

CURRICULUM VITAE

DALE BUCHANAN HALES, Ph.D.

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Office Address: Professor and Chair, Department of Physiology
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EDUCATION

B.A (1977) Molecular, Cellular, Developmental Biology
University of Colorado, Boulder, CO

Ph.D (1983) Biochemistry, Biophysics and Genetics
University of Colorado Health Sciences Center (Denver, CO)

PROFESSIONAL APPOINTMENTS

April 1983 - June 1985	Research Associate, School of Pharmacy, University of Colorado, Boulder, CO 80309.
July 1985 - August 1989	Postdoctoral Research Fellow, Steroid Research Unit, University of Michigan, L1221-0278 Women's Hospital, Ann Arbor, MI 48109
Sept. 1989 - August 1995	Assistant Professor, Department of Physiology and Biophysics, University of Illinois at Chicago, Chicago, IL 60680.
Sept. 1995 – August 2007	Associate Professor, Department of Physiology and Biophysics, University of Illinois at Chicago, Chicago, IL 60612-7342
Sept. 1999 – 2004	Director of Graduate Studies, Department of Physiology and Biophysics, University of Illinois at Chicago, Chicago, IL 60612-7342
Sept 2005-2009	Co-Director Graduate Education in Medical Sciences (GEMS) program, University of Illinois College of Medicine at Chicago
Sept. 2007-2009	Professor of Physiology & Biophysics and Obstetrics & Gynecology, University of Illinois at Chicago, Chicago, IL 60612-7342
July 2009-present	Professor and Chair, Department of Physiology, Southern Illinois University School of Medicine, Carbondale, IL 62901
July 2009-present	Professor, Department of Obstetrics & Gynecology, Southern Illinois University School of Medicine, Springfield, IL

RESEARCH INTERESTS

Etiology, pathobiology and dietary intervention in ovarian cancer; Role of oxidative stress and inflammation in hormonal carcinogenesis; Immune-endocrine-environmental control of male reproductive function; Regulation of mitochondrial steroidogenesis and steroidogenic enzyme gene expression.

CLINICAL TRIALS

Evaluation of efficacy of dietary supplementation with flaxseed to prevent or delay the recurrence of ovarian cancer in women who are post-surgery and chemotherapy in clinical remission

[\[https://clinicaltrials.gov/ct2/show/NCT02324439\]](https://clinicaltrials.gov/ct2/show/NCT02324439)

GRANT ACTIVITIES

Current

- 2011-2017 National Center for Complementary and Alternative Medicine NIH 1R01 AT005295-01 (PI Hales) "Flax seed therapy for the prevention of ovarian cancer." \$1,840,000
- 2014-2017 Team Science Grant, Simmons Cancer Institute at SIU, Co-Pi (Brard, Hales, K Hales) "Flaxseed as maintenance therapy for ovarian cancer patients in remission" \$100,000

Pending:

- 2017-2019 Dept of Defense, CDMRP, Ovarian Cancer Pilot Award (PI Hales) "Evaluating novel biomarkers for early detection of ovarian cancer using the laying hen model and validation in clinical samples" \$364,677
- 2016-2018 National Institutes of Health/National Cancer Institute RO3 (PI Hales) "Quantification of endogenous estrogen metabolites as a diagnostic tool for enhanced early detection of ovarian cancer" \$147,500
- 2016-2021 National Institutes of Health/National Cancer Institute 1R01CA191336-01 Co-PI (Hales & Brard) "Flaxseed as Maintenance Therapy for Ovarian Cancer Patients in Remission" \$1,825,000

Recently Completed

- 2014-2015 Patient Oriented Grant, SIU School of Medicine, Co-PI (Hales & Brard) "Assessment of estrogen metabolite ratios as a predictive biomarker for ovarian cancer" \$25,000
- 2014-2015 Collaborative Seed Grant, Office of Vice Chancellor for Research, SIU, Co-Pi (Davis & Hales) "Dietary flax in the prevention of non-alcoholic fatty liver disease" \$28,450
- 2011-2014 National Institutes of Health/National Cancer Institute R03CA162511-01 (PI Hales) "Fish oil for the prevention and treatment of ovarian cancer, \$145,000
- 2010-2012 Denim & Diamonds Foundation Simons Cancer Institute at SIU School of Medicine (PI: Hales) "Alterations in liver fat metabolism—a possible early detection marker for ovarian cancer?" \$25,000

Dale B. Hales, Ph.D.

2002-2012	National Institutes of Health, Women's Center for Reproductive Studies, NIH U54 Center Grant HD40093 Director, Histology Core B. 4/1/07-3/31/12
2011	SIU School of Medicine Excellence in Academic Medicine Near-Miss Award (PI: Hales) "Therapeutic Efficacy of Flaxseed in the Treatment and Prevention of Ovarian Cancer" Bridge funding while applying for R01AT005295-01A2) \$25,000
2007-2010	National Center for Complementary and Alternative Medicine NIH 1R21 AT004085 "Flax seed therapy for the prevention of ovarian cancer." PI, 9/30/07-9/29/2010, \$426,250
2008-2011	National Institutes of Health R03 CA133915-01, "Dietary Intervention in the Gallus Domesticus Model of Ovarian Cancer" PI, \$156,000, 5/02/2008-5/01/2011
2006-2008	American Institute for Cancer Research, "Oxidative stress, inflammation and omega-3 fatty acid therapy in ovarian cancer", PI, \$165,000, 7/1/06-6/30/08
2004-2009	National Institutes of Health, "Mechanisms of Estrogen Biosynthesis in Endometriosis" Co-I (PI: Serdar E. Bulun, MD) 10/01/04-09/31/09
2005-2007	Department of Defense, Ovarian Cancer Research Program, "CYP1B1, oxidative stress, and inflammation in the etiology of ovarian epithelial cancer using an avian model of ovarian carcinoma" PI, \$308,000
2004-2006	American Cancer Society, Illinois Chapter, "CYP1B1, Oxidative Stress and Prostate Cancer" PI, 01/01/04-12/31/04, \$100,000

