Pepper J. Schedin, Ph.D.
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Education

1975-1978	Chemistry & Mathematics Major Metropolitan State College, Denver, CO
1979	BA in Molecular, Cellular & Developmental Biology University of Colorado, Boulder, Colorado
1988	PhD, Molecular Genetics (Mentor, Dr. William Wood) University of Colorado, Boulder, Colorado
1989-1993	Postdoctoral Fellow, Center for Cancer Prevention Research AMC Cancer Research Center, Denver, Colorado (Mentor, Dr. Henry Thompson)

Academic Appointments

1994-2005	Scientist Cancer Prevention Division AMC Cancer Research Center
2000	Full Member Comprehensive Cancer Center University of Colorado Anschutz Medical Campus
2005	Associate Professor Division of Medical Oncology Department of Medicine, University of Colorado Denver
2005	Graduate School Faculty Reproductive Sciences Program, Cell, Stem Cell & Developmental Biology Program, Cancer Biology Program, Medical Scientist Training Program, and Biomedical Science Training Program University of Colorado Anschutz Medical Campus
2009	Professor Division of Medical Oncology, Department of Medicine University of Colorado Anschutz Medical Center
2009	Co-director

Young Women's Translational Breast Cancer Program
University of Colorado, Anschutz Medical Center

2014 Professor
Department of Cell, Developmental and Cancer Biology
School of Medicine, Oregon Health & Science University

2015 Co-Lead, Cancer Prevention and Control Program, Knight Cancer Institute

Major Research Areas of Interest

The focus of my research program is epithelial-stromal interactions in normal and pathologic breast development. Specifically, we investigate the modulation of these interactions by physiologic cues and lifestyle interventions with the goal of developing therapeutic strategies based on knowledge of these interactions. My lab is at the forefront of investigating the normal mammary gland tissue microenvironment and has shown that fibroblasts, immune cell populations, and extracellular matrix composition of the breast are highly plastic, remodeling in response to various physiologic signals and lifestyle interventions. This stromal plasticity, while physiologically normal, contributes significantly to breast cancer risk. This work has led to the concept that unique developmental windows can be targeted for the prevention and treatment of breast cancer. The strength in this 'window of risk' approach lies in the ability to limit duration of treatment, thus reducing complications associated with current, chronic administration of chemopreventive agents.

Current Research Projects

1. Investigate the poor prognosis of postpartum breast cancer. Women diagnosed with breast cancer a full 10 years after childbirth have significantly reduced survival. We are exploring the hypothesis that postpartum breast involution, which occurs in the mammary gland following lactation, promotes breast cancer progression. The hypothesis that the mammary microenvironment becomes pro-tumorigenic during involution is being evaluated using endogenous mammary ECM, 3-dimentional culture models, ex vivo cell culture, and novel mouse models. While further studies are required to establish causality, our data show that a transient window of immune suppression during involution is sufficient to promote metastasis, and that blockade of this immune suppressed state with NSAIDs prevents metastasis. Our long term goals are to develop a postnatal pill for the prevention of postpartum breast cancer and targeted therapeutics for postpartum breast cancer.
2. Identify and disrupt the mechanisms underlying increased liver metastasis in women with postpartum breast cancer. Young women with breast cancer and particularly women diagnosed in the postpartum window are at increased risk of progressing to liver metastases. We have identified a new biology of the liver, weaning-induced liver involution, which creates a liver microenvironment highly supportive of disseminated tumor cells. Using various in vitro, ex vivo, and in vivo models, we are exploring the mechanisms of increased breast cancer metastases to the liver with the objective of developing targeted therapeutics to prevent tumor outgrowth in the liver.
3. Identify biomarkers that distinguish indolent from life-threatening breast cancer. These studies are informed by our postpartum breast cancer studies, where tumor extrinsic factors drive indolent to metastatic disease. Currently, we are studying ductal carcinoma in situ (DCIS), a common type of breast cancer known to be over-treated. In human samples, we are using high density multiplex immunohistochemical methods with a focus on the tumor microenvironment to investigate the underlying biology of disease progression. This translational work is complimented by the use of novel murine models of DCIS.
4. Identify ECM proteomes of the breast cancer 'protected' and 'at-risk' mammary glands. ECM proteins are identified using novel, quantitative proteomic approaches developed in our lab in collaboration with Dr. Kirk Hanson at the University of Colorado. Proteins in common to 'protected-glands', but absent or reduced in 'at-risk' glands, are candidates for ECM proteins/signaling nodes that mediate protection. Biochemical studies are complimented by functional assessment of ECM proteins.
5. Investigate the link between obesity and postmenopausal breast cancer. We have modeled this metabolic context using rats that differ in their polygenic predisposition for obesity. In response to ovariectomy (OVX), obese rats exhibit less regression of existing tumors and a higher incidence of newly identified tumors. Surprisingly, the post-OVX change in tumor multiplicity was inversely associated with the rate and efficiency of post-OVX weight gain. These observations suggest a novel link between post-OVX

tumor promotion and metabolic health of the host. These studies provide a plausible explanation for the relationship between the energetics of post-OVX weight gain and post-OVX tumor promotion, and identify a novel window of risk amenable to targeting.

Honors and Awards (Selected)

1994	Invited Participant, Susan G. Komen Breast Cancer Foundation. "For Women's Lives-Dialogues on Breast Cancer", PBS Documentary
1994	Invited Speaker, Breast Cancer Prevention Research Update, Executive Office of the President, Washington, D.C.
1997, 1998	Scientific and Educational Excellence Award, External Scientific Advisory Board, AMC Cancer Research Center, Denver, CO
1999	Nominated, Sue Miller Award, for outstanding positive impact in the field of breast cancer, Denver, CO
2000	Recipient, Avon Award for New Faculty in the area of Breast Cancer, UCHSC, Denver, CO
2004	Invited Participant, Susan Love Foundation Think Tank, Santa Barbara, CA
2006	Best Abstract Award, 25th Congress of the International Association of Breast Cancer Research, Sponsored by Hoffman-La Roche, Montreal, Canada
2007	Progressive Research Recognition, one of seven Department of Defense Breast Cancer Researchers highlighted in the 2007 Congressional Summary
2007	Excellence in Teaching Award, Cancer Biology 7600, Department of Pathology, UCHSC, Denver, CO.
2008	Mary Kay Ash Foundation Scholar
2009	Guest Editor, Journal of Mammary Gland Biology and Neoplasia, Special Edition on Involution and Cancer
2009	Research highlighted in the Breast Cancer Research Program 2009 Annual Report, U.S. Army Medical Research and Material Command
2010	Vice Chair, Gordon Research Conference on Mammary Gland Biology, Barga, Italy, June 6-11, 2010
2010	Guest Editor, Journal of Mammary Gland Biology and Neoplasia, Special Edition on Stroma in the Normal Mammary Gland
2010	Dean's Mentoring Award, In recognition of Exemplary Thesis Advising, Anschutz Medical Campus Graduate School University of Colorado, Denver, CO
2011	Research highlighted in the Breast Cancer Research Program 2011 Annual Report, U.S. Army Medical Research and Material Command
2011	Chair, Gordon Research Conference on Mammary Gland Biology, Salve Regina University, Newport, RI, June 2011
2012	Keynote Speaker, National Breast Cancer Coalition, Project Lead Education Session, SABCC, San Antonio, TX
2012	Research highlighted in the Breast Cancer Research Semipostal Program 2012 Annual Report, U.S. Army Medical Research and Material Command
2012	USA Today Interview - Researchers study breast cancers after pregnancy
2014	Advisor to the Research Insight team at Breakthrough Breast Cancer-Prevention Strategy, UK.
2014	Top 30 Breast Cancer Metastasis Researchers in the Country, Metastatic Breast Cancer Landscape Analysis: Research Report, Metastatic Breast Cancer Alliance, October 2014
2015	Vogue Magazine Interview http://www.vogue.com/13370845/breast-cancer-prevention-pregnancy-associated-breast-cancer-risk/
2018	Keynote Speaker, 14th Annual Baylor College of Medicine Breast Cancer Retreat, Houston Texas.

Professional Memberships

American Association for Cancer Research
Women in Cancer Research
Metastasis Research Society
AACR Tumor Microenvironment Working Group
American Society for Investigative Pathology
Society for Immunotherapy of Cancer

Committee and Service Responsibilities: National & International

1995-1999	Chair, Day of Caring Program Development, Denver, CO

1995	Department of Defense Breast Cancer Research Program Reviewer, Experimental Therapeutics Panel, Hunt Valley, Maryland
1996	Department of Defense Breast Cancer Research Program Reviewer, Research with Translational Potential Panel, Washington, D.C.
1998-present	Ad hoc Reviewer, partial list: Cancer Cell, Nature, Cancer Research, JNCI, Clinical Cancer Research, Cancer Epidemiology, Biomarkers & Prevention, Breast Cancer Research and Treatment, Endocrinology, Am J Pathol, Cell Biology International, Matrix Biology, Trends in Molecular Medicine, Breast Cancer Research, Cellular and Molecular Life Sciences, Molecular Carcinogenesis
1998-2000	Ad Hoc Grants Review Member, Cell Structure & Metastasis Panel, American Cancer Society, Atlanta, GA
2000-2002	Adjunct Faculty Member, Department of Experimental Pathology, School of Medicine, USHSC, Denver, CO
2001-2007	Full Member, Cell Structure & Metastasis Grants Review Panel, American Cancer Society, Atlanta, GA (two cycles)
2004	Ad Hoc Reviewer, Health Research Board of Ireland, Research Project Grant Review Panel
2007	California Breast Cancer Research Program Etiology and Prevention Panel Member
2007	ACS IRG/UCCC Seed Grant Review Panel, December 19, 2007
2008	California Breast Cancer Research Program Etiology and Prevention Review Member, 2007-2008
2008	Komen Foundation, Member, Grants Program Pathobiology Panel, Jan 6-7, 2008
2008	Association for International Cancer Research, Ad Hoc Grant Reviewer, Scotland
2008	NIH Peer Review Grant Panel Member, Special Emphasis Panel/Scientific Review Group 2009/01 ZRG1 ONC-L (10)
2009	Guest Editor; Journal of Mammary Gland Biology and Neoplasia, Special Edition on 'Post-lactational Breast Involution and Breast Cancer', June 2009
2010	Advisor, NIH Physical Sciences and Oncology Centers Program, Mechanical Properties of Cancer Cells and their Microenvironment Workshop, The Beyond Center for Fundamental Concepts in Science, Arizona State University, Feb 12-12, 2010
2011	Chair, Gordon Research Conference on Mammary Gland Biology, Salve Regina University, Newport, RI, June 2011. Responsible for program development, speaker recruitment and fundraising
2011	DOD Era of Hope 2011 Meeting Planning Committee member, The US Army Medical Research and Material Command (USAMRMC) Breast Cancer Research Program (BCRP) and 6th Era of Hope (EOH) Conference Technical Planning Committee (TPC); a member of the EOH abstract subcommittee and to participate in the placement of abstracts and design of symposia sessions for the 2011 EOH conference. Washington, D.C., April 7-8, 2011
2011	Susan G. Komen for the Cure, Postdoctoral Training Grant Review Panel
2012	Review Member, PAR-11-146: Collaborative Research in Integrative Cancer biology and the Tumor Microenvironment (U01), NCI/NIH
2012	University of Wisconsin Carbone Cancer Center 2012 Grant Renewal, Ad hoc Reviewer of Tumor Microenvironment Program.
2012	NIH/NCI Workshop on Postpartum Breast Remodeling, Lactation, and Breast Cancer Risk: Towards improved Risk Assessment and Prevention. Title of presentation: Postpartum involution: a window of risk – and opportunity for breast cancer prevention National Cancer Institute, Bethesda, Maryland, March 2, 2012
2012	NIH/NCI TME Study Session, October, 2012
2012	AALAS training event; Keynote Speaker, Mile High Branch AALAS Fall Meeting, "Biomedical research, being wrong and the discovery of a new type of breast cancer: the role of animal husbandry", Colorado State University, Fort Collins, CO, October 4, 2012
2013	NIH/NCI CDP Study Section, February, 2013
2013	Department of Defense (DOD) Breast Cancer Research Program (BCRP) Integration Panel Member, Breakthrough Award mechanism
2013	Member, NIH/NCI CDP Study Section
2014	Review Member, Canadian Institutes of Health Research (CIHR) Roadmap Signature Initiative entitled "Team Grant: Health Challenges in Chronic Inflammation". January 2014
2014, 2015	Member, Landon Foundation-AACR INNOVATOR Award for Research in Tumor Microenvironment Scientific Review Committee
2014	Advisor, Research Insight Team, Breakthrough Breast Cancer Prevention Strategy, United Kingdom
2014	Ad Hoc Reviewer, Lab Investigations, Breast Cancer Research, Pharmacology & Therapeutics, and Nature

