

## Professional Advancement Session for Young Investigators

Supported by the Prevent Cancer Foundation  
Liberty C

**Chairperson: Waun Ki Hong**, UT M. D. Anderson Cancer  
Center, Houston, TX

This session will provide an opportunity for early-career scientists to assess their career goals and professional development based upon the experience of accomplished scientists. A panel composed of leaders in the cancer prevention field will discuss career paths and answer questions on how early-career scientists can advance to the next level in cancer prevention research.

### Panelists

**David S. Alberts**, Arizona Cancer Center, Tucson, AZ  
**Monica Marie Bertagnolli**, Brigham and Women's  
Hospital, Boston, MA

**Steven M. Dubinett**, Jonsson Comprehensive Cancer  
Center, David Geffen School of Medicine at UCLA,  
Los Angeles, CA

**Eva Szabo**, National Cancer Institute, Bethesda, MD

Box lunches will be provided.

Participation in this session is restricted to predoctoral or medical students, and postdoctoral fellows or physicians-in-training.

Pre-registration for this session was encouraged. All others will be admitted on a space-available basis.

### Educational Session 1: Carcinogens Cause Cancer: Recent Advances

Salons I-J

**Chairperson: Stephen S. Hecht**, University of Minnesota Cancer Center, Minneapolis, MN

In the current age of “omics,” genetics, and molecular pathways, the role of chemical carcinogens in cancer etiology is sometimes overlooked. This session will provide an overview of the well-established role of chemical carcinogens as causes of human cancer, based on known lifestyle, occupational, and dietary exposures. Summaries of human carcinogens (as evaluated by the International Agency for Research on Cancer and the U.S. Department of Health and Human Services) and of tobacco carcinogens will be presented. Some current research on aflatoxins and aromatic amines— known human carcinogens arising from lifestyle and dietary exposures— will also be discussed.

Overview of human and tobacco carcinogens

**Stephen S. Hecht**, University of Minnesota Cancer Center, Minneapolis, MN

\*Chemical carcinogens in the -omics era

**John D. Groopman**, Johns Hopkins University, Baltimore, MD

Recent studies on aromatic amines: Human carcinogens

**Mimi C. Yu**, University of Minnesota, Minneapolis, MN

### Educational Session 2: Transdisciplinary Research in Action: Prostate, Cervical, and Tobacco-Related Cancer

Salons K-L

**Chairperson: Caryn Lerman**, Abramson Cancer Center, University of Pennsylvania, Philadelphia, PA

This session will focus on the application of a transdisciplinary paradigm to integrate basic, clinical, and population science research in the areas of prostate cancer, cervical cancer, and tobacco control. Dr. Rebbeck will discuss a transdisciplinary framework being used to identify determinants of disparities in prostate cancer outcomes. He will present new data that illustrate the integration of diverse methodologies and analytic approaches for epidemiologic, genetic, and behavioral research. Using a transdisciplinary approach that integrates basic biology with individual level and community factors, Dr. Paskett will present data on the multi-level factors that contribute to cervical cancer disparities. She will also discuss the use of culturally-appropriate interventions to improve screening and reduce tobacco use among underserved populations in Appalachia, Ohio. Finally, Dr. Lerman will present data on tobacco addiction pharmacogenetics and medication development to illustrate both transdisciplinary and translational research frameworks in tobacco control research.

Determinants of disparity in prostate cancer outcomes

**Timothy R. Rebbeck**, University of Pennsylvania School of Medicine, Philadelphia, PA

Cervical cancer disparities in Appalachia, Ohio

**Electra D. Paskett**, Ohio State University Comprehensive Cancer Center, Columbus, OH

Tobacco use research: From cells to society

**Caryn Lerman**, Abramson Cancer Center, University of Pennsylvania, Philadelphia, PA

\*An extended abstract for this presentation is available in the Invited Abstracts section of the *Proceedings*.

## Educational Session 3: Tumor Microenvironment

Franklin I

**Co-Chairpersons:** **Adriana Albini**, IRCCS Multimedica, Milan, Italy, and **Michael B. Sporn**, Dartmouth Medical School, Hanover, NH

The tumor microenvironment, which includes all of the cells in a carcinoma other than the epithelial cells of such a lesion, is now recognized as being an essential, intrinsic component of the carcinogenic process. This session will review: 1) the basic biology of the tumor microenvironment and tumor progression; 2) the interactions of both small molecules and the peptide growth factor, TGF- $\beta$ , with components of the microenvironment, as related to chemoprevention; and 3) the importance of the processes of inflammation and angiogenesis as targets for chemoprevention. The goal of the session is to provide an integrated overview of new directions in chemoprevention, as mediated by the microenvironment.

Introduction

**Adriana Albini**, IRCCS Multimedica, Milan, Italy

\*The role of the tumor microenvironment in tumor progression

**Isaac P. Witz**, Tel Aviv University, Tel Aviv, Israel

\*TGF- $\beta$ s as key mediators of tumor-stromal interactions: Opportunities for prevention

**Lalage M. Wakefield**, National Cancer Institute, Bethesda, MD

\*Angioprevention: Targeting angiogenesis and inflammation in prevention strategies

**Adriana Albini**, IRCCS Multimedica, Milan, Italy

Interactions of triterpenoids and rexinoids with stromal elements in the microenvironment

**Michael B. Sporn**, Dartmouth Medical School, Hanover, NH

### Educational Session 4: Preclinical Models for Prevention

Salons K-L

**Chairperson: Ming You**, Washington University School of Medicine, St. Louis, MO

In this session, we will discuss several animal models of cancer chemoprevention. Dr. You will discuss the application of a newly developed lung squamous cell carcinoma model in chemoprevention studies. Mouse lung squamous cell carcinomas have similar histopathological features when compared with those of human squamous cell carcinomas. Several promising chemopreventive agents have been tested in this mouse model, and the results will be presented. Dr. Wattenberg will present some recent findings of chemopreventive agents for the respiratory tract using the hamster and mouse models. Two major aims for advancing the field of chemoprevention will be discussed. The first focuses on identifying inhibitors that are effective when given at a late stage of precancer and could be administered over a short duration of time. The second deals with selection of agents for development that have been consumed or administered to human populations over a significant period of time with at most producing trivial side effects. Dr. Lubet will discuss prevention studies in the MNU-induced ER-positive rat model of breast cancer. He will present data on both hormonal agents (SERMs and aromatase inhibitors) and non-hormonal agents (RXR agonists, EGFR agonists, and farnesyltransferase inhibitors) which are effective in this model as well as list a wide variety of ineffective agents. In addition, he shall discuss biomarkers that may rapidly predict the efficacy or lack of efficacy of potential agents.

Mouse models of lung squamous cell carcinomas:  
Application to chemoprevention studies

**Ming You**, Washington University School of Medicine, St. Louis, MO

\*Some recent findings of chemopreventive agents for the respiratory tract using the hamster and mouse models

**Lee W. Wattenberg**, University of Minnesota, Minneapolis, MN

\*Use of a carcinogen-induced rat mammary tumor model both to identify chemopreventive agents and to examine potential efficacy biomarkers

**Ronald A. Lubet**, National Cancer Institute, Rockville, MD

### Educational Session 5: Prevention Clinical Trials for the Non-clinician

Franklin I

**Chairperson: Scott M. Lippman**, UT M. D. Anderson Cancer Center, Houston, TX

This session will address the design, analysis, and logistics of prevention clinical trials— from identification of potential preventive agents in the laboratory, to development of early phase clinical trials to test the safety and activity of the most promising agents, to the challenges inherent in the design and implementation of large, late-phase trials. Dr. Alberts will address the wide range of agents considered for prevention trials and issues in the development, formulation, and selection of optimal study drugs for early phase (phase 0, I, and II) trials. Dr. Lee will address the practical aspects of prevention study design, including integration of biomarkers. Finally, Dr. Bertagnolli will speak to the complexities of the design, implementation, and interpretation of large phase III prevention clinical trials.

Introduction

**Scott M. Lippman**, UT M. D. Anderson Cancer Center, Houston, TX

From a glint in the eye of a medicinal chemist to early-phase chemoprevention trials: Blood, sweat, and cheers!

**David S. Alberts**, Arizona Cancer Center, Tucson, AZ

\*Stacking the odds for success: Choosing biomarkers, endpoints, and designs for mid- to late-phase prevention trials  
**J. Jack Lee**, UT M.D. Anderson Cancer Center, Houston, TX

The devilish details of large-scale prevention trials  
**Monica Marie Bertagnolli**, Brigham and Women's Hospital, Boston, MA

Panel Discussion

\*An extended abstract for this presentation is available in the Invited Abstracts section of the *Proceedings*.

## Educational Session 6: Stem Cells

Salons I-J

**Co-Chairpersons:** **Michael F. Clarke**, Stanford University School of Medicine, Palo Alto, CA, and **Timothy C. Wang**, Columbia University Medical Center, New York, NY

Remarkable progress has been achieved in the last several years in identifying cancer initiating cells, or cancer stem cells, from a variety of solid tumors. It has been known for some time that tumors comprise a heterogeneous collection of cell types. Cancer stem cells are believed to comprise a small subset of cells within human cancers that have the unique properties of self-renewal and the ability to sustain the tumor as a whole. In this session, the three speakers will address the concept of cancer stem cells, the utility of various markers such as CD44 and CD133, and their relationship to normal tissue stem or progenitor cells, and provide examples from their own studies.

Self renewal pathways in normal and cancer stem cells  
**Michael F. Clarke**, Stanford University School of Medicine, Palo Alto, CA

\*Inflammation and cancer stem cells  
**Timothy C. Wang**, Columbia University Medical Center, New York, NY

Brain tumor stem cells in human and mouse  
**Peter B. Dirks**, Hospital for Sick Children, Toronto, Ontario, Canada

\*An extended abstract for this presentation is available in the Invited Abstracts section of the *Proceedings*.

### Educational Session 7: Cancer Systems Biology

Salons K-L

**Chairperson: Gordon B. Mills**, UT M. D. Anderson Cancer Center, Houston, TX

Systems biology is the study of the emergence of functional properties that are present in a biological system but that are not obvious from a study of its individual components. Systems biology represents a paradigm shift from an in-depth study of one molecule or a few molecules at a time to a study of a system of integrated, interacting molecules. Systems biology attempts to understand how a process, a cell, a group of cells, or an organism works at a global level and how different components of the process cooperate to attain the "correct" functional outcome. It is now recognized that component-by-component analysis is not sufficient for the study of signal transduction, gene regulatory and biochemical networks, oncogenic transformation, and other processes in which many genes and proteins interact. Understanding the dynamics of such systems, both qualitatively and quantitatively, and constructing mathematical models with robust predictive capabilities will result in powerful new tools for biomedical research. The systems approach will be directly applicable to cancer prevention as we implement chemoprevention and molecular markers leading to personalized cancer prevention.

\*Role of systems biology in chemoprevention drug identification and implementation

**Gordon B. Mills**, UT M. D. Anderson Cancer Center, Houston, TX

An integrative approach to cancer biomarker identification

**John N. Weinstein**, National Cancer Institute, Bethesda, MD

Systems biology analysis of cancer signaling networks

**Prahlad T. Ram**, UT M. D. Anderson Cancer Center, Houston, TX

### Educational Session 8: Perception of Cancer Risk: Does It Matter?

Franklin 2

**Chairperson: Michael E. Stefaneck**, American Cancer Society, Atlanta, GA

This session will address the relevance of risk perception in cancer prevention and early detection. After an introduction on risk and risk perception to provide a general framework, the presentations will focus on how risk perception relates to cancer related behavior. The presentations will also: 1) provide information on the importance of attending to both affect and cognition as influences in risk perception, particularly in colorectal cancer screening; 2) review many of the psychological processes that underlie risk perception and health-related decision making; and 3) provide useful suggestions for the elicitation and communication of personal risk by health care professionals.

Introduction

**Michael E. Stefaneck**, American Cancer Society, Atlanta, GA

\*Affect, cognition, superstition: Novel approaches to examining cancer risk perceptions in cancer prevention and control

**Jennifer L. Hay**, Memorial Sloan-Kettering Cancer Center, New York, NY

Psychology of cancer risk perception

**William Klein**, University of Pittsburgh, Pittsburgh, PA

\*An extended abstract for this presentation is available in the Invited Abstracts section of the *Proceedings*.

## Educational Session 9: Signal Transduction Pathways as Targets for Chemoprevention

Salons I-J

**Chairperson: Jonathan M. Kurie**, UT M. D. Anderson Cancer Center, Houston, TX

The field of cancer prevention has benefited greatly from recent advances in our understanding of the genetic and biochemical events that precede the development of invasive carcinoma. Findings from cellular and mouse models of colonic, breast, pancreas, and lung cancer will be presented, showing that tumor cells and their precursors communicate bi-directionally with cells in the tumor microenvironment by secreting growth factors and chemokines, establishing a cooperative interaction that is required for malignant progression.

\*Sorting out roles for EGF receptor and its ligands in colonic neoplasia

**Robert J. Coffey**, Vanderbilt University Medical Center, Nashville, TN

\*Stromal signaling pathways as targets for prevention  
**Harold L. Moses**, Vanderbilt University, Nashville, TN

\*Targeting kinases in lung cancer prevention  
**Jonathan M. Kurie**, UT M. D. Anderson Cancer Center, Houston, TX

## Educational Session 10: Translational Regulation: A Promising Target for Cancer Prevention

Franklin I

**Chairperson: Nancy H. Colburn**, NCI-Frederick, Frederick, MD

Translation becomes overactivated during tumorigenesis and tumor progression in a number of cancer sites. Translation can be overactivated through elevated expression or activity of oncogenic translation initiation factors, such as eIF4E and eIF4G. Alternatively, elevation of microRNA expression during carcinogenesis can reduce the stability of target tumor suppressing mRNAs and thus their translation. This session will focus on tumor suppressor Pdc4 that suppresses carcinogenesis by targeting translation initiation and on microRNAs that may target various tumor suppressors. Promising new strategies will aim to maintain translation of tumor suppressors but target translation of oncogenic proteins.

Pdc4 targets translation initiation to suppress tumorigenesis and invasion  
**Nancy H. Colburn**, NCI-Frederick, Frederick, MD

\*Pdc4, a colon cancer prognostic that is regulated by a microRNA  
**Heike Allgayer**, University Heidelberg, Mannheim, Germany

\*Reprogramming of microRNA expression by oncogenes and tumor suppressors  
**Joshua Mendell**, Johns Hopkins University, Baltimore, MD

\*An extended abstract for this presentation is available in the Invited Abstracts section of the *Proceedings*.

Welcome and Remarks

**Margaret Foti**, CEO, American Association for Cancer Research, and **Andrew J. Dannenberg**, Scientific Program Committee Chairperson

Keynote Address

\*Inflammation and cancer prevention: Is there a link?

**Raymond N. DuBois**, UT M. D. Anderson Cancer Center, Houston, TX

Distinguished Lecture on Targets for Cancer Prevention

Nuclear receptors: Metabolic engineering and the dawn of synthetic physiology

**Ronald M. Evans**, The Salk Institute for Biological Studies, La Jolla, CA

All attendees are invited to attend the Opening Reception. Hors d'oeuvres will be served and there will be a hosted bar. Conference badges will be required.

\*An extended abstract for this presentation is available in the Invited Abstracts section of the *Proceedings*.

## Meet-the-Expert Session 1 Pharmacogenetics of NSAIDs and Folate in Colorectal Cancer: Where to Next?

Independence Ballroom

**Cornelia M. Ulrich**, Fred Hutchinson Cancer Research  
Center, Seattle, WA

## Meet-the-Expert Session 3 Tertiary Prevention: Quality Care and Outcomes for Cancer Survivors

Liberty A

**Alfred I. Neugut**, Columbia University, New York, NY

## Meet-the-Expert Session 2 Prevention Research That Makes a Public Health Difference

Liberty C

**Michael J. Thun**, American Cancer Society, Atlanta, GA

Many young investigators interested in the application of epidemiology for cancer prevention find that their research and career trajectory is shaped by external factors such as the types of data available for analysis, the research interests of mentors, funding considerations, and institutional expectations. Rarely do academic programs formally examine the rate limiting factors that impede prevention efforts, or consider the types of studies that would be most effective in overcoming these barriers. Consequently, young epidemiologists may spend years replicating or refining hypotheses with little bearing on prevention or studying questions that are very difficult to evaluate using conventional observational approaches. This session will consider examples relating to tobacco, obesity, socioeconomic disparities, and chemoprevention with respect to the barriers that currently prevent or limit the application of effective interventions and the types of research that might be most effective in overcoming these barriers.

**Plenary Session 1: Predicting Cancer Risk:  
Advances in Genetics, Biomarkers, and  
Behavioral Science**

Salons G-H

**Chairperson: Kenneth Offit**, Memorial Sloan-Kettering  
Cancer Center, New York, NY

As a result of the human genome project, increased understanding of genetic variation has led to new approaches to define novel markers of cancer risk. At the same time, advances in the understanding of cancer biology have led to elucidation of biomarkers associated with risk. These novel predictive risk markers have the potential to lead to more effective strategies for cancer prevention and early detection. This progress depends on behavioral endpoints as the final common pathway. This session will review recent advances in each of these three areas which define important aspects of the research agenda in preventive oncology.