Previous Extramural Grants

1984	National Institutes of Health, Biomedical Research Support Award, to establish protein purification facility, School of Pharmacy, University of Colorado (\$50,000)
1985-1989	National Institutes of Health, National Service Research Award, Trainee in Reproductive Endocrinology Program
1991-1993	March of Dimes Foundation, Reproductive Hazards in the Work Place, "Regulation of P1-450 Gene Expression in Leydig Cells" PI, 01/01/91-12/31/92, \$50,000.
1992-1997	National Institutes Health, HD-27571, "Cytokine-Guided Paracrine Regulation of Leydig Cells" PI, 12/01/92-11/30/97, \$458,344.
1996-1997	National Institutes Health, HD-27571, "Cytokine-Guided Paracrine Regulation of Leydig Cells" Minority Research Investigator Supplement, 3/1/96-11/30/97, \$150,877
1998-2000	National Institutes of Health, HD-35544 "Tumor Necrosis Factor Repression of Steroidogenic Enzyme Genes" PI, 1/1/98-12/31/99, \$149,245

PROFESSIONAL SOCIETY MEMBERSHIPS

1985	American Association for the Advancement of Science
1986	Society for the Study of Reproduction
1987	New York Academy of Sciences
1988	Endocrine Society
1989	American Society of Biochemistry and Molecular Biology
2000	American Physiological Society
2002	Andrology Society of America
2005	American Society for Reproductive Immunology
2009	Association of Chairs of Departments of Physiology
2010	American Association of Cancer Research
2010	Sigma Xi

REVIEW ACTIVITIES

Editorial Boards

1995-2005	<i>American Journal of Physiology</i>
1998-2001, 2003-2006	<i>Endocrinology</i>
2005-2008	<i>American Journal of Reproductive Immunology</i>
2009-2013	<i>Biology of Reproduction</i>

Journals/ Scientific Publications

American Journal of Physiology: Endocrinology & Metabolism
Archives of Biochemistry and Biophysics
Biochemistry International
Biology of Reproduction
Cancer Prevention Research
Doody Publishing, Inc., Reviews of Health Science Books
Endocrinology
Free Radicals in Biology and Medicine
General and Comparative Endocrinology
Gynecologic Oncology
Hormone and Metabolic Research
International Journal of Andrology
International Journal of Gynecological Cancer
Journal of Andrology
Journal of Biological Chemistry
Journal of Clinical Investigation
Journal of Endocrinology
Journal of Experimental Zoology
Journal of Leukocyte Biology
Journal of Pharmacology and Experimental Therapeutics
Journal of Reproductive Immunology
Journal of Steroid Biochemistry and Molecular Biology
Molecular and Cellular Biology
Molecular and Cellular Endocrinology
Molecular Pharmacology
PLOS one
Proceedings of the National Academy of Sciences (USA)
Prostaglandins, Leukotriens & Essential Fatty Acids
Steroids

Study Sections/ External Review

CDMRP—Department of Defense Ovarian Cancer Review Panel
Lalor Foundation, Special Reviewer
March of Dimes Foundation, ad hoc Reviewer
National Aeronautics Space Administration (NASA), Fundamental Space Biology Division
National Science Foundation, ad hoc Reviewer
NICHD, Special Emphasis ad-hoc reviewer
NIH ad-hoc Appellate Review
NIH, CDP Study Section, ad hoc member
NIH, GRIP and ICP1 Study section, special reviewer
NIH, Endocrinology Study Section, ad-hoc member
NIH/NCCAM "Mechanistic Research on CAM Natural Products " special panel
Site-visit for NICHD Program Project Grant, Harvard University, Cambridge, MA.
Site-visit for NICHD Program Project Grant, Johns Hopkins University, Baltimore, MD.
Site-visit for NIH General Clinical Research Center, University of Kentucky, Lexington, KY
Veterans Affairs Administration Special Reviewer
Wellcome Trust

COMMITTEES

Society for the Study of Reproduction

1991-1993	Trainee Affairs Committee
1993-1994	Director, Annual Fun Run/5K Race
1994-1999	Education Committee
1995-1996	Editor of SSR Newsletter
1998-1999	Chair, Education Committee
1999-present	Program Committee
2000-2001	Trainee Affairs Committee, Faculty Mentor
2001-2003	Chair, Future Meeting Sites Committee
2004-2007	Secretary of the Society
2005-2017	FASEB Summer Research Conference Committee

