2004, "Delineating the role of the dioxin/aryl hydrocarbon receptor in human cancers".

Seminar, Department of Pharmacology and Toxicology, Wright State University, January 12 2005 "Delineating the role of the dioxin/aryl hydrocarbon receptor in immortalization".

Seminar, Department of Biochemistry, University of Louisville, January 11 2006 "AHR-Protac, Development of a novel aryl hydrocarbon receptor antagonist".

Speaker, 8th International ISSX meeting, Sendai Japan, October 9, 2007 "P450-dependent metabolism in extrahepatic tissues: Implications for drug disposition and toxicology"

Seminar, Department of Human Toxicology and Molecular Epidemiology, Wadsworth Center, June 5th 2008 "Role of the aryl hydrocarbon receptor in epidermal homeostasis"

Seminar, University of Louisville Cancer Center, Louisville, KY, November 18 2008 "Development of novel aryl hydrocarbon receptor-based therapies".

Seminar, University of Louisville, Department of Pharmacology and Toxicology, February 18, 2010 "The aryl hydrocarbon receptor as a drug target".

Symposium speaker, National Society of Toxicology, March 2014 "Developing a Leadership Style that Works for You".

Symposium speaker, National Society of Toxicology, March 2015, "Undertaking a range of activities and adapting to changes for the future in academia as a thought leader, a communicator and teacher".

Invited Speaker, University of Kentucky STEM Teaching Enhancement Workshop and Scholarly Forum, April 19, 2016. "Development of a Course-based Research Experience to Introduce Drug-Receptor Concepts".

MEMBERSHIPS

American Association of Cancer Research

American Society for Pharmacology and Experimental Therapeutics

Member, 2005-present, Drug Metabolism Specialty Section; 2017-present Education Committee

Councilor, 2005-2009, Drug Metabolism Specialty Section of the National Chapter

Member, 2006-2009, Women in Pharmacology Specialty Section

Chair, 2011-2012, Drug Metabolism Specialty Section of the National Chapter

Member, 2011-2013, Program Committee

Society of Toxicology

Member, 1997-2000, K-12 Education Committee

Councilor, 2001-2004, Molecular Biology Specialty Section of the National Chapter

Member, 2007-2010, Program Committee

Member, 2010-2013, Research Committee

Member, 2017-present, Mechanism Specialty Section, Women In Toxicology and Undergraduate Educator Network

Society of Toxicology Ohio Valley Chapter

Chair, K-12 Educational Committee, 2000-2003
Vice President, 2001-2003, Ohio Valley Chapter
President, 2003-2004, Ohio Valley Chapter

Gordon Conference "Mechanisms of Toxicity" Planning Committee, 2008-2009.

Kentucky ACE Women's Network

Board Member, 2015-present

Recorder, 2018-present

Sigma Xi (Oregon State Chapter)

Gamma Sigma Delta (Purdue Chapter)

STUDENT ADVISING ACTIVITIES

Graduate Students

Mr. Danny Craig (2019-present)

Current Position: MS Student

Mr. Satyanarayana Alluri (2019)

Current Position: Medical Student

Mr. Jonathon Foley (2019-present)

Current Position: MS Student

Ms. Katrina White (2018-present)

Current Position: MS Student

Ms. Solveg A.M. Lafuente (2017-2019)

Current Position: Nutritional Educator, Health Department, Gainesville, FL

Mr. Connor Coatney (2017-2018)

Current Position: Research and Development Food Scientist, Grande Cheese Company, Fond Du Lac, WI

Mr. Jonathon Davis (2015-2-18)

Current Position: Medical Student

Mr. Spencer Delfino (2015-2017)

Current Position: Medical Student

Mr. Chad Feinberg (2015-2017)

Current Position: Sales and Account Manager, Nymbly Systems

Ms. Veronica Nappi, MS (2016)

Current Position: PhD Student

Mr. Josh Olinger, MS (2016)

Current Position: Resident

Mr. Chris Artner, MS (2014-2015)

Current Position: Project Coordinator, Medpace

Ms. Susan Oyen, MS (2010-2012)

Current Position: Garden Associate, The Home Depot

Dr. Valentina Moirangthen, MS (2006-2008)

Current Position: Medical Oncologist and Hematologist, Hematology & Oncology Associates of Rhode Island

Dr. Dinesh Puppala, PhD (2003-2007)

Current Position: Director, Strategy, Portfolio, Competitive Intelligence and Enterprise Operations, Pfizer

Dr. Ran Wu, PhD (2002-2007)

Current Position: Research Scientist, Crown Bioscience

Mr. James Clark, MS (2003-2005)

Current Position: Physician

Dr. Martin Hoagland, PhD (1998-2005)

Current Position: Senior Technical Regulatory Affairs Manager, Central Garden & Pet

Dr. Soma Ray, PhD (1999-2004)

Current Position: Senior Director, Vertex Pharmaceuticals

Dr. Scott Heid, PhD (1996-2000)

Current Position: Scientist
The Procter and Gamble Company

Postdoctoral Fellows

Susanne Wache: 1998-2000, current position: Head, Biology Division, South Arkansas Community College. Jiangping Zheng (Visiting Faculty): 2002-2003, current position: Professor, Shandong University. Xinyu Zheng: 2002-2003, current position: Professor, China Medical University. David Thompson: 2002-2003, current position: Assistant Professor, Vincennes University. Li Zhang: 2004-2006, current position, Scientist, BASF. Eun-Young Choi: 2005-2010, current position: Research Associate, University of Kentucky.