Introduction

**Kenneth Offit**, Memorial Sloan-Kettering Cancer Center,  
New York, NY\*Genetic polymorphisms in breast cancer risk  
and prevention**James Newell Ingle**, Mayo Clinic, Rochester, MNGenome-wide association studies in common cancers:  
Identifying susceptibility loci in the genome**Stephen Chanock**, National Cancer Institute,  
Bethesda, MD

Biomarkers for chemoprevention studies

**Miriam P. Rosin**, BCCA Cancer Research Center, Vancouver,  
British Columbia, CanadaBehavioral interventions for individuals at increased risk of  
colon cancer**Sharon L. Manne**, Fox Chase Cancer Center,  
Philadelphia, PA

\*An extended abstract for this presentation is available in the Invited Abstracts section of the *Proceedings*.

## Concurrent Session 1: Epigenomics and Cancer Prevention

Salons K-L

**Co-Chairpersons:** **James G. Herman**, Johns Hopkins University School of Medicine, Baltimore, MD, and **Victoria M. Richon**, Merck & Co., Inc., Boston, MA

Changes in DNA methylation in cancer and preinvasive lesions

**James G. Herman**, Johns Hopkins University School of Medicine, Baltimore, MD

Development of HDAC inhibitors as anticancer agents

**Victoria M. Richon**, Merck & Co., Inc., Boston, MA

Clinical and molecular implications of epigenetic alterations in human leukemia

**Guillermo Garcia-Manero**, UT M. D. Anderson Cancer Center, Houston, TX

Histone modifications in cancer biology and prognosis

**Sivash Kurdistani**, UCLA School of Medicine, Los Angeles, CA

## Concurrent Session 2: Hereditary Cancer Syndromes

Franklin 2

**Chairperson:** **Steven M. Lipkin**, University of California, Irvine, CA

In the past year there have been exciting advances in our understanding of the molecular basis of inherited cancer susceptibility. Systematic approaches using industrial scale technologies and consortia have generated unprecedented amounts of data on the genetics and epigenetics of cancer risk. What is the significance of these new findings to clinical oncology? How will they impact on the introduction of personalized medicine to clinical genetics? What is the meaning to the pharmaceutical industry and the FDA of these new studies? This session will focus on risk prediction for colorectal cancer, breast cancer, and chronic lymphocytic leukemia, addressing recent advances in the field and presenting the findings in the context of these questions.

Hereditary breast cancer: Beyond BRCA

**Kenneth Offit**, Memorial Sloan-Kettering Cancer Center, New York, NY

\*Hereditary colorectal cancer

**Steven M. Lipkin**, University of California, Irvine, CA

The heritability of chronic lymphocytic leukemia

**Albert de la Chapelle**, Ohio State University Comprehensive Cancer Center, Columbus, OH

\*\*Plasma IGF-I is inversely associated with colorectal adenoma recurrence

**Elizabeth T. Jacobs**, Arizona Cancer Center, Tucson, AZ

\*\*FGFR2 is a breast cancer susceptibility gene in Israeli populations

**Leon Raskin**, University of Michigan Medical School and School of Public Health, Ann Arbor, MI

\*An extended abstract for this presentation is available in the Invited Abstracts section of the *Proceedings*.

\*\*An extended abstract for this presentation is available in the Proffered Papers section of the *Proceedings*.

**Concurrent Session 3: Science of Policy-related Interventions in Tobacco Control**

Salons I-J

**Chairperson: K. Michael Cummings**, Roswell Park Cancer Institute, Buffalo, NY

This session describes the International Tobacco Control (ITC) Policy Evaluation study and provides highlights from studies conducted to date. The ITC study utilizes multiple country controls, a longitudinal design, and a pre-specified, theory-driven conceptual model to test hypotheses about the anticipated effects of the demand reducing policies of the Framework Convention on Tobacco Control (FCTC) among adult smokers. The rationale for the study and study design are outlined along with highlights from ITC evaluations on product warnings, ad ban, taxation, smoke free policies, and tobacco product regulations. As tobacco control policies are formulated and implemented, it is important that they undergo rigorous evaluation since the effects are not always as predicted.

The International Tobacco Control Policy Evaluation Project: Evaluating the policies of the Framework Convention on Tobacco Control

**Geoffrey T. Fong**, University of Waterloo, Waterloo, Ontario, Canada

What we know about the effectiveness of tobacco product regulations: From smoke-free policies to emission limits to fire safe cigarettes

**K. Michael Cummings**, Roswell Park Cancer Institute, Buffalo, NY

What we know about the demand reducing effects of taxation policies and advertising bans

**Frank Chaloupka**, University of Illinois at Chicago, Chicago, IL

What we know about the effectiveness of tobacco product labeling policies: From warnings to brand descriptors

**David Hammond**, University of Waterloo, Waterloo, Ontario, Canada

Reflections on the interface of science and policy in tobacco control

**Robert T. Croyle**, National Cancer Institute, Bethesda, MD

**Concurrent Session 4: Xenobiotic Metabolism and Cancer**

Franklin I

**Chairperson: Philip Lazarus**, Penn State University College of Medicine, Hershey, PA

In this session, a review of some of the major mechanisms of xenobiotic metabolism will be discussed, with a particular emphasis on how they relate to future strategies for cancer prevention and therapy. The first two presentations will focus on phase II metabolic pathways, specifically glucuronidation and glutathiolation, and their role in carcinogen metabolism and cancer susceptibility. The third presentation will focus on the metabolism of the heterocyclic amine, PhIP, a potent carcinogen abundant in charbroiled foods, tobacco smoke, and other exposures, and its role in individual susceptibility to cancer. The fourth presentation will focus on the role of pharmacogenetics of tamoxifen metabolism as a determinant of patient response and toxicity.

\*The UDP-glucuronosyltransferases and cancer susceptibility

**Philip Lazarus**, Penn State University College of Medicine, Hershey, PA

\*Glutathione S-transferases and S-glutathionylation in cancer

**Kenneth D. Tew**, Medical University of South Carolina, Charleston, SC

\*Relationship of PhIP metabolism and DNA binding to cancer susceptibility

**James S. Felton**, Lawrence Livermore National Laboratory, Livermore, CA

Tamoxifen pharmacogenetics: Role in patient response and toxicity

**David A. Flockhart**, Indiana University Cancer Center, Indianapolis, IN

\*An extended abstract for this presentation is available in the Invited Abstracts section of the *Proceedings*.

## Concurrent Session 5: Bioactive Food Components and Cancer Prevention

Franklin 2

**Chairperson: Thomas W. Kensler**, Johns Hopkins Bloomberg School of Public Health, Baltimore, MD

Numerous epidemiological studies from many parts of the world report strikingly lower cancer risks among individuals who consume large quantities of fruits and vegetables. As a consequence, a great variety of foods and supplements have been implicated as being sources of protective phytochemical factors. These components can be used as discrete chemicals, dietary supplements, or in functional foods. This symposium will discuss current approaches to the identification and use of bioactive food components in these different forms for cancer prevention.

\*Whole foods or phytochemicals? Considerations for chemoprevention

**Jed W. Fahey**, Johns Hopkins University School of Medicine, Baltimore, MD

\*Isolation and evaluation of natural product cancer chemopreventive agents

**John M. Pezzuto**, University of Hawaii at Hilo, Hilo, HI

\*A food-based approach to prevention of gastrointestinal tract cancers

**Gary D. Stoner**, Ohio State University, Columbus, OH

\*\*Consumption of raw, but not cooked, cruciferous vegetables and reduction of bladder cancer risk

**Li Tang**, Roswell Park Cancer Institute, Buffalo, NY

\*\*Inhibition of colorectal tumorigenesis in azoxymethane (AOM)-treated rats by green tea polyphenols

**Hang Xiao**, Rutgers, the State University of New Jersey, Piscataway, NJ

## Concurrent Session 6: Clinical Prevention Trials

Salons I-J

**Chairperson: Eva Szabo**, National Cancer Institute, Bethesda, MD

The translation of promising mechanistic, epidemiologic, and preclinical data into strategies that prevent cancer in human beings requires the performance of clinical trials that carefully assess the utility of specific approaches in well defined participant cohorts. Although chemoprevention is still a relatively young discipline, the results of multiple clinical trials that translate our rapidly expanding understanding of the process of carcinogenesis into usable treatment approaches are now beginning to mature. This session will report the results of several innovative phase II and III chemoprevention trials and will focus on new trial designs for future clinical testing.

Women's Healthy Eating and Living Study: A phase III breast cancer trial

**John P. Pierce**, Moores UCSD Cancer Center, La Jolla, CA

Marked reduction of the occurrence of total and advanced adenomas in a randomized placebo-controlled trial of difluoromethyornitnie plus sulindac in patients with prior adenomas

**Frank L. Meyskens**, Chao Family Comprehensive Cancer Center, Orange, CA

A phase III skin prevention trial with DFMO

**Howard H. Bailey**, UW Comprehensive Cancer Center, Madison, WI

\*Pioglitazone in oral leukoplakia: A phase II trial

**Frank G. Ondrey**, University of Minnesota, Minneapolis, MN

\*Innovative cancer prevention clinical trial design

**Eva Szabo**, National Cancer Institute, Bethesda, MD

\*An extended abstract for this presentation is available in the Invited Abstracts section of the *Proceedings*.

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### Concurrent Session 7: Lung Cancer Screening: Promise and Pitfalls

Salons K-L

**Chairperson: Christine Dorothy Berg**, National Cancer Institute, Rockville, MD

Lung cancer death rates for males continue to decline and current evidence suggests that lung cancer death rates for females have stabilized due primarily to smoking cessation. Effective screening and improved smoking cessation strategies would accelerate this progress. This session will review the current debate swirling around helical computerized tomographic screening for lung cancer. The National Lung Screening Trial— a well designed and conducted, NCI funded, randomized trial— has potential to best define the benefits and risks attendant upon screening and will be reviewed. Overdiagnosis may have been seen in earlier chest x-ray screening trials, and is potentially more of a problem with a highly sensitive technology such as helical CT. Radiation exposure with helical CT screening is higher than CXR and long term risks of radiation carcinogenesis need to be balanced against potential lung cancer mortality reductions from screening. Lung cancer screening may have additional overall health benefits by providing a “teachable moment” to encourage current smokers to quit and former smokers to avoid relapse. Given the approximately 85 million current and former smokers in the United States, lung cancer screening is an important public health issue.

Smoking cessation among lung cancer screening enrollees: Opportunities and challenges  
**Jamie S. Ostroff**, Memorial Sloan-Kettering Cancer Center, New York, NY

Overdiagnosis: Does it exist for lung cancer?  
**Peter P. Bach**, Memorial Sloan-Kettering Cancer Center, New York, NY

Helical CT screening for lung cancer: Design and conduct of the National Lung Screening Trial  
**Christine Dorothy Berg**, National Cancer Institute, Rockville, MD

The risk of radiation-induced cancer from lung cancer screening with helical CT and follow-up diagnostic evaluations  
**Amy Berrington de Gonzalez**, Johns Hopkins University, School of Public Health, Baltimore, MD

### Concurrent Session 8: New Approaches for Old (and New) Drugs as Cancer Preventive Agents

Franklin I

**Chairperson: Andrea U. Decensi**, E.O. Ospedali Galliera, Genoa, Italy

The recently emerging unexpected adverse events of candidate cancer chemopreventive agents are important reminders that efficacy and safety go hand in hand. The use of drugs with proven effectiveness and long-term tolerability in the treatment of several diseases— including cancer, CVD, asthma, diabetes, gout, etc.— may guide us in our choice of experimental agents that are safe, have multitarget effects beyond a single disease, are inexpensive, and that may prompt innovative clinical investigation efforts. This session will review a number of potential candidates that exemplify this paradigm shift in clinical chemoprevention strategies.

"Overcoming resistance" to old drugs: The case of tamoxifen, bicalutamide, budesonide, and beyond  
**Andrea U. Decensi**, E.O. Ospedali Galliera, Genoa, Italy

Old drugs, new tricks: The case of aspirin  
**John A. Baron**, Dartmouth Medical School, Lebanon, NH

Taking the one drug-one disease model forward: Statins and cancer risk. A review of the evidence  
**Elizabeth A. Platz**, Johns Hopkins University, Baltimore, MD

\*Insulin resistance: Influence on cancer risk and cancer prognosis  
**Michael N. Pollak**, McGill University / Jewish General Hospital, Montréal, Quebec, Canada

\*An extended abstract for this presentation is available in the Invited Abstracts section of the *Proceedings*.

## Plenary Session 2: Immune System as a Target for Prevention

Salons G-H

**Chairperson: Lisa M. Coussens**, UCSF Comprehensive Cancer Center and Cancer Research Institute, San Francisco, CA

Our appreciation of the complexity of tumor biology has led us from considering tumors as autonomous masses of mutant cells to an awareness of tumors as entities that hijack and exploit various normal physiologic processes of the host to their own advantage. The frequent presence of inflammatory cell infiltrates and chemical mediators of inflammation in tumors has been recognized for over a century, although an understanding of their role during cancer development has been elusive. Leukocytic infiltrates and pro-inflammatory cytokine/chemokine networks in premalignant tissues and tumors can be distinct depending upon the stage of malignant development and organ microenvironment. Current thinking is that activated immune cells provide both anti- and pro-tumorigenic signals, thus representing targets to be harnessed or attacked for therapeutic advantage depending upon

environmental and/or cellular context. This session will examine psychological/behavioral, epigenetic and cellular mediators of inflammation that alter cancer risk, in combination with a discussion on promising therapeutic chemopreventative approaches that cripple pro-inflammatory pathways exploited by developing tumors.

\*Psychological stress, immune and endocrine function, and cancer risk

**Janice Kiecolt-Glaser**, Ohio State University College of Medicine, Columbus, OH

Epigenetic gene silencing and cancer development: A mechanistic link between inflammation and human cancer  
**William G. Nelson**, Sidney Kimmel Comprehensive Cancer Center, Baltimore, MD

\*Host immune response regulates cancer development

**Lisa M. Coussens**, UCSF Comprehensive Cancer Center and Cancer Research Institute, San Francisco, CA

\*Aspirin, other NSAIDs, and cancer prevention: Where are we now?

**Eric J. Jacobs**, American Cancer Society, Atlanta, GA

## Special Session

6:00 p.m.-7:30 p.m.

### Behavioral Science Networking Event

Independence Ballroom

This informal, interactive event is open to all those interested in behavioral science and cancer prevention; please register at the door. Light snacks and beverages available. This popular event is sponsored by the AACR Task Force on Behavioral Science and Cancer which has actively participated in planning the Frontiers conference. The mission of the Task Force, chaired by Dr. Michael E. Stefanek

of the American Cancer Society, is to advance the field of behavioral science research; foster today's best science in the field of cancer-related behavioral research; increase the visibility of behavioral science research; highlight the best cancer-related behavioral research through AACR and its journals, annual meeting, and other forums; and encourage collaborative research contributions to the field of cancer research. For more information about the Task Force, e-mail [mark.mendenhall@aacr.org](mailto:mark.mendenhall@aacr.org).

## MEG Special Session and Reception

8:00 p.m.-9:30 p.m.

### New National Institutes of Health Funding Mechanisms

Liberty C

Members of the Molecular Epidemiology Working Group (MEG) and those interested in the field are invited to attend this special session and reception. Dr. Croyle will discuss the

course that NCI is taking in extramural research, i.e. where the grant opportunities are now and are likely to be in the future. Attendees can also learn about membership in the Working Group, meet the members of the Steering Committee, and network with colleagues.

**Robert T. Croyle**, National Cancer Institute, Bethesda, MD

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## Sixth Annual AACR-Prevent Cancer Foundation Award for Excellence in Cancer Prevention Research Breast Cancer Prevention: Learning from the Past, Mentoring the Future



**Leslie Bernstein, Ph.D.**  
Professor and Director,  
Department of Cancer Etiology  
Dean for Faculty Development  
City of Hope  
National Medical Center  
Duarte, CA

The AACR-Prevent Cancer Foundation Award for Excellence in Cancer Prevention Research is given annually to a scientist residing in any country in the world for his or her seminal contributions to the field of cancer prevention. Such investigations must have been conducted in basic, translational, clinical, epidemiological, or behavioral science in cancer prevention research. Further, these studies must have had not only a major impact on the field, but must also have stimulated new directions in this important area.

For nearly 25 years Dr. Leslie Bernstein's research has focused on the effects of exposure to exogenous and endogenous hormones on cancer risk, the late effects of treatment, the impact of lifestyle on prognosis, and quality of life among cancer survivors.

Dr. Bernstein's pioneering work examined the effects of exercise and weight on the onset of puberty and hormonal patterns during adolescence. This research challenged the paradigm that epidemiologic risk factors for breast cancer were largely unmodifiable; demonstrated that physical activity can directly decrease breast cancer risk; and laid the foundation for subsequent epidemiologic studies and clinical trials focused on understanding the joint contributions of physical activity and weight and the associated biologic mechanisms. This area is now a primary international focus of cancer prevention and control research.

She is further honored for her work identifying ethnicity-related variations and determinants of poor prognosis in risk in breast cancer, as well as leadership in studying the late effects of cancer treatment. Particularly, her work involving tamoxifen use and risk of endometrial cancer illuminated an important

association with estrogen therapy and obesity. This work has vast implications for cancer survivors and their quality of life.

Dr. Bernstein has also been a pioneer in the development and use of epidemiologic methods for evaluating the late effects of treatment and other important topics in cancer survivors. Using a multicenter population-based setting she substantiated the association between tamoxifen use and risk of subsequent endometrial cancer and demonstrated importantly for the first time that this association is modified by, and potentially restricted, to women who had previously used unopposed estrogen therapy or who were obese at the time of their breast cancer diagnoses. Recently, in a large HMO-based study of risk of stroke in relation to breast cancer therapies, she demonstrated the absence of an association between tamoxifen and stroke risk but an increased risk after chemotherapy.