Southern Illinois University Carbondale

2012-2014	MacLafferty Research Building Utilization Special Task Force
2012	Graduate Council
2013-	Howard Hughes Medical Institute STEM grant committee
2013	Higher Learning Commission site visit, School Medicine representative
2014-2015	Provost Interdisciplinary Professional Masters Development Task Force

Southern Illinois University Carbondale Office of Vice Chancellor for Research

2011-	Enhancement of Proposal Award Administration Procedures Committee
2011	Search Committee, Vice Provost for Research Administration
2011-2012	Chair, Search Committee Director OSPA
2012-	Research Advisory Group

Southern Illinois University School of Medicine

2009-	Year One Curriculum Committee
2009-	Executive Committee
2015	LCME Accreditation Facilities Committee
2016	Search Committee Associate Dean for Research

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Simmons Cancer Center, SIU

2010 Executive Committee

Southern Illinois University Carbondale College of Science

2010 Biological Sciences Executive Committee
2010-2012 Life Sciences Curriculum Task Force

HONORS AND AWARDS

Faculty Appreciation Award for participation in Urban Health Summer Enrichment Program, 1994.

Chairman, Education Committee, Society for the Study of Reproduction, 1998-1999.

Invited Speaker, Minisymposium on Gonadal Antigens and Autoimmunity, at 31st Annual Meeting, Society for Study of Reproduction, College Station, Texas, August 1998 (invited).

Appointed as Director of Graduate Studies, Graduate College, University of Illinois for Department Physiology & Biophysics, University of Illinois at Chicago, August, 1999

Certificate of Excellence from UIC College of Medicine Hispanic Center of Excellence in recognition of valuable contribution to Summer Medical Student Fellowship Research Program, August 11, 2000.

Invited Speaker, Boden Symposium on Immune Deviation in Reproductive System, Lorne, Victoria, Australia, February 2001.

Inducted as Honors College Fellow, Graduate College, University of Illinois at Chicago, 2001

Invited Speaker, Minisymposium on "The Leydig Cell", at 35th Annual Meeting, Society for Study of Reproduction, Baltimore, MD, August 2002

Elected as Secretary, Society for the Study of Reproduction, 2004

Appointed as Co-Director Graduate Education in Medical Sciences Program, College of Medicine, UIC, September 2005

Invited Speaker at North American Testes Workshop, Seattle, March 2005

Invited Speaker, Minisymposium on "The Aging Leydig Cell", at 39th Annual Meeting, Society for Study of Reproduction, Omaha, NE, July 2006

Elected as Member, UIC Honors College Executive Council, August 2007

Invited speaker at National Cancer Institute monthly seminar series, July 2008

Elected as President of Sigma Xi Southern Illinois University Chapter (President Elect 2010-2011; President 2011-2012, Past-President 2012-2013)

Invited Speaker, Historical Perspectives Plenary Session "Tribute to Anita Payne: the inner voice that guides my science" 43rd Annual Meeting, Society for Study of Reproduction, Milwaukee, WI July 2010

Endowed lecture at University of Michigan, Anita Payne Lecture "Molecular targets for dietary intervention, new insights into the pathogenesis of ovarian cancer." Oct 14, 2011, Ann Arbor, MI.

Keynote speaker at University of Colorado Anschutz Medical Center Cancer Center Basic Science Symposium on Inflammation, Oxidative Stress and Cancer, "Molecular targets for dietary intervention, new insights into the pathogenesis of ovarian cancer." Jan 24, 2012, Denver, CO

Plenary presentation at AACR Advances in Ovarian Cancer Research symposium, "Nutritional intervention for prevention of ovarian cancer in a natural model--the laying hen" Oct 20, 2015, Orlando, FL