2014 Moderator, 2014 Mammary Gland Biology Gordon Research (GR) Conference, Lunch with the Expert and Science Communication- Sharing is Caring Session, June 2014
2014 Contributor, Changing the Landscape for People Living with Metastatic Breast Cancer, Metastatic Breast Cancer Landscape Analysis: Research Report, Metastatic Breast Cancer Alliance, October 2014
2014-2018 Member, NIH/NCI CDP Study Section
2015-2017 Steering Committee Member, AACR TME Working Group
2015 AACR WICR 2015 Scholar awards review committee
2016 Peer review, Worldwide Cancer Research Grant
2016 SABC Faculty Mentoring Session, Dec 6, 2016, San Antonio, TX
2017 Advisory Committee Member, Dr. Susan Love Research Foundation, Encino, CA.
2018 Personalized Career Conversations, AACR Annual Meeting, Chicago, IL April 14, 2018,
2018 Washington University School of Medicine T32 Program Review, Washington University, Saint Louis, MO, May , 2018
2018 Career Development Roundtables event, San Antonio Cancer Symposium, San Antonio, TX, December 5, 2018
2019 AACR Education Session Chair: Update on Young Women's Breast Cancer, Atlanta, Georgia, March 30, 2019.

Committee and Service Responsibilities (partial)

Knight Cancer Institute (KCI), Oregon Health & Science University

2014-current Project Lead, OSU-OHSU Collaborative Initiative, KCI
2015-current Knight Patient Advocate Advisor
2015-2016 KCI Building Plan participant
2015-current Co-Lead, Cancer Prevention and Control Program, Knight Cancer Institute
2016-current Program Director, KCI Junior Faculty Mentoring Program

Department of Cell, Developmental & Cancer Biology (CDCB), Oregon Health & Science University

2014-current Member, CDCB Promotion and Tenure Committee, OHSU
2014 Co-chair, CDCB Summer Internship Program, OHSU
2014 Chair, Hormone Related malignancies Faculty Search Committee, OHSU
2014 Member, CDCB/Otolaryngology/Dermatology Faculty Search Committee, OHSU
2014-current Chair, CDCB Junior Faculty Mentoring Program

Oregon Health & Science University Graduate School

2014-current CDB Graduate Program Executive Committee
2017-current PMCB Steering Committee

Oregon Health & Science University

2015-current CWH Research Advisory Committee
2015 MMI Internal Review Committee
2016-2018 School of Medicine Dean's Faculty Advancement Steering Committee
2017-current Member, School of Medicine Faculty Salary Bridging Program
2018-current Collaborative Research Leadership Group, SoM, OHSU

Department of Medicine, University of Colorado Denver:

2005-2008 Member, Young Investigators Working Group, Women's Health Research, UCHSC
2006-2007 Member, Pathology Research Faculty Search Committee, UCHSC
2006-2014 Steering Committee Member, Division of Medical Oncology, Department of Medicine, UCHSC
2006-2007 INET Steering Committee Member, Young Investigators Working Group, Women's Health Research, UCHSC
2007-2008 Chair of the Graduate Student Recruitment Committee and member of the Steering Committee, Cell, Stem Cell & Developmental Biology Program
2007-2010 Member, UCHSC Institutional Animal Care and Use Committee.
2007-2012 Steering Committee Member, Biomedical Sciences Training Program, Graduate School, UCHSC

2007-2011	Reviewer, University of Colorado Cancer Center American Cancer Society Research Scholar Grants & Institutional Research Grants
2009	Colorado Clinical & Translational Sciences Institute Pilot Grant Review Board
2012-2013	Member, University of Colorado Comprehensive Cancer Research Faculty Search Committee, Breast Cancer Recruit, UCHSC
2012-2014	Admissions Committee, Medical Scientist Training Program, Graduate School, UCAMC
2014-2015	Member, Leadership for Innovative Science (LITeS) Program, Senior Management Training, Colorado Clinical & Translational Sciences Institute

Invited Extramural Lectures, Presentations and Visiting Professorships, Selected Scientific Presentations

1985	Intestinal Mosaicism for Expression of Vitellogenin Genes in C. Elegans Intersexes, C. Elegans 1985 Meeting, Cold Springs Harbor laboratory, Cold Spring Harbor, New York
1988	Tissue-Autonomy, Timing and Reversibility of Sex Determination in Caenorhabditis Elegans. Southwestern Developmental Biology Society, University of Texas at Austin, Port Aransas, TX
1995	Targeting Mammary Epithelial-ECM interactions with Chemopreventive Agents, School of Medicine, Texas Tech University, Lubbock, TX
1997	Targeting Mammary Epithelial-ECM Interactions with Chemopreventive Agents, University of Pittsburgh Cancer Institute, University of Pittsburgh, Pittsburgh, PA
1998	Pathology of Breast Cancer, Relevance of Animal Models, American College of Sports Medicine, Orlando, FL
1999	Reproductive state of rat mammary gland ECM modulates human breast cancer cell migration and invasion, Poster Discussion Session, AACR 91st Annual Meeting, San Francisco, CA
2000	Role of pre-formed vitamin A intake during adolescence and mammary carcinogenesis in the adult Sprague Dawley rat, Platform Presentation, Department of Defense Breast Cancer Research Meeting 2000, Atlanta, GA
2001	Mammary extracellular matrix composition and function are under endocrine control; Implications for chemoprevention, Division of Life Sciences, Lawrence Berkeley Laboratories, Berkeley, CA
2001	ECM isolated from post-lactational involuting mammary glands promotes death in normal mammary epithelial cells and invasion in tumor cells; implications for mammary carcinogenesis. 6th World Conference on Advances in Oncology, Crete, Greece
2001	Adolescent Vitamin A Intake Alters Susceptibility to Mammary Carcinogenesis in the Sprague-Dawley Rat. Department of Human Nutrition, University of Illinois at Chicago, Chicago, IL
2002	Role of the Extracellular Matrix in Breast Cancer Etiology and Prevention. Department of Human Nutrition, University of Illinois at Chicago, Chicago, IL
2002	Sexual Maturation, Mammary Gland Maturation and Risk for Breast Cancer are Differentially Affected by whole foods Compared to Preformed Vitamin A in the SD Rat. Symposia Platform Presentation at the Era of Hope Department of Defense Breast Cancer Research Program Meeting, Orlando, FL
2002	Adolescent Vitamin A Intake Alters Susceptibility to Mammary Carcinogenesis in the Sprague-Dawley Rat, Interdisciplinary Faculty of Toxicology, Texas A&M, College Station, TX, 11/18/02
2002	Mammary stroma is under endocrine regulation, implications for breast cancer prevention, Breast Disease Research Group, Dept. of Molecular & Cellular Biology, Baylor College of Medicine, Houston, TX, 11/20/02
2003	Steps of metastasis from a tissue-interaction perspective, Gordon Research Conference on Mammary Gland Biology, Bristol, RI, 6/04/03
2004	Mammary gland tissue remodeling; target for breast cancer prevention, and Breast cancer prevention-focus on youth, 2nd Annual Santa Barbara Think Tank on Normal Mammary Gland Biology, Susan Love MD Foundations, Santa Barbara, CA, 3-11-04
2004	Compositional changes in mammary ECM induced by endocrine state and preventive agents; Implications for cancer progression, Angiogenesis Mechanisms and Microenvironment Mini Symposium, 95th Annual Meeting, AACR, Orlando, FL, March 31, 2004
2004	Tissue remodeling in the mammary gland as a target for breast cancer prevention, Department of Dermatology, Northwestern University, December13, 2005
2005	Remodeling of the mammary tumor microenvironment following pregnancy promotes tumor cell metastasis; a plausible mechanism for poor prognosis of pregnancy-associated Breast cancer, Keystone Symposium, The Role of Microenvironment in Tumor Induction and Progression, Banff, Canada, February 5, 2005

2005 Microenvironment of the Involuting Mammary Gland Activates Tumor Angiogenesis and Metastasis, AACR Special Conference in Cancer Research; Cancer, Proteases, and the Tumor Microenvironment, Bonita Springs, FL, Dec 1, 2005

2005 Tamoxifen Treatment Functionally Alters the Rat Mammary Stroma Indicating a Role for the ECM in Tumor Suppression, presented by Rhonda Hattar, Graduate Student. AACR Special Conference in Cancer Research; Cancer, Proteases, and the Tumor Microenvironment, Bonita Springs, FL, Dec 3, 2005

2006 Functional Changes in Mammary ECM Induced by Endocrine State and Preventive Agents: Implications for Cancer Prevention. Department of pathology, University of California, San Francisco, Jan 13, 2006

2006 Physiologic changes in mammary ECM determine tumor progression; implications for cancer prevention. Program in Cell, Molecular and Developmental Biology, Tufts University, Feb 14, 2006

2006 Microenvironment of the involuting mammary gland activates tumor metastasis: a new target for chemoprevention? Gordon Conference on Mammary Gland Biology, Barga, Italy, May 28, 2006

2006 Plasticity of the mammary gland extracellular matrix and breast cancer progression. Gordon Conference on Basement Membranes, Barga Italy, June 18, 2006