Dr. Bernstein received her B.A. in Mathematics, M.S. in Gerontology, and Ph.D. in Biometry from the University of Southern California. She rose through the academic ranks of USC, culminating in her positions of Professor of Preventive Medicine at USC and the first holder of the AFLAC, Incorporated Chair in Cancer Research. She was named Professor Emeritus of USC following her retirement there.

She has been repeatedly honored for her outstanding scientific accomplishments. These honors include the American Society for Preventive Oncology Distinguished Achievement Award, the USC Presidential Medallion (the University's highest honor), and the Keck School of Medicine Stevely Hoffman Achievement Award, and distinguished lectureships including the Cutter Lectureship (Harvard University), the Meadow Brook Lecture (Wayne State and Oakland Universities), and the Sloan Memorial Lecture (Boston University). She has authored/co-authored more than 600 publications.

A member of the AACR since 1995, Dr. Bernstein has served the Association in a variety of capacities, including as an Editorial Board member of *Cancer Research*, *Clinical Cancer Research*, and *Cancer Epidemiology, Biomarkers and Prevention*, and as a member of various Committees.

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The Prevent Cancer Foundation is a national, non-profit health foundation with a single mission: the prevention and early detection of cancer through scientific research and education. The Foundation focuses its energies and resources on those cancers-including lungs, breast, prostate, colorectal, cervical, skin, oral, and testicular-that can be prevented through lifestyle changes or detection and treatment in their early stages. In addition to funding and recognizing excellence in research, the Foundation's public education programs have provided life-saving information about cancer to thousands of men, women, and children. The Prevent Cancer Foundation has contributed in a major way to the ongoing programs of the AACR and therefore has been named a "Champion of the AACR."

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## Behavioral and Social Science

### Decision Making

**A1 Treatment satisfaction in relation to shared decision making, quality of life, and barriers to care among breast cancer patients.** Amy Trentham-Dietz, Matthew C. Walsh.

**A2 Decision-making processes for risk-reducing surgery used by women at risk for hereditary breast/ovarian cancer (HBOC).** Lois J. Loescher, Kyung Hee Lim, April O'Connor.

### Diffusion and Dissemination

**A3 "The fight against cancer takes the metro": Cancer prevention campaign in Sao Paulo subway system, Brazil.** Mariana M. Marques, Cintia R. Bombardieri, Dirce M. Carraro, Ana CD Cintra, Patricia LN Costa, Guilherme Francisco, Juliana S. Kuribayashi, Patricia A. Possik, Marcia Triunfol.

### Genetic Testing and Counseling

**A4 Online genetic testing for lung cancer susceptibility: Predictors of uptake and informed decision making in smokers related to patients with lung cancer.** Suzanne O'Neill, Della B. White, Saskia Sanderson, Isaac M. Lipkus, Gerold Bepler, Lori A. Bastian, Colleen M. McBride.

**A5 Acculturation and familiarity, attitudes and beliefs about genetic testing for cancer risk within Latinas in East Harlem, New York City.** Katarina M. Sussner, Heiddis B. Valdimarsdottir, Hayley S. Thompson, Lina H. Jandorf.

**A6 A randomized trial of rapid genetic counseling versus usual care for high-risk women with newly diagnosed breast cancer.** Rachel Nusbaum, Beth N. Peshkin, Sarah Kelleher, Scott Kelly, Shawna Willey, Marie Pennanen, Costanza Cocilovo, Rebecca Evangelista, Jessica Rowse, Claudine Isaacs, Heiddis Valdimarsdottir, Marc D. Schwartz.

**A7 Differences in psychosocial variables between unaffected relatives and probands pursuing BRCA1/2 genetic counseling.** Patti L. Vegella, Tiffani DeMarco, Kristi Graves, Sarah Kelleher, Claudia Amendola, Scott Kelly, Rachel Nusbaum, Beth Peshkin, Wendy McKinnon, Marie Wood, Heiddis Valdimarsdottir, Marc Schwartz.

**A8 Risk reduction behaviors among individuals undergoing cancer risk assessment.** Linda Patrick-Miller, Wen Shen, Lanie Ross, Dezheng Huo, Olufunmilayo Olopade, Shelly Cummings, Melody White, Laura Dudlicek, Merion Verp, Angela Bradbury.

### Health Disparities

**A9 Time interval from diagnosis to treatment of breast cancer at an NCI Comprehensive Cancer Center: Survival and associated demographic factors.** Hae Seong Park, Norma Kanarek.

**A10 Physician intentions and HPV vaccination: The first year.** Sherri Sheinfeld Gorin, Rebeca Franco, Farida Hajiani, Carolyn Westhoff, New York Physicians against Cancer Study Group.

**A11 Breast cancer and cervical cancer control program enrollees inform the Kin Keeper<sup>SM</sup> curriculum.** Karen Patricia Williams, Athur Mabiso, Dorothy C. Lawshe.

**A12 Educational resources and perceptions of cancer by high school ethnic minority males in an urban setting.** Latisha Forster-Scott.

**A13 Racial differences in breast cancer diagnosis and initial course of therapy.** Lawrence H. Kushi, Sarah E. Krathwohl, Isaac Joshua Ergas.

### Health Economics, Policy, and Outcomes

**A14 The overall improvement of outcome results in oral cancer appears to be related to early detection.** Hans-Robert Metelmann, Peter Waite, Wolfram Kaduk.

Franklin Hall B

**Obesity, Diet, Physical Activity, and Energy Balance**

**A15** The association of dietary intake of heterocyclic aromatic amines and colorectal adenomas is modified by the intake of flavonols: Results from the EPIC-Heidelberg cohort. Sabine Rohrmann, Silke Hermann, Jakob Linseisen.

**A16** Adipocytokines and dysplastic aberrant crypt foci. Hirokazu Takahashi, Kyoko Yoneda, Hiroshi Iida, Ayako Tomimoto, Hiroki Endo, Masahiko Inamori, Yasunobu Abe, Atsushi Nakajima.

**Prevention Behaviors**

**A17** An appraisal of the level of awareness and utilization of the Pap test in Albania. Kozeta T. Filipi, Miranda Z. Hajdini, Nikolin K. Filipi, Silva B. Bino.

**A19** Insufficient awareness of cancer prevention programs in Commonwealth of Independent States (C.I.S.). Natalia Petenko, Ilya Tsimafeyev, Olga Streltsova, Uladzislau Naidzionak, Yulia Tishova, Somasundaram Subramanian, Lev Demidov.

**Quality of Life/Late Effects/Survivorship**

**A20** The use of complementary and alternative medicine among women with and without a history of cancer and association with health-related quality of life. Lisa M. Gallicchio, Bindu Kalesan, Susan Appling, Jennifer Bucholtz, Kathy Helzlsouer.

**A21** Effect of body composition change on markers of metabolic syndrome in breast cancer survivors on either fat or carbohydrate restricted diets. Jennifer W. Bea, Patricia Thompson, Anne Stroeckens, Emily Nardi, Georgette Frey, Allison Stopeck, Cynthia Thomson.

**Risk Communication**

**A22** Habitus and risk trajectories as relevant concepts for educative communication for cancer control: The case of Patio Bonito, Bogota. Carolina Wiesner-Ceballos, Claudia Cortes, Carol Pavajeau, Maria Clara Leal, Sandra Tovar.

**A23** Criteria for evaluation of perceived cancer clusters. Bernard W. Stewart.

**Screening and Early Detection**

**A24** Deficiency in systemic vitamin E metabolites is associated with colorectal cancer. Shawn Ritchie, Pearson Ahiaonu, Dushmanthi Jayasinghe, Doug Heath, Jun Liu, Yingshen Liu, Yasuyo Yamazaki, Kevin Krenitsky, Ichiro Takemasa, Masakazu Miyake, Mitsugu Sekimoto, Morito Monden, Alex McPherson, Charles Butts, Dayan Goodenowe.

**A25** Florida bladder cancer trends 1981-2004: Minimal progress in the reduction of advanced disease. Jill A. MacKinnon, Alan Nieder, David J. Lee, Lora E. Fleming, Leonidas G. Koniaris, Youjie Huang.

**A26** A population-based study of prevalence and compliance trends in colorectal and breast cancer screening. Pamela S. Sinicrope, Paul J. Limburg, Ellen L. Goode, Christina M. Smith, Sally W. Vernon, Christi A. Patten, Paul A. Decker, Andrew C. Hanson, L. Joseph Melton, Gloria M. Petersen.

**A27** National cancer screening for stomach cancer: Factors influencing participant's choice of screening method in Korea. Kui Son Choi, Jae Kwan Jun, Hoo-yeon Lee, Yun Mi Kim, Sohee Park, Eun-Cheol Park.

**Tobacco**

**A29** Policies to reduce tobacco harm: What works. K. Michael Cummings.

**A30** When tobacco company executives speak to people. K. Michael Cummings, Anthony Brown.

**A31** A preliminary study on impacts of stress and social support on smoking adjusting potential confounding factors. Yoon Hwa Kang, Min Kyung Lim, Ho Shin Ryu, Ehwa Yun, Jin Kyoung Oh, Eun Hye Lee, Joong Wan Nho, Ji Young Kim, Mi Jin Bae, Sunny Yim, Aesun Shin.

**A32 Retail tobacco availability: Measurement considerations and relation to smoking initiation.**

Yvonne M. Hunt, Leonard A. Jason, Monica L. Adams, Steven B. Pokorny, Michael E. Schoeny.

**A33 Validation of a paradigm for screening medications for nicotine dependence.**

Freda Patterson, Christopher Jepson, Joseph Frey, Kenneth Perkins, Andrew Strasser, Anna Boonin, Caryn Lerman.

**A34 Physical activity and smoking beyond high school: A latent growth curve mediation model through global physical self concept and peer smoking.**

Daniel Rodriguez, Janet Audrain-McGovern.

**A35 Adolescent physical activity and smoking: A moderated-mediation analysis of gender differences via sport competence beliefs and depressive symptoms.**

Daniel Rodriguez, James Tscherne, Genevieve Fridlund Dunton.

**A36 Empowered to stop smoking: The impact of a SDT smoking cessation intervention on whites and blacks.**

Colmar D. Figueroa-Moseley, Geoffrey C. Williams, Gary R. Morrow, Pascal Jean-Pierre.

**Biomarkers and Early Detection Research****Biomarkers of Cancer Susceptibility****A38 Association of single nucleotide polymorphisms within DNA repair genes with bronchial premalignant lesions in heavy ex-smokers.**

Jenny T. Mao, Shu-Chun Chuang, Zho-Feng Zhang.

**A39 Endogenous sex hormones and risk of prostate cancer: A prospective study.**

Jocelyn M. Weiss, Wen-Yi Huang, Sabina Rinaldi, Thomas R. Fears, Nilanjan Chatterjee, Ann W. Hsing, E. David Crawford, Gerald L. Andriole, Rudolf Kaaks, Richard B. Hayes.

**A40 Plasma cysteinylglycine levels and breast cancer risk in women.**

Jennifer-Hsiang-Ling Lin, JoAnn Manson, Jacob Selhub, Julie Buring, Shumin Zhang.

**A41 A systematic review of glutathione S-transferase genetic polymorphisms as risk factors in esophageal adenocarcinoma.**

Lara M. Bull, Hashem B. El-Serag, Zhannat Nurgalieva, Donna L. White.

**A42 Evidence for a CpG island methylator phenotype in early mammary carcinogenesis.**

Shauna N. Vasilatos, Siya Lem, Joseph C. Baker, Gregory R. Bean, Andrew D. Bryson, Patrick G. Piliie, Craig Rowell, Vanessa Goldenberg, Carolyn Paisie, Alejandro Torres, Victoria Scott, Lee G. Wilke, Catherine Ibarra-Drendell, Julie Ostrander, Carola M. Zalles, Gloria Broadwater, Victoria L. Seewaldt.

**A43 Prevalence of the TGFBR1 tumor susceptibility allele in young patients with oral squamous cell carcinoma.**

Jeanette M. Ferguson, Thomas J. Knobloch, David E. Schuller, Jas C. Lang, Christopher M. Weghorst, Amit Agrawal.

**A44 Racial variation in steroid hormone and growth factor concentration: US African-American and white female newborns.**

Tanya D. Agurs-Collins, Sabine Rohrmann, Catherine G. Sutcliffe, Jessica L. Bienstock, Gary Bradwin, Nader Rifai, Michael N. Pollak, Elizabeth A. Platz.

**Biomarkers of Carcinogen Exposure****A45 Human ether à go-go potassium channels in lung cancer cells and its modulation by environmental pollutants.**

Gersom S. Mena, Andrea De Vizcaya-Ruiz, Patricia Conde, Eunice Vera, Maricela Uribe, Alvaro R. Osornio-Vargas, Jose S. Lopez-Gonzalez, Javier Camacho.

**A46 Detection and quantitation of N'-nitrosonornicotine in human toenails by liquid chromatography-electrospray ionization-tandem mass spectrometry.**

Irina Stepanov, Stephen S. Hecht.

**A47 Analysis of CYP1A1/1B1-independent benzo[a]pyrene DNA-adduct formation in human lung cancer cells by LC-MS.**

Stacy L. Gelhaus, Trevor M. Penning, Ian A. Blair.

**Biomarkers of Premalignant Lesions****A48 Increased expression of caudal-related homeobox gene CDX2 in response to bile acid exposure in esophageal cell lines.**

Nadine M. Vaninetti, Duane L. Guernsey, Alan G. Casson.

**A49 Validation of automated image analysis methods for evaluation of a.m.ACR expression in prostate biopsies with high grade prostatic intraepithelial neoplasia (HGPIN).**

Vijayalakshmi Ananthanarayanan, Rachel Poon, Ryan J. Deaton, Peter H. Gann.

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**A50 Anti-tumor antibodies as a marker for early detection of ovarian cancer.** Animesh Barua, Jacques S. Abramowicz, Pincas Bitterman, Angela L. Dirks, Janice M. Bahr, Michael J. Bradaric, Seby L. Edassery, Dale B. Hales, Judith L. Luborsky.

**A51 Development of a diagnostic tool for the evaluation of progression risk of early oral premalignant lesions.** Ivy F.L. Tsui, Spencer Watson, Miriam P. Rosin, Lewei Zhang, Wan L. Lam.

**A52 Impaired gastric gland differentiation in Peutz-Jeghers Syndrome.** Lina Udd, Marika Kyyronen, Ari P. Ristimaki, Tomi P. Makela.

### Cancer Surveillance and Screening

**A53 Recent declines in ovarian cancer incidence rates in the United States.** Sherri L. Stewart, Jennifer M. Wike, Susan A. Sabatino.

**A54 Variation in mammographic density during menstrual cycle.** Gayane Hovhannisyan, Lisa Martin, Noramn Boyd.

**A55 Predictors of non-compliance with baseline sigmoidoscopy in the PLCO screening trial.** Vincent P. Doria-Rose, Robert E. Schoen, Joel L. Weissfeld, Paul F. Pinsky, Richard B. Hayes, Thomas Riley, Adeyinka Laiyemo, Amanda Black, Pamela M. Marcus.

**A56 NF- $\kappa$ B dependent cytokine production in HNSCC cell lines increases with inflammatory state.** Opeyemi O. Daramola, Beverly R. Wuertz, Frank G. Ondrey.

**A57 Development of a diagnostic test for monitoring bladder cancer recurrence using urinary matrix metalloproteinases as clinical biomarkers.** Cecilia A. Fernandez, Ying Feng, Sheryl Patel, Lauren Robison, Anthony P. Shuber.

**A58 Individualized screening decision tool for HNPCC.** Betty Q. Doan, Yin Yue, Sining Chen, Francis M. Giardiello, Giovanni Parmigiani.

### Imaging

**A59 Cyclooxygenase-2 targeted *in vivo* imaging of cancer.** Jashim M. Uddin.

**A60 Establishment of a method for measuring tumor size in the Apc<sup>+/Min-FCCC</sup> mouse by colonoscopy.** Carrie E. Merkel, Harvey H. Hensley, Wen-Chi L. Chang, Karthik Devarajan, Harry S. Cooper, Margie L. Clapper.

### Intervention Studies

**A61 Identification of inflammation-associated serum and colon markers as indicators of nutritional attenuation of colon carcinogenesis in AOM-induced ob/ob mice consuming dietary navy beans and their fractions.** Roycelynn A. Mentor-Marcel, Gerd Bobe, Kathleen G. Barrett, Matthew R. Young, Nancy H. Colburn, Paul S. Albert, Maurice R. Bennink, Elaine Lanza.

**A62 The effect of antioxidant supplementation on oxidative damage in smokers.** Ann M. Madsen, Krystyna Frenkel, Wei Yann Tsai, ZhiGang Li, LaVerne Mooney, Frederica P. Perera.

### Molecular Diagnostics

**A63 Salivary transcriptomes as potential biomarker for early detection of oral squamous cell carcinoma.** M. Abraham Kuriakose, Fang An Chen, Amrita Suresh, Vikram Kekatpure, Ziming He.

**A64 Evaluation of importance of polymorphisms in quinone oxidoreductases and superoxide dismutases for prediction of breast cancer risk and progression.** Miluse Hubackova, Radka Vaclavikova, Roman Kodet, Marcela Mrhalova, Eugen Kubala, Ivan Gut, Pavel Soucek.

**A65 Characterization of genetic heterogeneity in neoplastic progression.** Lauren M.F. Merlo, Marcin Imielinski, Ankita Jhuraney, Najaf A. Shah, Charles Treatman, Brian J. Reid, Carlo C. Maley.

**A66 High soluble CD44 and total protein levels in oral rinses are strongly associated with head and neck squamous cell carcinoma.** Elizabeth J. Franzmann, Jennifer J. Hu, Glenn O. Allen, Kara Hamilton, Erika P. Reategui, W. Jarrard Goodwin, Vinata B. Lokeshwar.