INVITED PRESENTATIONS

- 1985 Dept. of OB/GYN, University of Michigan, Ann Arbor, MI
1986 School of Pharmacy, University of Colorado, Boulder, CO
1988 Dept. of Urology, MD Anderson Cancer Research Center, Houston, TX
1988 Dept. of Physiology and Biophysics, University of Illinois, Chicago, IL
1990 Dept. of OB/GYN, University of Illinois College of Medicine, Chicago, IL
1991 Dept. of OB/GYN, Mt. Sinai Hospital, Chicago, IL
1991 Reproductive Biology Biennial Meeting, University of Illinois, Allerton Park, IL
1991 Dept. of Pharmacology, University of Illinois, Chicago, IL
1991 Dept. of Pathology, University of Illinois College of Medicine, Chicago, IL
1991 Ares-Serono Symposium, Jerusalem, Israel
1992 Dept. Biological Sciences, Illinois Institute of Technology, Chicago, IL
1992 Signal Transduction Colloquium, University of Illinois, Chicago, IL
1992 Reproductive Sciences Program, University of Illinois, Urbana-Champaign, IL
1992 Dept of Biochemistry, Eastern Tennessee State University, Johnson City, TN
1992 Dept. of OB/GYN, Eastern Tennessee State University, Johnson City, TN
1993 Dept. of Urology, Northwestern University School of Medicine, Chicago, IL
1993 Reproductive Biology Biennial Meeting, University of Illinois, Allerton Park, IL
1993 Dept. of Biochemistry, University of South Florida, Tampa, FL
1993 Dept. of Physiology and Biophysics, University of Illinois, Chicago, IL
1993 Endocrine-Reproductive Physiology Program, Univ. of Wisconsin, Madison, WI
1993 Midwest Cytochromes P450 Symposium, Purdue University, West Lafayette, IN
1993 Population Council, Rockefeller University, New York, NY
1993 Dept. Pediatrics, Cornell University Medical Center, New York, NY
1993 Dept. of Biomed Science, University of Illinois College of Medicine, Rockford, IL
1994 Biology Colloquium, Dept. Biological Sciences, University of Illinois, Chicago, IL
1995 Dept. Endocrinology & Metabolism, Northwestern School of Medicine, Chicago, IL
1995 College of Pharmacy, University of Kentucky, Lexington, KY
1995 Reproductive Biology Biennial Meeting, University of Illinois, Allerton Park, IL
1995 Midwest Cytochromes P450 Symposium, Purdue University, West Lafayette, IN
1996 Dept. of Medicinal Chemistry, College of Pharmacy, Univ. of Illinois, Chicago, IL
1996 Institut National de la Recherche Agronomique, Nouzilly, France
1996 Dept. Physiology, Loyola University, Stritch School of Medicine, Chicago, IL
1997 National Institutes of Child Health and Human Development, NIH, Bethesda, MD
1997 Dept. of Rheumatology, Northwestern School of Medicine, Chicago, IL
1997 Reproductive Biology Biennial Meeting, University of Illinois, Allerton Park, IL
1997 Dept. of Rheumatology, UIC College of Medicine, Chicago, IL.
1997 Cell, Developmental Biology & Neuroscience, Kansas Univ Medical Center, KC, KS
1997 Shock and Trauma Unit, Loyola University, Stritch School of Medicine, Chicago, IL
1998 MD/PhD Seminar Program, UIC College of Medicine, Chicago, IL
1998 Minisymposium on Gondal Antigens and Autoimmunity, at 31st Annual Meeting,
Society for Study of Reproduction, College Station, TX
1998 Dept. of Biochemistry and Cell Biology, Texas Tech University, Lubbock, TX
1998 Midwest Cytochromes P450 Symposium, Purdue University, West Lafayette, IN
1998 Dept. of Biochemistry, University of Louisville, Louisville, KY
1999 Dept. Obstetrics/Gynecology, University of Wisconsin Hospitals, Madison, WI
1999 Endocrine Reproductive Program, University of Wisconsin, Madison, WI
1999 School of Pharmacy, Toxicology Program, Univ. of New Mexico, Albuquerque, NM
1999 Endocrine Grand Rounds, Northwestern Univ. Med School, Chicago, IL
1999 Dept. Biological Sciences, Benedictine University, Napperville, IL
1999 Reproductive Biology Biennial Meeting, University of Illinois, Allerton Park, IL

INVITED PRESENTATIONS (cont)

- 1999 Cardiovascular Colloquium, Dept Physiology, UIC, Chicago, IL
- 2000 Department of Biochemistry and Cell Biology, Faculty of Veterinary Medicine, Utrecht University, The Netherlands
- 2000 Faculté de Médecine, Département de Cytologie, Histologie-Embryologie "Genétique et interactions cellulaires en Reproduction" Vandoeuvre-Les-Nancy, France
- 2000 Division of Reproductive Sciences, Institute for Hormone and Fertility Research, University of Hamburg, Germany
- 2001 Boden Symposium on Immune Deviation and Reproductive Function, Lorne, Victoria, Australia
- 2001 Institute for Reproduction and Development, Monash University Medical Center, Clayton, Victoria, Australia
- 2001 Department of Biochemistry, Monash University, Clayton, Victoria, Australia
- 2001 Dept. Pediatric Endocrinology, UIC, Chicago, IL
- 2001 Dept. Medicine, Division of Endocrinology, UIC, Chicago, IL
- 2001 Dept. of Biology, Loyola University of Chicago
- 2002 Annual Percy Julian Symposium, Oak Park River Forest High School, Oak Park, IL
Keynote speaker
- 2002 Benedictine University, ACCA Symposium on Immunology, Lisle, IL
- 2002 Minisymposium on The Leydig Cell, at 35th Annual Meeting, Society for Study of Reproduction, Baltimore, MD
- 2002 University of Montreal, Center of Reproductive Research, St. Hyacinthe, Quebec, Canada
- 2002 Environmental Protection Agency, Reproductive Toxicology Program, Research Triangle, NC
- 2003 Dept Physiology & Anatomy, Kansas State Univ Veterinary School, Manhattan, KS.
- 2004 Dept Pediatric Endocrinology, UIC
- 2004 Division of Biomedical Science, Univ South Dakota, Vermillion, SD
- 2005 Symposium presentation, North American Testes Workshop, Seattle, WA,
- 2005 Cell, Developmental Biology & Neuroscience, Kansas Univ Medical Center, KC, KS
- 2006 Animal Research Biotechnology Laboratory (ARBL), Colorado State University, Ft. Collins, CO
- 2007 University of New Mexico, College of Pharmacy, Toxicology Seminar Series, Albuquerque, NM
- 2007 Annual Percy Julian Symposium, Oak Park River Forest High School, Oak Park, IL
keynote speaker
- 2007 University of Virginia Medical School, Urology Dept, Charlottesville, VA
- 2007 University of Colorado Health Sciences Center, Reproductive Sciences Program and Oncology Group, Denver, CO
- 2007 Clark Atlanta University Cancer Center, Atlanta, GA
- 2008 Frontiers in GI Research, Dept of Medicine, UIC, Chicago, IL
- 2008 Dept of Physiology, SIU School of Medicine, Carbondale, IL
- 2008 Lipid Club, Division of Endocrinology, UIC, Chicago, IL
- 2008 National Institutes of Health/National Cancer Institute, Office of Cancer Complementary Medicine monthly lecture, Bethesda, MD
- 2009 University of Illinois Urbana-Champaign, Dept of Nutrition, Urbana, IL
- 2009 SimmonsCooper Cancer Institute Cancer Symposium, Springfield, IL
- 2010 Dept of Physiology, SIU School of Medicine, Carbondale, IL

