

# Jodie M. Fleming

North Carolina Central University, MTSC, Rm 2247 732-771-5275 jodie.fleming@ncu.edu

## Education

- June 2011 **National Institutes of Health, National Cancer Institute**, Postdoctoral Studies in Breast Cancer Physiology  
Concentrations: Breast Cancer, Cancer Health Disparities, Comparative Physiology, *In Vivo* Models
- May 2006 **Rutgers University**, Ph.D. in Animal Science  
Concentrations: Cell Biology, Comparative Physiology  
Dissertation title: "Insulin-like Growth Factor-I and Epidermal Growth Factor Regulate Insulin like Growth Factor Binding Protein Expression in Mammary Epithelial and Stromal Cells via Specific Intracellular Signaling Mechanisms"
- June 2000 **University of Delaware**, B.S.  
Major: Animal Science Pre-Veterinary Medicine  
Minor: Biology, Theatre

## Research Experience

- May 2018 - present **North Carolina Central University**, College of Arts and Sciences, Durham, NC  
Associate Professor, Department of Biological and Biomedical Sciences
- Investigating the mechanisms and biological pathways underlying the poor outcome of African-American breast cancer.
  - Translate the role of the tissue microenvironment in the development and function of the mammary gland and tumorigenesis.
  - Testing the role of obesity and obesity-associated disease in breast cancer risk and outcome.
  - Identifying the mechanisms of lactation and the incorporation of lipids and lipophilic environmental toxicants in human breast milk.
  - Development of novel *in vitro* and *in vivo* assays to test the role of extracellular matrix on epithelial cell and stem cell behaviors.
  - Study the role of breast cancer cell metabolism in driving cancer health disparities.
- Aug 2011 – April 2018 **North Carolina Central University**, College of Arts and Sciences, Durham, NC  
Assistant Professor, Department of Biological and Biomedical Sciences.
- Sept 2013 - present **Lineberger Comprehensive Cancer Center**, University of North Carolina, NC  
Member: Perform scientific investigation into the causes of cancer health disparities.
- June 2015 - present **Center for Human Health and the Environment**, North Carolina State University  
Member: Perform scientific investigation into the effect of environmental toxins on human health.
- July 2006 - August 2011 **National Institutes of Health, National Cancer Institute**, Bethesda, MD  
Postdoctoral Fellow, Mammary Biology and Tumorigenesis Laboratory. Mentor: Dr. Barbara K. Vonderhaar.
- Developed novel xenograft models for studying normal human mammary development and breast cancer progression, including the addition of human stromal cells and immune cells and their effect on breast cancer progression.
  - Established the first protocol for isolating human mammary extracellular matrix and subsequent proteomic, *in vitro* and *in vivo* assays used to delineate signaling mechanisms within the stem cell niche, and in breast cancer tumorigenesis.
  - Development of innovative procedures to enrich for human mammary stem cells and to study the influence of the microenvironment on stem cell behavior.

- Sept. 2000 - June 2006 **Rutgers University**, New Brunswick, NJ  
Graduate Research Assistant, Department of Animal Science. Advisor: Dr. Wendie S. Cohick.
- Established the regulation of the Insulin-like Growth Factor (IGF) family of proteins in primary bovine mammary fibroblasts and epithelial cells.
  - Identified the signal transduction pathways utilized by Insulin-like growth factor-I and Epidermal Growth Factor in primary bovine mammary epithelial cells.
- June 2003 - Aug. 2003 **FDA, Center for Veterinary Medicine**, Rockville, MD  
Summer Internship, Office of New Animal Drug Evaluation. Supervisor: Larisa Rudenko.
- Assisted in evaluating the food safety of animal clones and their progeny, including data analysis, preliminary conclusions, and data needs. Findings were presented at the National Transgenic Animal Research Conference IV, in Tahoe City, CA.
- Sept. 1999 - June 2000 **University of Delaware**, Newark, DE  
Undergraduate Research Assistant, Department of Animal Science. Advisor: Dr. John Dohms.
- Developed and utilized a method to detect *Mycoplasma gallisepticum* in chickens and turkeys.
  - Investigated the mechanisms of how *Mycoplasma gallisepticum* produce chronic infections, despite a vigorous immune response in the host.