2006 Microenvironment of the involuting mammary gland activates tumor metastasis, 25th Congress of the International Association for Breast Cancer Research, Montreal, Canada, Sept 17, 2006

2006 Plasticity of the mammary gland extracellular matrix and breast cancer progression, Interdepartmental seminar series, The Cellular and Molecular Basis of Disease, University of New Mexico, Albuquerque, New Mexico, Sept 22, 2006

2007 Plasticity of the mammary gland extracellular matrix and breast cancer progression. The Department of Molecular, Cellular and Developmental Biology Medical Seminar Series, University of Colorado, Boulder, April 9, 2007

2007 Wound healing signature of mammary gland involution and pregnancy associated breast cancer, Department of Physiology and Biophysics, University of Illinois Chicago, Oct 26, 2007

2007 The inflammatory milieu permits metastasis in pregnancy-associated breast cancer, Interdisciplinary Faculty of Toxicology program, Texas A&M University, Nov 13, 2007

2007 Wound healing signature of mammary gland involution and pregnancy associated breast cancer, Department of Molecular and Cellular Biology Seminar Program, Baylor College of Medicine, November 14, 2007

2007 Identification of the Extracellular Matrix Proteomes Responsible for Breast Cancer Metastasis and Tumor Cell Dormancy, Butcher Symposium on Genomics and Biotechnology, The Future of Biomedicine in Colorado, A Workshop of the Possible Friday, November 16, 2007 Westin Hotel, Westminster, CO

2007 The Inflammatory Milieu Permits Metastasis in Pregnancy-Associated Breast Cancer, Laboratory of Cancer Biology and Genetics Seminar Series, NIH, Bethesda, MD, December 13, 2007

2008 Pregnancy-Associated Breast Cancer, Betty Ford Breast Cancer Treatment and Survivorship Symposium, Vail, CO, April 3-5, 2008

2008 Role of mammary gland involution in promoting metastasis in pregnancy-associated breast cancer (PABC). Department of Defense, Era of Hope Meeting, Baltimore, MD, June 27, 2008

2009 The pro-inflammatory milieu of breast involution as a cancer prevention target, Hematology–Oncology Grand Rounds Seminar Series, Mount Sinai School of Medicine, January 9, 2009

2009 Physiologic Mammary Gland Involution Promotes Breast Cancer, Department of Genetics, Cell Biology and Anatomy Grand Rounds, University of Nebraska Medical School, January 14, 2009

2009 Pregnancy-associated Breast cancer: role of epithelium and stroma in tumor aggressiveness, 2009 Avon Foundation Breast Cancer Forum, Prevention: Research and Strategies for the 21st Century, Miami, Fl, February 13, 2009

2009 Information Conveyed by ECM Proteins in the Mammary Gland, Keystone Symposia on Extrinsic Control of Tumor Genesis and Progression, Vancouver, British Columbia, Mar 15, 2009

2009 The involution hypothesis and pregnancy associated breast cancer, Gordon Research Conference on Mammary Gland Biology, Salve Regina University, Newport, RI, June 16, 2009

2009 Mammary Gland Involution Microenvironment and Tumor Progression, AACR Special Conference Advances in Breast Cancer Research: Genetics, Biology and Clinical Applications, San Diego, CA, October 15, 2009

2009 Pro-inflammatory tissue remodeling of the postpartum breast and breast cancer progression, Department of Pathology, Northwestern University, Chicago, IL, October 23, 2009

2009 Pro-inflammatory tissue remodeling of the postpartum breast and breast cancer progression, Department of Molecular, Cellular and Developmental Biology, University of California Santa Cruz, November 2, 2009

2009 Postnatal breast involution as a highly targeted window for breast cancer prevention. Eight Annual AACR International Conference, Frontiers in Cancer Prevention Research, Houston, TX, December 9, 2009.

2010 What is the ECM microenvironment of life 1.0 and how is it different from life 1.1? Mechanical Properties of Cancer Cells and their Microenvironment Workshop, NIH Physical Sciences and Oncology Centers Program, The Beyond Center for Fundamental Concepts in Science, Arizona State University, Feb 10-12, 2010

2010 Mammary gland involution as a target for breast cancer prevention: insights from macrophages and NSAIDS. Lab Medicine & Pathology, Grand Rounds Seminar, University of Minnesota, Minneapolis, MN, January 20, 2010

2010 Mammary Gland Involution as a Target for Breast Cancer Prevention: Insights from Macrophages and NSAIDS, Cancer Prevention & Population Sciences GRAND ROUNDS, Roswell Park Cancer Institute, Buffalo, New York, March 15, 2010

2010 Mammary Gland Involution as a Target for Breast Cancer Prevention: Insights from Macrophages and NSAIDS, Research Seminar Series in Cancer & Developmental Biology, Kansas University Medical Center, Kansas City, KS, April 1, 2010

2010 Postpartum involution as a risk factor for Pregnancy-Associated Breast Cancer, Grand Rounds, University of Arizona Cancer Center, Tucson, Arizona, May 3, 2010

2010 Meet-the-Expert Session, Role of postpartum involution in the promotion of pregnancy-associated breast cancer, 2010 Annual AACR Meeting, Washington, DC, April 21, 2010

2010 Phenotypic plasticity of mammary epithelial cells and implications for breast cancer development and treatment. Gordon Research Conference on Mammary Gland biology, Barga, Italy, June 13, 2010

2011 The Benefits and Challenges of Research in Humans. Doctor Susan Love Research Foundation, Santa Monica, CA, February 23-26, 2011

2011 Pregnancy Associated Breast Cancer: Role of Epithelium and Stroma in Tumor Aggressiveness. Avon Foundation Breast Cancer Forum, New York, NY, March 1-2, 2011

2011 Postpartum mammary gland involution drives breast cancer progression through collagen and COX-2 identifying a target for intervention. Dana-Farber Cancer Institute, Harvard Medical School, Boston, MA, March 28-30, 2011

2011 Postpartum mammary gland involution drives DCIS progression through collagen and COX-2, identifying a target for intervention. Massachusetts General Hospital, Gillette Center for Breast Cancer, Boston, MA, April 11-12, 2011

2011 Mammary Extracellular Matrix Proteins Contribute to Protective Effect of Parity: Insight into Tumor Cell Dormancy? Session: Silence is Golden: Key Issues in Dormancy and Recurrence. The US Army Medical Research and Material Command (USAMRMC) Breast Cancer Research Program (BCRP) 6th Era of Hope (EOH) Conference. Orlando, FL, August 2-5, 2011

2011 Postpartum Mammary Gland Involution Drives Breast Cancer Progression through Collagen and COX-2, Cancer Prevention and Control Seminar Series, Arizona Cancer Center, University of Arizona, Tucson, Arizona, August 31, 2011

2011 Does postpartum breast involution account for the poor prognosis of pregnancy-associated breast cancer? Mayo Clinic Cancer Center, Jacksonville, Florida, October 7, 2011

2011 Keynote Speaker: I have heard about targeted therapies for breast cancer-but what is a life-cycle targeted therapy? NBCC Project LEAD Advanced Topic Session, SABCS, San Antonio, Texas, December 6, 2011

2011 Platform Presentation: COX-2 Dependent Collagen Fibrillogenesis Drives Metastasis in the Postpartum Mammary Gland. CTRC-AACR San Antonio Breast Cancer Symposium, Tumor Microenvironment Forum. San Antonio, Texas, 12/9/2011

2012 Biomedical research, being wrong and the discovery of a new type of breast cancer, Beloit College, Beloit, Wisconsin, April 9, 2012

2012 Mammary Gland Involution as a Target for Breast Cancer Prevention: Insights from Macrophages and NSAIDS, McArdle Laboratory, Seminar in Cancer Biology, University of Wisconsin Madison, April 11, 2012

2012 Platform Presentation: COX-2 Dependent Collagen Fibrillogenesis Drives Metastasis in the Postpartum Mammary Gland. IABCR International Association for Breast Cancer Researcher, Stromal-Epithelial Interactions in Breast Cancer Development and Progression, Palace Hotel, Manchester, UK, April 15-18, 2012

2012 Tissue remodeling and immunosuppressive mechanisms drive metastasis in the postpartum mammary gland, Breakthrough Breast Cancer Research Centre, The Institute of Cancer Research, Royal Cancer Hospital, London, England, April 20, 2012

2012 Tissue remodeling and immunosuppressive mechanisms drive metastasis in the postpartum mammary gland, Vanderbilt Ingram Cancer Center, Vanderbilt University, Nashville, Tennessee, April 30, 2012

2012 Tissue Remodeling & Immunosuppressive Mechanisms Drive Metastasis in the Postpartum Mammary Gland Reproductive Biology Seminar Series, Department of Obstetrics and Gynecology, University of Texas Southwestern Medical Center, September 11, 2012

2012 COX-2 inhibitors target multiple pathways driving metastasis in postpartum breast cancer. Department of Physiology, Michigan State University, East Lansing, Michigan, November 1, 2012

2012 Host Reproductive Heterogeneity Determines Prognosis of Young Women's Breast Cancer, The 43 International Symposium, Princess Takamatsu Cancer Research Conference Tokyo, Japan, November 15, 2012

2013 Collagen density and structure differentially promote breast cancer; insights gained from the parous mammary gland, Daniel Medina Symposium, Galveston, Texas, March 2, 2013

2013 Tissue Remodeling & Immunosuppression Drive Metastasis in Postpartum Breast Cancer, Oregon Health and Science University, Department of Cell and Developmental Biology, Portland, Oregon, April 29, 2013

2013 Advancements in NSAID-based chemoprevention of postpartum breast cancer, Kansas Masonic Cancer Research Institute, University of Kansas Cancer Center, Kansas City, KS, October 22, 2013

2013 COX-2 dependent stromal pathways drive metastasis in postpartum breast cancer, 2013 Basic Science Research Symposium, Simmons Cancer Institute, Southern Illinois University, School of Medicine, Springfield, IL, October 26, 2013

2014 Stromal Driven Metastasis in Pregnancy-associated Breast Cancer, Department of Pharmacology, School of Medicine, Wayne State University, Detroit, Michigan, March 28, 2014

2014 Tissue-specific Extracellular Matrix Isolation, Quantitation and Functional Assessment, AACR Educational Session, Phenotyping and Function of Solid Tumor Stroma, San Diego, CA, April 5, 2014

2014 Tissue Remodeling of Postpartum Involution Extends Beyond the Mammary Gland, 2014 Mammary Gland Biology, Gordon Research (GR) Conference, Lucca (Barga), Italy, June 11, 2014

2014 Tissue Remodeling of Postpartum Involution-A Story of Metastasis, Barts Cancer Institute, Queen Mary University of London, June 18, 2014

2014 Tissue Involution in the Postpartum Setting-A Story of Young Women's Breast Cancer Metastasis, Department of Pharmacology, University of Missouri-Kansas City, Kansas City, MO, October 26, 2014

2015 Young Women's Breast Cancer, Winthrop P. Rockefeller Cancer Institute, University of Arkansas Medical Sciences

2015 Tissue Remodeling of Postpartum Involution-A Story of Metastasis, Oregon National Primate Research Center, OHSU West Campus, OR

2015 Tissue Remodeling of Postpartum Mammary Gland Involution-a Story of Metastasis The Deutsche Forschungsgemeinschaft, Hinterzartener Kreis of the DFG for Cancer Research, Cadenabbia, Italy, April 25, 2015

2015 Physiologic Tissue Remodeling and Metastasis, Molecular Life Sciences, École Polytechnique Fédérale de Lausanne, Switzerland, April 27, 2015

2015 Tools for identification and functional assessment of ECM in tumor promotion, Molecular Life Sciences École Polytechnique Fédérale de Lausanne, Switzerland, April 29, 2015

2015 Lymphangiogenesis and metastasis of postpartum breast cancer, AACR Tumor Metastasis Special Conference Austin, TX, December 2, 2015

2016 Weaning-Induced Tissue Remodeling, Metastasis and Young Women's Breast Cancer. Augusta University Health Sciences Campus, Augusta, Georgia, February 19, 2016.