Service on Pharmacology Department Ph.D. Committees

Yong Zhu: 1996-2000, Hong Xing:1998-2001, Jamie Horn: 1996-2001, Hema Gurshahani: 1999-2002, Dan Chalothorn: 2000-2003, Amy Thompson: 2003-2005, Sajni Josson: 2002-2006, Rob McCorkle: 2005-2010, Ikhlas Ahmed: 2007-2010, Jason Tucker: 2011-2013.

Service on Pharmacology Department M.S. Committees

Kelly Laderoot, 2014-2015: Christopher Artner, 2014-2015: Benjamin Rauh, 2013: Leya Spangler, 2013-2014: Katie Routt, 2013-2014.

Service on Toxicology Program and other Ph.D. Committees

Mathew Cooper: 1996-2002, Christopher Cunningham: 1999-2000, Michelle O'Brien: 1997-2000; Marcie Wood: 2000-2004, Xavier Arzuaga: 2000-2004, Dong Zhang, 2002-2004, Kartika Jayashankar, 2003-2004, Tracy Hendriques, 2002-2007, Hollie Skaggs, 2002-2007, Brandon Adkins, 2006-2008, Malinda Spry 2006-2008, Ruth Wooton-Kee, 2004-2008, Abby Ho, 2004-2008, Joshua Dziba, 2003-2010, Zuzana Majkova 2005-2010, Yulan Sun 2005-2010, Robert Miller, 2008-2010, Hosung Lee, 2006-2011, Nicki Baker 2010-2013, Lu Miao 2008-2013, Ling Zou 2010-2013, Jazmyne Jackson 2016-19, Jacob Machin 2016-present, Brittany Rice 2017-present; Lauren Weaver 2019-present; Jacqueline Leachman 2019-present.

Other

Sam Bryant: Summer 1996, Outreach program for Minority Students
Susan Christensen: 1998-1999, Paul Dunbar High School Student
Michael Walls: Summer, 1998, Howard Hughes Fellow
Bessy Pedraza: 1999 (June-Dec) Summer Exchange program with The University of Puerto Rico
Eugene Bramel Bell: 1995, Undergraduate Student
Janice Ortega Rodriguez: 2005, Summer Exchange program with The University of Puerto Rico
Nan Hu: 2006-2007, Paul Dunbar High School Student
Belinda Uwamahoro: 2015, Independent Undergraduate Research
Miriam Hill Odom: 2016, Summer Undergraduate Research Fellow
Devin Morrow: 2016, Summer Undergraduate Research Fellow
MaryGrace Dugger: 2017-present, Summer Undergraduate Research Fellow
Nolan Hughes: 2018, Summer Undergraduate Research Fellow
Wayne Miller: 2018, Honor's Undergraduate Research Experience

UNIVERSITY OF KENTUCKY SERVICE

GRANT REVIEWS

Reviewed internal institutional grants for the Medical Center, Vice President of Research and Cancer Center, University of Kentucky.

LOCAL PRESENTATIONS

Department of Physiology, University of Kentucky, November 8, 1995 "DNA binding of the Ah receptor and ARNT".

Toxicology Program, University of Kentucky, September 23, 1996 "Gene regulation of the Ah receptor and ARNT".

Department of Surgery, University of Kentucky, April 8, 1997 "Gene regulation of the Ah receptor and ARNT".

Department of Physiology, University of Kentucky, September 8, 1999 "Mechanisms that govern the actions of the aryl hydrocarbon receptor.

University of Kentucky Aging Center, April 14, 2006 "Regulation of keratinocyte senescence by the aryl hydrocarbon receptor".

Department of Biology, University of Kentucky, September 9, 2009 "Development of antagonists of the aryl hydrocarbon receptor for chemoprevention".

College of Health Sciences, University of Kentucky, January 13, 2012 "Building a culture that embraces change".

Department of Microbiology, Immunology and Molecular Genetics, University of Kentucky, May 14, 2012 "The aryl hydrocarbon receptor and inflammatory bowel diseases."

Graduate Center of Nutrition, University of Kentucky, March 13, 2013 "Role of the aryl hydrocarbon receptor in inflammatory bowel diseases."

Kentucky Tobacco Research Development Center, April 23, 2014 "Phytoestrogenic flavonoids and breast cancer treatment."

COMMITTEES

Department of Pharmacology Graduate Studies Committee, 1996-2010.

Department of Pharmacology Faculty Search Committee, 1998, 1999, 2000, 2002, 2005, 2008.

Department of Pharmacology Internal Departmental Review Committee-CoChair, 2002

Department of Pharmacology Education Committee, 2013-present.

College of Medicine Scholarship Committee, 1996-1999.

College of Medicine Research Committee, 1997-2002 (Chair 1999-2002).

Department of Physiology Review Committee, 1999.

Department of Physiology Chair Search Committee, 2001-2002

University of Kentucky Graduate Dean Search Committee, 2003

University of Kentucky Cancer Center Faculty Search Committee, 2003-2005.

Department of Pharmacology Seminar Director, 2001-2005.

College of Medicine Dean's Advisory Group, Co-Director, Women in Science and Medicine, 2005-2011.

College of Medicine, Department of Radiology Chair Search Committee, Spring 2007

College of Medicine, "PhD to Med" Curriculum Planning Committee, Fall 2007.

