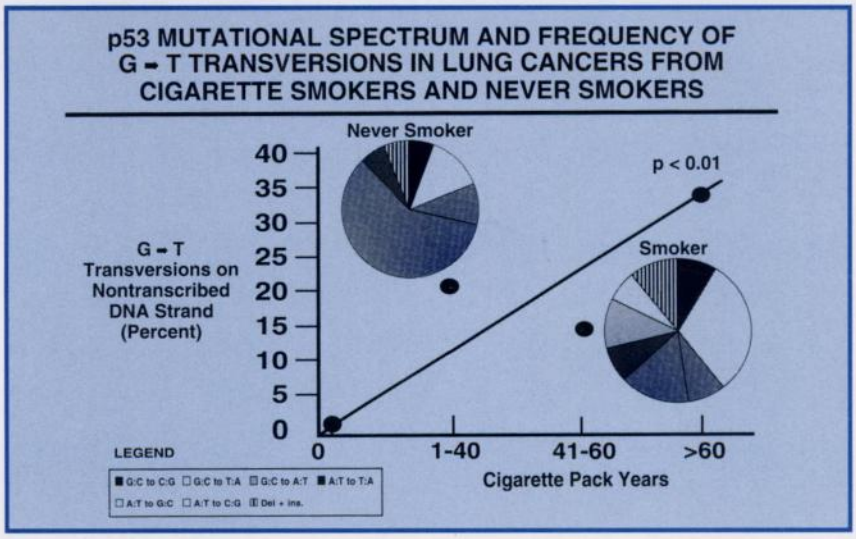
Cancer Research

AN OFFICIAL JOURNAL OF THE AMERICAN ASSOCIATION FOR CANCER RESEARCH



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CANCER AND THE CELL CYCLE

Joint Conference of the
American Association for Cancer Research
and the
Swiss Institute for Experimental Cancer Research

ISREC

January 17-20, 1996
Centre Hospitalier Universitaire Vaudois (CHUV)
Lausanne, Switzerland

CONFERENCE CHAIRPERSONS

Edward E. Harlow / Charlestown, MA
Viesturs Simanis / Lausanne, Switzerland

SCIENTIFIC PROGRAM

Introduction
Tim Hunt / Herts, England
Paul Nurse / London, England

Coordination of S Phase and M Phase
Kim Nasmyth / Vienna, Austria
John Diffley / Herts, England

Control of CDKS (Part 1)
David Beach / Cold Spring Harbor, NY
Charles Sherr / Memphis, TN
Stephen Elledge / Houston, TX

Control of CDKS (Part 2)
James Roberts / Seattle, WA
C. Lehner / Tübingen, Germany
Matthias Peter / San Francisco, CA
Erich Nigg / Epalinges, Switzerland

Checkpoints
Andrew Murray / San Francisco, CA
Anthony Carr / Brighton, England
Viesturs Simanis / Epalinges, Switzerland

GI Progression in Higher Eukaryotes
Edward Harlow / Charlestown, MA
David Livingston / Boston, MA
Robert Weinberg / Cambridge, MA
Rene Bernards / Amsterdam, The Netherlands
Charles Sherr / Memphis, TN
C. Lehner / Tübingen, Germany

The Role of *myc* in Life and Death
Robert Eisenmann / Seattle, WA
Gerard Evan / London, England
Bruno Amati / Epalinges, Switzerland

p53
Arnold Levine / Princeton, NJ
Michael Kastan / Baltimore, MD
David P. Lane / Dundee, Scotland
Richard Iggo / Epalinges, Switzerland

Meeting Summary
B. Lewin / Cambridge, MA

Additional Speakers to be Announced

Applicants are encouraged to submit abstracts for poster presentation.