2016 Weaning Induced Tissue Remodeling; A Story of Breast Cancer Metastasis. Fred Hutchinson Cancer Research Center, Seattle, WA, March 17, 2016

2016 Weaning-Induced Tissue Remodeling Promotes Breast Cancer Metastasis in Young Women. Keystone Symposia, Cancer Pathophysiology: Integrating the Host and Tumor Microenvironment. Keystone, Colorado, March 29, 2016

2016 The study of normal breast tissue identifies a new window of risk for young women's breast cancer. Komen Tissue Bank Think Tank, AACR 2016 Annual meeting New Orleans, LA, April 16, 2016

2016 Physiologic Tissue Remodeling Promotes Breast Cancer Metastasis in Young Women. International Thyroid Oncology Group 2016 ITOG Annual Meeting, University of Colorado Anschutz Medical Campus, Aurora, CO. May 1, 2016

2016 Dispelling Assumptions about Young Women's Breast Cancer; it's not all about TNBC. 30th International Association for Breast Cancer Research Conference, Portland OR, Aug 4, 2016

2016 Can Oncoimmunology Inform Placental Biology and Visa Versa? International Federation of Placental Associations, Portland, OR. Sept 16, 2016

2016 Keynote, Developmental Windows of Breast Cancer Risk Provide Opportunities for Targeted Prevention. 6th Annual International Breast Cancer Prevention Symposium, City of Hope Hospital, Duarte, CA. Oct 12, 2016

2017 Weaning-Induced Breast and Liver Involution Promotes Breast Cancer Metastasis. Department of Hematology/Medical Oncology Seminar Series, The Tisch Cancer Institute, Icahn School of Medicine at Mount Sinai, February 3, 2017

2017 Mucosal Biology and Tissue Involution Cooperate to Drive Breast Cancer Metastasis. 9th International Symposium on the Breast, Dr. Susan Love Research Foundation, Santa Monica, California, February 23, 2017.

2017 Mammary Gland & Liver are a Functional Unit Driving Breast Cancer Metastasis after Pregnancy. ENDO 2017, Orlando, Florida, April 2, 2017

2017 Dormancy in tumor recurrence and treatment resistance; misconceptions as barriers to progress. Mammary Gland Biology Gordon Research Conference, Stowe Vermont, June 14, 2017.

2017 One scientist's Journey; finding the link between personal happiness and scientific creativity. Hormone-Dependent Cancers Gordon Research Seminar, Newry Maine, August 5, 2017

2017 Mucosal Biology and Tissue Involution Cooperate to Drive Breast Cancer Metastasis. Hormone-Dependent Cancers Gordon Research Conference, Newry, Maine, August 7, 2017

2018 Mucosal Biology & Tissue Involution Cooperate to Drive Breast Cancer Metastasis. Laura Evans Memorial Breast Cancer Symposium, Sun Valley, Idaho, March 10, 2018

2018 Postpartum Tissue Remodeling Drives Breast Cancer Metastasis, Major Symposia: Metastatic Microenvironment Dictates Progression and Therapy Responses, AACR Annual Meeting, Chicago, Illinois, April 15, 2018

2018 Mucosal Biology & Tissue Involution Cooperate to Drive Breast Cancer Metastasis: Cancer Biology Pathways Lecture, Siteman Cancer Center, Washington University, St. Louis, MO, May 22, 2018

2018 Keynote, Follow the data; challenging established paradigms in young women's breast cancer. 14th Annual Baylor College of Medicine Breast Center Retreat, Houston, TX, September 6, 2018.

2018 Collagen as a Target for NSAID-based Breast Cancer Prevention: A Tribute to Patricia Keely. American Society for Matrix Biology 2018 Biennial Meeting, Las Vegas, NC, October 15, 2018

2018 Challenging Established Paradigms in Young Women's Breast Cancer. University of Chicago, School of Medicine Comprehensive Cancer Center, Chicago, Illinois, October 18, 2018

2018 Education Symposium, Insights & Controversies in Metastasis Biology, Breast cancer's metastatic moment: How postpartum tissue involution facilitates progression, San Antonio Breast Cancer Symposium, San Antonio, Texas, December 4, 2018

2019 Challenging Established Paradigms in Young Women's Breast Cancer, Louisiana Cancer Research Center, Tulane University School of Medicine, New Orleans, LA, February 11, 2019

2019 Young Women's Breast Cancer. What is the role of pregnancy? Susan G. Komen Oregon & SW Washington 2019 Regional Breast Cancer Issues Conference, Portland, Oregon, March 16, 2019

2019 Common Perceptions & Misconceptions of Young Women's Breast Cancer, Education Session: Update on Young Women's Breast Cancer, AACR Annual Meeting 2019, Atlanta, Georgia, March 30, 2019

OHSU Seminars

2014 Seminar, Postpartum mammary gland and liver involution: need for better imaging, immune cell phenotyping, 3D culture modeling and gene expression analyses, Cell, Developmental & Cancer Biology Department (CDCB)/ Oregon Center for Spatial Systems Biomedicine (OCSSB) Joint Retreat, Stevenson, WA, July 28, 2014

2014 Seminar, Tissue Remodeling of Postpartum Involution Extends Beyond the Mammary Gland-A Story of Metastasis, Wednesday Faculty Lunch Forum, CDCB Department, Oregon Health & Science University, Portland, OR, July 16, 2014

2014 Biomarkers for BC Risk and Prognosis Assessment, Knight Program Seminar Series, Knight Cancer Institution, OHSU, Portland, OR, October 16, 2014

2015 CDCB-OHSSB retreat talk, discriminating indolent from life-threatening DCIS, Skamania Lodge, Stevenson, WA, August 13, 2015

2015 Seminar, Novel tissue-remodeling pathways for the prevention and treatment of young women's breast Cancer, KCI Basic and Translational Sciences Seminar Series, OHSU, Portland, OR, September 21, 2015.

2015 Panel Discussant: Genomic Instability Mini Symposium, "The Random Nature of Cancer", March 6, 2015.
2015 Seminar, "*Research strategies to improve outcomes in young women diagnosed with breast cancer".* Oregon National Primate Research Center, OHSU West Campus, OR, February 26, 2015
2016 Seminar, Weaning-induced liver involution, Wednesday Faculty Forum Lunch, CDCB Department, March 23, 2016
2016 Seminar, "*Weaning-Induced Tissue Remodeling; A Story of Breast Cancer Metastasis.*" Grand Rounds, MD/PhD Journal Club, June 1, 2016
2017 Seminar, COX-2 IHC Conundrum, Wednesday Faculty Forum Lunch, CDCB Department, March 23, 2017
2018 Seminar, COX-2 IHC Conundrum Continued, Wednesday Faculty Forum Lunch, CDCB Department, December, 2018
2019 Insights & Controversies in Breast Cancer Metastasis Biology, Knight Cancer Research Series, January 30, 2019
2019 Seminar, Identification of Biomarkers in At-Risk Breast Epithelium That Could Be Used to Predict Progression to Invasive Cancer, CEDAR Seminar, February 7, 2019

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78. Elliot Gray, Elizabeth Mitchell, Sonali Jindal, **Pepper Schedin**, Young Hwan Chang, "A method for quantification of calponin expression in myoepithelial cells in immunohistochemical images of ductal carcinoma in situ, 2018 IEEE 15th International Symposium on Biomedical Imaging (ISBI 2018).
79. Giles ED, Jindal S, Wellberg EA, Schedin T, Anderson SM, Thor AD, Edwards DP, MacLean PS, **Schedin P**, Metformin inhibits stromal aromatase expression and tumor progression in a rodent model of postmenopausal breast cancer. Breast Cancer Res. 2018 Jun 14;20(1):50. doi: 10.1186/s13058-018-0974-2. PMID: 29898754
80. Courtney B. Betts, Nathan D. Pennock, Breanna P. Caruso, Brian Ruffell, Virginia F. Borges, and **Pepper Schedin.** Mucosal immunity in the female murine mammary gland. J Immunol. 2018 Jun 8. pii: ji1800023. doi: 10.4049/jimmunol.1800023. [Epub ahead of print]PMID:29884705
81. Nathan D. Pennock, Holly A. Martinson, Qiuchen Guo, Courtney B. Betts, Sonali Jindal, Takahiro Tsujikawa, Lisa M. Coussens, Virginia F. Borges, **Pepper Schedin**. Ibuprofen supports macrophage differentiation, T cell recruitment, and tumor suppression in a model of postpartum breast cancer. Journal for ImmunoTherapy of Cancer, **MS ID:** JITC-D-18-00108.1
82. Elder AM, Tamburini BAJ, Crump LS, Black SA, Wessells VM, **Schedin PJ**, Borges VF, Lyons TR. Semaphorin 7A promotes macrophage-mediated lymphatic remodeling during postpartum mammary gland involution and in breast cancer. Cancer Res. 2018 Nov 15;78(22):6473-6485. doi: 10.1158/0008-5472.CAN-18-1642. Epub 2018 Sep 25.PMID:30254150
83. Erica T. Goddard, Solange Bassale, Troy Schedin, Sonali Jindal, Jeremy Johnston, Ethan Cabral, Emile Latour, Traci R. Lyons, Motomi Mori, **Pepper J. Schedin**, and Virginia F. Borges. Association Between Postpartum Breast Cancer Diagnosis and Metastasis and the Clinical Features Underlying Risk. JAMA Network Open, Jan. 11, 2019. e186997. doi: 10.1001/jamanetworkopen.2018.6997

In Review:

1) Sonali Jindal, Nathan Pennock, Alex Klug, Marcelia Brown, Michelle Roberts, Rulla Tamimi, A. Heather Eliassen, Virginia F. Borges, Pepper Schedin. COX-2 S-nitrosylation correlates with breast cancer progression and worse outcomes. Submitted to Science Advances

Book Chapters:

1) Wood, W.P., Meneely, P., **Schedin P**., and Donahue, L. Aspects of dosage compensation and sex determination in Caenorhabditis elegans. In: Cold Spring Harbor 50th Symposium on Quantitative Biology. Cold Spring Harbor Laboratory, Cold Spring Harbor, NY, pp 575-583,1985.