INVITED PRESENTATIONS (cont)

- 2010 Society for the Study of Reproduction Annual Meeting, Plenary presentation in Historical perspectives symposium: "Tribute to Anita Payne: the inner voice that guides my science" July 31, 2010 Milwaukee, WI
- 2011 University of Michigan, Anita Payne Lecture "Molecular targets for dietary intervention, new insights into the pathogenesis of ovarian cancer." Oct 14, 2011, Ann Arbor, MI.
- 2012 University of Colorado Denver "Molecular targets for dietary intervention, new insights into the pathogenesis of ovarian cancer." Keynote talk at the Cancer Center Basic Science Symposium on Inflammation, Oxidative Stress and Cancer. Jan 24, 2012, Denver, CO
- 2012 Xi'an Jiaotong University, First Affiliated Medical School, Dept Ob/Gyn "Molecular targets for dietary intervention, new insights into the pathogenesis of ovarian cancer." Xi'an Shaanxi China, July 26, 2012
- 2012 Southern Illinois Science Center, Science Café "Cure for cancer is in prevention: insights into ovarian cancer biology." October 25, 2012, Carbondale, IL.
- 2012 SIU Carbondale, College of Science, Living and Learning Community "Molecular targets for dietary intervention, new insights into the pathogenesis of ovarian cancer." Saluki Science Ambassadors, October 30, 2012, Carbondale, IL.
- 2012 Kansas University Medical Center, Institute for Reproductive Health & Regenerative Medicine "Molecular targets for dietary intervention, new insights into the pathogenesis of ovarian cancer." Dec 20, 2012, Kansas City, MO
- 2013 Texas A&M University, Dept of Nutrition & Food Science, "Molecular targets for dietary intervention, new insights into the pathogenesis of ovarian cancer." Jan 24, 2013, College Station, TX
- 2013 Illinois Junior Science Humanities Symposium Key Note speaker, "Cure for cancer is in prevention: insights into ovarian cancer biology." March 21, 2013 SIUC, Carbondale, IL
- 2013 Simons Cancer Center Basic Science Symposium, "Two Faces of Flax: prevention and suppression of ovarian cancer" Oct 26, 2013, Springfield, IL.
- 2013 Univ Illinois Chicago, Dept of Biochemistry and Molecular Genetics, "Two Faces of Flax: prevention and suppression of ovarian cancer" Dec 18, 2013, Chicago, IL
- 2014 Cornell University Department of Biomedical Sciences "Two Faces of Flax: prevention and suppression of ovarian cancer" April 16, 2014, Ithaca, NY
- 2014 University of British Columbia Cancer Center, Prostate Centre and OvCaRe: "Two Faces of Flax: prevention and suppression of ovarian cancer" May 23, 2014, Vancouver, BC
- 2015 Pennsylvania State University, Department Animal Science & Nutrition "Nutritional intervention for the prevention of ovarian cancer in a natural model, the laying hen" January 20, 2015, State College, PA
- 2015 Bopin' for the Cure Pink Out, feature speaker "Advances in cancer therapy since the 1950s" March 2015, Harrisburg, IL
- 2015 Plenary presentation at AACR Advances in Ovarian Cancer Research symposium, "Nutritional intervention for prevention of ovarian cancer in a natural model--the laying hen" Oct 20, 2015, Orlando, FL
- 2015 University of Tennessee, Institute of Agriculture, College of Veterinary Medicine, Department of Nutrition: "Nutritional intervention for prevention of ovarian cancer in a natural model--the laying hen" Oct 26, 2015, Knoxville, TN
- 2016 Harvard Medical School, PV Chan School of Public Health "Just the Flax M'am: nutritional intervention for the prevention of ovarian cancer in a natural model—the laying hen" March 31, 2016, Cambridge, MA

TEACHING ACTIVITIES

Thesis Supervisor UIC

Yuting Xiong	1990-1993	Ph.D. Thesis: "TNF α -guided paracrine regulation of Leydig cell steroidogenesis by testicular interstitial macrophages."
Xiangquan Li	1993-1997	Ph.D. Thesis: "Molecular mechanisms of cytokine-mediated inhibition of steroidogenic enzyme gene expression in Leydig cells."
Beth Nardulli	1999-2001	M.S. Thesis: "Cyclic-AMP and cytokine response elements in the Cyp17 gene promoter."
Steve Buck	2004-2005	MS Thesis (Bioengineering) "Mitochondrial control of steroidogenesis: role of active respiration in cholesterol transfer."
Kristine Ansenberger	2006-2010	PhD Thesis: "Dietary intervention for the treatment and prevention of ovarian cancer"

