

An AACR-American Chemical Society Joint Meeting on  
**Chemistry in Cancer Research:  
The Biological Chemistry of Inflammation  
as a Cause of Cancer**

January 30-February 2, 2011  
Manchester Grand Hyatt San Diego Hotel  
San Diego, California

**Sunday, January 30**

**7:00 p.m.-8:00 p.m. Keynote Session**

*Randle Ballroom*

**Inflammation and cancer: Interweaving microRNA free radicals, inflammatory cytokines, and p53 networks**

Curtis C. Harris, National Cancer Institute, Bethesda, MD

**8:00 p.m.-9:30 p.m. Networking Reception**

*Spa Pool Deck*

**Monday, January 31**

**7:00 a.m.-8:00 a.m. Continental Breakfast**

*Randle Foyer Terrace*

**8:00 a.m.-10:00 a.m. Session 1: Infection, Inflammation, and Cancer**

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

*Randle Ballroom*

**Helicobacter-associated chronic inflammation and gastrointestinal cancers**

James G. Fox

**Gastric cancer: An infectious disease**

Pelayo Correa, Vanderbilt University Medical Center, Nashville, TN

**Hepatitis B viral mutations and inflammation in liver cancer**

John D. Groopman, Johns Hopkins University Bloomberg School of Public Health, Baltimore, MD

**Mechanisms of inflammasome activation in asbestos-associated mesothelioma**

Brooke T. Mossman, University of Vermont College of Medicine, Burlington, VT

**10:00 a.m.-10:30 a.m. Break**

*Randle Foyer*

**10:30 a.m.-11:30 p.m. Minisymposium I**

*Proffered presentations from selected abstracts*

*Randle Ballroom*

**Inflammation in TGF $\beta$ -mediated carcinogenesis**

B.R. Achyut, National Cancer Institute, Bethesda, MD

**Tumor-recruited inflammatory neutrophils and their TIMP-free MMP-9 determine coordinately the levels of tumor angiogenesis and malignant cell dissemination**

Elena I. Deryugina, The Scripps Research Institute, La Jolla, CA

**Signal integration from PI 3-kinases and phospholipase D regulates proinflammatory NADPH oxidase activity and extracellular reactive oxygen species production**

Christian D. Ellson, David H. Koch Institute for Integrative Cancer Research at MIT, Cambridge, MA

**Oxidative stress as a target for drug development in prostate cancer**

Athanasios Paschos, McMaster University and Juravinski Cancer Center, Hamilton, ON, Canada

**11:30 a.m.-1:30 p.m. Lunch on own**

*Optional Professional Advancement Session in Manchester Ballroom*

**1:30 p.m.-3:30 p.m. Session 2: Chemical Mediators of Inflammation I**

*Chairperson: David A. Wink, National Cancer Institute, Bethesda, MD*

*Randle Ballroom*

**Different levels of nitric oxide determine distinct pathways that lead to promotion or inhibition of cancer progression**

David A. Wink

**Macrophage pathways for oxidative damage in humans**

Jay W. Heinecke, University of Washington School of Medicine, Seattle, WA

**Production and reactions of oxidants produced by myeloperoxidase**

Christine Winterbourn, University of Otago, Christchurch, New Zealand

**Neutrophil-mediated DNA damage**

Lawrence C. Sowers, Loma Linda University, Loma Linda, CA

**3:30 p.m.-4:00 p.m. Break**

*Randle Foyer*

**4:00 p.m.-5:00 p.m. Minisymposium II**  
*Proffered presentations from selected abstracts*  
*Randle Ballroom*

**RNA editing changes the lesion specificity for the DNA repair enzyme NEIL1**  
Sheila S. David, University of California, Davis, CA

**Environmentally induced oxidative stress: TCDD- and benzo[a]pyrene-mediated arachidonic acid metabolism in H358 human lung cells**  
Stacy Lynn Gelhaus, University of Pennsylvania, Philadelphia, PA

**Inflammation-induced DNA glycation: A potential role in TNF- $\alpha$ -mediated response mechanisms**  
John Termini, City of Hope, Duarte, CA

**The metabolism and signaling of the lipid peroxidation product 4-HNE**  
Gregory P. Tochtrop, Case Western Reserve University, Cleveland, OH

**5:00 p.m.-7:00 p.m. Poster Session A**  
*Manchester Ballroom*

**Tuesday, February 1**

**7:00 a.m.-8:00 a.m. Continental Breakfast**  
*Randle Foyer Terrace*

**8:00 a.m.-10:00 a.m. Session 3: Chemical Mediators of Inflammation II**  
*Chairperson: Cynthia J. Burrows, University of Utah, Salt Lake City, UT*  
*Randle Ballroom*