Application deadline: October 23, 1995

Information and Application Forms

American Association for Cancer Research
Public Ledger Building, Suite 816
150 South Independence Mall West
Philadelphia, PA 19106-3483
215-440-9300 215-440-9313 (FAX)

AACR SPECIAL CONFERENCE IN CANCER RESEARCH

Cancer: The Interface Between Basic and Applied Research

November 5-8, 1995
Stouffer Harborplace Hotel
Baltimore, MD

CONFERENCE CHAIRPERSONS

Bert Vogelstein / Baltimore, MD
Stephen H. Friend / Seattle, WA **John D. Minna** / Dallas, TX

SCIENTIFIC PROGRAM

CELL CYCLE INTERVENTION
David Beach / Cold Spring Harbor, NY
Leland H. Hartwell / Seattle, WA
Joan Massague / New York, NY
Bert Vogelstein / Baltimore, MD

GENE THERAPY AND IMMUNOTHERAPY
Michael Blaese / Bethesda, MD
David P. Carbone / Dallas, TX
Karl E. Hellström / Seattle, WA
Ira Pastan / Bethesda, MD
Steven A. Rosenberg / Bethesda, MD

MOLECULAR DIAGNOSTICS
Albert de la Chappelle / Helsinki, Finland
Stephen H. Friend / Seattle, WA
Alexander Kamb / Salt Lake City, UT
Bruce A. J. Ponder / Cambridge, England
David Sidransky / Baltimore, MD
Jeffrey Sklar / Boston,MA

NOVEL DRUG APPROACHES
Judah Folkman / Boston, MA
Carol W. Greider / Cold Spring Harbor, NY
Frank McCormick / Richmond, CA
Allen I. Oliff / West Point, PA
Jerry W. Shay / Dallas, TX

GENETIC INSTABILITY
Kenneth W. Kinzler / Baltimore, MD
Richard Kolodner / Boston, MA
Jeffrey M. Trent / Bethesda, MD

APOPTOSIS IN MALIGNANCY
David E. Housman / Cambridge, MA
Tyler Jacks / Cambridge, MA
Stanley J. Korsmeyer / St. Louis, MO

NEW INSIGHTS ABOUT CANCER GENES
Eric R. Fearon / New Haven, CT
Curtis C. Harris / Bethesda, MD
Wen-Hwa Lee / San Antonio, TX
Arnold J. Levine / Princeton, NJ
David M. Livingston / Boston, MA

NOVEL CANCER GENES
Stephen B. Baylin / Baltimore, MD
Donald S. Coffey / Baltimore, MD
Andrew P. Feinberg / Baltimore, MD
John D. Minna / Dallas, TX
Michael H. Wigler / Cold Spring Harbor, NY

Application Deadline: August 14, 1995

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AACR SPECIAL CONFERENCE IN CANCER RESEARCH

The Molecular Basis of Gene Transcription

December 2-6, 1995
Hotel Del Coronado
San Diego, CA

CONFERENCE CHAIRPERSON

Tom Curran / Nutley, NJ

PROGRAM COMMITTEE

Anjana Rao / Boston, MA

Danny F. Reinberg / Piscataway, NJ

CONFERENCE PROGRAM

Keynote Address
James E. Darnell / New York, NY

Signaling
Ronald M. Evans / La Jolla, CA
Anjana Rao / Boston, MA
Tom Curran / Nutley, NJ

Basic Mechanisms
Danny F. Reinberg / Piscataway, NJ
Robert Tjian / Berkeley, CA
Robert G. Roeder / New York, NY
Richard A. Young / Cambridge, MA

Structure
Alanna Schepartz / New Haven, CT
Stephen K. Burley / New York, NY
Nikola P. Pavletich / New York, NY

Higher Order Organization
James T. Kadonaga / La Jolla, CA
Nouria Hernandez / Cold Spring Harbor, NY

Repression
Jasper D. Rine / Berkeley, CA
Frank J. Rauscher, III / Philadelphia, PA
Michael S. Levine / La Jolla, CA

Activation
Bernard F. Mach / Geneva, Switzerland
Robert N. Eisenman / Seattle, WA
Michael R. Green / Worcester, MA