## Teaching Experience

- January 2011 - present **North Carolina Central University**, Durham, NC  
Course Instructor
- BIOG4350: Cancer Biology. This course introduces a brief history of the nature of cancer, then introduces oncogenes, tumor suppressors, control of the cell cycle clock, p53, apoptosis, growth factors, angiogenesis, invasion, metastasis, and the basic aspects of current treatment options and cancer prevention.
  - BIOD8080/BIOG5430: Contributed to the MS/PhD-level course for Biology and Pharmaceutical Sciences by providing instruction on the physiology of the endocrine systems and discussion with students ongoing research in their laboratories
  - BIOL4320: Developed, designed, and taught a course on *Advanced Human Physiology* for undergraduate biology major students.
  - BIOL4000: Developed, designed, and taught a course on *Molecular Cell Physiology* for undergraduate biology major students.
  - BIOL1101: Introduction to Biology. The first course is for biology majors, other science majors, and those students who will be taking upper-level courses in biology. This course introduces the scientific method, a brief survey of the history of biology, an introduction to the physical and chemical properties of biological molecules, a survey of cellular structure and function, and an introduction to the basic principles of genetics.
  - BIOL1620: Human Anatomy and Physiology II. A continuation of BIOL1610, human anatomy and physiology with special emphasis on cardiovascular, lymphatic, respiratory, digestive, endocrine, excretory, and reproductive systems and human development.
- Student Mentoring and Laboratory Training
- Directly responsible for the education and hands-on training of undergraduate, graduate, and post-doctoral students in basic scientific techniques, *in vivo* surgical procedures, experimental design and scientific writing.

- July 2006 – June 2011 **National Institutes of Health**, Bethesda, MD  
Course Instructor
- Developed, designed, and taught an eight-week course on the *Biology of Cancer* for the Foundation for the Advancement of Education Graduate School at the NIH.  
Mentor for post-baccalaureate students
  - Directly responsible for the education and training of students in basic scientific techniques experimental design and scientific writing.
- Sept. 2000 - May 2004 **Rutgers University**, Department of Animal Science, New Brunswick, NJ
- Teaching Assistant: *Methods in Recombinant DNA Technologies*
- Demonstrated and aided 30 students in laboratory work during two weekly, 5-hour laboratory sections, graded laboratory reports and exams, organized and led weekly review sessions and tutored individuals.
  - Technologies taught included restriction mapping of plasmid DNA, isolation of cDNAs, nucleotide sequencing and analysis, PCR, RNA/DNA isolation, Southern and Northern blotting, transformation of cells, western immunoblotting, and microarray analysis.
- Teaching Assistant: *Lab Animal Science Management and Techniques*
- Aided students in the principles and practices of laboratory animal science during two weekly, 2-hour laboratory sections.
  - Techniques taught included lab animal handling, dissection, pharmacology, and basic surgical procedures including rodent injections, ovariectomy and castration.
- Teaching Assistant: *Animal Micro-techniques and Tissue Culture*
- Prepared and assisted in teaching of a 3-hour laboratory, graded laboratory reports and exams, tutored individual students.
  - Techniques taught included microscopic, cytological, cell and organ culture techniques, immunohistochemistry, *in situ* hybridization, and the expression of transfected DNA.
- Teaching Assistant: *Animal Nutrition*
- Independently designed and presented a weekly thirty-minute lecture, prepared and taught a weekly 3-hour laboratory section, organized and led review sessions, tutored individual students, graded laboratory reports, designed and graded exams.

## Service and Leadership Experience

### North Carolina Central University, Durham NC

- Aug. 2015 - Present Reviewer: Department of Defense, Breast Cancer Research Program Scientific Reviewer
- Conduct comprehensive evaluations and construct recommendations for proposals submitted to the Department of Defense.
- Dec. 2013 – Present Mentor to the Duke Preparing Future Faculty Program
- Serve as a mentor and guide for young postdoctoral research fellows looking to transition into academia or alternate biomedical careers.
- Dec. 2013 – Dec 2015 Mentor to the National Cancer Institute Sallie Rosen Kaplan Fellowship Program
- Serve as a mentor and guide for young female postdoctoral research fellows looking to transition into academia.
- Dec. 2013 Reviewer: Early Career Reviewer program at the Center for Scientific Review (CSR), National Institutes of Health
- Conduct comprehensive evaluations and construct recommendations for proposals submitted to the National Institutes of Health.

- Sept. 2011 – 2015 Council on the Status of Women, Executive Council Member
- Founding Member: The Council on the Status of Women was established to be an advisory committee to the Administration and for all women. The primary charge is to ensure a work environment that is fair and equitable. Founding Member. Organized seminars and social meeting to addressing the issues with women and career in science for all of North Carolina.
- Sept. 2011 – Dec 2012 RTP Chapter President, Association for Women in Science
- Organized seminars and social meeting to addressing the issues with women and career in science for all of North Carolina.