College of Medicine, Student Progress and Promotion Committee, 2008-2018.

College of Medicine, Sander's Brown Aging Center Review Committee, 2009.

College of Medicine, Reorganization Committee, 2010.

College of Medicine, Educational Productivity Committee, Chair, 2013.

College of Medicine, Faculty Council, 2012-2015 (Chair, 2013-2014).

College of Medicine, Women in Medicine and Science, WELD liaison, Co-Chair, Mentoring subcommittee, 2015-present.

College of Medicine, Wellness Committee, 2017-2019
College of Medicine, Diversity and Inclusion Committee, 2018-present.
College of Medicine, Educational Productivity, 2019-present.
University of Kentucky Senate, 2006-2013.
Senate Council, 2008-2013.
Vice-Chair, 2009-2010.
Chair, 2010-2012,
Past-Chair, 2012-2013

University of Kentucky Senate Advisory Committee on Privilege and Tenure, 2006-2009 (Chair 2007-2009).

University of Kentucky Research Foundation Board of Directors, 2008-2013.

University of Kentucky Committee on Academic Planning and Priorities, 2010-2012.

University of Kentucky Honorary Degree Committee, 2010-2012.

University of Kentucky Reinstatement Committee, Chair, 2010-2012.

University of Kentucky SACS Executive Leadership Team, 2010-2012.

University of Kentucky Presidential Search Committee, 2010-2011.

University of Kentucky Faculty Performance Review Committee, 2011.

University of Kentucky Program Redesign Task Force, 2012.

University of Kentucky Emergency Preparedness Committee, 2012.

University of Kentucky Omsbud Committee, 2011.

University of Kentucky Review Committee, Chair, 2011.

University of Kentucky Faculty Review, Reward and Retention Committee, Chair, 2012.

University of Kentucky Budget Metrics Committee, 2012.

Coalition of Senate and Faculty Leadership for Higher Education, 2010-2012.

Research and Economics Competitiveness Subgroup of the 2011-2015 Strategic Planning Workgroup, Council of Postsecondary Education, 2010.

University of Kentucky Alumni Board of Directors, Scholarship-Great Teachers Committee, 2012-2013.

University of Kentucky Conference Planning Liaison, 2014 National Conference on Undergraduate Research, 2012.

University of Kentucky Faculty Advancement Advisory Committee, 2014.

University of Kentucky Women's Leadership Program Committee, 2013-2016.

University of Kentucky Dining Revitalization Committee, 2013-2014.

University of Kentucky New Budget Model Policies and Documentation Work Team, 2013.

University of Kentucky Academic Area Advisory Committee for the Biological Sciences, 2014-2016.

University of Kentucky eLII Hybrid Course Review panel, 2014.

University of Kentucky Lewis Honors College External Advisory Board, 2016-present.

University of Kentucky Librarians Academic Area Advisory Committee, 2016-2018 (Chair, 2017-2018).

University of Kentucky Honorary Degree Committee, 2018-present.

PUBLIC SERVICE

Preceptor, Summer, 1996, Mr. Sam Bryant, Outreach program for Minority Students

Classroom visit to third and fourth grades, Clays Mill Elementary School, Lexington, KY, February 1997, "My Life as A Scientist".

Exhibit participant at the Lexington Children's Museum 1998

Committee member: K-12 Outreach Subcommittee of the Society of Toxicology National Organization. Responsible for organizing teachers workshops at regional chapters (1997-1999).

Organizer: Workshop for middle school science teachers "Toxicology in the 21st Century: The environment and Your Genes" Cincinnati, OH, October 12, 2000 (6 teachers and 20 mentors

attended, November 14, 2001 (22 teachers and 10 mentors attended).
Minimedical School, 1997-1999, presented lecture, "Are Your Genes Turned on to the Environment".
Organist, St John's Lutheran Church, Lexington KY (1997-2002).
Pastoral Call Committee, St. John's Lutheran Church, Lexington, KY (2000-2001).
Pianist, Maxwell Street Presbyterian Church, Lexington, KY (2007-2011).
Science Fair Judge, MillCreek Elementary School, Lexington, KY February 2008.
Science Fair Judge, Central Kentucky Regional Science and Engineering Fair, Lexington, KY, 2012-present.
Participant, Career Fair, Southern Middle School, Lexington, KY, 2012-2016.