**A67 Analysis of HER2/neu as a diagnostic/biomarker by examination of signaling pathways and transcription factors.** Michael N. Liebman, Brenda Deyarmin, Craig Shriver, Philip Stegmaier, Holger Karas, Alexander Kel, Edgar Wingender.

Thursday,  
December 6

**A68 Glycosylation changes in hepatocellular carcinoma.** Radoslav Goldman, Habtom W. Ressom, Rency S. Varghese, Lenka Goldman, Christopher A. Loffredo, Zuzana Kyselova, Yehia Mechref, Milos Novotny.

### Novel Assay Technologies

**A69 Genotyping detection: A convenient and rapid technique for mutation detection in genetic disease using the handy bio-strand technique.** Lingzhi Xiao, Gregory M. Pastores, Maribeth V. Eiden, Bai Zeng, Ginya Harumi, Junko Asahin, Osamu Seqawa, Tojo Yuriko, Takahashi Masaaki, Tajima Hideji, Kimimichi Obata, Norman Z. Lai.

### Other Biomarkers and Early Detection Research

**A70 Characteristics of 547 pedigrees from the Prostate Cancer Risk Assessment Program over a 10-year period.** Veda N. Giri, Asha George, Susan Raysor, Karen Ruth, Agnes Baffoe-Bonnie.

**A71 Evaluation of changes in biomarkers of exposure in adult smokers switching to a tobacco pouch product.** Tamara Koval, Jingzhu Wang, Richard Serafin, Shixia Feng, Lonnie Rimmer, Hans Roethig, Mohamadi Sarkar.

### Cell, Molecular, and Tumor Biology

#### Angiogenesis and Invasion

**A73 Silencing of VEGFR-2 by RNA interference in an epithelial ovarian cancer cell line reduced LPA-induced invasion.** Fengqiang Wang, Elaine Barfield, David A. Fishman.

**A75 Correlated epithelial, myoepithelial, and stromal cell alterations at early stages of breast tumor invasion.** Xichen Zhang, Qiuyue Wang, Ling Gao, Yan-Gao Man.

**A76 Angiogenesis as a key target of cancer prevention: The effect of the CDDO-Me triterpenoid.** Rosaria Cammarota, Girioca Lorusso, Nicola Vannini, Ilaria Sogno, Elena Araldi, Anna Rita Cantelmo, Douglas M. Noonan, Michael B. Sporn, Adriana Albini.

**A77 Hyperforin is a potent inhibitor of inflammation-triggered angiogenesis.** Elena Maria Vittoria Araldi, Girioca Lorusso, Nicola Vannini, Ilaria Sogno, Spiridione Garbisa, Luca Generoso, Anna Rita Cantelmo, Douglas Mac Noonan, Adriana Albini.

**A78 Rexinoid LG100268 affects angiogenesis *in vitro* and *in vivo*.** Ilaria Sogno, Girioca Lorusso, Nicola Vannini, Rosaria Cammarota, Elena Araldi, Anna Rita Cantelmo, Douglas M. Noonan, Michael B. Sporn, Adriana Albini.

**A79 Inhibitive effect of Artemether with different dosages of ferrous sulfate on colorectal cancer growth in BALB/c mice.** Qi-shui Zhu, Zhi-Ping Wu, Cheng-Wei Gao, Yong-Gui Wu, Xi-Cai Wang.

### Cancer Genetics/Gene Expression

**A80 DNA copy number changes in early metastatic breast cancer lesions.** Luciane R. Cavalli, Savana L. Santos, Enilze MF Ribeiro, Rubens S. Lima, Cicero A. Urban, Iglener J. Cavalli, Bassem R. Haddad.

**A81 The effect of multiple SNPs in ABCB1 gene on its expression and clinico-pathological characteristics in breast cancer patients.** Radka Vaclavikova, Silje H. Nordgard, Grethe I. G. Alnaes, Miluse Hubackova, Eugen Kubala, Roman Kodet, Marcela Mrhalova, Jan Novotny, Ivan Gut, Vessela N. Kristensen, Pavel Soucek.

**A82 Identification of genes involved in early stage bladder pathogenesis.** Anita L. Sabichi, Jennifer Roberts, I-ling Lee, Urska Cvek, Marjan Trutschl, John L. Clifford.

### Cell Death

**A83 Suppression of apoptosis signal-regulating kinase 1 (ASK1) activation through ASK2/14-3-3 interaction.** Lisa M. Cockrell, Erinn H. Goldman, Haiyan Fu.

**Cell Growth Signaling Pathways**

**A84** Decursin and decursinol angelate inhibit estrogen-stimulated and estrogen-independent growth and survival of breast cancer cells. Sung Hoon Kim, Cheng Jiang, Junming Guo, Zhe Wang, Bingxiu Xiao, Hyo-Jung Lee, Eun-Ok Lee, Junxuan Lu.

**A85** Characterization of adiponectin receptor expression and function in TRa.m.P prostate tumors and the TRa.m.P-C2 cell line. Michael E. Grossmann, Nancy K. Mizuno, Melissa J.L. Bonorden, Amitabha Ray, Margot P. Cleary.

**A86** Leptin and adiponectin effects on an ovarian cancer cell line OV-90 which provide insights into obesity's role in ovarian cancer. Katai Nkhata, Krista L. Ryan, Amitabha Ray, Margot P. Cleary.

**A87** Integrin  $\alpha 5$  is required for survival of normal and ErbB2/Neu expressing mammary epithelial cells. Keneshia K. Haenssen, Sarah A. Caldwell, Kristina Shahriari, Shami Jagtap, Mauricio J. Reginato.

**DNA Methylation/Epigenetics and Chromatin Regulation**

**A88** 5'CpG island methylation in GSTP1 gene and DNMT3B genotypes in breast cancer patients. Mohammad Raish, Arif Ahmad, Syed Akhtar Husain, Pawan Gupta, Mudassar Shahid.

**A89** To evaluate methylation and expression of FHIT (fragile histidine triad) gene in Indian female breast cancer patients. Mohammad Raish, Syed Akhtar Husain, Arif Ahmad, Mustaq Ansari, Pawan Gupta.

**A90** Identification of differentially expressed microRNAs in tongue squamous cell carcinoma. Xiao-Bing Liu, Thian-Sze Wong, Anthony Po-Wing Yuen.

**A91** Epigenomic analysis of bronchial epithelial cells in smokers at risk of developing lung cancer. Ian M. Wilson, Emily Vucic, Calum MacAulay, Stephen L. Lam, Wan L. Lam.

**Inflammation and Cancer Initiation and Promotion**

**A92** TNF- $\alpha$ -inducing protein (Tip $\alpha$ ), a unique carcinogenic factor secreted from *H. pylori*, as a new molecular target for gastric cancer prevention. Masami Suganuma, Kensei Yamaguchi, Takashi Kuzuhara, Aya Misawa, Hirota Fujiki.

**Oncogenes/Tumor Suppressor Genes**

**A93** Doublecortin reduces glioma tumor progression via blocking mitosis by mitotic spindle catastrophe and inhibition of glioma cell invasion by depolymerization of actin. Manoranjan Santra, Sutapa Santra, Michael Chopp.

**A94** ECRG2 disruption leads to centrosome amplification and spindle checkpoint defects contributing chromosome instability. Xiaolong Cheng, Shih-Hsin Lu, Yongping Cui.

**A95** Identification of translational targets of tumor suppressor Pcd4 through analysis of polysomal mRNA recruitment. Arti N. Santhanam, Aaron P. Jansen, Nancy Colburn.

**A96** Genetically defined human in mouse (HIM) model: A novel breast cancer model system that progresses *in vivo* and exhibits phenotypic variation. Min Wu, Lihao Chen, Lina Jung, Adrian Cooper, Lyne Breault, Kimberly Clark, Zuhua Cai, Sylvie Vincent, Steve Bottega, A. Richardson, M. Bosenburg, S. P. Naber, C. Kuperwasser, Murray Robinson.

**Stem Cell Biology**

**A98** Identification of novel cell components designated "tissue organizing structures" with potential applications in cancer prevention/therapeutics, tissue bioengineering, and gene therapy. Sarah C. Crawford, Tasino Herbert, Herbert Potter.

**A99** Evolution of cancer stem cells: A problem with the cancer stem cell hypothesis. Kathleen Sprouffske, Jerald Radich, Carlo C. Maley.

**Chemoprevention and Biological Therapies****Anti-inflammatory Therapy**

**A102 Samc switches TNF $\alpha$  response to apoptosis and application in prevention and treatment of inflammation-associated cancers.** Xian-Feng Wen, Xiaoyang Ren, Yibin Deng, Xiangwei Wu.

**A103 Statins, NSAIDs, and colorectal cancer risk in women.** Mazyar Shadman, Polly A. Newcomb, Karen J. Wernli, John M. Hampton, Hazel B. Nichols, Amy Trentham-Dietz.

**A104 Suppressive effects of a phytochemical cocktail on prostate cancer growth *in vitro* and *in vivo*.** Jas Singh, Mu Yao, Greg Jardine, Qihan Dong.

**A105 Phase II clinical trial of zileuton in persons with bronchial dysplasia.** Omer Kucuk, Harvey Pass, Fulvio Lonardo, Adi Gazdar, Shashi Madan, Judith Abrams, Krishna R. Maddipati, Mark Upfal, Ayman Soubani, Kenneth V. Honn, Eva Szabo.

**Biological Agents**

**A106 Gamma tocotrienol and tocopherol-mediated cells death occurs through the production of 15-HETE in prostate cancer cells.** Sharon E. Campbell, Sarah G. Whaley, Regenia Phillips, Sophie C. Dessus-Babus, Michelle Duffourc, William Stone, David G. Menter, Julie B. Stimmel, Steven G. Blanchard, Lesa Leesnitzer, Koyamangalath Krishnan.

**A107 Natural vitamin E isoforms, gamma and delta modulate TGF beta in PC-3 prostate cancer cells.** Regenia Phillips, Sharon E. Campbell, Sarah Whaley, William Stone, Koyamangalath Krishnan.

**A108 Tocotrienols (gamma and delta) but not tocopherols inhibit Akt and Erk activation and suppress pancreatic cancer cell growth.** Sonyo S. Kang, Sharon E. Campbell, William Stone, S. A. Reddy, Koyamangalath Krishnan.

**A109 Gamma and delta tocopherol downregulate HOXA9, PBX1, and E2A-PBX1 in human leukemia cells, KG-1.** Nakhle S. Saba, Sharon E. Campbell, Sarah G. Whaley, William Stone, Koyamangalath Krishnan.

**A110 Bioactive actions of raspberries.** Bojana B. Ilic, Zorica D. Juranic, Aleksandra M. Eric, Nenad Borojevic, Dusan Mileusnic, Ivana Miskovic, Sandra Vuckovic.

**A111 Chemopreventive properties of Fenugreek Seeds against prostate cancer cells.** Shabana Shabbeer, Ravi Anchoori, Saeed Khan, Michael A. Carducci.

**Combination Chemoprevention**

**A112 Targeting EGFR improves the chemoprevention effects of HDAC inhibitors for pancreatic cancer.** Susan Lanza-Jacoby, Zhong Huang, Phyllis Wachsberger.

**A113 Treatment of ductal carcinoma *in situ* of the breast: Results from a monoinstitutional cohort of 1308 women.** Aliana Guerrieri-Gonzaga, Edoardo Botteri, Nicole Rotmensz, Fabio Bassi, Mattia Intra, Davide Serrano, Giuseppe Renne, Alberto Luini, Massimiliano Cazzaniga, Aaron Goldhirsch, Giuseppe Viale, Giovanni Ivaldi, Vincenzo Bagnardi, Matteo Lazzeroni, Andrea Decensi, Umberto Veronesi, Bernardo Bonanni.

**A114 The combination of triterpenoids and rexinoids for the prevention of experimental lung cancer.** Karen Liby, Darlene Royce, Renee Risingsong, Charlotte Williams, Mark Yore, William W. Lamph, Tadashi Honda, Gordon W. Gribble, Michael B. Sporn.

**A115 Synergistic effects of a novel combination of polyphenon E and atorvastatin in inhibition of lung tumor.** Gang Lu, Hang Xiao, Hui You, Blake Snagaski, Chung S. Yang.

**Drug Design and Optimization**

**A116 Alkyl gallates, derived from structural studies of green tea catechins, as new candidates for cancer preventive agents.** Aya Misawa, Daisuke Kise, Tairo Shiraishi, Jyuri Tateishi, Satoru Yamada, Noriko Kuroyanagi, Mari Sobo, Ryoji Sugiyama, Yasuyuki Yagi, Takashi Kuzuhara, Masami Suganuma, Tomihiko Higuchi, Hirota Fujiki.

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**Infectious Agents and Cancer**

**A117 Human papillomavirus in breast ductal lavage fluid.** Massimiliano Cazzaniga, Massimo Tommasino, Tarik Gheit, Francesco Valenti, Debora Macis, Mara Jo Miller.

**Mechanisms of Chemoprevention**

**A118 Polyphenolic and other dietary compounds suppress inhibitor of DNA binding/differentiation-1 (Id1), in human colorectal cancer cells.** Frank G. Bottone, Jong Sik Kim, Jennifer B. Collins, Thomas E. Eling.

**A119 Chlorella protects against induced-breast cancer in rats.** Amr Amin, Alaa hamza, Waleed hamza.

**A120 Antibody-microarray data showing Ginkgolide induces multiple anti-cancer targets/pathways in BRCA1 ovarian epithelial cells.** Wei Jiang, Weiliang Qiu, Daniel W. Cramer, Bin Ye.

**A121 Growth inhibition by methylated flavonoids is proteasome inhibition-independent.** Kristin R. Landis-Piwowar, Vesna Milacic, Q.Ping Dou.

**A122 Curcumin accumulates in membrane structures of human Ishikawa and HT-29 cells.** Julia S. Dempe, Erika Pfeiffer, Manfred Metzler.

**A123 Benzyl isothiocyanate modulated apoptotic genes in breast cancer cell lines.** Teshome E. Yehualaeshet, Temesgen Samuel, Leonard Billups.

**A124 The inhibitory effects of dietary agents, benzyl isothiocyanate and sulforaphane in pancreatic cancer cells.** Jiayuh Lin, Stephanie Deangelis, Ling Cen, William Willis, Sarah Ball, Sarah Jones, Christina Chan, Beng Fuh.

**A125 Quercetin-dependent induction of colonocyte apoptosis depends on the dietary lipid source.** Kimberly J. Paulhill, Stella S. Taddeo, Guoyao Wu, Raymond J. Carroll, Robert S. Chapkin, Joanne R. Lupton, Nancy D. Turner.

**A126 Paracrine signaling from the breast cancer cells stimulates the cell proliferation and Stat3 phosphorylation in non-cancerous mammary epithelial cells and is blocked by dietary agent, curcumin.** Jacqueline Lieblein, Sarah Ball, Brian Hutzen, Zhongfa Liu, Jiayuh Lin.

**A127 Chemopreventive agent methylseleninic acid induces G<sub>1</sub> cell cycle arrest in prostate cancer cells through p53-independent p21cip1 induction.** Zhe Wang, Hyo-Jeong Lee, Hongbo Hu, Cheng Jiang, Lei Wang, Junxuan Lu.

**A128 Prevention of inflammatory breast cancer by Reishi mushroom extract.** Michelle Martinez, Carlos Quiles, Luis Cubano, Suranganie Dharmawardhane.

**A129 Gene expression changes in oral tissues following black raspberry exposure: Interim Affymetrix array analysis of a Phase 1 clinical trial.** Thomas J. Knobloch, Mei-Ling T. Lee, George A. Whitmore, Amit Agrawal, David E. Schuller, Enver Ozer, Christine L. Sardo, Gary D. Stoner, Bruce C. Casto, Dennis K. Pearl, Blake M. Warner, Christopher M. Weghorst.

**A130 The role of nitric oxide on expression profile of genes altered by nitric oxide-donating aspirin in T-leukemia cells.** Niharika Nath, Nina Patel, Khosrow Kashfi.

**A131 Induction of GSTP1 and NQO1 mRNA levels by chemopreventive plant-derived mixtures in human lung cancer and normal cells.** Xiang-Lin Tan, WeiGuo Han, Graham Brock, Simon D. Spivack.

**A132 Avocado extracts selectively induce apoptosis in transformed human oral cells.** Haiming Ding, Chunhua Han, Yong-Won Chin, A. Douglas Kinghorn, Steven M. D'Ambrosio.

**A133 Sensitivity to OSU03012 is p53/p21 dependent and Rb independent in normal human epithelial cell lines.** Haiming Ding, Chunhua Han, Dongmei Guo, Dasheng Wang, Ching-Shi Chen, Steven M. D'Ambrosio.

**A134 Inhibition of colorectal tumorigenesis in azoxymethane (AOM)-treated rats by green tea polyphenols.** Hang Xiao, Xingpei Hao, Barbara Simi, Jihyeung Ju, Mao-Jung Lee, Gang Lu, Bandaru S. Reddy, Chung S. Yang.

**A135 Modulation of apoptosis via the induction of Caspase 3, 8, and 9 in LNCaP cells by two Chinese medicinal herbs Scutellaria barbata and Oldenlandia diffusa.** Brian Yuen Yau Wong, Dinh L.Q. Nguyen, Irena B. Cabrera, Jianping Zheng.

**A136 The role of vitamin C as a competition modulator in Barrett's esophagus cell culture model.** Rachel E. Kosoff, Lauren F. Merlo, Erika Timar, Carlo C. Maley.