**National Institutes of Health, Bethesda, MD**

- Dec. 2006 – June 2011 NIH Fellows Editorial Board
- Edited research papers, review articles, grant proposals, and assisted authors in enhancing their scientific writing skills.
- Sept. 2006 – June 2011 Sisters Scientists club
- Founding member. Organized seminars addressing the issues with women and career in science. Prepared and ran the membership drive and organized help sessions for women Fellows at the NIH.
- Jan. 2008 - Feb. 2009 Co-Chair NIH FELCOM Job Fair subcommittee
- Organized a committee of 8 post-doctoral Fellows aimed at planning the annual NIH Job Fair for Postdoctoral, Research, and Clinical Fellows.
  - Recruited over 30 exhibitors from biotechnology, pharmaceutical, non-profit, and legal companies as well as government agencies.
- Nov. 2006 - Feb. 2009 Representative for NIH post-doctoral fellows association committee (FELCOM)
- Elected liaison to the National Postdoctoral Association position. Compiled and delivered reports at monthly meetings addressing issues pertaining to NIH Fellows and the National Postdoctoral Association.

**National Postdoctoral Association, Washington DC**

- Nov. 2008 - Jan. 2009 Affiliate of the Advocacy Committee
- Addressed all advocacy and policy issues relating to and affecting the postdoctoral community, including but not limited to general policy, diversity, and international postdoc issues.
- Nov 2006 - Nov 2008 Affiliate of the Membership Drive Committee
- Developed and implemented an annual outreach campaign to recruit and retain individual and institutional members.

**Rutgers University, New Brunswick, NJ**

- Sept. 2002 - Sept. 2005 Representative for the Rutgers University Animal Science Student Association Committee
- Expressed the concerns and opinions of the graduate students to the Animal Science faculty during their monthly meetings. Disseminated and relayed information between the Animal Science faculty, Rutgers Graduate program, and the Animal Science graduate students.
  - Contributed to the development, design, and publication of the first edition Animal Science Graduate Student Handbook.

## Current Research Support

- GTDR16377604 Williams (PI), Fleming (Co-PI) 05/01/2016 - 0/31/2021  
Susan G. Komen  
Graduate Training in Disparities Research Grant  
*Training Minorities in Research to Reduce Breast Cancer Disparities*  
The goal is to train attract, train, and retain minority students in biomedical research, with a focus to reduce breast cancer disparities
- 5U54CA156735-06 Richardson (PI) 09/01/2016 - 08/31/2020  
National Cancer Institute  
NCCU-LCCC Partnership in Cancer Research 1 of 2  
*Subproject: Full Project 4 - Molecular pathways that lead to breast cancer mortality among African American and White Women*  
The overarching goal of the partnership is to meet the challenge of disparities in cancer incidence and mortality in North Carolina and the US through cancer research, education and community outreach.
- U54 Research Centers in Minority Institutions Kumar (PI) 09/01/2018 - 08/31/2022  
National Cancer Institute  
Full Project: *Mechanisms linking Cancer Disparities and Metabolic Status*  
The goal of this study is to delineate the role of lipid signaling in the promotion of breast cancer health disparities

## Completed Research Support

- UNC Lineberger Developmental Funding Program Fleming (PI) 08/01/2017 - 07/30/2018  
UNC Lineberger Comprehensive Cancer Center  
*Determining the relationship of CRYBB2 and its pseudogene in promoting Breast Cancer Disparities and Patient Outcome*  
The goal is to investigate whether *CRYBB2P1* functions to regulate CRYBB2 and aggressive tumor behaviors
- NCSU CHHE 2016 Pilot Project Fleming (PI) 04/15/2016 - 06/30/2018  
*LSR, a potential novel molecule in epithelial cell nanoparticle uptake*  
The goal of this study is to investigate the role of LSR in nanoparticle uptake
- R21CA175783-01 Fleming (PI) 9/01/2013-8/31/2015  
*Hepatic Fibrosis signaling Basal-like Breast Cancer*  
The goal of this study is to determine the role of wound signature proteins in tumor -microenvironmental interactions and its influence on breast cancer health disparities.
- NCCU 2015 Faculty Research Mini-Grant Award Fleming (PI) 01/01/2016 - 12/31/2016  
*Defining the Physiological Mechanisms that Regulate CRYBB2, a Marker for Cancer Health Disparities*  
The goal of this study is to identify the functional role of CRYBB2 protein in breast cancer health disparities
- NCCU Cummings Foundation Grant Fleming (PI) 02/01/2015 - 11/30/2017  
*LSR Overexpression in Cancer*  
The goal of this study is to evaluate the expression pattern of LSR in breast cancer subtypes
- 1SC2CA176585-01 Fleming (PI) (no-cost extension 8/2017)  
*Development of a novel targeted-therapy for treatment of basal-like breast cancer*  
The goal of this study is to determine the mechanisms of interaction between CD44 and a newly identified bacterial toxin, and to evaluate the potential of CD44 as a therapy for basal-like breast cancer
- 5U54CA156735-03 Richardson (PI) 9/1/2010-8/31/2015  
NCCU-LCCC Partnership in Cancer Research  
*Subproject: Pilot Project 4—HGF Signaling in African-American and Basal-like Breast Cancer*  
The goal of this study is to determine the role of HGF in tumor-microenvironmental interactions and its influence on breast cancer progression and health disparities.