TEACHING ACTIVITIES

CURRENT ASSIGNMENTS

- 2018-present **PHA 423G, Exploring the Dark Side of Pharmacology (Undergraduate and Graduate Students) Course Director and Primary Instructor (38 lecture hours)**
- 2017-present **IBS 608, Preparing Science Professionals (Graduate Students), Co-Instructor with Dr. Nathan Vanderford, 1 credit hour/week**
- 2013-present **PHA 422G, Pharmacology of Treating Human Diseases (Undergraduate and Graduate Students) Course Director and Primary Instructor (32 lecture hours)**
- 2000-present **PHA 621, Principles of Drug Action, Course Director, 2013; 2000-2001, Co-director, 2001-present (Graduate Students)**
"Mechanisms of Enzyme Induction/Inhibition"- (2 hours)
" Patient Factors which affect drug metabolism"-(1 hour)
"Phase II Biotransformation"- (1 hour)
"Nuclear Receptors II and III" (2 hours)
- 2008-present **PHA 622, Molecular Drug Targets and Therapeutics (Graduate Students),**
"Adrenal Steroids" (1 hour)
"Principles of Toxicology" (1 hour)
"Common toxins" (1 hour)
- 2013-present **NS 601, Integrated Nutritional Sciences (Graduate Students)**
"Malabsorption and Inflammatory Bowel Diseases" (2 hours)
- 2006-present **OBI 836, Dental Pharmacology (Dental Students)**
"Glucocorticoids"
- 2013-present **MD 810, Foundations in Infection, Disease and Therapeutics, (Medical Students),** "Drug Metabolism" (2 hours), "Adrenocorticoidsteroids" (1 hours)
- 2014-present **BIO101, Fun Activities (Freshman StemCats),** 2-3 sessions on " Caffeine: What's the Rush?"
- 2016-present **TOX 600, Ethics in Scientific Research (Graduate Students)** "Research Misconduct and Ethical Behavior" (1 hour)

PAST LECTURES

- 1996 **PHA 630, Special Topics on Pharmacology, (Graduate Students)**, "Retinoic Acid, Thyroid Hormone and PPAR receptors" (2 hours)
- 1996 **PHA 634, Advanced Cardiovascular Pharmacology, (Graduate Students)**, "Molecular Approaches to Cardiovascular Receptor Research" (2¹/₂ hours)
- 1997 **PGY 690, Advanced Physiology, (Graduate Students)**, "Gene Therapy" (1¹/₂ hours)
- 1997-98 **PHA 630, Special Topics on Pharmacology, (Graduate Students)**, "Basic Helix-loop Helix Proteins" (2 hours)
- 1999 **PHA 630, Special Topics in Pharmacology, (Graduate Students)**, "Heavy Metals, Solvents and Air pollution" (2 hours)
- 1997-1999 **PHA 663, Drug Metabolism and Disposition, (Graduate Students)**, "Pleiotropic Gene Regulation" (2 hours, 1997-1998), Codirector with Dr. Mary Vore (1999-2000), "Mechanisms of Induction" (4 hours, 1999), Glutathione S-transferase (2 hours, 1999), "Pharmacogenetics"(2 hours, 1999), "UGT and ST" (mentored lectures by Dr. Susanne Wache)(2 hours, 1999)
- 1996-1999 **PHA 649, Molecular Pharmacology, (Graduate Students)** "Nuclear Receptors" (1996 and 1998-2 hours) and "The Aryl Hydrocarbon Receptor" (2 hours)
- 2000-2004 **Tox 680, Advanced Toxicology, (Graduate Students)**, "Endocrine Disruptors" (1 hour)
- 2000-2004 **IBS 602, Biomolecules and Molecular Biology (Graduate Students)**, "Basic helix-loop helix proteins" (1 hour)
- 2000-2004 **IBS 605, Genetics, (Graduate Students)**, "Cancer Genetics", (2 hours)
- 2000-2004 **IBS 606, Integrated Biomedical Sciences, (Graduate Students)**, "Physiology and Pharmacology of Glucocorticoids, (2 hours)
- 1996-2006 **PHA 522, Systems Pharmacology, (Graduate and Dental Students)** "Mineralocorticoids and Glucocorticoids"-(1 hour), 1999-2006 "Drug Metabolism"-(1 hour)
- 1999-2005 **PHA 824, Medical Pharmacology, (Medical Students)** "Gene Therapy"- 2 hours
"Clearance Concepts"- 1 hour
- 1997-2012 **Tox 680, Advanced Toxicology, (Graduate Students)**, "The Aryl Hydrocarbon Receptor" (1 hour)
- 1999-2012 **Tox 780, Special Topics in Toxicology-Genotoxicology, (Graduate Students)**, "Metabolic activation of carcinogens" (1 hour)
- 1996-2013 **PHA 824, Medical Pharmacology, (Medical Students)** "Toxicology"- (2 hours)
"Glucocorticoids and Mineralocorticoids"- (3 hours)

- 1999-2013 "Drug Metabolism-(2 hours)
- 2013-2014 **MD 824, Endocrine and Reproductive Systems, (Medical Students),**
"Pharmacology of Adrenal Steroids" (1 hour)
- 2013-2017 **MD 810, Foundations in Infection, Disease and Therapeutics, (Medical Students),** "Molecular Mechanisms of Neoplasia" (2 hours)
- 2005-2017 **PHA/MED/MI 616, Biology and Therapy of Cancer (Graduate Students),**
"Cancer, a multistep process" (2 hours)
- 2015-2017 **HON 152, Drug, Environment and Our Health (Freshman Honors Students),**
Co-Instructor with Dr. Ok-Kyong Park-Sarge, 3 credit hours/week.
- 2015-2017 **BIO 199, Authentic Research Experience for STEM Cats (Freshmen StemCats),** **Co-Instructor** with Dr. Ok-Kyong Park-Sarge, 3 hours/week.

PREDOCTORAL TEACHING EXPERIENCE

- 1985-1988 Oregon State University: Senior food chemistry and senior carbohydrate laboratory class, Graduate Teaching Assistant.
- 1990 Purdue University: Freshman food science laboratory class, Graduate Teaching Assistant.