**A137 Effects of ATRA on MAP kinase signaling during skin carcinogenesis.** Satish Cheepala, Zanobia Syed, Jennifer Roberts, John L. Clifford.

### **New Molecular Targets/Mechanisms of Drug Action**

**A138 Prediction of genistein treated PC3 gene regulatory networks underlying differential expression of cDNA microarray data.** Ramona Suharoschi, Ovidiu Balacescu, Ioana Neagoe, Crina Muresan, Ronald L. Hancock, Ronald S. Pardini, Ancuta M. Rotar, Cristina Semeniuc, Dorina Bratfalean, Serban P. Agachi, Loredana Balacescu, Helmut Klocker, Ian Rowland, Alecsandru I. Baba, Sorin Apostu.

**A139 Potential pharmacologic targets for cervical cancer prevention in small RNA world.** Y.F. Wong, T.H. Cheung, M.K.N. Man, T.K.H. Chung.

**A140 The synthetic triterpenoid CDDO-Im modulates pathways beyond Keap1-Nrf2 signaling at doses relevant to chemoprevention.** Melinda Yates, Sining Chen, William Osburn, Patrick Dolan, Karen Liby, Hiromi Okawa, Masayuki Yamamoto, Michael Sporn, Thomas Kensler.

**A141 Targeting beta-catenin signaling in colorectal cancer: Anti-cancer bioactivities of 20(S)-25-OCH<sub>3</sub>-PPD, a natural product from *Panax notoginseng*.** Xiuli Bi, Yuqing Zhao, Anjia Han, Chang Tong, Dong Hu, Wancai Yang.

**A142 A selective small molecule NF- $\kappa$ B inhibitor from a high-throughput cell based assay for "AP-1 hits".** Moon-Il Kang, Curtis J. Henrich, Heidi R. Bokesch, Kirk R. Gustafson, Matthew R. Young, Nancy H. Colburn.

**A143 Inflammation-associated genes as potential molecular targets for dietary prevention of colon carcinogenesis in an AOM-DSS mouse model.** Gerd Bobe, Grace C. Lee, Roycelynn A. Mentor-Marcel, Young S. Kim, Matthew R. Young, Nancy H. Colburn.

**A144 Synergistic anticancer potential of the combination of the novel curcumin analog EF24 and p38 MAPK inhibitors.** Shala L. Thomas, Fadlo Khuri, James P. Synder, Dennis Liotta, Haiyan Fu.

**A145 Blockade of the AP-1 transcription factor prevents wnt1-induced, but not c-myc-induced mammary tumors in mice.** Qiang Shen, Zhijun Du, Edward J. Gunther, Susan G. Hilsenbeck, Lewis A. Chodosh, Yi Li, Powel H. Brown.

**A146 PSMA expression in the neovasculature of colorectal cancers.** Irmgard E. Kronberger, Michael Christoph Haffner, Dietmar Ofner, Matthias Zitt, Gilbert Muhlmann, Bettina Zelger, Ensinger Christian, Christine E. Sheehan, Jeffrey S. Ross, Neil H. Bander.

**A147 Estrogen receptor binding and bioactivity of individual isomers of active tamoxifen metabolites and their glucuronides.** Yan Zheng, Arun K. Sharma, Philip Lazarus.

**A148 Covalent modification at Cys151 dissociates the electrophile sensor Keap1 from Cullin3, the ubiquitin E3 ligase scaffold.** Girish Rachakonda, Ying Xiong, Konjeti R. Sekhar, Daniel C. Liebler, Michael L. Freeman.

**A149 Structural and mechanistic insights on the chemopreventive activity of dipyridamole and analogs.** Ja'Wanda S. Grant, Peihong Guan, John K. Buolamwini.

**A150 Nicotinic acid receptors as potential skin cancer prevention targets.** Yira Bermudez, Ralph G. Meyer, Claudia Benavente, Davide Botta, Myron K. Jacobson, Elaine L. Jacobson.

### **Nuclear Receptors**

**A151 Vitamin D and APC modulate molecular crosstalk between  $\beta$ -catenin/Wnt signaling and the vitamin D receptor in colon cancer cells.** Jan B. Egan, Patricia A. Thompson, Elizabeth T. Jacobs, Milen Vitanov, Mark R. Haussler, Eugene W. Gerner, Peter W. Jurutka.

Franklin Hall B

**Pharmacology, Pharmacogenetics, and Pharmacogenomics**

**A154 Glucuronidation of tamoxifen metabolites by UGTs. Potential role UGTs variants in tamoxifen metabolism.** Dongxiao Sun, Andrea S. Blevins-Primeau, Ryan W. Dellinger, Arun K. Sharma, Renee Balliet, Philip Lazarus.

**A155 Genotype-phenotype correlation between the polymorphic UDP-glucuronosyltransferase 2B7 and O-glucuronidation of the major active metabolites of tamoxifen.** Andrea S. Blevins-Primeau, Gang Chen, Dongxiao Sun, Arun K. Sharma, Shantu Amin, Philip Lazarus.

**A156 Chemopreventive agents modulate the protein expression profile of 4-(methylnitrosamino)-1-(3-pyridyl)-1-butanone plus benzo[a]pyrene-induced lung tumors in A/J mice.** Fekadu Kassie, Lorraine B. Anderson, LeeAnn Higgins, Yunqian Pan, Ilze Matise, Mesfin Negja, Pramod Upadhyaya, Mingyao Wang, Stephen S. Hecht.

**A157 Whole genome survey for epigenetic changes in response to EGCG treatment in lung cancer cells.** Emily Vucic, I. Wilson, S. Lam, W. L. Lam.

**Other Chemoprevention and Biological Therapies Research**

**A158 Resveratrol reduces the frequency of radiation-induced chromosome aberrations in mouse bone marrow cells.** Ronald E. Carsten, Annette M. Bachand, Susan M. Bailey, Robert L. Ullrich.

**A159 Combining CRAd and killing gene armed Adenovirus including TRAIL increase anti-cancer effect.** Shim seon-hui, Seok-Woo Park, Myung-Whun Sung.

**A160 Identification and characterization of potential Shwachman- Diamond Syndrome therapeutics.** Clayton Knight, Charley C. Gruber, Jillian L. Blackwell, Alfonso Garrido-Lecca, Almas Papusha, Claudia A. Kosinetz, Paul J. DeFigueiredo, James Huang.

**Meet-the-Expert Session 4**  
**Models of Esophageal Cancer: Implications  
for Prevention and Therapy**

Liberty C

**Anil K. Rustgi**, University of Pennsylvania, Philadelphia, PA

**Meet-the-Expert Session 6**  
**Who Gets Genetic Testing and Why?**

Independence Ballroom

**Suzanne M. Miller**, Fox Chase Cancer Center,  
Philadelphia, PA

**Meet-the-Expert Session 5**  
**Prediction of Risk and Outcome: An  
Integrative Epidemiologic Approach**

Liberty A

**Margaret R. Spitz**, UT M. D. Anderson Cancer Center,  
Houston, TX

**Plenary Session 3: Obesity, Metabolism, and Cancer**

Salons G-H

**Chairperson: Craig B. Thompson**, University of Pennsylvania, Philadelphia, PA

Mutations that fuel cancer cell growth

**Craig B. Thompson**, University of Pennsylvania, Philadelphia, PA

\*Obesity and cancer: Trends, targets, and transgenics

**Stephen D. Hursting**, University of Texas, Austin, TX

Molecular links between metabolic pathways and cancer in obesity

**Geoffrey D. Girnun**, University of Maryland, Greenebaum Cancer Center, Baltimore, MD

The role of noncarbohydrate substrates in cancer metabolism

**Tak W. Mak**, The Campbell Family Institute for Breast Cancer Research, Princess Margaret Hospital, University Health Network, Toronto, Ontario, Canada

## Concurrent Session 9: Application of Mass Spectrometry to Detection and Prevention

Franklin 2

**Co-Chairpersons:** **Ian A. Blair**, University of Pennsylvania, Philadelphia, PA, and **Elise C. Kohn**, National Cancer Institute, Bethesda, MD

Application of the technique of mass spectrometry (MS) to nucleic acid and proteins in a translational background has opened new horizons in our ability to analyze and describe microscopic changes in DNA and proteins. Mining these data provides a new important resource from which to develop, validate, and apply descriptive, diagnostic, and ultimately preventive measures. Discussions will feature MS uses for DNA, lipid peroxidation, tissue proteins, and serum protein pattern algorithms.

Analysis of endogenous DNA adducts by mass spectrometry  
**Ian A. Blair**, University of Pennsylvania, Philadelphia, PA

\*Analysis of DNA lesion bypass by mass spectrometry  
**Carmelo J. Rizzo**, Vanderbilt University, Nashville, TN

Tissue proteomics: Applications of mass spectrometry for discovery and validation of biomarkers for cancer early detection

**Thomas P. Conrads**, University of Pittsburgh Medical Center, Pittsburgh, PA

Optimization and application of serum mass spectrometry for detection and prevention

**Elise C. Kohn**, National Cancer Institute, Bethesda, MD

## Concurrent Session 10: Bioactive Lipids and Cancer Prevention

Franklin 1

**Co-Chairpersons:** **Makoto Mark Taketo**, Kyoto University, Kyoto, Japan, and **Timothy Hla**, University of Connecticut Health Center, Farmington, CT

Bioactive lipids orchestrate cell-cell communication events and mediate fundamental cellular phenomena such as proliferation, apoptosis, migration, and differentiation. Specific receptors for such molecules mediate their complex functions in vertebrates. Recent work has illustrated that perturbation of bioactive lipid-based signaling pathways are critical for oncogenesis, cancer progression, and metastasis. Since the generation of lipid ligands can be modulated by dietary and pharmacological means, knowledge in this system may offer novel approaches in cancer prevention and/or therapy. This session will focus on recent work on bioactive lipids of the prostanoid and sphingolipid family. Presentations will cover Sphingosine 1-phosphate biology, receptor signal transduction, lipoxygenase, and cyclooxygenases pathways.

G protein-coupled receptors and cancer: Emerging paradigms

**J. Silvio Gutkind**, National Institutes of Health, Bethesda, MD

Sphingolipid metabolism and signaling in cancer and angiogenesis

**Timothy Hla**, University of Connecticut Health Center, Farmington, CT

PGE2 and Wnt in gastric cancer models

**Makoto Mark Taketo**, Kyoto University, Kyoto, Japan

12 Lipoxygenase in cancer carcinogenesis

**Kenneth V. Honn**, Wayne State University, Detroit, MI

\*An extended abstract for this presentation is available in the Invited Abstracts section of the *Proceedings*.

**Concurrent Session 11: *Helicobacter pylori* and Gastric Cancer**

Salons K-L

**Co-Chairpersons:** **Pelayo Correa**, Vanderbilt University Medical Center, Nashville, TN, and **James G. Fox**, Massachusetts Institute of Technology, Cambridge, MA

This session brings up to date our knowledge on the epidemiology, prevention, pathogenesis, and mechanistic aspects of causation of gastric cancer by *Helicobacter pylori* infection. The precancerous process, covering several decades since its inception after the first infection in infancy until the clinical diagnosis of invasive carcinoma, continues to be explored and provides new information on the dynamics of the process and the factors that determine its outcome. Several trials are in progress examining the impact of eradication of the infection, mostly in high-risk populations. Recent research on the role of *Helicobacter* infections and the chronic active inflammatory cascade of events it initiates have shown the recruitment of bone marrow derived cells to the gastric mucosa and their gradual transformation into neoplastic cells. Experimental models identify new mechanistic pathways of relevance to gastric cancer control in humans. The lessons learned from this model may apply to other neoplastic conditions, especially those in which infectious agents and chronic inflammatory processes are involved.

The prevention of gastric cancer

**Pelayo Correa**, Vanderbilt University Medical Center, Nashville, TN

\**H. pylori* eradication in the prevention of gastric cancer

**Benjamin C.Y. Wong**, University of Hong Kong, Pokfulam, Hong Kong

Role of bone marrow derived cells in gastric cancer

**JeanMarie Houghton**, University of Massachusetts Medical School, Worcester, MA

Pathogenesis of gastric cancer: Lessons from mouse models

**James G. Fox**, Massachusetts Institute of Technology, Cambridge, MA

**Concurrent Session 12: Pathway Discovery and Molecular Signatures for Cancer Risk**

Salons I-J

**Co-Chairpersons:** **Peter G. Shields**, Georgetown University Medical Center, Washington, DC, and **Thomas A. Sellers**, H. Lee Moffitt Cancer Center and Research Institute, Tampa, FL

This session is designed to illustrate the range of applications of molecular epidemiology to unravel the etiology of cancer. The focus is on inherited and acquired genetic changes. Alterations of RNA can provide insight into how established risk factors, like tobacco, influence risk. Analysis of inherited DNA variants has revealed that individual effects are small, thereby requiring a pathway or network approach. When the biology is incompletely understood, linkage and association analyses are used to identify novel genes. Finally, acquired genetic changes can occur through methylation of regulatory regions.

Identifying gene expression profiles from tobacco and nicotine exposure

**Peter G. Shields**, Georgetown University Medical Center, Washington, DC

\*Pathway approaches to ovarian cancer risk discovery  
**Thomas A. Sellers**, H. Lee Moffitt Cancer Center and Research Institute, Tampa, FL

\*Unraveling the genetic etiology of mammographic breast density

**Celine M. Vachon**, Mayo Clinic College of Medicine, Rochester, MN

\*CpG island methylator phenotype (CIMP) and colorectal cancer

**Martha L. Slattery**, University of Utah, Salt Lake City, UT

\*An extended abstract for this presentation is available in the Invited Abstracts section of the *Proceedings*.

## Concurrent Session 13: Biological versus Social Constructs of Health Disparities

Franklin 13

**Chairperson: Olufunmilayo I. Olopade**, University of Chicago Medical Center, Chicago, IL

An integrated approach to eliminate cancer health disparities must take advantage of the latest scientific and technological advances. This session will focus on new scientific insights and propose a framework for translating the science to benefit disadvantaged communities.

\*Moving toward the elimination of cancer health disparities  
**Judith S. Kaur**, Mayo Clinic College of Medicine, Rochester, MN

\*Genetics and prostate cancer risk  
**Rick A. Kittles**, University of Chicago, Chicago, IL

Addressing cancer health disparities in Hispanics and Native Americans in the southwest  
**Maria Elena Martinez**, Arizona Cancer Center, Tucson, AZ

\*Developing novel approaches to breast cancer: Are we there yet?  
**Olufunmilayo I. Olopade**, University of Chicago Medical Center, Chicago, IL

## Concurrent Session 14: Colon Cancer Prevention: Current Clinical Applications

Salons I-J

**Chairperson: Monica Marie Bertagnolli**, Brigham and Women's Hospital, Boston, MA

This session will review current clinical practice in colorectal cancer prevention, and address the impact of new work in the field of chemoprevention. The roles of the surgeon, gastroenterologist, and geneticist in this work will be discussed, with specific case histories. This session will provide important insight for researchers seeking to translate cancer prevention strategies into clinical practice.

Predicting patient adenoma risk for assigning follow-up management  
**Ann G. Zauber**, Memorial Sloan-Kettering Cancer Center, New York, NY

\*The methods of recognizing and assigning familial risk  
**Randall W. Burt**, University of Utah, Huntsman Cancer Institute, Salt Lake City, UT

\*The role of colonoscopy and polypectomy in the prevention of colorectal cancer  
**Sidney J. Winawer**, Memorial Sloan-Kettering Cancer Center, New York, NY

Chemoprevention for colorectal cancer  
**Monica Marie Bertagnolli**, Brigham and Women's Hospital, Boston, MA

\*An extended abstract for this presentation is available in the Invited Abstracts section of the *Proceedings*.

**Concurrent Session 15: Melanoma and Non-melanoma Skin Cancer**

Franklin I

**Chairperson: Frank L. Meyskens**, Chao Family Comprehensive Cancer Center, Orange, CA

The molecular basis for the development of non-melanoma and melanoma skin cancers is being explored from a number of new avenues. The role of redox and cyclic AMP in melanomagenesis and as target for chemoprevention will be presented. New advances in our understanding of UV-induced signaling will also be discussed. The effects of the polyamine synthesis inhibitor difluoromethylornithine on new skin cancers in at risk patients will be summarized.

\*New approaches to the prevention of cutaneous melanoma by regulation of redox

**Frank L. Meyskens**, Chao Family Comprehensive Cancer Center, Orange, CA

\*Regulation of cyclic AMP as a prevention strategy for melanoma

**John D'Orazio**, University of Kentucky College of Medicine, Lexington, KY

\*Molecular mechanisms of UV-induced non-melanoma skin cancer and preventive approaches

**Zigang Dong**, University of Minnesota, Austin, MN

Non-melanoma skin cancer chemoprevention in organ transplant recipients

**Howard H. Bailey**, University of Wisconsin Comprehensive Cancer Center, Madison, WI

**Concurrent Session 16: Novel Targets for Prevention of Breast Cancer**

Salons K-L

**Chairperson: Powel H. Brown**, Baylor College of Medicine, Houston, TX

In this session presenters will discuss strategies for breast cancer prevention focusing on identification of novel targets for the prevention of ER-positive and ER-negative breast cancer. While anti-estrogen strategies have been shown to prevent some ER-positive breast cancers, not all ER-positive breast cancers are prevented with existing agents. In addition, anti-estrogen strategies do not prevent ER-negative breast cancer. The presenters will discuss novel targets for cancer prevention including molecules controlling cell polarity, novel kinases, and histone deacetylases. Preclinical results will be presented demonstrating that these molecules can be targeted for treatment and prevention of breast cancer, and plans to develop inhibitors of these targets for clinical testing will be discussed.