2010 – 2011	National Cancer Institute Director’s 2010 Innovation Award
2006 – 2011	National Cancer Institute Postdoctoral Cancer Research Training Award
2005 - 2006	Robert White Stevens Fellowship for Graduate Research
2005	Travel Award, Gordon Research Conference
2004 - 2005	Hilde S. Foster Fellowship Award for Graduate Research
2002, 2003, 2004, 2005	Graduate School Travel Award
2000, 2001, 2002, 2003	Rutgers University Graduate Enhancement Award

## Professional Affiliations

2015 - present	Member: North Carolina State University’s Center for Human Health and the Environment
2015 - present	Member: National Science Teachers Association
2014 - present	Member: Lineberger Comprehensive Cancer Center
2014 - present	American Society for Cell Biology
2011 - present	Minorities in Cancer Research
2011 - present	Women in Cancer Research
2006 - present	American Association for Cancer Research
2000 - present	The Endocrine Society
2009 - 2016	Association for Women in Science
2000 - 2006	International Society of IGF Research
2000 - 2006	Society of Animal Science

## Presentations and Conferences

Sept 2018	<b>American Association for Cancer Research Special Meeting on Metabolism and Cancer</b> , Brooklyn, NY Poster Presentation: “LSR contributes to the metabolic plasticity and the behavior of mammary epithelial cells by regulating lipid uptake and cellular metabolism”
Sept 2018	<b>NCSU Center for human Health and the Environment Symposium</b> , Raleigh, NC Poster Presentation: “Mechanisms of nanoparticle endocytosis and the subsequent effects on extracellular Matrix deposition and epithelial cell adhesion”
Sept 2018	<b>Society of Rheology Annual Meeting</b> , Houston, Tx Invited Talk (co-author): “Measurement of strength and viscoelasticity of mammalian tissues by dynamic oscillatory rheology”
June 2018	<b>Gordon Research Conference on Mammary Gland Biology</b> , Lucca, Italy Poster Presentation: “LSR contributes to the metabolic plasticity and the behavior of mammary epithelial cells by regulating lipid uptake and cellular metabolism”
April 2018	<b>American Association for Cancer Research 105<sup>th</sup> Annual Meeting</b> , Chicago, IL Poster presentation: “Race-Associated Breast Cancer Disparities: The Role of CRYBB2 and Its Pseudogene” Poster presentation: “Determining the role of novel GLI1 splice variants in breast cancer”
March 218	<b>The Geographical Management of Cancer Health Equity Region 1 South 2<sup>nd</sup> Annual Cancer Health Disparities Symposium</b> , Chapel Hill, NC Invite Talk: “Race-Associated Breast Cancer Disparities: The Role of CRYBB2 and Its Pseudogene”
Sept 2017	<b>AACR Tenth AACR Conference on The Science of Cancer Health Disparities in Racial/Ethnic Minorities and the Medically Underserved</b> , Atlanta, GA. Poster Presentation: Race-Associated Breast Cancer Disparities: The Role of CRYBB2 and Its Pseudogene
July 2017	<b>National Institute of Environmental Health Sciences</b> , Research Triangle Park, Durham, NC Receptor Mechanism Discussion Group