ABSTRACTS PRESENTED AT NATIONAL MEETINGS

1. Swanson, H. Fong, A., Dashwood, R., Williams, D., Hendricks, J. and Bailey, G. (1989) Mechanisms of anti-carcinogenesis by indole-3-carbinol: Studies of enzyme induction, electrophilic-scavenging, and competitive inhibition of aflatoxin B1 activations. Proceedings American Association of Cancer Research 30, 700.
2. Swanson, H.I. and Perdew, G.H. (1991) Determination of Ah receptor synthesis and turnover in Hepa 1 cells. Toxicologist 11, 991.
3. Denison, M.S., Swanson, H.I., Madhukar, B.V. and Schafer, M.W. (1993) Protein Kinase C is not involved in Ah receptor transformation and DNA binding. Toxicologist 13, 32.
4. Swanson, H.I. and Denison, M.S. (1993) Binding of transformed Ah receptor complex to a dioxin responsive enhancer: Identification of two distinct heterodimeric DNA binding forms. Toxicologist 13, 30.
5. Dolwick, K., Schmidt, J.V., Swanson, H.I., Carver, L. and Bradfield, C.A. (1993) Molecular characterization of the Ah receptor. The Biochemical Society Meeting No. 649, F2.
6. Dolwick, K., Schmidt, J.V., Swanson, H.I., Carver, L., and Bradfield, C.A. (1994) Molecular Characterization of the Ah-Receptor. The Toxicologist 14, 234.
7. Denison, M.S., Swanson, H.I., Bank, P.A., and Yao, E.F. (1994) Interaction of Transformed Ah Receptor Complex with a Dioxin-responsive Element and Modulation of Gene Expression. The Toxicologist 14, 238.

8. Tullis, K., Swanson, H.I., Bank, P.A. and Denison, M.S. (1994) Characterization of the Transformation and DNA binding of Transformed TCDD:Ah Receptor Complex from various Species and Tissues. *The Toxicologist* 14, 1026.
9. Tullis, K., Denison, M.S. and Swanson, H.I. (1995) Identification and characterization of multiple DNA binding forms of the Ah receptor complex from different species. In *Organohalogen Compounds*. Birnbaum, L., Clement, R., Fingerhut, M., Matsumura, F., Rammamoorthy, S., Robertson, L., and Safe, F. eds. Volume 25. pp. 399-402.
10. Swanson, H.I. and Bradfield, C.A. (1995) Specificity of DNA Binding by the Ah Receptor, ARNT and SIM. *The Toxicologist*, 15, 488.
11. Tullis, K., Swanson, H.I. and Denison, M.S. (1995) Characterization of the DNA Binding of TCDD: Ah Receptor Complexes Transformed *In Vivo* and *In Vitro*. *The Toxicologist* 15, 1275.
12. Swanson, H.I. and Yang, J. (1997) Mapping the protein/DNA contact sites of the Ah receptor and Ah receptor nuclear translocator. *The Toxicologist* 36, 1226.
13. Swanson, H.I. and Yang, J. The Aryl Hydrocarbon Receptor Interacts with Transcription Factor IIB. Presented at the American Association for Cancer Research, October 1997.
14. Swanson, H.I. and Yang, J. (1998) The aryl hydrocarbon receptor interacts with transcription factor IIB. *The Toxicologist* 42, 1767.
15. Swanson, H.I. and Yang, J. Specificity of DNA binding of the c-myc/max and Arnt/Arnt dimers at the CACGTG recognition site. Presented at the Gordon Research Conference "Mechanisms of Toxicity", July 26-31, 1998.
16. Heid, S.H. Pollenz, R.S. and Swanson, H.I. (1999) Molybdate inhibition of aryl hydrocarbon receptor activation. *The Toxicologist* 38, 302. Presented at OV-SOT chapter, November 12, 1999 and received first prize.
17. Wache, S.C. and Swanson, H.I. (1999) Effect of substitutions at residues 14/15 of the aryl hydrocarbon receptor (AHR) on cooperative binding to the dioxin response element (DRE). *AACR Proceedings*, 40, 4540.
18. Heid, S.H., Walker, M.K. and Swanson, H.I. Functional characterization of an avian aryl hydrocarbon receptor. *ISSX Proceedings*, 9th North American Meeting, Vol 15, #492, 1999.
19. Heid, S.E., Walker, M.K. and Swanson, H.I. (2000) Agonist activation of the aryl hydrocarbon receptor compared to avian cardiotoxicity mediated by TCDD. *The Toxicologist* 54, 1305.
20. Walker, M.K., Heid, S.E., Smith, S.M. and Swanson, H.I. (2000) Developmental expression of the aryl hydrocarbon receptor (AHR) in the Avian embryo. *The Toxicologist* 54, 641.
21. Wache, S. and Swanson, H.I. (2000) Arachidonic acid and TCDD alter HaCaT keratinocyte differentiation. Presented at the Gordon Research Conference, "Mechanisms of Toxicity", July 23-28.
22. Swanson, H.I. , Harthun, E.M., Gursahani, H. and Hadley, R.W. (2001) Increased differentiation status and intracellular calcium levels in keratinocytes enhance the aryl

hydrocarbon receptor signaling pathway. *The Toxicologist* 60, 32.

23. Thackberry, E.A., Swanson, H.I., Smith, S.M. and Walker, M.K. (2001) Cardiac hypertrophy and increased cardiac hypoxia signaling via hypoxia inducible factor 1- α in mice lacking the aryl hydrocarbon receptor. *The Toxicologist* 60, 170.