**Beyond 8-oxoG: Chemistry and biochemistry of hyperoxidized guanine**  
Cynthia Burrows

**AGEs, inflammation, and cancer in diabetes**  
John W. Baynes, University of South Carolina, Columbia, SC

**Redox regulation of Ras and Rho GTPases**  
Sharon Campbell, University of North Carolina, Chapel Hill, NC

**Reaction pathways of radicals formed by the oxidation of guanine in DNA by peroxynitrite-derived reactive intermediates and characterization of the end products**  
Nicholas E. Geacintov, New York University, New York, NY

**10:00 a.m.-10:30 a.m. Break**

*Randle Foyer*

**10:30 a.m.-11:30 a.m. Minisymposium III**

*Proffered presentations from selected abstracts*

*Randle Ballroom*

**Nitrogen-oxide-releasing NSAIDs as anticancer agents**

Katrina M. Miranda, University of Arizona, Tucson, AZ

**Caged nitric oxide prodrugs for cancer therapy**

Larry K. Keefer, National Cancer Institute at Frederick, Frederick, MD

**Organ- and lesion-dependent biases in the spectrum of inflammation-induced DNA damage in colon and liver from *Helicobacter hepaticus*-infected Rag2-deficient mice**

Aswin Mangerich, Massachusetts Institute of Technology, Cambridge, MA

**COX-2 inhibitors in PET imaging of inflammation and cancer**

Jashim Uddin, Vanderbilt University, Nashville, TN

**11:30 a.m.-1:30 p.m. Poster Session B and Lunch**

*Manchester Ballroom*

**1:45 p.m.-3:45 p.m. Session 4: Biomarkers of Inflammation**

*Chairperson: Steven R. Tannenbaum, Massachusetts Institute of Technology, Cambridge, MA*

*Randle Ballroom*

**Complex biomarker sets for inflammatory bowel disease**

Steven R. Tannenbaum

**Cellular responses to inflammation: Dynamic reprogramming of RNA modifications controls selective translation of stress response proteins**

Peter C. Dedon, Massachusetts Institute of Technology, Cambridge, MA

**Lipid oxidation and inflammation**

Ian A. Blair, University of Pennsylvania School of Medicine, Philadelphia, PA

**Electrophile-protein adducts as triggers for inflammation-related stress responses**

Daniel C. Liebler, Vanderbilt University, Nashville, TN

**3:45 p.m.-4:15 p.m. Break**

*Randle Foyer*

**4:15 p.m.-5:15 p.m. Minisymposium IV**  
*Proffered presentations from selected abstracts*  
*Randle Ballroom*

**A novel mPGES-1 inhibitor with antitumor activity**  
Hui-Hua Chang, University of Arizona, Tucson, AZ

**In vivo imaging of cancer therapy with glucocorticoid-loaded nanoparticles in an experimental model**  
Anita Gianella, Mount Sinai School of Medicine, New York, NY

**Novel celecoxib derivatives that inhibit growth in MCF-7 human breast cancer cell line**  
Leyte L. Winfield, Spelman College, Atlanta, GA

**Design of second-generation silicon derivatives of indomethacin as inhibitors of inflammation and tumor growth: Iterative chemical design in pursuit of optimal bioactivity**  
Uzma I. Zakai, University of Wisconsin, Madison, WI

## Wednesday, February 2

**7:00 a.m.-8:00 a.m. Continental Breakfast**  
*Randle Foyer Terrace*

**8:00 a.m.-10:00 a.m. Session 5: Systems Biology of Inflammation**  
*Chairperson: Forest M. White, Massachusetts Institute of Technology, Cambridge, MA*  
*Randle Ballroom*

**Biological insight from quantitative analysis of tyrosine kinase signaling networks**  
Forest White

**Inflammation in human prostate carcinogenesis: An etiological factor triggering somatic epigenome defects in prostate cancer**  
William G. Nelson, Johns Hopkins Kimmel Comprehensive Cancer Center, Baltimore, MD

**Systematic functional genomics and cancer**  
William C. Hahn, Dana-Farber Cancer Institute, Boston, MA

**Role of nuclear receptors in carcinogenesis**  
Frank J. Gonzalez, National Cancer Institute, Bethesda, MD

**10:00 a.m.-10:30 a.m. Break**

*Randle Foyer*

**10:30 a.m.-12:30 p.m. Session 6: Chemoprevention and Drug Development**

*Chairperson: Lawrence J. Marnett, Vanderbilt University  
Medical Center, Nashville, TN*

*Randle Ballroom*

**Substrate-selective inhibition of endocannabinoid oxygenation by cyclooxygenase-2**

Lawrence J. Marnett

**Natural products as leads for cancer therapy: Triptolide and phenanthropiperidines**

Gunda I. Georg, University of Minnesota College of Pharmacy, Minneapolis, MN

**Development of ipilimumab: Lessons learned**

Ramy Ibrahim, Bristol-Myers Squibb Co., Wallingford, CT

**Restoring the immune response to cancers by inhibition of indoleamine  
2,3-dioxygenase (IDO)**

Andrew P. Combs, Incyte, Corporation, Kennett Square, PA

**12:30 p.m.**

**Departure**