Thesis Supervisor SIUC

Erfan Elati	2009-2014	PhD Thesis: 'Role and Regulation of Cyclooxygenase and Prostaglandin signaling in ovarian cancer.'
Sara Ladley	2010-2012	MS Thesis "Testing the Warburg Hypothesis in ovarian cancer—glycolysis vs. aerobic metabolism as a function of cancer cell aggressiveness"
Sarah Norton	2011-2013	MS Thesis project: "Alterations in p53 pattern of expression in ovarian cancers of the laying hen."
Anushka Dikshit	2012-	PhD Thesis Project: "Estrogen metabolism and signaling in ovarian epithelial cancers of the laying hen"
Emily Isgur	2013-2015	MS Thesis "Flaxseed Decreased Severity of Oviductal Polyps in the Laying Hen Model of Leiomyomas"
William C. Weston	2015-	PhD Thesis Project "Oxidative stress and epigenetic control of ovarian cancer in the laying hen"
Purab Pal	2016-	PhD Thesis Project "Eicosanoids and oxidative DNA damage in the pathogenesis of ovarian cancer"

Thesis Committees SIUC Physiology Dept

10 PhD thesis committees
6 MS thesis committees

Thesis Committees SIUC Other Dept

3 PhD thesis committees

Ph.D Oral Qualifying Exams SIUC

8 PhD Oral Exam committees

Other Depts/Universities

12 PhD thesis committees, including 2 international (Australia, Germany)

Graduate Research Assistants SIUC

2009- 16 MS or PhD grad assistants

Undergraduate Research Scholars at SIUC

2009- 30 URA, Research Rookies, SSRO, SCI summer intern or REACH

TEACHING ACTIVITIES (cont.)

Post-Doctoral Trainees

1990-1991 Anita Siebolt, Ph.D.
2005-2009 Yan Zhuge, Ph.D.
2010-2013 Nawneet Kurrey, Ph.D.
2014- Stephanie Eastwood, Ph.D

Medical Research Fellows

1991-1992 Ilan Tur-Kaspa, MD
Current address:
Dept. Obstetrics and Gynecology
Chaim Sheba Medical Center
Tel Aviv University
Tel Hashomer, 52621, Israel

1998-2000 Dr. med. Thorsten Dimer
Current address:
Urologische Klinik der
Justus-Liebig-Universität, Gießen
Klinikstarsse 29
35392 Gießen
Bundesrepublik Deutschland

2006-2007 JoAnn Lagman, MD
Current Address:
Dept Family Medicine
Rush-Copley Medical Center
Aurora, IL 60504

Visiting Professors/Research Assistant Professors

1994-1997 Dr. H. Bruce Bosmann
Professor
Dept. Physiology & Biophysics
University of Illinois at Chicago

1995-1999 Dr. Karen Held Hales
Research Assistant Professor
Dept. Physiology & Biophysics
University of Illinois at Chicago

Visiting Scientist

1996-1997 Maretha Roberts, Ph.D. (Minority Investigator)

2002, 2004, 2005-2006 Paul Janus, M.S.
Chair, Physiology Dept
Wilbur Wright College
City Colleges of Chicago

TEACHING ACTIVITIES (cont.)

Visiting Scientist (cont)

2011-2012 Manoel Adrião Gomes Filho. PhD
 Coordenador do Laboratório de Fisiologia Animal Molecular Aplicada -
 Departamento de Morfologia e Fisiologia Animal
 Área de Fisiologia Animal
 Universidade Federal Rural de Pernambuco – UFRPE

2012-2013 Chunqi Gao (Co-cultivated PhD)
 Frist Agricultural University of China
 Beijing, China

Course Instruction SIUC

PHSL 430/530 Molecular and Cellular Physiology (Cell Cycle/Cancer Biology)
PHSL 410A/511A Mammalian Physiology (Cellular Physiology)
PHSL 410A/511b Mammalian Physiology (Reproduction/Endocrinology)
PHSL 501 Graduate Seminar
Medical Physiology Resource sessions in Endocrinology, Reproduction, GI (ERG)
MSI Problem Based Learning tutor in ERG unit

Course Director at SIU School of Medicine

Endocrine-Reproductive-GI Physiology for MSI: Unit co-director

PUBLICATIONS

Journal Articles (Refereed Journals)