Polarity pathways: New strategies to target precancer  
**Senthil K. Muthuswamy**, Cold Spring Harbor Laboratory, Cold Spring Harbor, NY

Novel kinases and P38 as a target for treatment and prevention

**Powel H. Brown**, Baylor College of Medicine, Houston, TX

HDAC inhibitors for treatment and prevention

**Nancy E. Davidson**, Johns Hopkins Oncology Center, Baltimore, MD

\*\*Tamoxifen modulates tumor suppressor gene methylation in breast cells and growth factors in plasma in women at increased risk for breast cancer

**Cheryl M. Lewis**, University of Texas Southwestern Medical Center, Dallas, TX

\*\*Combination chemoprevention of HER2/neu-induced breast cancer using a COX-2 inhibitor and an RXR-selective retinoid

**Louise R. Howe**, Weill Medical College of Cornell University, New York, NY

\*An extended abstract for this presentation is available in the Invited Abstracts section of the *Proceedings*.

\*\*An extended abstract for this presentation is available in the Invited Abstracts section of the *Proceedings*.

## Concurrent Session 17: Progression and Prevention of Barrett's Esophagus

Franklin 2

**Chairperson: Carlo C. Maley**, The Wistar Institute, Philadelphia, PA

Barrett's esophagus (BE) is a pre-malignant neoplasm associated with chronic gastric reflux and is the only known precursor of esophageal adenocarcinoma. BE is an ideal model of neoplastic progression and cancer prevention for four reasons: 1) Current clinical practice is to survey BE with repeat endoscopic biopsies for the early detection of cancer, allowing the study of the genetics of progression. 2) The genetic lesions in BE are typical of most solid neoplasms. 3) BE can be readily identified and stratified so that interventions can be focused on high risk groups. 4) BE often takes many years to progress to cancer, providing a large window for intervention. Speakers in this session will discuss the origin of BE, the evolutionary dynamics that drive neoplastic progression, the genetic and emerging epigenetic lesions that characterize progression, and new leads for the prevention of progression.

\*Clonal evolution in Barrett's esophagus

**Carlo C. Maley**, The Wistar Institute, Philadelphia, PA

Endoscopic applications of chemoprevention in Barrett's esophagus

**Kenneth K. Wang**, Mayo Clinic, Rochester, MN

\*The origin and prevention of Barrett's esophagus

**Rebecca Fitzgerald**, Hutchison/MRC Research Center, Cambridge, United Kingdom

The genetics and epigenetics of Barrett's esophagus and esophageal adenocarcinoma

**Brian J. Reid**, Fred Hutchinson Cancer Research Center, Seattle, WA

**Plenary Session 4: Imaging Pre-malignant Disease and Cancer**

Salons G-H

**Co-Chairpersons:** **Gary J. Kelloff**, National Cancer Institute, Rockville, MD, and **Mitchell D. Schnall**, University of Pennsylvania, Philadelphia, PA

Imaging science is playing an ever increasing role in early detection, diagnosis, progression and treatment monitoring of precancer and cancer. With this progress and that of molecular classification of neoplasia and development of molecular targeted drugs, there is an increasing opportunity to intervene early in this process often at the precancer stage. This session will highlight imaging's progress in the development of molecular probes and devices, discuss a prototype study of targeted imaging of a key molecular target, cyclooxygenase 2, and provide examples of early detection and treatment monitoring with imaging tools in clinical settings of precancer/early cancer in lung, breast, prostate and other target organs.

Overview of imaging and its promises for detection, diagnosis, and therapy monitoring of precancer  
**Gary J. Kelloff**, National Cancer Institute, Rockville, MD

Targeted imaging of cyclooxygenase-2  
**Lawrence J. Marnett**, Vanderbilt University Medical Center, Nashville, TN

Opportunities in imaging for prevention of lung cancer  
**Stephen Lam**, University of British Columbia, Vancouver, British Columbia, Canada

Role of imaging in personalized surveillance and response monitoring in breast and other cancers  
**Mitchell D. Schnall**, University of Pennsylvania, Philadelphia, PA

\*An extended abstract for this presentation is available in the Invited Abstracts section of the *Proceedings*.

## Controversy Session 1: SERMS versus Aromatase Inhibitors:

Salons K-L

**Moderator: Powel H. Brown**, Baylor College of Medicine, Houston, TX

Selective estrogen receptor modulators (SERMS) have been shown to prevent breast cancer in several Phase cancer prevention trials. In addition, aromatase inhibitors which have been found to be more effective than SERMS in treating breast cancer, may also be more effective than SERMS in preventing breast cancer. The two speakers will review existing clinical results demonstrating the effectiveness of these two classes of cancer prevention agents, and will discuss the toxicities of these cancer preventive agents. Finally, the pros and cons of using these agents for breast cancer prevention, and the status of current breast cancer prevention trials will be discussed.

Introduction

**Powel H. Brown**, Baylor College of Medicine, Houston, TX

Reduction of breast cancer risk using SERMS

**Victor G. Vogel**, University of Pittsburgh, Magee Women's Hospital, Pittsburgh, PA

\*Prevention of breast cancer using aromatase inhibitors

**Jack Cuzick**, Cancer Research UK Centre for Epidemiology, Mathematics and Statistics, London, England

## Controversy Session 2: Smokeless Tobacco: A Substitute for Smoking?

Franklin I

**Moderator: Stephen S. Hecht**, University of Minnesota Cancer Center, Minneapolis, MN

Cigarette smoking is the largest preventable cause of cancer death, but millions of people cannot stop smoking because they are addicted to nicotine. Since the combustion products of cigarette smoke play an important role in its toxic and carcinogenic effects, some have suggested that smokeless tobacco, and in particular "low nitrosamine" oral snuff, could be an alternative but less harmful form of tobacco use. The speakers in this session will discuss the pros and cons of this approach to tobacco harm reduction.

Introduction

**Stephen S. Hecht**, University of Minnesota Cancer Center, Minneapolis, MN

In favor of smokeless tobacco?

**David Levy**, Pacific Institute for Research and Evaluation, Calverton, MD

Why smokeless tobacco is an inappropriate public health strategy for reducing societal harm from cigarette smoking in the United States

**Scott L. Tomar**, University of Florida College of Dentistry, Gainesville, FL

**Food, Nutrition, Physical Activity, and the Prevention of Cancer: A Global Perspective**

Supported by American Institute for Cancer Research

Salons I-J

The AICR/WCRF Second Expert Report titled "Food, Nutrition, Physical Activity, and the Prevention of Cancer: A Global Perspective" was released on November 1, 2007. This evidence-based report represents the state of the science on the relationship between diet, physical activity, and cancer prevention. The report is a result of a 5-year project which included developing the methodology for a systematic, transparent method to review and statistically analyze the world literature on food, nutrition, physical activity, and the prevention of cancer. This session will highlight the methodology used, diet and physical activity recommendations for cancer prevention, and how this extensive report can be continually updated in the future.

Introduction

**Martin Wiseman**, World Cancer Research Fund International, London, United Kingdom

Food, nutrition, physical activity, and the prevention of cancer: A global perspective

**Tim E. Byers**, University of Colorado Health Sciences Center, Aurora, CO

**Carcinogenesis**

**Animal Models of Carcinogenesis and Chemoprevention**

**B1 Effects of freeze-dried 5% black raspberry diet on early molecular events in N-Nitrosomethylbenzylamine-induced cytotoxicity of rat esophagus.** John F. Lechner, Rashmeet K. Reen, Alan A. Dombkowski, Daniela Cukovic, Sridevi Salagrama, Gary D. Stoner.

**B2 Preventive effects of the RXR agonists targeetin and UAB-30 in transgenic mouse models of estrogen receptor (ER) negative mammary cancer.** Ronald A. Lubet, J. Michael Ruppert, Donald D. Muccio, Ming You, Wayne J. Brouillette, Reddy Atigadda, Vernon E. Steele, M. Margaret Juliana, Clinton J. Grubbs.

**B3 Cross-sectional analysis of intermittent versus chronic caloric restriction in the TRa.m.P mouse model of prostate cancer.** Melissa J.L. Bonorden, Olga P. Rogozina, Christina M. Kluczny, Michael E. Grossmann, Joseph P. Grande, Margot P. Cleary.

**B4 Protective effect of intermittent versus chronic calorie restriction on mammary tumor development in relationship to prospective IGF-1 serum concentrations in MMTV-TGF- $\alpha$  mice.** Olga P. Rogozina, Melissa J.L. Bonorden, Emily J. Kain Quealy, Joseph P. Grande, Margot P. Cleary.

**B5 Chemopreventive efficacy of tinospora cordifolia (a medicinal plant) against chemical induced skin papillomagenesis in mice.** Pradeep Goyal, Ranu Chaudhary, Swafiya Jahan, Uma Gupta.

**B6 Prevention of MAPK pathway by Brazilian medicinal plant, *Tabebuia avellanedae* on peroxynitrite induced carcinogenesis.** Harukuni Tokuda, Akira Iida.

**B7 Chemoprevention of oral cancer in hamster cheek pouch by topical application of lyophilized black raspberries.** Bruce C. Casto, Blake M. Warner, Thomas J. Knobloch, Zhangsheng Yu, Christopher M. Weghorst.

**B8 Rapamycin prevents tobacco-carcinogen induced lung tumorigenesis and selectively reduces lung-associated Foxp3 positive cells.** Courtney A. Granville, Jacopo Mariotti, Shigeru Kawabata, Jason Foley, M. Christine Hollander, Wei Han, Andria Balogh, Regan Memmott, Jaclyn LoPiccolo, David Liewehr, Seth Steinberg, Daniel H. Fowler, Phillip A. Dennis.

**B9 Gene expression analysis of oral cancer chemoprevention by lyophilized strawberries in DMBA-induced hamster cheek pouch.** Blake M. Warner, Bruce C. Casto, Zhangsheng Yu, Thomas J. Knobloch, Christopher M. Weghorst.

**B10 Rats with late stage precancerous esophageal lesions develop fewer papillomas if fed a diet of freeze-dried black raspberries.** Li-Shu Wang, Claudio M. Rocha, Nancy Zikri, Colleen M. McIntyre, John F. Lechner, Gary D. Stoner.

**B11 Potential of selected dietary oils in azoxymethane induced colon cancer.** Martha Verghese, Judith A. Boateng, Reuel Field, Venugopal Panala, Darlene Williams, Louis Shackelford, David Asiamah, Lloyd T. Walker, Aretha S. Clisby.

**B12 Chemopreventive potential of selected cereals on chemically induced colon cancer in a Fisher 344 rat model.** Judith A. Boateng, Martha Verghese, Venugopal R. Panala, Reuel A. Field, Darlene S. Williams, Louis A. Shackelford, Lloyd T. Walker, David Asiamah, R Sunkara.

**Carcinogen Activation and Carcinogen-detoxifying Enzymes**

**B14 The association between variant alleles of GSTM1 and GSTT1 and lung cancer risk: A nested case-control study in Washington County, Maryland.** Tram K. Lam, Ingo Ruczinski, Kathy Helzlsouer, Yin Yao Shugart, Kelly E. Li, Sandra C. Hoffman, Anthony J. Alberg.

**B15 Differential induction of cytochrome p450 by smokeless tobacco in various organs of rats mediates genotoxic damage by modulating the pro and anti-apoptotic genes.** Pramod K. Avti, Chander Mohan Pathak, Kim Vaiphei, Krishan Lal Khanduja.

**B16 Prior oral contraceptive use and soy isoflavone exposure alter cytochrome P450s by two different mechanisms.** Latanya M. Scott, Patricia M. Durant, Sandra Leone-Kabler, Alan J. Townsend, J. Mark Cline.

Franklin Hall B

**B17 Soy isoflavones decrease the catechol-O-methyltransferase-mediated inactivation of 4-hydroxyestradiol in cultured MCF-7 cells.** Jorg Wagner, Leane Lehmann.

**B18 Metabolic activation of benzo[a]pyrene *in vitro* by hepatic cytochrome P450 contrasts with detoxification *in vivo*: Experiments with hepatic cytochrome P450 reductase null mice.** David H. Phillips, Marie Stiborova, Colin J. Henderson, Marcus Thiemann, Eva Frei, Dagmar Aimova, Rajinder Singh, Goncalo Gamboa da Costa, Oliver Schmitz, Peter B. Farmer, C. Roland Wolf, Volker M. Arlt.

**B19 Metabolism of estrogens and cancer of the tongue.** Ekaterina G. Shatalova, Sibebe I. Meireles, Stacy L. Mosier, Margie L. Clapper.

### DNA Damage and Repair Mechanisms

**B20 Hepatitis B virus causes DNA double-strand breaks via XRCC3 down-regulation and ROS stress.** Hang Kang, Hyun-Soo Kim, Seung Oe Lim, Young Nyun Park, Young Min Park, Guhung Jung.

### Environmental and Radiation Carcinogenesis

**B21 Reaction mechanisms and products of benzo[a]pyrene and benzo[e]pyrene with oxygen and nitrogen oxides.** Silvina Fioressi, Zulmarie Munoz, Alexander Vicens.

### Infections and Carcinogenesis

**B22 E7 oncoprotein of human papillomavirus type 16 and nuclear factor-kappaB in laryngeal cancer.** George G. Chen, A C. Vlantis, H C. Liu, H Xu, Michael Tong, C A. van Hasselt.

### Oxidative Stress and Carcinogenesis

**B23 The antioxidant effect of lovastatin on phagocyte-induced DNA damage.** Alan B. Weitberg.

**B24 Apple polyphenols modulate antioxidant defense in human colon cancer cells.** Christine Janzowski, Phillip Bellion, Bulent Soyalan, Mathias Baum, Frank Will, Helmut Dietrich, Gerhard Eisenbrand.

**B25 Initial mechanistic studies of a new antioxidant approach for cancer prevention.** Yunfeng Zhao, Jianfeng Liu, Xin Gu, Joe McCord.

**B26 Differential increased expression of oxidative stress modulatory enzymes in breast cancer cells by tocotrienols.** Selvakumar Elangovan, Joseph M. Wu.

**B27 Analysis of 8-oxo-2'-deoxyguanosine on exposure of human bronchoalveolar cells to Benzo[a]pyrene-7,8-dihydrodiol.** Dipti Mangal, Seon Hwa Lee, Jong-Heum Park, Clementina Mesaros, Trevor M. Penning, Ian A. Blair.

### Tumor Promotion and Progression

**B28 A potential role for Periostin in Barrett's carcinogenesis.** Amel Saadi, Madhumita Das, Nicholas Clemons, Chunsheng Zhang, Mark Ferguson, George Tokiwa, Kyle Serikawa, James S. Hardwick, Hongyue Dai, Leslie Carlini, Rebecca C. Fitzgerald.

**B29 Detecting mutation rate change in Barrett's esophagus after treatment with NSAIDs.** Rumien Kostadinov, Mary Kuhner, Carlo Maley.

### Other Carcinogenesis Research

**B30 Cancer as competing clones: Theoretical and experimental cellular sociology systems biology.** Calum MacAulay, Stephen Lam, Wan Lam, Martial Guillaud.

### Clinical Prevention Trials

#### Breast Cancer

**B32 Tamoxifen modulates tumor suppressor gene methylation in breast cells and growth factors in plasma in women at increased risk for breast cancer.** Cheryl M. Lewis, DaWei Bu, Raheela Ashfaq, Xian-Jin Xie, Alexander Miller, William Dooley, Joyce O'Shaughnessy, Banu Arun, Kelly Hunt, David M. Euhus.

**B33 Low-dose aspirin and breast cancer risk: Results from a randomized trial.** Shumin Zhang, Nancy R. Cook, JoAnn E. Manson, I-Min Lee, Julie E. Buring.

**Colon and Other Gastrointestinal Cancers**

**B34 Dietary administration of black raspberries modulates markers of oxidative stress in patients with Barrett's esophagus.** John Fromkes, Wendy Frankel, Gary D. Stoner, Cynthia Hammond, Laura A. Kresty.

**Head and Neck Cancers**

**B35 Chemopreventive effects of a topically applied black raspberry gel on oral premalignant lesions.** Susan R. Mallery, Jared C. Zwick, Brian S. Shumway, Henry W. Fields, Peter E. Larsen, Russell J. Mumper, Gary D. Stoner.

**Ovarian and Other Gynecological Cancers**

**B36 Risk factors associated with the development of a potential precursor to ovarian cancer.** Aasia Saleemuddin, Leslie A. Garrett, Ann K. Folkins, Christopher P. Crum, Shelley Tworoger.

**Prostate and Other Genitourinary Tract Cancers**

**B37 Computer-assisted image analysis of core-biopsies in a trial of weekly bicalutamide in subjects at high risk for prostate cancer.** Silvia Zanardi, Matteo Puntoni, Alfredo Santinelli, Massimo Maffezzini, Roberto Bandelloni, Daniela Branchi, Alessandra Argusti, Fabio Campodonico, Laura Turbino, Roberta Mazzucchelli, Rodolfo Montironi, Andrea Decensi.

**B38 Randomized, controlled intervention study of soy protein isolate in men at high risk for biochemical recurrence after radical prostatectomy: Design and accrual.** Maarten C. Bosland, Anne Zeleniuch-Jacquotte, Jonathan Melamed, Virgilia Macias, Andre Kajdacsy-Balla, Joanne Schmoll, Hiroko W. Meserve, Erika E. Enk.

**Epidemiology/Lifestyle Factors****Behavioral Epidemiology**

**B40 Impact of socioeconomic status on cancer incidence and mortality considering smoking and other life style factors in Korean men: Six-year follow-up study.** Min Kyung Lim, Young Ho Yun, Young Joo Won, Sang Min Park, Yoon Hwa Kang, Soon Ae Shin.