- Invite Talk: “The Divergent Roles of LSR in Regulating Breast Epithelium and Breast Cancer Cell Behavior”
- June 2017 **Gordon Research Conference on Mammary Gland Biology**, Stowe, VT  
Poster Presentation: “CRYBB2P1, the CRYBB2 pseudogene, functions as an ncRNA to regulate CRYBB2, Ca<sup>2+</sup>, and IL6 in breast cancer cells”
- May 2017 **University of North Carolina, Chapel Hill, Department of Pathology Grand Rounds**, Chapel Hill, NC  
Invite Talk: “The role of the lipolysis stimulated lipoprotein receptor in the promotion of breast cancer”
- Feb 2017 **North Carolina State University 2017 Environmental Health Science Symposium**, Raleigh, NC  
Poster Presentation: “Resolving the perplexity of CRYBB2 vs. CRYBB2P1 in Breast Cancer Health” Disparities.
- Sept 2016 **N.C. State Department of Toxicology and Center for Human Health and the Environment**, Raleigh, NC  
Invited Talk: “The role of the lipolysis stimulated lipoprotein receptor in the promotion of breast cancer”
- June 2016 **Partnerships to Advance Cancer Health Equity (PACHE) Workshop**, Rockville, MD  
Poster Presentation: “LSR alters metabolic signaling to drive aggressive breast cancer behaviors”
- June 2016 **Gordon Research Conference on Mammary Gland Biology**, Lucca, Italy  
Poster Presentation: “Testing the Biological Function of CRYBB2, A Candidate Marker of Race-Associated Health Disparities”
- August 2015 **Metabolon**, Durham, NC  
Invited Talk: “The Role of the Tissue Microenvironment in Directing Breast Cancer Cell Behavior”
- June 2015 **Gordon Research Conference on Mammary Gland Biology**, Mount Snow, VT  
Poster Presentation: “LSR, a novel transcriptional regulator of breast cancer behavior”
- April 2015 **American Association for Cancer Research 103st Annual Meeting**, Philadelphia, PA  
Poster presentation: “Identifying the Role of CRYBB2 in Breast Cancer Tumor-Tumor and Tumor-Stromal Interactions”
- June 2014 **Gordon Research Conference on Mammary Gland Biology**, Lucca, Italy  
Poster Presentation: “Challenging the Role of CD44 and Lipolysis Stimulated Lipoprotein Receptor in Conveying Clostridium Perfringens Iota Toxin”
- April 2014 **American Association for Cancer Research 103st Annual Meeting**, San Diego, CA  
Poster presentation 1: “The role of lipolysis stimulated lipoprotein receptor in directing breast cancer cell behavior and subtype”  
Late Breaking Abstract and Poster 2: “Race-associated gene expression in tumors and breast cancer mortality disparities”
- November 2013 **Invited talk National Institute of Environ. Health Sciences**, Research Triangle Park, Durham, NC  
Receptor Mechanism Discussion Group; “Lipolysis stimulated lipoprotein Receptor: a novel regulator of tricellular tight junctions and lipid endocytosis in breast epithelium”
- June 2013 **Gordon Research Conference on Mammary Gland Biology**, Stowe, VT  
Poster Presentation: “Lipolysis stimulated lipoprotein Receptor: a novel regulator of tricellular tight junctions and lipid endocytosis in breast epithelium”. Poster Presentation 2: “The role of LSR, a novel tricellular tight junction protein, in breast cancer subtypes and regulating cell behavior”
- April 2013 **American Association for Cancer Research 102st Annual Meeting**, Washington D.C.  
Poster presentation: “ Characterization of  $\Delta 7/11$ , a functional prolactin-binding protein”
- June 2012 **Gordon Research Conference on Mammary Gland Biology**, Lucca, Italy  
Poster Presentation: “Hornerin, an S100 family protein, is functional in breast cells and aberrantly expressed in breast cancer”  
Poster Presentation 2: “Characterization of  $\Delta 7/11$ , a functional prolactin-binding protein”