2) **Schedin, P.J**, L.B. Thackray, P. Malone, S.C. Fontaine, R.R. Fris, and R. Strange. Programmed Cell death and Mammary Neoplasia. In: Mammary Tumor Cell Cycle, Differentiation and Metastasis, R. Dickson and M. Lippman (eds). Kluwer Academic Publishers, pp3-22,1996.

3) **Schedin P** and Keely, PJ. Mammary Gland ECM Remodeling, Stiffness, and the Role of Force in Normal Development and Tumor Progression. The Biology of The Mammary Gland, Cold Spring Harb Perspect Biol. 2011 Jan 1;3(1):a003228. doi: 10.1101/ cshperspect.a003228. Review.

4) Minnier J, Pennock ND, Guo Q, **Schedin P**, Harrington CA. RNA-Seq and Expression Arrays: Selection Guidelines for Genome-Wide Expression Profiling. Methods Mol Biol. 2018;1783:7-33. doi: 10.1007/978-1-4939-7834-2_2. PMID: 29767356

Mentoring

Awards:

2007	Excellence in Teaching Award, Cancer Biology 7600, Department of Pathology, UCHSC, Denver, CO.
2010	Dean's Mentoring Award, In recognition of Exemplary Thesis Advising, Anschutz Medical Campus Graduate School University of Colorado, Denver, CO
2016	Faculty Award – All-Hill Student Council 11th Annual Flame Awards, March 10, 2016
2017	Best Graduate Student Paper of the Year, 2017
2018	Education Scholarship, First Place in Research Category for the CDCB Junior Faculty Advancement Program, OHSU School of Medicine Inaugural Symposium on Educational Excellence, Portland, OR.
2019	2019 Scientific Mentoring and Development Award. Presented to the Junior Faculty Advancement Program. Office of Continuing Professional Development, OHSU, Portland, OR.

Fellows Mentor:

2002-2004 Veterinary	Richard Metz, PhD, - Recipient Komen Postdoctoral Fellowship- Current position: Research Associate Professor, Integrative Biosciences, College of Veterinary Medicine, Texas A&M University, College Station, TX
2004-2006	Shailaja Raj, MD, - Current position: Private Practice
2005-2006	Swapnil Rajurkar, MD, - Current position: Private Practice
2008-2012	Traci Lyons, PhD, - Recipient ACS Postdoctoral Fellowship and DOD Postdoctoral Fellowship, - Current position: Assistant Professor, Department of Medicine, University of Colorado, AMC, Denver, CO2009-2013 Tanya Russell, PhD, - Current position: Scientific Editor, Aegis Creative, Lakewood, CO
2013-2014	Dharanija Rao, PhD, - Current position: Industry
2009-2014	Sonali Jindal, MD, - Current position: Research Assistant Professor, Department of Cell, Developmental and Cancer Biology, OHSU.
2010-2014	Erin Giles, PhD, - Recipient NIH/NCI K99/R00. Current position: Assistant Professor, Texas A&M University – Department of Nutrition and Food Science, College Station, TX 2015 Nathan Pennock, PhD-Current lab member
2015-current	Nathan Pennock, PhD, Current Position: Postdoctoral Fellow, Schedin Lab
2015-current	Elizabeth Mitchell, PhD- Recipient of a 2017 Komen Postdoctoral Fellowship Award. Current Position: Postdoctoral Fellow, Schedin Lab

Graduate Student Thesis Mentor

Graduated:

2005-2007	Elizabeth Tarbutton MS, Cell and Developmental Biology Program, CU-AMC. Recipient DOD Predoctoral Training Award.
2005-2008	Agne Taraseviciute, Medical Scientist Training Program, PhD, CU-AMC. Residency: UT Southwestern Medical Center, Dallas, TX; Fellowship: Fellow in Pediatric Hematology/Oncology, Seattle Children's Hospital, Seattle; Current position: Physician Scientist, Hematology-Oncology, Seattle Children's Hospital, Seattle, WA.
2004-2008	Rhonda Hattar, MS, Biomedical Sciences Program, CU-AMC. Current position: Biology and Chemistry Instructor, Community College of Denver.
2006-2010	Jenean O'Brien, Cancer Biology Program, PhD, CU-AMC. Recipient DOD Predoctoral Training Award. Postdoctoral Fellow, Heide Ford Lab, UC-AMC. Current position: Assistant Professor of Biology at University of Wisconsin – Superior, Superior, WI.
2007-2012	Ori Maller, Cancer Biology Program, PhD, CU-AMC. Current position: Postdoctoral Fellow, Dr. Valerie Weaver Lab, UCSF, San Francisco, CA.
2008-2014	Jamie Fornetti, PhD, Reproductive Sciences Program, Medical Student Training Program, CU-AMC. Recipient DOD Predoctoral Training Award. Current position: Postdoctoral Fellow, Alana Welm Lab, Huntsman Cancer Institute, University of Utah, Salt Lake City, UT.
2009-2014	Holly Martinson, Cancer Biology Program, CU-AMC. Recipient DOD Predoctoral Training Award. Postdoctoral Fellow: Dr. Matthew Olnes Lab, the Alaska Anchorage College of Health WWAMI Medical School, Anchorage, AK. Current position: Assistant Professor, Molecular Biology, School of Medical Education, University of Alaska, Anchorage, AK
2011-2017	Qiuchen Guo, Cancer Biology Program, OHSU. Current position: Dr. Sandra McAllister, Harvard Medical School, Boston, MA.
2012-2017	Erica Goddard, Cancer Biology Program, OHSU. Recipient Ruth L. Kirschstein National Research F31 Predoctoral Service Award. Current position: Dr. Cyrus Ghajar lab, Fred Hutchinson Cancer Research Center, Seattle, WA.
2012-2018	Courtney Betts, Cell and Developmental Biology Program, OHSU. Recipient Ruth L. Kirschstein National Research F31 Predoctoral Service Award. Current position: Staff Scientist, Coussens Lab, OHSU.

Current:

2016-present	Alexandra Quackenbush, Cancer Biology Program, OHSU

Faculty Mentor

2006-present	Virginia Borges, MD., Current position: Associate Professor & Breast Cancer Oncologist, Division of Medical Oncology, UC Denver, AMC
2006-present	Kirk Hansen, PhD., Current position: Associate Professor, Biochemistry and Molecular Genetics, UC Denver, AMC
2008-2010	Djuana Harvel, PhD., Assistant Professor, Endocrinology, UC Denver, AMC
2012-present	Traci Lyons, PhD., Current position: Assistant Professor, Division of Medical Oncology, UC Denver, AMC
2014-present	Erin Giles, PhD, Current position: Assistant Professor, Texas A&M University – Department of Nutrition and Food Science, College Station, TX
2014-present	Sonali Jindal, MD, Current position: Research Assistant Professor, Department of Cell, Developmental and Cancer Biology, OHSU.
2014-present	Sudarshan Anand, Current position: Assistant Professor, Department of Cell, Developmental and Cancer Biology, OHSU.
2016-present	Jim Korkola, Assistant Professor, Biomedical Engineering, OHSU.
2016-2017	Gullu Gorgun, Assistant Professor of Medicine, School of Medicine, OHSU.
2017-present	Amy Moran, PhD, Assistant Professor, Department of Cell, Developmental and Cancer Biology, OHSU.
2018-present	Nicole Marshall, MD, Assistant Professor, Maternal-Fetal Medicine Division, Department of Obstetrics and Gynecology, OHSU.
2019-present	Naoki Oshimori, PhD, Assistant Professor, Department of Cell, Developmental and Cancer Biology, OHSU.

Senior Scientist/Sabbatical Training:

2007	Sandra Biroc, PhD, Berlex Pharmaceuticals, CA, April 11, 2007
2008-2009	Bon-Hong Min, PhD, Professor, Dept. of Pharmacology and BK21 Program, College of Medicine, Korea University, Seoul, Korea, September 2008-August 2009
2013	Sandra Haslam, Professor, Michigan State University, March 2013

Teaching Record

Graduate School Program Committees:

2006-2014	Graduate Student Recruitment Interviews; BSP, Cell & Developmental Biology, Cancer Biology and Basic Reproductive Sciences Program
2007-2009	Chair of the Graduate Student Recruitment Committee and member of the Steering Committee, Cell & Developmental Biology Program
2008	Chair, Graduate Program in Cell biology, Stem Cells and Development, Graduate Student 2008 Annual Retreat, Vail CO, October 3-4, 2008
2007-2014	Member, Steering committee, Biomedical Sciences Program, CU-AMC, Denver, CO.
2012-2014	Member, Admissions committee, Medical Scientist Training Program, CU-AMC, Denver, CO.
2014-current	Member, Cell & Developmental Biology Graduate Program Executive Committee, OHSU, Portland, OR.
2016-current	Member, Steering Committee, Program in Molecular and Cell Biology, OHSU, Portland, OR.

Graduate Student Thesis Committee Member

Graduated Students:

2001-2007	Neal Beeman, (Peggy Neville Lab) Department of Physiology and Biophysics, UCHSC, PhD
2004-2010	Joanna Poczbutt (Arthur Gutierrez-Hartmann Lab), Molecular Biology Program, UCHSC, PhD
2004-2008	Committee Chair, Agne Taraseviciute (Peter Jones Lab), Cell and Developmental Biology Program, UCHSC, PhD
2004-2007	Committee Chair, Irene Choi (Kristen Artinger Lab), Cell and Developmental Biology Program, UCHSC, MS
2005-2007	Kim Christenson (Heide Ford Lab), Molecular Biology Program, UCHSC, PhD
2005-2007	Malinda O'Donnell (Robert Garcia Lab), Cellular and Developmental Biology Program, UCHSC, MS
2005-2009	Erica McCoy (Heide Ford Lab), Molecular Biology Program, UCHSC, PhD
2005-2008	Committee Chair, James Haughian (Andy Bradford Lab), Department of Obstetrics and Gynecology, Reproductive Sciences Program, UCHSC
2006-2010	Brice McConnell (Arthur Gutierrez-Hartmann Lab), MSTP Program, UCHSC, PhD
2006-2009	Jian Jing (Rytis Preteris Lab), Cell and Developmental Biology Program, UCHSC, PhD
2007	John Vanhoven (Linda Barlow Lab), Cell and Developmental Biology Program, UCHSC,
2007	Robert Shelton, Cancer Biology Program, UCHSC, Master of Science, final comprehensive examination committee member, MS, July, 27, 2007
2007-2010	Sunshine Daddario (Steve Nordeen Lab), Cancer Biology Program, UCHSC, PhD
2007-2012	Committee Chair, Brittany Allen (Mary Reyland Lab) Cell and Developmental Biology Program, UCHSC, PhD
2007-2012	Committee Chair, Ray Whitson (Scott Lucia Lab) Cancer Biology Program, UCHSC
2008-2009	Matias Casa (James DeGregori Lab) Molecular Biology Program, UCHSC
2008-2011	Jessica Wahlig (Jim McManaman Lab), Cell Biology, Stem Cells and Development Program, UCHSC, PhD