- 1) Betz, G., Tsai, P. and **Hales, D. B.** "Reconstitution of steroid 17,20-Lyase activity after separation and purification of cytochrome P-450 and its reductase from rat testis microsomes." *Endocrinology* 107:1055-1060, 1980.
- 2) Betz, G., Miller, H. H. and **Hales, D. B.** "Actions of Danazol in vivo on cytochrome P-450 and steroidogenic enzymes in rat testis and liver microsomal preparations." *American Journal of Obstetrics and Gynecology* 141:962-972, 1981.
- 3) **Hales, D. B.**, Betz, G. "Steroid interactions with the cytochrome P-450 from testis microsomes." *Journal of Steroid Biochemistry* 21:639-642, 1984.
- 4) **Hales, D. B.**, Betz, G. "NADPH-cytochrome P-450 reductase from testis and liver microsomes of untreated rats: isolation and comparison." *Endocrinology* 119:811-818, 1986.
- 5) **Hales, D.B.**, Sha, L., and Payne, A.H. "Testosterone inhibits cAMP-induced de novo synthesis of Leydig cell cytochrome P-450_{17 α} by an androgen receptor-mediated mechanism." *Journal of Biological Chemistry* 262:11200-11206, 1987.
- 6) **Hales, D.B.**, Ho, B., and Thompson, J.A. "Inter- and intramolecular deuterium isotope effects on the cytochrome P-450-catalyzed oxidative dehalogenation of 1,1,2,2-tetrachloroethane." *Biochem. Biophys. Res. Commun.* 149:319-325, 1987.
- 7) **Hales, D.B.**, and Payne, A.H. "Regulation of de novo synthesis of cytochrome P-450_{17 α} in mouse Leydig cell cultures." *Annals of the New York Academy of Sciences, NY*, 513:387-390, 1987.

- 8) **Hales, D.B.** and Payne, A.H. "Regulation of P450_{SCC} mRNA and de novo synthesis in cultured Leydig cells." *Endocrinology* 124:2099-2104, 1989.
- 9) **Hales, D.B.**, Sha, L. and Payne, A.H. "Glucocorticoid and cAMP-mediated induction of cholesterol side-chain cleavage cytochrome P450 (P450_{SCC}) in MA-10 tumor Leydig cells. Increases in mRNA are cycloheximide sensitive". *Endocrinology* 126:2800-2808, 1990.
- 10) Keyes, P.L., Kostyo, J.L., **Hales, D.B.**, Chou, S., Constantino, C.X., Payne, A.H. "The biosynthesis of cholesterol side-chain cleavage cytochrome P450 in the rabbit corpus luteum depends upon estrogen." *Endocrinology* 127:1186-1193, 1990.
- 11) Durkee, T.J., McLean, M.P., **Hales, D.B.**, Payne, A.H., Waterman, M.R., Khan, I., Gibori, G. "P450_{17 α} and P450_{SCC} gene expression and regulation in the rat trophoblast." *Endocrinology* 130:1309-1317, 1992.
- 12) **Hales, D.B.**, Xiong, Y., Tur-Kaspa, I. "The role of cytokines in the regulation of Leydig cell P450c17 gene expression." *Journal of Steroid Biochemistry and Molecular Biology* 43:907-914, 1992.
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Manuscripts in preparation

- Ladley, SE, **Hales, DB** “Ovarian Cancer Cell Survival and Proliferation Is Mediated by the Warburg Effect.” Manuscript in preparation
Gibson, L; Balaam, K, **Hales, DB** “Ovarian cancer and diabetes: Flaxseed and Metformin’s Metabolic Effects” Manuscript in preparation

Chapters in Books

- 1) Payne, A.H., Anakwe, O.O., **Hales, D.B.**, Georgiou, M., Perkins, L.M., and Quinn, P.G. "Regulation of Mitochondrial and Microsomal Cytochrome P-450 enzymes in Leydig cells." In *Regulation of Ovarian and Testicular Function* (Mahesh, V.B., Dhindsa, D.S., Anderson, E., Kalra, S.P., eds.) Plenum Press, N.Y., pp. 467-487, 1987.
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Invited Papers

- 1) **Hales, D.B.** “Editorial: Gonadal-Specific Transcription Factors—GATA (Go) 4 It!” *Endocrinology* 124:974-976 (2001)
- 2) **Hales, D.B.** “Editorial: Another piece in the maddening puzzle of declining steroidogenesis in aging Leydig cells.” *Journal of Andrology*, 23:327-329 (2002)

Lay Press and Media Presentations:

CancerChix: <http://www.cancerchix.org/> *An informal lay level discussion of research on Ovarian Cancer conducted in the laying hen, Gallus Domesticus. The blog discusses current topics relevant to cancer including chemoprevention, dietary intervention, natural products and theories on the cause and hope for the cure of cancer.*