- June 2011 **Gordon Research Conference on Mammary Gland Biology**, Providence RI  
 Poster Presentation: “Human macrophages improve the humanized murine mammary gland model via enhanced stimulation of fibroblast proliferation and invasion”  
 Poster Presentation: “Human prolactin receptor dimerization in breast cancer”
- February 2011 **University of Louisville**, Louisville, KY  
 Invited talk: “The normal breast microenvironment of premenopausal women differentially influences the behavior of breast cancer cells in vitro and in vivo”
- January 2011 **Howard University, School of Medicine**, Washington D.C.  
 Invited talk: “The normal breast microenvironment of premenopausal women differentially influences the behavior of breast cancer cells in vitro and in vivo”
- January 2011 **North Carolina Central University**, Durham, NC  
 Invited talk: “The normal breast microenvironment of premenopausal women differentially influences the behavior of breast cancer cells in vitro and in vivo”
- November 2010 **Mercer University, School of Medicine**, Macon, GA  
 Invited talk: “The normal breast microenvironment of premenopausal women differentially influences the behavior of breast cancer cells in vitro and in vivo”
- June 2010 **Gordon Research Conference on Mammary Gland Biology**, Lucca, Italy  
 Invited talk: “The normal breast microenvironment of premenopausal women differentially influences the behavior of breast cancer cells in vitro and in vivo”
- June 2010 **Fox Chase Cancer Center**, Philadelphia, PA  
 Invited talk: “The normal breast microenvironment of premenopausal women differentially influences the behavior of breast cancer cells in vitro and in vivo”
- June 2010 **University of Massachusetts, Amherst. Department of Veterinary and Animal Sciences**, Lucca, Italy  
 Invited talk: “The normal breast microenvironment of premenopausal women differentially influences the behavior of breast cancer cells in vitro and in vivo”
- May 2010 **West Virginia University, School of Medicine**, Morgantown, WV  
 Invited talk: “The normal breast microenvironment of premenopausal women differentially influences the behavior of breast cancer cells in vitro and in vivo”
- April 2010 **American Association for Cancer Research 101st Annual Meeting**, Washington D.C.  
 Invited talk: “The normal breast microenvironment of premenopausal women differentially influences the behavior of breast cancer cells in vitro and in vivo”  
 Poster presentation 2: “Dynamic regulation of CD24 and the invasive, CD44posCD24neg phenotype in breast cancer cell lines”
- March 2010 **Rutgers, the State University of New Jersey, Department of Animal Science**, New Brunswick, NJ  
 Invited talk: “Fundamental Differences in the Breast Microenvironment of African- and Caucasian-American Women Differentially Influence Tumorigenicity of Breast Cancer”
- March 2010 **American Association for Cancer Research Conference on EMT and Cancer Progression and Treatment**, Arlington VA. Poster presentation: “Dynamic regulation of CD24 and the invasive, CD44posCD24neg phenotype in breast cancer cell lines”
- Oct 2009 **National Cancer Institute, Center for Reducing Cancer Health Disparities**, Rockville, MD  
 Invited talk: “Fundamental Differences in the Breast Microenvironment of African- and Caucasian-American Women Differentially Influence Tumorigenicity of Breast Cancer”
- May 2009 **National Cancer Institute, Center for Cancer Research, Cancer Stem Cell Consortium**, Bethesda, MD  
 Speaker: “Orthotopic vs. Subcutaneous Xenograft Models for Breast Cancer”
- June 2008 **Gordon Research Conference on Mammary Gland Biology**, Lucca, Italy



Poster presentation: “Interlobular and intralobular mammary stroma: Genotype may not reflect phenotype”

- April 2007 **National Cancer Institute Breast Cancer Stamp Fund Meeting**, Bethesda, MD  
Speaker: “Humanization of the Murine Mammary Gland”
- June 2006 **88<sup>th</sup> Annual Meeting of the Endocrinology Society**, Boston, MA  
Poster Presentation and Abstract: “IGF-I and EGF Recruit Distinct Upstream Signaling Molecules to Synergistically Activate AKT in Mammary Epithelial Cell”
- June 2005 **87<sup>th</sup> Annual Meeting of the Endocrinology Society**, San Diego, CA  
Poster presentation and abstract: “Differential regulation of IGFBP-4 bioavailability by IGF-I and pregnancy associated plasma protein-A in primary mammary cells”
- Feb 2005 **Gordon Research Conference on Insulin-like Growth Factors in Disease**, Ventura, CA  
Poster presentation: “IGF-I differentially regulates IGF binding protein expression in primary mammary fibroblasts and epithelial cells”
- June 2004 **86<sup>th</sup> Annual Meeting of the Endocrinology Society**, New Orleans, LA  
Poster presentation and abstract: “Activation of the MAPK pathway suppresses the ability of growth factors to stimulate IGF binding protein-5 expression in mammary epithelial cells”
- Sept 2003 **National Transgenic Animal Research Conference IV**, Tahoe City, CA  
Poster presentation contributor: “Evaluating the food safety of animal clones and their progeny: data analysis, preliminary conclusions, and data needs”
- July 2002 **American Society of Animal Science Annual Meeting**, Quebec, Canada  
Speaker and abstract: “Both phosphatidylinositol 3-kinase (PI3K) and mitogen activated protein kinase pathways are required for IGF-I regulation of IGF binding protein-5 synthesis in bovine mammary cells”
- June 2002 **84<sup>th</sup> Annual Meeting of the Endocrinology Society**, San Francisco, CA  
Poster presentation contributor: “Stimulation of IGFBP-3 synthesis by IGF-I and TGF- $\alpha$  is mediated by PI3 Kinase and MAPK pathways in mammary epithelial cells”

## Publications

**Fleming JM**, Yeyeodu ST, McLaughlin A, Schuman D, Taylor DK. (2018) *In Situ* Drug Delivery to Breast Cancer-Associated Extracellular Matrix. *ASC Chemical Biology*. 2018; 13(10):2825-2840.