2008-2012	Erin Howe (Jennifer Richer Lab) Cancer Biology Program, UCHSC, PhD
2009-2011	Molly Taylor (Bill Schiemann Lab), Molecular Biology Program
2009-2012	Chu-An Wang (Heide Ford lab), Molecular Biology Program, UCHSC
2009-2013	Margaret Heerwagon (Jed Freidman lab), Reproductive Sciences Program, UCHSC
2010-2011	Tressa Allington (Bill Schiemann Lab), Pharmacology Program, PhD
2010-2014	Laura Harmacek (Jessica Tyler Lab), Molecular Biology Program, UC AMC
2010-2014	Kristen Jacobsen (Doug Graham Lab), Immunology Program, UC AMC, Denver, CO
2011-2012	Adriane Stefanski (Virginia Winn Lab), Reproductive Sciences Program
2011-2013	Jonathan Parker (Allen Waziris Lab), MSTP and Cancer Biology Program
2011-2013	Trisha Sippel (Allen Waziri Lab), Cancer Biology Program, UC AMC
2011-2014	David Drasin (Heide Ford Lab), Molecular Biology Program, UC AMC
2011-2014	Katherine Waugh (Jill Slansky Lab), Immunology program, UC AMC, Denver, CO
2012-2014	Deepika Neelakantan (Heide Ford Lab) Molecular Biology Program, UC AMC
2012-2014	Rebecca Vartuli (Heide Ford Lab) Molecular Biology Program, UC AMC
2012-2014	Abitha Jacob (Rytis Prekeris Lab)-CSD Program, UC AMC, Denver, CO
2014	Member, Qualifying Exam Committee, Xiaoming Ouyang (Kulesz-Martin Lab), Cancer Biology Program, OHSU, Portland, OR
2014-2016	DAC Committee Chair: Charlie Gast (Wong Lab), Cancer Biology Program, OHSU, Portland, OR
2015	Member, Qualifying Exam Committee, Ben Doron, Cancer Biology Program, OHSU, Portland, OR
2015-2017	Jingga Morry (Wassana Yantasee Lab), Biomedical Engineering Program, OHSU, Portland, OR
2016-2018	DAC Committee Member: Chris Cheng (Philip Streeter lab), Cancer Biology Program, OHSU, Portland, OR

Matriculated Students:

2014-present	Committee Chair: Shannon Liudahl (Lisa Coussens Lab), Cancer Biology Program, OHSU, Portland, OR
2016-present	Committee Chair: Ryan Lane (Amanda Lund lab), Cancer Biology Program, OHSU, Portland, OR

Graduate School/Teaching Responsibilities

Lab Preceptor:

2004	Cancer Center Summer Student Training Program, June-August, 2004, Laura Daddow, University of Colorado at Denver, CO and Haley Ross, Saint Olaf College, MN, June-August, 2004
2005	Graduate Student Rotation: Rhonda Hattar, Spring and Liz Tarbutton, Summer 2005; Cancer Center Summer Student Training Program, Neena Gupta, Virginia Commonwealth University, June-August, 2005; Christy Walton Broomfield High School Senior, June-August 2005; Graduate Student Rotations: Brittany Allen, Fall 2005; Jenean O'Brian, Winter 2005, Tariq Adwan, Spring 2005, NIH Summer Research Trainee Program, June-August 2005,
2006	Kimberley Ngo, UCHSC. Accomplishments: Recipient of best poster award, CU Research Forum, Jan 27, 2006 and presenter, WSM Research Forum, Carmel, CA, Feb 5-6, 2006; Mentor, Anna Andrianakos, Student, University of Colorado, Boulder MCDB graduate, June 2005-September 2006; Lindsey Hosford, UC Boulder Undergraduate Butcher Foundation Summer Traineeship, June-August, 2006

2007 Kaitlyn Gilman, UCHSC Medical Student, UCHSC Summer Research Traineeship, June-Dec, 2006. Project; Obesity and Breast Cancer. Abstract selected for oral presentation, WSM Research Forum, Carmel, CA, Feb 5-6, 2007; Kafilat Jimo, Student from STEPS program (Strides Toward Encouraging Professions in Science), Metropolitan State college of Denver, November 2006-June 2007; Mehtap Canastar, Student from Bogazici University, Istanbul, Turkey (Bachelor of Science. Molecular Biology and Genetics), December 2006-March 2007; Graduate Student Rotations: Ori Maller, Spring 2007; Thomas Sweed, 2nd Year UCHSC Medical Student, Louise Coulter Foundation, Scholarship Recipient, Summer 2007; Reema Mallick, 1st Year Medical Student, Cancer Center Student Research Fellow, Summer 2007; Marianne Marshall, 1st year BSP Student, Fall Semester 2007 Lab Rotation Mentor; Alice Castile, 1st year BSP Student, Winter Semester 2007 Lab Rotation Mentor

2008 Jaime Fornetti, 2nd year MSTP student, Spring Semester 2008 Lab Rotation Mentor; Neena Gupta, 2nd year medical student at Virginia Commonwealth, Cancer Center Student Research, Fellow, Summer 2008; Aarthi Shankar, Cancer Center Student Research Fellow, Summer 2008; Holly Martinson, 1st year BSP Student, Fall Semester 2008

2009 Nicole Snelgrove, Cancer Center Student Research Fellow, Summer Semester 2009; Tanya Thielen, Cancer Center Student Research Fellow, Summer Semester 2009

2010 Allison Kimball, 2nd year medical student, UCAMC, Cancer Center Student Research Fellow, Summer Semester 2010; Rena Yang, Cancer Center Student Research Fellow, Summer Semester 2010

2011 Andrew Fleming, Yale University, Cancer Center Student Research Fellow, Summer 2011; Samiat Agunbiade, LabCoats Mentoring Program, University of Colorado Denver, Summer 2011-Summer 2012

2012 Kara Middleton, Cancer Center Student Research Fellow, Summer Semester 2012; Sheri Rosen, University of Colorado, 2nd yr Medical School student, Cancer Center Student Research, Fellow, Summer Semester 2012

2013 Sarah Haeger, MSTP, First Rotation 2013; Sarah Black, Pomona College, Claremont, CA., Cancer Center Student Research Fellows, Summer Semester 2013; Troy Schedin, University of New York, Buffalo, Cancer Center Student Research Fellows, Summer Semester 2013; Adriana Jones, Cancer Center Student Research Fellows, Summer Semester 2013

2015 CDCB Summer Internship Program, Renae Bertrand, Pacific University, OR; Michelle Tran, University of Portland, OR; Lindsey Newby, 2015 OHSU Knight Cancer Institute's Ted R. Lilley Cancer CURE program

2016 CDCB Summer Internship Program: Itai Meirom, University of Florida, Gainesville Fl; Mical Yohannes, Reed College, Portland OR, and Tiffany Chan, Lewis and Clark, Portland OR,

2017 CDCB Summer Internship Program: Stephanie Stamnes, Occidental College, LA, CA; Sherwin Shabdar, Pomona College, Claremont CA; Yamini Naidu, Yale University, New Haven, CT; Maria Marin, University of Oregon, Eugene, OR; Tiffany Chan, Lewis and Clark, Portland, OR.

2018 CDCB Summer Internship Program: Stephanie Stamnes, Occidental College, LA; Elizabeth Churchill, Michigan State University, MI.

Course Teaching

2004 Lecturer, Role of Tissue Remodeling in Pregnancy-Associated Breast Cancer, UCHSC Medical Oncology Fellow Conference, Fall 2004

2004 Lecturer, Compositional Changes in Mammary ECM by reproductive state and preventive agents; implications for mammary carcinogenesis. Graduate Program in Cell and Developmental Biology 2004 Retreat, Breckenridge, CO, Sept 11, 2004

2005 Lecturer, Compositional changes in mammary ECM induced by endocrine state and preventive agents; implications for cancer progression, Cell and Developmental Biology Program Seminar Series, UCHSC, January 5, 2005

2005 Lecturer, The dynamic interplay between mammary stroma and epithelium; implications for carcinogenesis, Program in Cell & Developmental Biology Retreat, Glenwood Springs, CO, Sept 9-10, 2005

2005 Lecturer, Multistep Tumorigenesis and the Microenvironment, Medical Oncology Fellows Conference, Sept 16, 2005

2005 Lecturer, Pregnancy Associated Breast Cancer and Metastasis-Review of Aims, Basic Reproductive Sciences, Department of Obstetrics and Gynecology, UCHSC, Sept 30, 2005

2006 Lecturer, Pregnancy-associated breast cancer, MST Program, Feb 15, 2006

2006 Lecturer, Cancer Biology Program, CANB 7600, Overview of Metastasis, Part 1 & 2, 2006

2006 Lecturer, The dynamic interplay between mammary stroma and epithelium, implications for carcinogenesis, Cell & Developmental Biology Retreat, Estes Park, Oct 13-14, 2006

2006 Lecturer, The role of the microenvironment in pregnancy-associated breast cancer, Hormone Related Malignancies & Division of Endocrinology, Metabolism & Diabetes, UCHSC, October 17, 2006