24. Ray, S. and Swanson, H.I. (2002) Dioxin alters proliferation, differentiation and senescence in keratinocytes. *The Toxicologist* 66, 1255. This poster was also presented at the Ohio Valley Society of Toxicology, Nov. 15 and received 2nd prize in the poster competition.

25. Hoagland, M. S. and Swanson, H.I. (2002) Novel mechanism of AhR-mediated TCDD toxicity: Sequestration of ARNT from an endogenous role in p53 gene induction. *The Toxicologist* 66, 1263.

26. Zhang, J., Ray, S. and Swanson (2003) TCDD induces increased expression of retinoic acid metabolizing genes: possible role in altering proliferation and differentiation in human keratinocytes. *The Toxicologist* 72, 1789.

27. Ray, S.S. and Swanson, H.I. (2003) Elucidation of dioxin's tumor promoting activities: Use of microarray analysis to identify genes targeted during keratinocyte differentiation and senescence. *Proceedings of American Association for Cancer Research*, #6019.

28. Ray, S.S. and Swanson H.I. (2004) Activation of aryl hydrocarbon receptor by TCDD induces gene silencing by promoter methylation: A novel mechanism for TCDD mediated tumor promotion. *The Toxicologist* 78, 1411.

29. Hoagland, M.S., Hoagland, E.M., Ziegler, G.M. and Swanson, H.I. (2004) Pifithrin- α is a potent aryl hydrocarbon receptor agonist. *The Toxicologist* 78, 676.

30. Wu, R, Hoagland, M.S. and Swanson, H.I. (2005) ARNT, A putative coactivator of c-myc/max signaling pathway interacts with c-myc. *The Toxicologist*, 84, S-1, 1805.

31. Puppala, D. and Swanson, H.I. (2005) Naturally occurring antagonists of the AHR pathway: A novel approach of cancer prevention? *The Toxicologist*, 84, S-1, 85.

32. Zhang, L., Dingle, R.W.C., Xu, P. and Swanson, H.I. (2005) TCDD suppresses the expression of CYP4B1. *Proceedings of the 14th International Conference on Cytochrome P450*.

33. Zhang, L, Valentino, J., Dingle, R., Xu, P., Vongrises, D. and Swanson (2006) The effect of cigarette smoke constituents on AHR signaling and senescence in normal human oral keratinocytes. *The Toxicologists*, 90, S-1 210.

34. Puppala, D. and Swanson, H.I. (2006) Inhibition of the aryl hydrocarbon receptor signaling pathway and cigarette smoke induced cell transformation by select dietary flavonoids. 2006 Experimental Biology meeting abstracts [on CD-ROM]. *The FASEB Journal*, **20**, Abstract #176.2

35. Wu, R. and Swanson, H.I. (2006) Lack of the AHR leads to impaired activation of Akt/PKB and enhanced sensitivity to UV-induced apoptosis in murine hepatoma cells. 2006 Experimental Biology meeting abstracts [on CD-ROM]. *The FASEB Journal*, **20**, Abstract #176.3

36. Swanson, HI and Perman, J.A. (2006) A Model for Implementing a Dean-Mentored, Individual Leadership Development Program within an Academic Health Center. *American Association of Medical Colleges*, IME #326.

37. Wu, R and Swanson, H.I. (2007) Aryl hydrocarbon receptor antagonists increase UV-induced apoptosis in human oral keratinocytes. *The Toxicologist*, S-1, #1415.
38. Puppala, D., Lee, H., Kim, K. and Swanson, H.I. (2007) Development of an AHR antagonist using PROTACS approach: A potential approach for chemoprevention. *The Toxicologist*, S-1 #1413.
39. Puppala, D., Lee, H., Kim, K.B. and Swanson, H.I. (2007) Degradation of AHR by PROTACS: A novel approach for cancer chemoprevention. *Proceedings of American Association for Cancer Research*, # 321.
40. Swanson, H., Arsenescu, V., Choi, E., Dingle, R. and Arsenescu, R. (2011) role of the aryl hydrocarbon receptor in inflammatory bowel diseases. *The Toxicologist*, S-2, #342.
41. Baird, WM, Siddens, LK, Krueger, SK, Larkin, A, Swanson, HI, Arlt, VM Phillips, H, Lohr, CV, Tilton, SC, Waters, KM and Williams, D.E. (2011) Skin Carcinogenesis in Mice Following Application of Individual Polycyclic Aromatic Hydrocarbons (PAHs) and Environmental Mixtures. CT 42nd Annual Meeting of the Environmental-Mutagen-Society on Environmental Impacts on the Genome and Epigenome - Mechanisms and Risks CY OCT 15-19, 2011 CL Montreal, CANADA SP Environm mutagen Soc.
42. Cetewayo S. Rashid, Alyssa Jarrell, Hollie I. Swanson, and Kevin J. Pearson (2013) Perinatal PCB 126 exposure alters offspring body composition and glucose tolerance in a sex-specific manner. Superfund Research Program Annual Meeting, Baton Rouge LA.
43. Fenton, L.A., Avdivshko, R.G., Swanson, H.I., Littleton, J. and Cohen, D.A. (2013) Effect of rhamnatin and isorhamnatin on dendritic cell maturation and murine experimental colitis. Autumn Immunology Conference, Chicago, IL.
44. Swanson, H., Hadley, R. and Piascik, M.T. (2014) Impact of LectureTools on student engagement and learning. American Society of Pharmacology and Therapeutics Annual Meeting #1058.4 San Diego, CA.
45. Swanson, H.I., Park-Sarge, O.K., Rodrigo-Peiris, T. and Cassone, V.M. (2015) A Course-Based Undergraduate Research Experience for Health Career, Pre-professional Students. UBER Gordon Research Conference, July 12-17, Bates College, ME.
46. Towobola, B., Tenlep, S.N., Reynolds, L.J. Swanson, H.I. and Pearson, K.J. (2016) The effects of resveratrol on the health outcomes of offspring born to dams perinatally exposed to polychlorinated biphenyls.
47. Preston, J.D., McDowell, M.K., Rashid, C.S., Tenlep, S.N., Swanson, H.I. and Pearson, K.J. (2018) PCB exposure during pregnancy significantly affects maternal and fetal gene expression. *The Toxicologist*, 1864.
48. Rice, B., Preston, J.D., Sammons, K.W., Tenlep, L., Reynolds, J., Swanson, H.I. and Pearson, K.J. (2018) Exposure to PCB 126 during the nursing period significantly impairs early-life glucose tolerance. *The Toxicologist*, S-1, 1853