**Fleming JM**, Bruno R, George AL, Boulanger CA, Schedin P, Smith GH. (2017). Mammary extracellular matrix suppresses teratoma formation and directs differentiation of embryonic and testicular-derived stem cells. *Nature Scientific Reports*. *Sci Rep*. 2017 Jan 10;7:40196. doi: 10.1038/srep40196.

Oladapo HO, Tarpley M, Sauer SJ, Addo KA, Ingram SM, Strepay D, Ehe BK, Chdid L, Trinkler M, Roques JR, Darr DB, **Fleming JM**, Devi GR, Williams KP. (2017). Pharmacological targeting of GLI1 inhibits proliferation, tumor emboli formation and in vivo tumor growth of inflammatory breast cancer cells. *Cancer letters*. 2017; 411:136-149.

Parada H Jr, Sun X, **Fleming JM**, Williams-DeVane CR, Kirk EL, Olsson LT, Perou CM, Olshan AF, Troester MA. (2017). Race-associated biological differences among luminal A and basal-like breast cancers in the Carolina Breast Cancer Study. *Breast Cancer Res*. 2017 Dec 11;19(1):131. doi: 10.1186/s13058-017-0914-6.

Reaves DK, Hoadley K, Fagan-Solis K, Thorpe LW, Hicks JR, McDonald D, Bereman M, Jima D, Troester MA, Perou C, **Fleming JM**. (2016) LSR, a novel transcriptional regulator of breast cancer behavior. *Molecular Cancer Research*. *Mol Cancer Res*. 2017 Feb;15(2):165-178. doi: 10.1158/1541-7786.MCR-16-0085-T.

D'arcy M, **Fleming JM**, Robinson WR, Perou CM, Troester MA. (2015) Race-Associated Biological Differences Among Luminal A Breast Tumors. *Breast Cancer Research and Treatment*. *Breast Cancer Res Treat*. 2015 Jul;152(2):437-48.

Reaves DK, Ginsburg E, Bang JJ, **Fleming JM**. (2015) Persistent organic pollutants and obesity: are they potential mechanisms for breast cancer promotion? *Endocr Relat Cancer*. 2015 Apr;22(2):R69-86. doi: 10.1530/ERC-14-0411.