2006 Lecturer, The role of the microenvironment in pregnancy-associated breast cancer, Grand Rounds, Department of Pathology, UCHSC, December 15, 2006
2007 Lecturer, Model development for the study of obesity and breast cancer. Functional Development of the Mammary Gland Retreat, UCHSC Jan 18, 2007
2007 Lecturer, Breast cancer chemoprevention; studies on pubertal intake of vitamin A and progesterone signaling. Functional Development of the Mammary Gland Retreat, UCHSC Jan 18, 2007
2007 Lecturer, Overview of estrous cycle in the rat. Functional Development of the Mammary Gland Retreat, UCHSC Jan 19, 2007
2007 Lecturer, Cancer Biology Program, CANB 7600, Overview of Metastasis, Feb 2, 2007
2007 Lecturer, Cancer Biology Program, CANB 7600, Multistep tumorigenesis and the tumor microenvironment, Feb 4, 2007
2007 Lecturer, Targeting adolescent diet for breast cancer prevention: a role for vitamin A supplementation? The Center for Human Nutrition Seminar Series, UCHSC, April, 13, 2007
2007 Lecturer, Does the Menstrual cycle matter? Conducting Clinical Research Studies in Women. A seminar sponsored by the Investigator Network to Promote Interdisciplinary Research in Women's health and Gender-based Disease, Division of Reproductive Sciences, UCHSC, April 14, 2007
2007 Plasticity of the mammary gland ECM and breast cancer progression. School of Pharmacy Seminar, UCHSC, April 19, 2007
2007 Physiologic inflammation as a target for breast cancer prevention. Developmental Therapeutics Program Retreat, Division of Medical Oncology, UCHSC, April 20, 2007
2007 Lecturer, Cancer Biology Program, CANB 7600, Cancer Prevention, May 5, 2007
2007 Lecturer, Characterization of putative macrophages during mammary gland involution. Division of Basic Reproductive Science, Department of Obstetrics & Gynecology, Inaugural Graduate Program Retreat, Denver Botanic Gardens, Denver, CO, September 7, 2007
2008 Cancer Biology Program, CANB 7600, Multistep tumorigenesis and the tumor microenvironment, Feb 13, 2008
2008 Cancer Biology Program, Stromal-Epithelial Models in Ovarian Cancer, Feb 20, 2008
2008 Reproductive Sciences Mammary Gland Lactation Course, Role of ECM in normal and breast disease, April 30, 2008
2008 Cancer Biology Program, CANB 7600, Cancer Prevention, May 5, 2008
2008 Class Co-Director, Special topics in CSD, CSDV 7670 Cancer Cell Signaling in the Microenvironment, Fall Semester 2008
2009 Cancer Biology Program, CANB 7600, Cancer Metastasis and Invasion, Feb 4, 2009
2009 Cancer Biology Program, CANB 7600, The Tumor Microenvironment, April 24, 2009
2009 Cancer Biology Program, CANB 7600, Cancer Prevention-Potential or Pipe Dream? April 29, 2009
2010 Cancer Biology Program, CANB 7600, Extracellular matrix in normal and breast disease, Feb 22, 2010
2010 Cancer Biology Program, CANB 7600, Update on Cancer Prevention, Fantasy or Reality? May 10, 2012
2011 Special Topics in Tumor Immunology IMMU 7602, Holes in the epithelial centric view of cancer, National Jewish, Spring 2011
2011 Cancer Biology Program, CANB 7600, Tumor Microenvironment, and Overview, February 11, 2011
2011 Lecturer, Mammary stroma as a target of NSAIDS; implications for pregnancy-associated breast cancer The Program in Reproductive Science Seminar Series, UCD, March 22, 2011
2011 Lecturer; COX-2 Dependent Collagen Fibrillogenesis Drives Metastasis in the Postpartum Involuting Mammary Gland, University of Colorado Cancer Center Hormone Related Malignancies Retreat, March 25, 2011
2011 Cancer Biology Program, CANB 7600, Update on Cancer Prevention, Fantasy or Reality? May 11, 2011
2012 Course Director, Spring Semester 2012, Special Topics in Cancer Biology CANB 7660 entitled 'Tissue-Based Theory of Carcinogenesis & the Microenvironment', UCD-AMC
2012 Lecturer: Special Topics in Immunology 7602, National Jewish Hospital, March 6, 2012
2012 Pre-invasive and Immune Competent Models of Breast Cancer Progression, New Models in Hormone Related Malignancies, HRM Program Retreat, University of Colorado Comprehensive Cancer Center, August 10, 2012
2013 Cancer Biology Program, CANB 7600, Tumor Microenvironment Overview, April, 2013
2014 Cancer Biology Program, CANB 7600, Tumor Microenvironment Overview, April, 2014
2015 Co-Director, CONJ665, Development, Differentiation and Diseases, CDCB, Spring 2015
2015 Lecturer, CELL613 Instructor-mammary stem cells

2015 Lecturer, CELL/CANB 616, Advanced Topics in Cancer Biology, Tumor Microenvironment: Focus on the Extracellular Matrix
2015 CDCB Program, CONJ665, Cancer: Metastasis
2015 PMCB Ethics Course, CONJ650. Navigating the Mentor-Mentee Relationship
2016 Co-Director, CONJ665, Development, Differentiation and Cancer, Tumor Microenvironment: Focus on the Extracellular Matrix, CDCB, Spring 2016
2016 Lecturer, CELL/CANB 616, Advanced Topics in Cancer Biology. Tumor Microenvironment: Focus on the Extracellular Matrix, April, 2016
2016 PMCB Ethics Course, CONJ650. Navigating the Mentor-Mentee Relationship, Nov 8, 2016
2017 CELL/CANB 616, Advanced Topics in Cancer Biology. Tumor Microenvironment: Focus on the Extracellular Matrix, May 24, 2017
2017 CONJ 665, Development, Differentiation and Disease. Role of extracellular matrix in mammary development and disease, May 31, 2017
2018 CELL/CANB 616, Advanced Topics in Cancer Biology. Role of Extracellular Matrix in Development & Disease, April 6, 2018
2018 CONJ 665, Development, Differentiation and Disease. Tumor Microenvironment: Focus on the Extracellular Matrix, May 31, 2018

Community Service Speaking Engagements

1990 Invited Speaker, High Priority Breast Cancer Research/Information, Network Annual Meeting, Orange County, CA
1992 Invited Speaker, Susan G. Komen Breast Cancer Foundation. For Women's Lives-Dialogues on Breast Cancer, PBS Documentary
1993 Breast Cancer Presentation, Research Strategies to Prevent Breast Cancer. Executive Office of the President, Washington, DC
1995 What is Cancer Prevention? Music Industries Executives Meeting, Warner Music Group, New York, New York
1995 Diets and Vitamins; Facts, Myths and the Media, Day of Caring, Denver, CO
1996 Breast Cancer Prevention Research; Targeting the Cancer Cell's Environment. National Volunteers Convention, Palm Springs, FL
1996 Breast Cancer Prevention Research; Targeting the Cancer Cell's Environment. National Volunteers Convention, Baltimore MD
1996 Breast Cancer Prevention Research; Targeting the Cancer Cell's Environment. National Volunteers Convention, New York, NY
1996 Breast Cancer Prevention; Hope for the Future, Denver Rotary Club, Denver, CO
1996 Breast Cancer Prevention; A Developmental Biologists Perspective, Day of Caring, Denver, CO
1997 Research Strategies to Prevent Breast Cancer, American Cancer Society and La Plata County Breast Health Task Force, Durango, CO
1997 Research Strategies to Prevent Breast Cancer, Elks Club, Boulder, CO
1995 Research Today for Our Daughters and Granddaughters, Day of Caring, Denver, CO
1998 Cancer Prevention and Treatment Research, Optimist Club, Cherry Creek Club, Denver, CO
1999 Breast Cancer Research: Focus on Prevention, Day of Caring, Denver, CO
2000 Breast Cancer Prevention; Hope for the Future, Day of Caring, Denver, CO
2000 Breast Cancer Prevention; Hope for the Future, Day of Caring, Hays, Kansas
2002 Fundamentals of Breast Cancer Research, Jefferson County Open School, Lakewood, CO
2004 Role of Adolescent Diet in Determining Breast Cancer Risk, University of Colorado Cancer Center Community Advisory Board Meeting, November 17, 2004
2006 The future of Breast Cancer Prevention, Colorado Cancer Cure Annual Meeting, Denver, CO, August 2006
2007 Novel Breast Cancer Research at UCHSC, Colorado Cancer Cure Annual Meeting, Denver, CO, January 2007
2007 New Research in Cancer Prevention, Colorado Cancer Cure Presentation, Denver, CO, September 2007
2008 Keynote speaker, Cancer League of Colorado Annual Business Meeting, March 20, 2008

2008 Keynote speaker, AMC Hartford county Chapter's end-of-year fiscal year event, Champaign Brunch and Celebration, Baltimore, MD, June 29, 2008
2009 Visiting Scientist and AP Biology Lecturer, Oak Lawn Community High School, Oak Lawn, IL, October 2009
2011 Lecturer, Learn About Cancer Day, University of Colorado Cancer Center, February 18, 2011
2011 Lab Host, "Learn About Cancer Day (LACD)". An event that brings to our campus 150 high school students from advanced sciences classes in selected schools in the Denver metro area, including Aurora, Denver, Cherry Creek and Douglas County School districts, October 6, 2011
2011 Susan G. Komen Breast Cancer Foundation, presentation entitled, I have heard about targeted therapies for breast cancer-but what is a life-cycle targeted therapy? Cancer Center Meet and Greet, October 19, 2011
2011 Denver Book Club Lab tour in recognition of Book entitled "The Immortal Life of Henrietta Lacks", October 13, 2011
2011 Invited speaker, Career Development Forum, Making the Transition from Fellowship to Faculty, SABCS, Dec 6, 2011. Objective: promote dialogue and respond directly to questions from young investigators on the topic of transitioning to independence.
2012 Keynote Speaker, National Breast Cancer Coalition, Project Lead Education Session, SABCC, San Antonio, TX
2012 Biomedical research, being wrong and the discovery of a new type of breast cancer, University of Colorado Anschutz Medical Campus, CCM Staff Education Series, June 27, 2012
2012 AALAS training event; Keynote Speaker, Mile High Branch AALAS Fall Meeting, "Biomedical research, being wrong and the discovery of a new type of breast cancer: the role of animal husbandry", Colorado State University, Fort Collins, CO, October 4, 2012
2012 Speaker, Cocktails, Cancer and a Cure Event sponsored by CancerCure, Greenwood Village, CO, Sept 12, 2012. Fundraiser for Cancer Prevention Chair
2013 Learn About Cancer Day at the University of Colorado Anschutz Medical Campus in Aurora on Thursday, February 28, 2013
2013 Laboratory Tour, Eternal Life Campaign Steering Committee Members, Sept 27, 2013
2014 Host, Knight Cancer Institute, Discovery Lunch and Lab Tour, OHSU
2015 Host, Knight Cancer Institute, Discovery Lunch and Lab Tour, February, March and May, OHSU
2015 Knight faculty/patient advocate working group, July 9, 2015
2015 Dive for the Cure, breast cancer awareness event, Florence OR Oct 4, 2015
2015 Town Club presentation, breast cancer awareness event, Portland, OR, Nov 10, 2015
2015 Western Franchise Burger King Convention, Reno, NV, 11-16-2015
2016 American Cancer Society, Allied Professional Spring Forum, Breast Cancer Risk and Resilience, The University Club, Portland, OR, April 28, 2016
2016 ARCS Lecture, Advancing Science in Oregon, Small Miracles, a one-in–a million opportunity to study young women's breast cancer, Collaborative Life Sciences Building, OHSU, Portland OR, November 17, 2016
2017 American Cancer Society, Sushi for a Cure, Portland OR, May 20, 2017
2017 Knight Cancer Center Advocacy Training Meeting, OHSU, July 20, 2017
2018 Expedition Inspiration, Keeping Abreast Open Forum, "The role the women plays in breast cancer occurrence and progression". Sun Valley Inn, Sun Valley, Idaho, March 8, 2018
2018 Circle of Giving, New Members Recruitment Event, Racquet Club, Portland, OR, May 2, 2018.
2019 Young Women's Breast Cancer. What is the role of pregnancy? Susan G. Komen Oregon & SW Washington 2019 Regional Breast Cancer Issues Conference, Portland, Oregon, March 16, 2019

Ongoing Support

ACTIVE

W81XWH-18-1-0086 (Schedin) 3/15/18 - 3/14/21
DOD $745,085
Novel postpartum liver biology has implications for breast cancer liver metastasis
The goal of this project is to characterize the liver metastatic niche in models of postpartum breast cancer and in breast cancer patients with liver metastases, and confirm postpartum liver involution in healthy women.