**Cancer in Aging Populations**

**B41 Perimenopausal stage and breast density in US Chinese women.** Marilyn Tseng, Celia Byrne.

**Cancer in Minority and Medically Underserved Populations**

**B42 Fighting liver cancer disparities in the medically underserved Asian community.** Steven Lin, Elizabeth Chao, Hyunseung Kang, Hanh Nguyen, Anh Tan, Andrew Vu, Nahid Yakuby.

**B43 Prostatitis, sexually transmitted diseases, and prostate cancer: The California Men's Health Study.** Iona Cheng, Laurel Habel, Reina Haque, Steven J. Jacobsen, Bette J. Caan, John S. Witte, Stephen Van Den Eeden.

**B44 The observed widened racial disparity of breast cancer mortality in Georgia is associated with increased incidence rate in black women and the disparity in cancer cell differentiation.** Fan Chen, William Bina.

**B45 Differences in breast tumor subtype according to family history of breast cancer among Hispanic Women.** Lisa Hines, Betsy Risendal, Martha L. Slattery, Anna R. Giuliano, Kathy Baumgartner, Tim Byers.

**Diet and Cancer**

**B46 Australian dietary patterns and risk of ovarian cancer.** Fariba Kolahtooz, Jolieke van der Pols, Touruliri Ibiebele, Penny Webb.

**B47 Consumption of raw, but not cooked, cruciferous vegetables and reduction of bladder cancer risk.** Li Tang, Gary R. Zirpoli, Khurshid Guru, Kirsten B. Moysich, Yuesheng Zhang, Christine B. Ambrosone, Susan E. McCann.

**B48 Dietary isoflavone intake and breast cancer risk in case-control studies in Japanese, Japanese Brazilians, and non-Japanese Brazilians.** Motoki Iwasaki, Gerson Shigeaki Hamada, Yoshio Kasuga, Shoichiro Tsugane.

**B49 A prospective study of dietary acrylamide intake and pancreatic cancer risk.** Janneke G. Hogervorst, Leo J. Schouten, Erik J. Konings, R (Sandra) A. Goldbohm, Piet A. van den Brandt.

**B50 Index-based dietary patterns and risk of colorectal cancer: The NIH-AARP Diet and Health Study.** Jill Reedy, Panagiota Mitrou, Susan M. Krebs-Smith, Elisabeth Wirfalt, Andrew Flood, Victor Kipnis, Michael Leitzmann, Traci Mouw, Albert Hollenbeck, Arthur Schatzkin, Amy F. Subar.

**B51 Polymorphisms in the one-carbon metabolic pathway, and the risk and survival of colorectal cancer.** Charles L. Kyte.

**B52 Zinc deficiency alters expression of genes involved in DNA damage response in normal human prostate epithelial cells and mouse prostates.** Michelle Yan, Yang Song, Karin Hardin, Emily Ho.

**B53 Caveolin-1 expression regulates prostate cell growth through downstream cell growth and metastasis suppressor NDRG1.** Godwin O. Ifere, Kereen Gordon, Angela Campbell, Nehemiah Diala, Godwin A. Ananaba.

**B54 Dietary supplement use in elderly, long-term cancer survivors: Who are the users? What proportion benefit? What are the costs?** Paige E. Miller, Wendy Demark-Wahnefried, Denise C. Snyder, Richard Sloane, Miriam C. Morey, Harvey Cohen, Diane C. Mitchell, Sibylle Kranz, Terry J. Hartman.

**B55 Soy isoflavone intake and breast cancer recurrence.** Neela Guha, Adrienne L. Castillo, Erin K. Weltzien, Charles P. Quesenberry, Bette J. Caan.

**B56 Supplemental antioxidant intake and plasma protein carbonyl concentrations in the Long Island Breast Cancer Study Project.** Heather Greenlee, Marilie D. Gammon, Mia M. Gaudet, Mary Beth Terry, Dawn L. Hershman, Manisha Desai, Pavel Rossner, Susan L. Teitelbaum, Alfred I. Neugut, Regina M. Santella, Judith S. Jacobson.

**B57 Calibration of a food frequency questionnaire in a Korean population.** Jeongseon Kim, Sun-Young Lim, Gyung-Ae Wie, Younjin Ahn.

**B58 Dietary boron and hormone replacement therapy (HRT) as risk factors for lung cancer in women.** Somdat Mahabir, Margaret R. Spitz, Stephanie L. Barrera, Yong Q. Dong, Carissa Eastham, Michele R. Forman.

**B59 Prospective study of dietary fiber intake and breast cancer risk in postmenopausal women: The Multiethnic Cohort Study.** Kristine R. Monroe, Abraham M.Y. Nomura, Laurence N. Kolonel, Suzanne P. Murphy, Brian E. Henderson, Malcolm C. Pike.

**B60 Intakes of fruits and vegetables, and carotenoids and risk of renal cell cancer in a pooled analysis of 13 prospective studies.** Jung Eun Lee, Stephanie A. Smith-Warner, for Pooling Project Investigators.

**B61 Consumption of total protein and protein sources and colorectal cancer risk in men.** Megan N. Hall, Edward L. Giovannucci, Jing Ma, Meir J. Stampfer, Walter C. Willett.

**B62 Corn oil exposure increases inflammatory cytokine production in human white preadipocytes but canola oil exposure does not.** Gabriela Ion, W. Elaine Hardman.

**B63 GSTM1 and GSTT1 copy number and NAT2 acetylator status are modifiers of the association between flame-broiled food, meat consumption and breast cancer.** Kala Visvanathan, Paul Strickland, Xiaojun You, Sandra Hoffman, Kathy Helzlsouer.

**B64 Gender-specific effects of dietary carotenoid intake on lung cancer risk.** Joanne Watters, Somdat Mahabir, Yong Quan Dong, Margaret Spitz, Michele Forman.

**B65 Dietary fat and risk of renal cell carcinoma in the USA: A case-control study.** Kaye E. Brock, Gridley Gloria, Brian C. Chiu, Abby G. Ershow, Charles F. Lynch, Kenneth P. Cantor.

**B66 The protective effect of *Capsosiphon fulvescens* on colon cancer in azoxymethane-treated rats.** Yoo K. Kim, Young Sook Son, Kyu-Shik Jeong.

**B67 DNA protective effects of Brussels sprouts: Results of a human intervention study.** Christine Hoelzl, Hansruedi Glatt, Tatjana Simic, Franziska Ferk, Armen Nersesyan, Siegfried Knasmuller.

**B68 Macro-nutrient intake and risk for endometrial cancer.** Rita K. Biel, Christine M. Friedenreich, Ilona Cszimadi, Linda S. Cook, Kerry S. Courneya, Anthony M. Magliocco.

**B69 n-3 and n-6 PUFA-mediated modulation of HER-2/neu membrane localization and signaling in breast cancer.** Lisa D. Yee, Joshua Evans, Jennifer Hatton, Thomas J. Rosol, Amy Lehman, Steven K. Clinton.

**Exercise and Prevention**

**B70 Recreational physical activity energy expenditure estimated from self-reported past-year activity in adults participating in The Tomorrow Project®.** Ilona Csizmadi, Paula J. Robson, Christine M. Friedenreich, Geraldine Lo Siou, Heather K. Neilson, Heather Bryant.

**B71 Effects of physical activity on biomarkers for the prevention of breast cancer: A twelve-week intervention.** Amy Micheli, Larissa Korde, David Venzon, Jennifer Eng-Wong.

**B72 Wheel running exercise and tumorigenesis in ENU-treated in FVB x C57BL/6J Apc<sup>Min/+</sup> mice.** Lisa H. Colbert, Stephen D. Hursting, Amy R. Moser.

**Familial and Genetic Epidemiology**

**B73 The distribution of family history risk for disease in primary care practices.** Mack T. Ruffin, Suzanne M. O'Neill, Wendy S. Rubinstein, Nan Rothrock, Erin Starzyk, Jennifer Beaumont, Louise S. Acheson.

**B74 FGFR2 is a breast cancer susceptibility gene in Israeli populations.** Leon Raskin, Gad Rennert, Stephen B. Gruber.

**B75 Genetic polymorphisms of estrogen receptors  $\alpha$  and  $\beta$  and the risk of developing prostate cancer.** Young Kwang Chae, Han-Yao Huang, Paul T. Strickland, Sandra C. Hoffman, Kathy Helzlsouer.

**B76 Association of haplotypes of manganese superoxide dismutase (SOD2) with lung cancer risk.** Carla J. Gallagher, Ashley L. Knipe, Philip Lazarus, Joshua E. Muscat.

**B77 Family history, mammographic density, and risk of breast cancer.** Lisa J. Martin, Helen Guo, Limei Sun, Anna Chiarelli, Gregory Hislop, Martin Yaffe, Salomon Minkin, John L. Hopper, Norman F. Boyd.

**B78 Mammographic density and familial breast cancer: Comparison of related and unrelated controls.** Linda Linton, Norman F. Boyd, Lisa J. Martin.

**B79 Association of immune response- and obesity-related genes with prostate cancer in CLUE II.** Ming-Hsi Wang, Kathy J. Helzlsouer, Michael W. Smith, Judith A. Hoffman-Bolton, Sandy C. Hoffman, Viktoriya Grinberg, Angelo M. De Marzo, William B. Isaacs, Charles G. Drake, Yin Y. Shugart, Elizabeth A. Platz.

**B80 Family history of lung cancer and lung cancer risk among Finnish male smokers.** Ourania Kosti, Mia M. Gaudet, Ahn Jiyoun, Barry I. Graubard, Stephanie J. Weinstein, Jason Ashby, Jarmo Virtamo, Andrew W. Bergen, Demetrius Albanes.

**B81 Breast cancer susceptibility alleles and ovarian cancer risk in two study populations.** Margaret A. Gates, Shelley S. Tworoger, Kathryn L. Terry, Immaculata De Vivo, David J. Hunter, Daniel W. Cramer, Susan E. Hankinson.

**B82 Cyclin D polymorphisms and breast cancer risk in a US population-based study.** Shaneda N. Warren Andersen, Amy Trentham-Dietz, Polly A. Newcomb, Linda Titus-Ernstoff, John M. Hampton, Montserrat Garcia-Closas, Kathleen M. Egan.

**B83 Establishment of a hereditary tumor bank for molecular epidemiology studies.** Jose Claudio Casali-da-Rocha, Liz Almeida, Altino Leitao, Hector Seuanez, Carlos G. Ferreira.

**General Epidemiology and Biostatistics**

**B84 Global cancer incidence should be corrected for under-ascertainment in cancer cases in the elderly (aged 65+): Log-linear method.** Mahdi Fallah, Elham Kharazmi.

**B85 Second primary tumors in endometrial cancer patients: Analysis of SEER data.** Faina Y. Linkov, Camille Ragin, Emanuela Taili.

**B86 Cancer cluster detection with incidence registry data.** Recinda L. Sherman, David Lee, Jennifer Hu, Geoff Jacquez, Lora Fleming, Greg Kearney, Jill MacKinnon.

**B87 Effect of a genetic polymorphism in CYP1B1 on lung cancer risk and survival.** Sibebe I. Meireles, Stacy L. Mosier, Tianyu Li, Melvyn Goldberg, Walter J. Scott, Margie L. Clapper.

**Obesity, Metabolism, and Cancer**

**B88 Obesity, insulin resistance and lifestyle factors: Implications for prostate cancer screening.** Niyati Parekh, Yong Lin, Stephen Marcella, Ashima K. Kant, Grace Lu-Yao.

**B89 Association of C-peptide concentration with prostate cancer incidence in a prospective cohort.** Gabriel Y. Lai, Kathy J. Helzlsouer, Sandra C. Hoffman, Nader Rifai, Elizabeth A. Platz.

**B90 Body size and risk of epithelial ovarian and related cancers:**

**A population-based case-control study.** Catherine M. Olsen, Christina M. Nagle, David C. Whiteman, David M. Purdie, Adele C. Green, Penelope M. Webb.

**B91 Body mass index and mortality in a lean Chinese population.** Yu Zhang, Sanford M. Dawsey, Philip R. Taylor, You-Lin Qiao, Christian C. Abnet.

**B92 Insulin, insulin-like growth factor-I, endogenous estradiol and risk of colorectal cancer in postmenopausal women.** Marc J. Gunter, Donald R. Hoover, Herbert Yu, Sylvia Wassertheil-Smoller, Thomas E. Rohan, JoAnn E. Manson, Barbara V. Howard, Judith Wylie-Rosett, Garnet L. Anderson, Gloria YF Ho, Robert C. Kaplan, Jixin Li, XiaoNan Xue, Tiffany G. Harris, Robert D. Burk, Howard D. Strickler.

**B93 Diabetes and hyper-insulinemia as predictors of colorectal cancer risk in a prospective cohort of women.** Andrew Flood, Lori Strayer, Catherine Schairer, Arthur Schatzkin.

**B94 Body size in early life and risk of epithelial ovarian cancer.** Heather J. Baer, Susan E. Hankinson, Shelley S. Tworoger.

**B95 Post-diagnosis weight change, body mass index, and breast cancer survival.** Hazel B. Nichols, Amy Trentham-Dietz, Polly A. Newcomb, Linda Titus-Ernstoff, Crystal N. Holick, Kathleen M. Egan.

**B96 Central obesity and breast density in premenopausal US Chinese women.** Marilyn Tseng, Celia Byrne.

**B97 Associations between LEP and LEPR and risk for breast cancer.** Charles E. Matthews, Qiuyin Cai, Ji-Rong Long, Chun Li, Lan Jiang, Yu-Tang Gao, Wei Zheng.

**B98 Association of body mass index and breast cancer in hereditary breast cancer cases: A pilot study.** Deann Atchley, Shu-Wan Kau, Chris Amos, Gabriel N. Hortobagyi, Banu Arun.

**B99 Fasting C-peptide levels and breast cancer death in women with breast cancer: The Health, Eating, Activity and Lifestyle (HEAL) Study.** melinda L. irwin, Anne McTiernan, Leslie Bernstein, Rick Baumgartner, Frank Gilliland, Rachel Ballard-Barbash.

### Other Molecular Epidemiology

**B100 The impact of alcohol consumption combined with genetic polymorphisms in alcohol-metabolizing enzymes on risk of pancreatic cancer in Japan.** Junya Kanda, Keitaro Matsuo, Takeshi Suzuki, Akio Hiraki, Takakazu Kawase, Akira Sawaki, Kenji Yamao, Kazuo Tajima.

**B101 Insulin-like growth factors and risk of testicular germ cell tumors.** Victoria M. Chia, Sabah Quraishi, Lori C. Sakoda, Barry I. Graubard, Mark V. Rubertone, Stephen J. Chanock, Ralph L. Erickson, Frank Z. Stanczyk, Katherine A. McGlynn.

**B102 Serum 25-hydroxyvitamin D, vitamin D receptor gene polymorphisms and haplotypes and risk of postmenopausal breast cancer in a large case-control study.** Sascha Abbas, Jakob Linseisen, Alexandra Nieters, Tracy Slinger, Silke Kropp, Elke Mutschelknauss, Dieter Flesch-Janys, Jenny Chang-Claude.

**B103 Serum levels of vitamin D metabolites and breast cancer risk in the Prostate, Lung, Colorectal and Ovarian Cancer Screening Trial.** Michal Freedman, Shih-Chen Chang, Roni T. Falk, Mark P. Purdue, Wen-Yi Huang, Catherine A. McCarty, Bruce W. Hollis, Barry I. Graubard, Christine D. Berg, Regina G. Ziegler.

**B104 Epidemiological and genetic determinants of mammographic density.** Abenaa M. Brewster, Ivan Gorlov, Wei Yang, Li-E Wang, Melissa Bondy, Selin Carkaci, Georgina Armstrong, Thomas Pugh, Daniele DeFreese, Bobby Gramling, Sharmilla Manjeshwar, Craig Shimasaki, Eldon Jupe.

**B105 COMT V158M, mammographic breast density and circulating sex hormones in a randomized, double-blind, 2 x 2 phase II trial of low-dose tamoxifen and fenretinide for breast cancer prevention in premenopausal women.** Debora Macis, Sara Gandini, Harriet Johansson, Aliana Guerrieri-Gonzaga, Davide Serrano, Matteo Lazzeroni, Massimiliano Cazzaniga, Frederique Mariette, Marcella Gulisano, Antuono Latronico, Maria Teresa Sandri, Karen Johnson, Andrea Decensi, Bernardo Bonanni.

**B106 DNA promoter methylation and head and neck cancer survival.** Emanuela Taioli, Camille Ragin, Xiaohong Wang, Scott Langevin, Gollin Susanne, Seymore Garte, Robert Sobol.

**B107 The association between common polymorphisms in genes related to inflammatory response and obesity with colorectal cancer in CLUE II.** Konstantinos K. Tsilidis, Kathy J. Helzlsouer, Michael W. Smith, V Grinberg, Judith A. Hoffman-Bolton, Sandra C. Hoffman, Kala Visvanathan, Elizabeth A. Platz.

**B108 Novel breast cancer risk alleles are not associated with endometrial cancer risk.** Monica McGrath, I-Min Lee, Susan Hankinson, David Hunter, Julie Buring, Immaculata De Vivo.

**Other Risk Factors**

**B109 Endometrial hyperplasia risk in relation to recent use of oral contraceptives and postmenopausal hormone therapy.** Epplein Meira, Susan D. Reed, Lynda F. Voigt, Katherine M. Newton, Victoria L. Holt, Noel S. Weiss.