49. Swanson, H.I. and Xiang, L. (2018) Initial assessment of a summer undergraduate research program. *The Toxicologist*, S-1, 2949
50. Davies, J and Swanson, H.I. (2018) Patient perceptions of cholesterol medications. *Experimental Biology*, April 21-25, San Diego, CA.
51. Duggar, M., Hill-Odem, M. and Swanson, H.I. (2018) Determining the effects of e-cigarette vapor on oral epithelial cells in a cultured cell model. *Experimental Biology #3125*, April 21-25, San Diego, CA.
52. Duggar, M., Orren, D., Machwe, A. and Swanson, H.I. (2019) Potential use of the aryl hydrocarbon receptor signaling pathway to assess safety of e-cigarette flavoring agents. In 2019 Annual Meeting Abstract Supplement, Society of Toxicology, Abstract no. 2737.
53. Phelps, M., Xiang, L. and Swanson, H.I. (2019) Improvisation as a teaching tool to be incorporated into summer undergraduate research programs. In 2019 Annual Meeting Abstract Supplement, Society of Toxicology, Abstract no. 2128.
54. Swanson, H.I. and Xiang, L. (2020) Benefits of near-peer mentoring: The near peer perspective. In 2020 Annual Meeting Abstract Supplement, Society of Toxicology, Abstract no. 2830.

BOOKS AND BOOK CHAPTERS

H.I. Swanson, S.D. Kraner, S.S. Ray, M. Hoagland, E.D. Thompson, X. Zheng and Y. Tian, (2005) **Experimental approaches for the study of cytochrome P450 gene regulation**. In "Drug Metabolism and Transport: Molecular Methods and Mechanisms", L. Lash, Eds. Humana Press.

H.I. Swanson (2011) **Dioxin response elements and regulation of gene transcription**. In "The AH receptor in biology and toxicology" R. Pohjanvirta, Wiley Press.

H.I. Swanson (2015) **Flavonoids, Inflammation and Cancer**. World Scientific Publishing.

PATENTS

UK Case 1436: "Development of AHR-PROTACS as Antagonists of the Aryl Hydrocarbon Receptor" Swanson, H.I., Kim, K.B., Puppala, D. and Lee, H.

PUBLICATIONS IN REFEREED JOURNALS

1. Fong, A.T., **Swanson**, H.I., Dashwood, R.H., Williams, D.E., Hendricks, J.H. and Bailey, G.S., Mechanisms of anti-carcinogenesis by indole-3-carbinol. **Biochem. Pharm.** 39, 19-26 (1990).
2. **Swanson**, H.I. and Perdew, G.H. Characterization of the Ah receptor in rainbow trout derived cells. **Tox. Lett.** 58, 85-95 (1991).