2 P30 CA69533-19 (Druker) 7/1/2017 – 6/30/2022
NIH/NCI $1,500,000
OHSU Knight Cancer Institute
The major goal of this project is to support the administration, programs, Clinical Protocol & Data Management, Protocol Review & Monitoring System, and shared resources of the Knight Cancer Institute at Oregon Health & Science University. Shared resources include: Integrated Genomics, Biolibrary & Pathology, Proteomics, Advanced Multiscale Microscopy, Flow Cytometry, and Biostatistics. The instruments of the institute foster interdisciplinary coordination and collaboration of cancer research faculty at OHSU in basic, clinical, and population research.
Role: Program Director, Cancer Prevention and Control

Current Mentee Grant Support

PDF17480342 (Mitchell) 6/28/2017 – 6/27/2020
Susan G. Komen Breast Cancer Foundation $60,000/yr
Myoepithelial Cells in DCIS, Patrolling the Border Against Invasive Cancer
The goal of this project is to investigate whether calponin expression is required for the tumor suppressive activity exerted by myoepithelial cells on DCIS lesions, and determine whether loss of myoepithelial calponin or other myoepithelial proteins can serve as a biomarker for identifying gain of invasive tumor cell attributes in pre-invasive lesions and help distinguish indolent from life-threatening disease.
Role: Mentor

Completed Support (partial listing)

R01 CA169175 (Schedin, Borges) 4/1/2013 – 3/31/2019 (NCE)
NIH/NCI $383,856/yr
NSAID during postpartum involution for breast cancer prevention
The goal of this project is to perform a prospective phase 0 clinical trial to investigate postpartum involution as a window of tissue remodeling in human breast; evaluate efficacy and safety of NSAID based intervention in rodent models of pregnancy associated breast cancer and investigate anti-inflammatory activity of fish oil in the context of postpartum involution in rodent models.

229425 (Schedin) 7/1/2016 – 6/30/2018
Avon Breast Cancer Crusade $136,363 (NCE)
Identifying novel targets for Postpartum Breast Cancers in Young Women using genomic analysis
We hypothesize that postpartum breast cancers will be characterized by RNA expression of negative prognostic stromal markers associated with normal breast involution (e.g. increased ECM deposition, inflammation, lymphangiogenesis, and angiogenesis).
5 R01 CA164166-05 (MacLean, Schedin) 2/1/2013 – 1/31/2018
NIH/NCI

F31CA196052 (Betts, C) 3/01/2015-2/28/2017
NIH $43,120/yr
Title: Reproductive state-dependent alterations in mammary extracellular matrix dictate the role of dendritic cells in tumor progression
Goal of Project: Early-age pregnancy associates with a transient period of enhanced tumor progression after weaning, following by a long period of tumor suppression, identifying reproductive windows of increased and decreased breast cancer risk, respectively. An unexplored mediator of these risk windows is interactions between the mammary extracellular matrix (ECM) and dendritic cell function, as mammary ECM function is hormonally regulated. The aim of this proposal is to understand if reproductively-altered ECM changes affect dendritic cell function as a means to dictate tumor outcome. These studies may identify a novel, and therapeutically targetable, aspect of reproductively-controlled mammary cancers.
Role: Mentor

5 R01 CA164166-05 (MacLean, Schedin) 2/1/2013 – 1/31/2018
NIH/NCI $201,275/yr
A Narrowed Window for Targeting Metabolic Flexibility in Breast Cancer Prevention

The hypothesis tested is that obesity associated impaired metabolic regulation establishes a susceptibility to the tumor promoting effects of the menopause-induced weight gain.

Non Peer-Reviewed (Schedin) 2/2/2016 – 12/18/2017
OHSU Center for Women's Health
Unprecedented postpartum liver biology in rodents suggests a novel mechanism of breast cancer metastasis.
This project will use a liver imaging study in pregnant women to establish human relevance.

F31CA186524 (Goddard, E) 9/30/2014-4/29/2017
NIH
Title: Investigating a role for liver involution in postpartum breast cancer metastasis.
Goal of Project: Determine the impact of postpartum weaning on establishment of a metastatic niche in the liver.
Role: Mentor

D2014-014 (Schedin) 1/01/2015-12/31/2016
V Foundation/Kay Yow Cancer Fund
Title: NSAIDS to prevent metastasis of young women's breast cancer
Goals of Project: The hypothesis of this project is that NSAID treatment during postpartum involution results in maturation of mammary myeloid cells towards a tumor suppressive phenotype that associates with increased CD8 effector T cells, tumor regression and metastasis blockade.

BCRP, IDEA Expansion Award BC123567 (Schedin, Hansen) 10/01/2013-4/30/2017
W81XWH-13-1-0218
DOD
Title: Define tumor-suppressive signatures and how they change upon loss of tumor dormancy
Goals of Project: Use quantitative mass spectrometry approaches to identify ECM proteomes of MCF10DCIS xenograft breast tumor tissue arising in four different host models that range from tumor suppressive to promotional. Determine the influence of NSAID treatment on the tumor ECM proteome using rodent models and clinical samples from women newly diagnosed with early stage breast cancers and treated with NSAID therapy or no therapy, prior to definitive surgery.

P01 CA151135-04 (Ambrosone) 8/01/2011-7/31/2016
NIH
Title: P01 Epidemiology of Breast Cancer Subtypes in African American Women: A Consortium
Goal of Project: The goal of the PO1 is to investigate 4 distinct hypotheses that may account for the poor prognosis in Women of African ancestry (AA) who are diagnosed with breast cancer before age 45. Specific objectives: to assess the relation of reproductive factors, specifically parity and lactation, to genetic factors to explore how these factors interact to influence risk of breast cancer subtypes in African American (AA) women.
Role: Consultant on Project 2 (5% effort), PI: Julie Palmer, Boston University

W81XWH-13-1-0078 (Borges) 7/01/2013-6/30/2016
DOD
Title: Can Exosomes Induced by Breast Involution Be Markers for the Poor Prognosis and Prevention of Postpartum Breast Cancer?
Goal of Project: This research is designed to lead to the development of a 'postnatal pill', with administration limited to postpartum involution, and suitable for the vast majority of recently pregnant women, as well as identify new targets for treatment of postpartum breast cancer.
Role: Collaborator

BC104100/BC104100P1 (Schedin) 8/01/2011-7/31/2014
DOD
Title: A Multidisciplinary Approach to Pregnancy-Associated Breast Cancer
Goal of Project: Test the hypothesis that macrophage infiltration and collagen reorganization during postpartum mammary gland involution are interdependent and causal to tumor cell metastasis.

Grant Mechanism: CCTSI Phase I - Novel Methods Application 2013 6/01/2013-5/31/2014
UCCC/CCTSI
Title of the Proposal: Non-Invasive Macrophage Imaging in Breast Cancer Models
Phase I Investigator: Pepper Schedin, PhD, Professor of Medicine, Division of Medical Oncology
Phase II Investigator: Natalie Serkova, PhD, Associate Professor of Anesthesiology, Radiology and Pharmacology, UCCC/CCTSI Imaging Core

Avon Foundation Center of Excellence Grant (Horwitz) 7/2012-6/2013
Title: Does risk and reproductive history alter post-partum involution and change the window of opportunity for prevention?
Goal of Project: Determine if time course and mechanisms of postpartum mammary gland involution identified in a Colorado Caucasian population with average breast cancer risk occurs in populations of women with high risk and enriched in AA women with distinct reproductive histories.
Role: PI of Project #2

BC101904 (Schedin) 4/2011-4/2013
Department of Defense
Title: The immune modulatory program of postpartum involution promotes pregnancy associated breast cancer
Goals of Project: Determine the role of regulatory T cells during postpartum involution in rodents and humans, association of Tregs with PABC and impact of their suppression during involution on disease progression.
Role: PI

BC095850 (Schedin) 9/2010-9/2012
Department of Defense
Title: Defining the dormant tumor environment for breast cancer prevention and treatment studying stroma of quiescent glands induced by parity and tamoxifen.
Goal of Project: Use models of primary tumor quiescence to gain insight into role of ECM in tumor cell dormancy.
Role: PI

NIH-R21CA132741 (Hansen) 9/2010-8/2012
Title: Methods for the Analysis of Tumor Extracellular matrix
Goals of Project: Develop methods for solubilization of extracellular matrix proteins with the objective of improving sequence coverage and protein identification.
Role: Co-Investigator

Avon Foundation Center of Excellence Grant (Horwitz) 7/2011-6/2012
Title: Tumor promotional macrophages identify and underscore the metastatic potential of pregnancy-associated breast cancer
Goal of Project: Investigate the role of macrophages in PABC
Aim 1: Characterize macrophages that infiltrate human PABC for markers of polarization.
Aim 2: Determine if macrophage phenotype quantity and or phenotype are independent or dependent on underlying subtype of breast cancer.
Role: PI of Project #2

KG090629 (Schedin) 7/2009-6/2012
Komen Foundation for the Cure
Title: Targeting the pro-inflammatory milieu of the involuting gland to suppress pregnancy-associated breast cancer metastasis
Goals of Project: To determine whether fish oil and ibuprofen treatment targeted to involution prevent breast cancer promotion and metastasis in pre-clinical models of PABC, thus identifying mammary gland involution as a rational target for breast cancer prevention.
Role: PI

BCRF 09-06-26BORG (Borges) 1/2009-12/31/2011
AACR

Title: Targeting the Inflammatory Milieu of Pregnancy-Associated Breast Cancer
Goal: Demonstrate a 10 point change in mean Ki-67% index between baseline tumor sample and sample taken at the time of definitive surgery in patients receiving either fish oil supplementation or celecoxib for 2-3 weeks pre-operatively as compared to controls.
Secondary Objectives: To preliminarily assess the safety of administration of fish oil supplementation and celecoxib in the pre-operative period.
Role: Co-PI

KG081323 (Anderson) 9/2008-8/2011
Title: Modulation of Obesity-Induced Breast Cancer Risk by Metformin
Goals of Project: In pre-clinical rodent models, investigate the relationships between pre-menopausal weight gain, post-menopausal breast cancer risk and effects of intervention targeted to glucose utilization.
Specific Aims: AIM 1. Determine whether oral administration of Metformin will reduce NMU-induced mammary tumorigenesis in OP rats, to levels characteristic of OR control rats. AIM 2: Determine whether Metformin reverses the OP humoral phenotype and define the molecular targets associated with Metformin treatment.
Role: Collaborator

Synergistic Idea Award (Schedin) 7/2007-7/2009
Department of Defense
Title: The Inflammatory Milieu Permits Metastasis in Pregnancy Associated Breast Cancer
Goal: Determine whether pregnancy-associated breast cancer (PABC) is characterized by desmoplastic stroma and develop new animal models for the study of PABC.
Role: PI