**B111 Parity modifies the relationship between NSAIDs and ovarian cancer.** Karen J. Wernli, Polly A. Newcomb, John Hampton, Amy Trentham-Dietz, Kathleen M. Egan.

**B112 Second primary cancers among individuals with rare skin tumors may provide etiologic clues.** Shehnaz K. Hussain, Jan Sundquist, Kari Hemminki.

**B113 Risk factors for invasive endometrioid and clear cell ovarian cancers.** Christina M. Nagle, Catherine M. Olsen, Penelope M. Webb, Adele C. Green.

**B114 Reproductive factors, body size, and risk of non-Hodgkin lymphoma subtypes in the California Teachers Study.** Jennifer Prescott, Jane Sullivan-Halley, Christina A. Clarke, Wendy Cozen, Leslie Bernstein.

**B115 Cancer incidence among imazethapyr-exposed pesticide applicators in the agricultural health study cohort.** Stella Koutros, Jane A. Hoppin, Charles F. Lynch, Carol Christensen, Won Jin Lee, Laura Beane Freeman, Jennifer Rusiecki, Lifang Hou, Xiaomei Ma, Tongzhang Zheng, Michael C.R. Alavanja.

**B116 An association between antibiotic use and the risk of cancer.** Annamari Kilkinen, Harri Rissanen, Timo Klaukka, Eero Pukkala, Markku Heliövaara, Pentti Huovinen, Satu Mannisto, Arpo Aromaa, Paul Knekt.

**B117 Comparing alternative methods for measuring skin damage.** Carolyn J. Heckman, Lauren C. Daniel, Sara Filseth, Jacqueline D. Kloss.

**B118 A prospective study of the effect of regular use of non-steroidal anti-inflammatory drugs (NSAIDs) on ovarian cancer risk.** Simone P. Pinheiro, Daniel W. Cramer, Bernard Rosner, Susan E. Hankinson.

**B119 Menopausal hormone therapy and risk of colorectal cancer.** Jill Johnson, James Lacey, DeAnn Lazovich, Melissa Geller, Catherine Schairer, Arthur Schatzkin, Andrew Flood.

**B120 Prevalence of multiple lifestyle risk factors for cancer in Brazil.** Ana L. Mendonca, Luis F. Martins, Beatriz C. Jardim, Liz M. Almeida, Valeska C. Figueiredo, Jose A. Lozana.

**Tobacco and Cancer**

**B121 Do the associations between cigarette smoking and the risk of dying from tobacco-associated malignancies differ by race?** Jill Nonemaker, Elizabeth Garrett-Mayer, Matthew Carpenter, Marvella Ford, Gerard Silvestri, Daniel Lackland, Anthony Alberg.

**B122 Nicotine metabolism among African American and white smokers: Group and intra-individual differences in glucuronidation.** Jeannette M. Zinggeler Berg, Jesse L. Mason, Angela J. Boettcher, Dorothy K. Hatsukami, Sharon E. Murphy.

**B123 Association studies of excision repair cross-complementation group 1 (ERCC1) haplotypes with lung and oral cancer risk in a Caucasian population.** Nathan R. Jones, Thomas E. Spratt, Joshua E. Muscat, Philip Lazarus, Carla J. Gallagher.

**B124 PAH exposure and upper gastrointestinal cancers in China.** Ying Gao, Philip Taylor.



Franklin Hall B

**B125 Perceived risk of cervical cancer among high risk women smokers in Tampa, Florida.** Erin M. Siegel, Angela Diggs, Ana Garcia, Joseph Khell, David Shibata, Anna R. Giuliano.

#### Other Epidemiology/Lifestyle Factors Research

**B126 Prostate specific antigen levels and inflammatory markers in older men from the National Health and Nutrition Survey (2001-2002).** Niyati Parekh, Grace Lu-Yao.

**B127 Statin drugs and PSA concentration in the National Health and Nutrition Examination Survey (NHANES) 2001 - 2004.** Alison M. Mondul, Elizabeth Selvin, Angelo M. DeMarzo, Elizabeth A. Platz.

**B128 S-ethyl-N,N-dipropylthiocarbamate (EPTC) exposure and cancer incidence among male pesticide applicators in the Agricultural Health Study, a prospective cohort.** Dana M. Van Bommel, Kala Visvanathan, Laura E. Beane Freeman, Joseph B. Coble, Jane A. Hoppin, Michael C.R. Alavanja.

**B129 Antioxidant profile in the blood of patients with breast cancer.** Amjad Mahasneh, Hua Zhao, Susan Smith, Christine Ambrosone.

#### Preclinical and Translational Organ Site Prevention Studies

##### Breast Cancer

**B131 AFPep, a novel drug for the treatment and prevention of breast cancer: An investigation of potential side effects on the reproductive cycle.** Amanda Tower, Andrea Trinward, James Bennett, Herbert Jacobson, Thomas Andersen.

**B133 A translational clinical trial to demonstrate anti-estrogenic activity of mushrooms.** Melanie R. Palomares, Lynn S. Adams, Sheryl Phung, Laura R. Lopez, Timothy W. Synold, Shiuan Chen.

#### Colon and Other Gastrointestinal Cancers

**B135 Apigenin and naringenin favorably modulate aberrant crypt foci development and colonic cell cytokinetics.** Nancy D. Turner, Tety Leonardi, Jairam Vanamala, Laurie A. Davidson, Bhimanagouda S. Patil, Naisyin Wang, Raymond J. Carroll, Robert S. Chapkin, Joanne R. Lupton.

**B136 Global and gene specific DNA methylation as a screening tool for early detection of liver cancer.** Rafael Guerrero-Preston, Myoung S. Kim, Cynthia Lebron, David Sidransky, Maria Berdasco, Mario Fraga, Manel Esteller.

#### Head and Neck Cancers

**B137 Basal cell carcinoma of childhood: A case report.** Hamid Reza Fathi, Ali Naser, Ali Abbasi.

**B138 Multivariate regression analysis to predict progression of oral premalignant lesions.** Guillaud Martial, Lewei Zhang, Catherine F. Poh, Miriam Rosin, Calum MacAulay.

**B139 Anticancer activity of guggulsterone in head and neck squamous cell carcinoma.** Rebecca J. Leeman, Sarah A. Morgan, Shivendra V. Singh, Raja R. Seethala, Jennifer R. Grandis.

#### Lung Cancer

**B140 Prevention and control of lung cancer in Sudanese tobacco smokers by vitamin A derivative.** Fathelrahman M. Hassan.

**B141 Chemopreventive effect of kava on 4-(Methylnitrosamino)-1-(3-pyridyl)-1-butanone plus benzo(a)pyrene-induced lung tumorigenesis in A/J mouse.** Thomas Johnson, Fekadu Kassie, Pramod Upadhyaya, Stephen Hecht, Chengguo Xing.

**B142 Methods for lowering nitrosamine levels in cigarette smoke and likely effect on lung cancer rate.** Sidney S. Mirvish.

**B143 Diet and physical activity in lung cancer risk prediction for current, former, and never smokers.** Michele R. Forman, Carol Etzel, Somdat Mahabir, Qiong Dong, Stephanie Barrera, Margaret R. Spitz.

**Melanoma and Skin Cancer**

**B144 Gender differences in antioxidant activity, DNA damage, and vasculature in ultraviolet light exposed skin.** Kathleen L. Tober, Jennifer M. Thomas-Ahner, Jessica E. Rosette, Brian C. Wulff, Jonathon S. Schick, Tatiana M. Oberyszyn.

**B145 Responses of bromelain in a human cell screening assay for melanoma prevention.** Eugene Elmore, Aarti Jain, Vernon E. Steele, John L. Redpath.

**Ovarian and Other Gynecological Cancers**

**B146 Comparing green tea compound and cactus extract in suppressing of ovarian carcinogenesis *in vitro* and *in vivo*.** Molly A. Brewer, Jean Feugang, Haiying Zhang, Sui Zhang, Changping Zou.

**B147 The evaluation of norethindrone, ethinyl estradiol and a GnRh agonist as chemoprevention of ovarian cancer using a newly developed genetically engineered mouse model of ovarian cancer.** Iris Romero, Helen Kim, Melissa Gilliam, Daniela M. Dinulescu, Ernst Lengyel.

**B148 Vulvar cancer incidence: An analysis of SEER data by race and ethnicity.** Muhannad S. Hafi, Kangmin Zhu, Chad A. Hamilton, George L. Maxwell.

**Prostate and Other Genitourinary Tract Cancers**

**B149 Inhibition of urinary bladder carcinogenesis by broccoli sprouts.** Rex Munday, Paulette Mhawech-Fauceglia, Christine M. Munday, Joseph D. Paonessa, Li Tang, John S. Munday, Carolyn Lister, Paula Wilson, Jed W. Fahey, Warren Davis, Yuesheng Zhang.

**B150 Cyclooxygenase-2-independent effect of celecoxib against prostate cancer: Evidence from animal studies.** Bhagavathi A. Narayanan, Dominick Nargi, Maarten Bosland, Bandaru S. Reddy, Narayanan K. Narayanan.

**B151 Do androgens contribute to the extent of genotoxic damage within the prostate.** Shuren Shen, Seema S. Kengeri, Muriel Cuendet, Huiping Xu, Deborah L. Schlittler, Carol P. Oteham, Emily C. Chiang, Yu Chen, Dawn M. Cooley, Lawrence T. Glickman, David J. Waters.

**B152 Anti-estrogens act as chemo-preventatives in prostate cancer progression.** William A. Ricke, Karin Williams, Emily A. Ricke.



**Plenary Session 5: Understanding and Preventing Cancers Due to Microbes**

Salons G-H

**Co-Chairpersons:** **Silvia Franceschi**, International Agency for Research on Cancer, Lyon, France, and **Martin J. Blaser**, New York University School of Medicine, New York, NY

A relationship between microbes and cancer goes back nearly a century to the work of Peyton Rous. In recent years, an increasing number of human cancers have been linked to microbes. These linkages are changing our very understanding of the pathogenesis, treatment, and prevention of such cancers. This session will address current research on the magnitude, etiology, epidemiology, pathogenesis, and prevention of several important human cancers. Each of the topics points to new areas of inquiry, including ascertaining associations with novel infectious agents, pathogenesis of co-infection, role of the normal flora in promoting pre-malignant physiologic interactions, and new approaches to cancer prevention.

\*Burden of cancer attributable to infection

**Silvia Franceschi**, International Agency for Research on Cancer, Lyon, France

\*Viral and host factors and risk of hepatocellular carcinoma  
**Ming-Whei Yu**, Graduate Institute of Epidemiology, College of Public Health, National Taiwan University, Taipei, Taiwan

Linking *Helicobacter pylori* regulation of gastric physiology to cancer development

**Martin J. Blaser**, New York University School of Medicine, New York, NY

\*A shot in the arm? Cervical cancer prevention in the HPV vaccine era

**Philip Castle**, National Cancer Institute, Rockville, MD

\*An extended abstract for this presentation is available in the Invited Abstracts section of the *Proceedings*.

## Concurrent Session 18: Basic and Translational Advances in Lung Carcinogenesis and Chemoprevention

Salons K-L

**Co-Chairpersons:** **Fadlo R. Khuri**, Winship Cancer Institute at Emory University, Atlanta, GA, and **Steven M. Dubinett**, UCLA School of Medicine, Los Angeles, CA

This session examines topical and future issues in the field of lung cancer biology. It includes state of the art presentations on the biology of stem cells, inflammation, and tobacco carcinogens in lung cancer. The session concludes with a discussion of opportunities to use high throughput screening and other novel technologies to develop and enhance utilization of natural compounds in lung cancer prevention and therapy. The overarching goal of this session is to link basic mechanistic understanding of the evolution of lung cancer to modern, natural compound-based drug discovery and development. Pertinent highlights include discussion of the roles played by the stem cells, inflammatory response and their manifestations in lung carcinogenesis.

\*Examining the role of stem cell biology in lung cancer

**Carla F. Kim**, Children's Hospital, Boston, MA

Field effect in lung carcinogenesis

**Ignacio I. Wistuba**, UT M. D. Anderson Cancer Center, Houston, TX

Inflammation in lung carcinogenesis and chemoprevention

**Steven M. Dubinett**, UCLA, School of Medicine, Los Angeles, CA

Natural product-based drug discovery for lung cancer prevention and therapy

**Haian Fu**, Emory University School of Medicine, Atlanta, GA

## Concurrent Session 19: Informed Decision-Making for Cancer Screening and Prevention

Franklin 2

**Chairperson:** **Peter A. Ubel**, University of Michigan, Ann Arbor, MI

We will present research exploring when patients are able to make good screening or prevention decisions. Patient decisions are crucial components of any screening or prevention program. If patients refuse to get screening tests or take preventive medicines, then those tests and medicines cannot reduce the burden of cancer. Dr. Ubel will show how decisions scientists define a "good" decision, and describe how to conduct experiments testing ways of improving decisions. Dr. Fagerlin will present an example of such an experiment. Dr. Armstrong and Dr. Gray will show how decisions are made in real-world settings, and why these decisions are often suboptimal.

Deciding when a decision is a "good" decision

**Peter A. Ubel**, University of Michigan, Ann Arbor, MI

Primary prevention with tamoxifen or raloxifene: Results from an experimental decision aid

**Angela Fagerlin**, University of Michigan, Ann Arbor, MI

Whom you see is what you get: Understanding optimal cancer decisions in a world of constrained choice

**Katrina Armstrong**, University of Pennsylvania, Philadelphia, PA

Cancer prevention online? Decision making in the context of direct to consumer cancer genetics

**Stacy W. Gray**, University of Pennsylvania, Philadelphia, PA

\*An extended abstract for this presentation is available in the Invited Abstracts section of the *Proceedings*.

**Concurrent Session 20: Issues in the Use of Intermediate Endpoints**

Salons I-J

**Co-Chairpersons:** **Ernest T. Hawk**, National Cancer Institute, Bethesda, MD, and **Ronald A. Lubet**, National Cancer Institute, Bethesda, MD

Intermediate endpoints are critical for progress in cancer prevention because of the mismatch between the broad range of potential agents, the pace of scientific discovery versus clinical translation. This is particularly true if only large trials with a cancer endpoint can clearly suggest effective agents. In this session we will examine the challenges and several promising approaches to identify, develop, and validate intermediate endpoints by focusing on intermediate markers which may be relevant both in animal models and in clinical settings. The three systems are: 1) proliferation and apoptosis in rat mammary tumors; 2) proteomic defined markers in urine in rats with bladder cancer; and 3) biomarkers in a human trial of colon polyp prevention. It is hoped that correlative studies in animals and small scale human trials will improve the predictive nature of intermediate biomarkers for efficacy and thereby accelerate agent development.

## Introduction

**Ron A. Lubet**, National Cancer Institute, Bethesda, MD

\*Proteomics analysis of chemically induced rat bladder tumors

**R. Reid Townsend**, Washington University, St. Louis, MO

Effects of various cancer preventive agents on proliferation and apoptosis in a rat mammary cancer

**Konstantin T. Christov**, University of Illinois, Chicago, IL

The facts, fiction, and future of intermediate endpoints in clinical prevention

**Ernest T. Hawk**, National Cancer Institute, Bethesda, MD

\*Effects of combination chemoprevention on markers of cell turnover and agent action in colorectal mucosal tissue from patients in a phase III trial of difluoromethylornithine and sulindac for prevention of colon polyp recurrence

**Eugene W. Gerner**, Arizona Cancer Center, Tucson, AZ

**Concurrent Session 21: Prostate Cancer Prevention: Translating from the Bench to the Bedside to the Nation**

Franklin 1

**Chairperson:** **Ian M. Thompson**, University of Texas Health Science Center, San Antonio, TX

In perhaps no other organ site is cancer prevention more challenging than prostate cancer: the disease will affect 18% of men, many preventive agents are available, and one agent— finasteride— has a confirmed effect to reduce disease risk. In this session, we will examine opportunities for new prevention agents, mechanisms of action, new pathways for prevention, the results of phase III trials, and how these results can be used by public health authorities to reduce the burden of suffering from the disease. The session will appeal to all disciplines of cancer prevention.

Molecular biology of chemoprevention

**Ashraful Hoque**, UT M. D. Anderson Cancer Center, Houston, TX

Prevention with 5- $\alpha$  reductase inhibitors

**Ian M. Thompson**, University of Texas Health Science Center, San Antonio, TX

Genetic susceptibility and inflammation: Implications for prevention of prostate cancer

**Eric A. Klein**, The Cleveland Clinic, Cleveland, OH

Taking prevention to the public: Challenges and solutions for prevention as a public health initiative

**Leslie G. Ford**, National Cancer Institute, Bethesda, MD

\*An extended abstract for this presentation is available in the Invited Abstracts section of the *Proceedings*.

## CANCER ANSWERS-A Public Forum

Supported by Susan G. Komen for the Cure, the Lead Supporter for the Frontiers in Cancer Prevention Research Conference.

Learn more about the latest progress in cancer detection, treatment, and prevention at Cancer Answers-A Public Forum. Internationally-recognized experts in cancer research will share new discoveries related to cancer health disparities and the medically underserved. Familiarize yourself with support services and advocacy efforts aimed at improving patients' lives and accelerating progress against cancer. This educational opportunity for patients, families, caregivers, and everyone concerned about cancer is free to all attendees.

### Exhibits

Saturday, December 8                      12:00 p.m.-3:00 p.m.

### General Session

Saturday, December 8                      1:00 p.m.-3:00 p.m.

For more information, go to [www.cancerpublicforum.org](http://www.cancerpublicforum.org) or e-mail [publicforum@aacr.org](mailto:publicforum@aacr.org).