3. **Swanson**, H.I. and Perdew, G.H. Half-Life of aryl hydrocarbon receptor in Hepa 1 Cells: Evidence for ligand-dependent alterations in cytosolic receptor levels. **Arch. Biochem. Biophys.** 302, 167-174 (1993).
4. Schafer, M.W., Madhukar, B.V., **Swanson**, H.I., Tullis, K. and Denison, M.S. Protein Kinase C is not involved in Ah receptor transformation and DNA binding. **Arch. Biochem. Biophys.** 307/2, 267-271 (1993).
5. **Swanson**, H.I., Tullis, K and Denison, M.S. Heterogeneous and multimeric DNA binding of the Ah receptor complex. **Biochemistry** 32, 12841-12849 (1993).
6. **Swanson**, H.I. and Bradfield, C.A. The Ah receptor: Genetics, Structure and Function. **Pharmacogenetics** 3, 213-230 (1993).
7. Dolwick, K.M., **Swanson**, H.I., Bradfield, C.A. *In Vitro* analysis of AH-receptor domains involved in ligand-activated DNA recognition. **Proc. Natl. Acad. Sci.** 90/18, 8566-8570 (1993).
8. Dolwick, K.M., Schmidt, J.V., Carver, L.A., **Swanson**, H.I. and Bradfield, C.A. The human AH-receptor cDNA: Cloning, expression and comparison with a murine homologue. **Mol. Pharmacol.** 44, 911-917 (1993).
9. Bank, P.A., Yao, E.F., **Swanson**, H.I., Tullis, K. and Denison, M.S. DNA binding of the transformed guinea pig hepatic Ah receptor complex: Identification and partial characterization of two high affinity DNA-binding forms. **Arch. Biochem. Biophys.** 317, 439-448 (1995)
10. **Swanson**, H.I, Chan, WK and Bradfield, C.A. DNA binding Specificities of and Pairing Rules of the Ah-Receptor, ARNT and SIM. **J. Biol. Chem.** 270, 26292-26302 (1995).
11. **Swanson**, H.I. and Yang, J.-H. Mapping the protein/DNA contact sites of the Ah receptor and Ah receptor nuclear translocator. **J. Biol. Chem.** 271, 31657-31665 (1996).
12. **Swanson**, H.I. and Yang, J.-H. The aryl hydrocarbon receptor interacts with transcription factor IIB. **Mol. Pharmacol.** 54, 671-677 (1998).
13. **Swanson**, H.I. and Yang, J.-H. Specificity of DNA binding of the c-Myc/Max and ARNT/ARNT dimers at the CACGTG recognition site. **Nucleic Acids Res** 27, 3205-3212 (1999).
14. Klinge, C.M., Kamboj, K.K., Bowers, J.L., and **Swanson**, H.I. The aryl hydrocarbon receptor (AHR)/AHR nuclear translocator (ARNT) heterodimer interacts with naturally occurring estrogen response elements. **Mol. Cell. Endocrinol.** 157, 105 (1999).
15. Klinge, C.M., Kaur, K. and **Swanson**, H.I. The aryl hydrocarbon receptor interacts with estrogen receptor alpha and orphan receptors COUP-TFI and ERR α 1. **Arch. Biochem. Biophys.** 373, 163-174 (1999).
16. Heid, S.E., Pollenz, R.S. and **Swanson**, H.I. Role of heat shock protein 90 dissociation in mediating agonist-induced activation of the aryl hydrocarbon receptor. **Mol. Pharmacol.** 57, 82-92 (2000).

17. Walker, M.K., Heid, S.E., Smith, S.M. and **Swanson**, H.I. Molecular characterization and developmental expression of the chicken aryl hydrocarbon receptor. **Comp. Biochem and Physiol.**, Part C, 126, 305-319 (2000).
18. Heid, S.E., Walker, M.K. and **Swanson**, H.I. Correlation of cardiotoxicity mediated by halogenated aromatic hydrocarbons to aryl hydrocarbon receptor activation. **Toxicological Sci.** 61, 187-196 (2001).
19. **Swanson**, H.I. (2002) DNA binding and protein interactions of the AHR heterodimer that facilitate gene activation. **Chem-Biol Interactions** 141, 63-76.
20. **Swanson**, H.I., Whitelaw, M.L., Petrusis, J. R. and Perdew, G.H. (2002) Use of 4'[125I] Iodoflavone as a tool to characterize ligand dependent differences in Ah receptor behavior. **J. Biochem. Mol. Tox.** 16, 298-310.
21. Ray, S. and **Swanson**, H.I. (2003) Alteration of keratinocyte differentiation and senescence by the tumor promoter, dioxin. **Toxicol. Appl. Pharmacol.** 192, 131-145 (Cover article).
22. Ray, S and **Swanson**, H.I. (2004) Dioxin-induced immortalization of normal human keratinocytes and silencing of p53 and p16INK4a. **J. Biol. Chem** 279, 27187-27193.
23. **Swanson**, H.I. (2004) Cytochrome P450 expression in human keratinocytes: An aryl hydrocarbon receptor perspective. **Chem-Biol. Interactions** 149, 69-79.
24. Wache, S.C., Hoagland, E.M., Zeigler, G. and **Swanson**, H.I.(2005) Role of arginine residues 14 and 15 in dictating DNA binding stability and transactivation of the aryl hydrocarbon receptor/aryl hydrocarbon receptor nuclear translocator heterodimer. **Gene Expression** 12, 231-243.
25. Hoagland, M. S., Hoagland, E.M. and **Swanson**, H.I. (2005) The p53 inhibitor pifithrin alpha is a potent agonist of the aryl hydrocarbon receptor. **J. Pharmacol. Exp. Ther.** 314, 603-610.
26. Wu, R., Hoagland, M.S. and **Swanson**, H.I. (2007) Lack of the AHR leads to impaired activation of AKT/PKB and enhanced sensitivity to UV-induced apoptosis in murine hepatoma cells. **J. Pharmacol. Exp. Ther.** 320, 448-457.
27. Puppala, D., Gairola, C.G. and **Swanson**, H.I. (2007) Identification of kaempferol as an inhibitor of cigarette smoke induced activation of the aryl hydrocarbon receptor and cell transformation **Carcinogenesis** 28, 639-647.
28. Zhang, L. Wu, R., Dingle, R.W.C., Gairola, C.G., Valentino, J. and **Swanson**, H.I (2007) . Cigarette smoke condensate and dioxin suppress culture shock induced senescence in normal human oral keratinocytes. **Oral Oncology** 43, 693-700.
29. Lee, H., Puppala, D., **Swanson**, H.I. and Kim, K-B. (2007) Targeted Degradation of aryl hydrocarbon receptor (AHR) via the PROTAC approach: A chemical genetic tool for AHR biology. **ChemBiochem** 8, 2058-62.
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