- Fagan-Solis KD, Reaves DK, Rangel C, Popoff M, Stiles S, **Fleming JM**. (2014) Challenging the roles of CD44 and lipolysis stimulated lipoprotein receptor in conveying Clostridium perfringens iota toxin cytotoxicity in breast cancer. *Mol Cancer*. 2014 Jul 2;13:163. doi: 10.1186/1476-4598-13-163.
- Stiles BG, Pradhan K, **Fleming JM**, Samy RP, Barth H, Popoff MR. (2014). Clostridium and Bacillus Binary Enterotoxins: Bad for the Bowels, and Eukaryotic Being. *Toxins* 2014, 6, 2626-2656; doi:10.3390/toxins6092626.
- Reaves DK, Fagan-Solis KD, Dunphy K, Oliver SD, Scott DM, **Fleming JM**. (2014) The Role of Lipolysis Stimulated Lipoprotein Receptor in Breast Cancer and Directing Breast Cancer Cell Behavior. *PLoS One*. 2014 Mar 17;9(3):e91747
- Casbas-Hernandez P, D Arcy M, Roman-Perez E, Brauer HA, McNaughton K, Miller SM, Chhetri RK, Oldenburg AL, **Fleming JM**, Amos KD, Makowski L, Troester MA. (2013) Role of HGF in epithelial-stromal cell interactions during progression from benign breast disease to ductal carcinoma in situ. *Breast Cancer Research* Sep 12;15(5):R82.
- Fleming JM**, Ginsburg E, McAndrews C, Heger CD, Cheston L, Rodrigues-Canales J, Goldsmith P, Vonderhaar BK. (2012) Characterization of  $\Delta 7/11$ , a functional prolactin-binding protein. *J Mol Endocrinol*. 2012 Dec 31;50(1):79-90
- Fleming JM**, Miller TC, Kidacki M, Ginsburg E, Stuelten CH, Vonderhaar BK. (2012) Paracrine interactions between primary human macrophages and human fibroblasts enhance murine mammary gland humanization in vivo. *Breast Cancer Res*. 2012 Jun 25;14(3):R97.
- Fleming JM**, Ginsburg E, Oliver S, Vonderhaar BK. (2012) Hornerin, an S100 family protein, is functional in breast cells and aberrantly expressed in breast cancer. *BMC Cancer* Jun 22;12:266
- Fleming JM**, Ginsburg E, Goldhar A, Plant J, Vonderhaar BK. (2012) Progesterone receptor activates Msx2 expression by downregulating TNAP/Akp2 and activating the Bmp pathways in mammary epithelial cells. *PLoS One*. 2012;7(3):e34058.
- Casbas-Hernandez P, **Fleming JM**, Troester MA. (2011) Gene Expression analysis of *in vitro* cocultures to study interactions between breast epithelium and stroma. *J Biomed Biotechnol*. 2011:520987.
- Fleming JM**, Miller TC, Quinones M, Xiao Z, Xu X, Meyer MJ, Ginsburg E, Veenstra TD, Vonderhaar BK. (2010) The normal breast microenvironment of pre-menopausal women differentially influences the behavior of breast cancer cells *in vitro* and *in vivo*: *BMC Medicine* 8:27.
- Meyer MJ, **Fleming JM**, Lin AF, Hussnain SA, Ginsburg E, Vonderhaar BK. (2010) CD44posCD49fhiCD133/2hi Defines Tumor Initiating Cells in Estrogen Receptor Negative Breast Cancer. *Cancer Research*. Jun 1;70(11):4624-33.
- Fleming JM**, Miller TC, Meyer MJ, Ginsburg E, Vonderhaar BK. (2010) Local microenvironmental regulation of human breast xenograft models. *J Cell Physiol*. 2010 Sep;224(3):795-806.
- Faupel-Badger JM, Ginsburg E, **Fleming JM**, Susser L, Doucet, T, Vonderhaar BK. (2010) 16 kDa prolactin reduces angiogenesis, but not growth of human breast cancer tumors *in vivo*. *Hormones and Cancer*. 1: 71-79.
- Meyer MJ, **Fleming JM**, Ali M, Bush AM, Pesesky M, Ginsburg E, and Vonderhaar BK. (2009) Dynamic regulation of CD24 and the invasive, CD44posCD24neg phenotype in breast cancer cell lines. *Breast Cancer Research*, 11:R82.
- Fleming JM**, Long EL, Ginsburg E, Gerscovich D, Meltzer PS, Vonderhaar BK. (2008) Interlobular and intralobular mammary stroma: Genotype may not reflect phenotype. *BMC Cell Biology*. 9:46.
- Fleming JM**, Brandimarto JA, Cohick WS. (2007) The MAPK pathway tonically inhibits both basal and IGF-I-stimulated IGFBP-5 production in mammary epithelial cells. *J Endocrinol*. Aug;194(2):349-59.
- Fleming JM**, Desury G, Polanco TA, Cohick WS. (2006) Insulin growth factor-I and epidermal growth factor receptors recruit distinct upstream signaling molecules to enhance AKT activation in mammary epithelial cells. *Endocrinology*. 147: 6027-35.
- Fleming JM**, Leibowitz BJ, Kerr DE, Cohick WS. (2005) IGF-I differentially regulates IGF binding protein expression in primary mammary fibroblasts and epithelial cells. *Journal of Endocrinology*. 186: 165-178.

Sivaprasad U, **Fleming JM**, Verma PS, Hogan KA, Desury G, Cohick WS. (2004) Stimulation of insulin-like growth factor (IGF) binding protein-3 synthesis by IGF-I and transforming growth factor-alpha is mediated by both phosphatidylinositol-3 kinase and mitogen-activated protein kinase pathways in mammary epithelial cells. *Endocrinology*. 145: 4213-4221.

## **Manuscripts Submitted or Under Preparation**

Martin ME, Reaves DK, Jeffcoat B, Enders J, Costantini LM, Kavanagh TJ, **Fleming JM**. “Silver nanoparticle exposure dysregulates basement membrane remodeling leading to pathological conditions associated with disease progression.”

*Submitted: Nanotoxicology*

Barrow M, Martin M, Reaves DK, Coffey A, Parker JS, Troester MA, **Fleming JM**. “Defining the regulatory crosstalk between the breast cancer health disparities gene *CRYBB2* and *CRYBB2P1* noncoding RNA”. *In preparation: Cancer Research*

## **Website**

<https://sites.google.com/site/drjodiemfleming/>