<http://www.greenmedinfo.com/blog/flaxseed-may-be-potent-ovarian-cancer-killer>

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Abstracts

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- 116) Eilati, E., Pan, L., Bahr, J.M., **Hales, DB** "Long term consumption of flaxseed enriched diet decreased ovarian cancer incidence and PGE2 in hens" Society for the Study of Reproduction Annual Meeting, August 2012 University Park, PA
- 117) Dikshit, A., **Hales, DB** "Effect Of Flaxseed On Estrogen Signaling And Metabolism In Ovarian Cancer Using The Laying Hen Model" 2nd International Congress on Steroid Research, March 2013 Chicago, IL
- 118) Eilati, E. Bahr, JM, **Hales, DB**, "Long Term Consumption of Flaxseed Enriched Diet Decreased Ovarian Cancer Incidence and Prostaglandin E2 in Hens", Illinois Symposium on Reproductive Science (**ISRS**) & 5th Great Lakes Nuclear Receptor Conference (**GLNRC**) , October, 2012
- 119) N. K. Kurrey, K. H. Hales, Y. Zhuge, **D. B. Hales**. Presented poster on "Molecular mechanism of the anticancer effect of flaxseed in laying hen model of ovarian cancer: Microarray and bioinformatics analyses" at Cell Symposia: Hallmarks of Cancer, San Francisco, CA, October, 2012.
- 120) Nawneet Kumar Kurrey, Karen Hales, Yan Zhuge, Janice Bahr, **Dale Buck Hales**. Presented poster at "Uncovering Molecular Events Associated with Chemosuppressant Effects of Flaxseed: A Microarray Analysis in Laying Hen Model of Ovarian Cancer" 1st Indiana-Illinois End Epithelial Ovarian Cancer Coalition (IIEEOCC) Workshop University of Notre Dame, Notre Dame, South Bend, IN, June, 2012.
- 121) Speckman, S, **Hales, DB**, Hales, K.H. "Investigating Effects of Flaxseed on Expression of miR-200a, ZEB1, and E-cadherin in Ovarian Cancer in the Laying Hen" 1st IIEEOCC Workshop University of Notre Dame, South Bend, IN, June, 2012
- 122) Dikshit, A, **Hales, DB** "Effect of Flaxseed On Estrogen Signaling And Metabolism In Ovarian Cancer Using The Laying Hen Model" 2nd Congress on Steroid Research, Chicago, IL March 2013.
- 123) Hales, K.H, Speckman, S, Kurrey, N, **Hales, D.B.**, "Effect of Dietary Flax on the Expression of Morphological Determinants in Epithelial Ovarian Cancer in the Laying Hen" Society for the Study of Reproduction Annual Meeting, July 2013, Montreal, Quebec, CA
- 124) Dikshit, A., **Hales, DB** "Effect Of Flaxseed On Estrogen Signaling And Metabolism In Ovarian Cancer Using The Laying Hen Model" Society for the Study of Reproduction Annual Meeting, July 2013, Montreal, Quebec, CA
- 125) Eilati, E., **Hales, DB** "Effect of Flax Oil and Fish Oil on Cyclooxygenase Expression and Prostaglandin E2 Concentration in Ovaries of Hens" Society for the Study of Reproduction Annual Meeting, July 2013, Montreal, Quebec, CA
- 126) Gibson, L., **Hales, DB** "Ovarian Cancer and Hyperglycemia: Can Metformin be used to Halt Tumor Growth and Proliferation?" Society for the Study of Reproduction Annual Meeting, July 2013, Montreal, Quebec, CA
- 127) Dikshit, A, Gao, C, **Hales, DB** "Flaxseed decreases estrogen mediated toxicity in the hen model for ovarian cancer" Penn State/NIH Workshop on Estrogen Exposure and Metabolism, March 2014, Bethesda, MD.
- 128) Hales, K.H., Speckman, S., **Hales, DB** "Molecular targets of flaxseed intervention in the amelioration of epithelial ovarian (EOC) cancer" 7th Canadian Conference on Ovarian Cancer Research, Victoria, BC May 2014,
- 129) Ward, C., Hales, DB "Can prostaglandin production be induced in ovarian cancer cells in tissue culture?" Society for the Study of Reproduction Annual Meeting, July 2014
- 130) Isgur, E, Adur, MK, Nowak. RA, **Hales, DB** "Flaxseed Decreases Severity of Oviductal Polyps in the Laying Hen Model of Leiomyomas" Submitted for presentation at Society for the Study of Reproduction Annual Meeting, Grand Rapids, MI July 2014

- 131) Gibson, L.; **Hales, DB** “Ovarian cancer and diabetes: Metformin’s Metabolic Effects” Mayo Clinic Metabolomics Workshop, Rochester, MN, Sept 2014
- 132) Dikshit, A, Gao, C, **Hales, DB** “Flaxseed Reduces The Pro-Carcinogenic Microenvironment In The Ovaries Of Hens By Altering The Estrogen Pathway” Society for the Study of Reproduction Annual Meeting, San Juan, Puerto Rico, June 2015
- 133) Eastwood, S., Gibson, L, **Hales DB** “Dietary reprogramming of the metabolome of the laying hen: prevention and suppression of ovarian cancer” American Association for Cancer Research Cancer Metabolism Symposium, Bellevue, WA, June 2015. Mol. Cancer Res. 2016;14(Supplement): p. B74 http://mcr.aacrjournals.org/cgi/content/abstract/14/1_Supplement/B74?ct=ct
- 134) **Hales, DB** “Nutritional intervention for the prevention of ovarian cancer in a natural model—the laying hen” American Association for Cancer Research Advances in Ovarian Cancer Research; plenary presentation, Orlando, FL, Oct 2015
- 135) Dikshit, A, Eastwood, S, **Hales, DB** “Flaxseed reduces the pro-carcinogenic microenvironment in the ovaries of hens by altering the estrogen pathway” 3rd International Congress on Steroid Research, Chicago, IL, Nov 2015
- 136) **Hales, DB**, Dikshit, A, Eastwood, S, Hales KH “Flaxseed and Its Components Differentially Affect Estrogen Targets in Pre-Neoplastic and Cancerous Hen Ovaries” Endocrine Society Annual Meeting, Boston, April 2016

Not shown IIEEOCC 2014, SCI cancer symposium 2013, ISRS 2013, 2014