Cell Cycle
Joseph R. Nevins / Durham, NC
Brian Dynlacht / Charlestown, MA

Additional Speakers to be Announced

Application Deadline: September 18, 1995

Information and Application Forms:
American Association for Cancer Research
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150 South Independence Mall West
Philadelphia, PA 19106-3483
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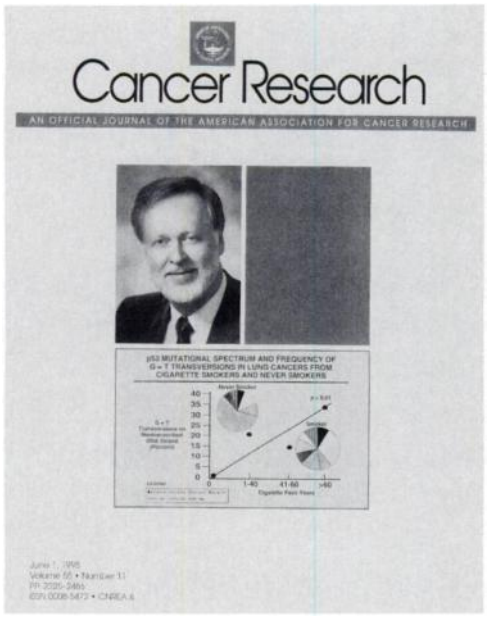
COVER LEGEND



Lung cancer, now the leading cause of cancer deaths in the United States among both men and women, is projected by some epidemiologists to soon become the number one cause of cancer mortality worldwide. Passive smoking and residential radon exposure significantly contribute to this cancer epidemic. Besides the promotion of smoking cessation, which is a primary objective of public health programs, there are other good reasons why cancer researchers continue to investigate the pathogenesis and predisposing factors of lung cancer. For example, defining the precancerous stages should aid both in early diagnosis and chemopreventive measures. The activated proto-oncogenes and inactivated tumor suppressor genes underlying these morphological lesions represent new targets for rational drug development and offer opportunities to identify inherited and acquired predisposing host conditions. Molecular epidemiological studies of such populations could help in the understanding of host-environment interactions (Adv. Intern. Med., *37:* 153–171, 1992; J. Am. Med. Assoc., *266:* 681–687, 1991).

Curtis C. Harris (*cover*) and coworkers are recognized for their continued, multifaceted research on lung carcinogenesis. *In vitro* models using human bronchial tissue and epithelial cells (reviewed in Cancer Res., *47:* 1–10, 1987) have demonstrated that they can metabolically activate carcinogenic polycyclic aromatic hydrocarbons (PAH) and *N*-nitrosamines found in tobacco smoke [Nature (Lond.), *252:* 68–69, 1974; Science (Washington DC), *193:* 592–595, 1976; Cancer Res., *37:* 2308–2311, 1977] at variable rates [Science (Washington DC), *194:* 1067–1069, 1976]. Pulmonary macrophages can engulf particulates carrying PAH carcinogens and release their enzymatically activated carcinogenic metabolites [Nature (Lond.), *272:* 633–634, 1978; J. Clin. Invest., *64:* 1245–1252, 1979].

Synergistic interactive mutagenic effects between formaldehyde, a gaseous component of tobacco smoke, and an alkylating agent, generated by an ultimate carcinogenic metabolite of certain *N*-nitrosamines found in tobacco smoke, were observed using human lung cells *in vitro* [Science (Washington DC), *220:* 216–218, 1983]. Asbestos can also synergistically increase the risk of bronchogenic carcinoma. Mechanisms of asbestos genotoxicity in human bronchial epithelial cells and pleural mesothelial cells were investigated [Int. J. Cancer, *30:* 265–272, 1982; Proc. Natl. Acad. Sci. USA, *82:* 3884–3888, 1985; Carcinogenesis (Lond.), *7:* 1161–1164, 1986]. Human bronchial epithelial cells (BEAS-2B) were neoplastically transformed by chemical carcinogens (Proc. Natl. Acad. Sci. USA, *89:* 6693–6697, 1992) and by transfected activated proto-oncogenes (Ha-, K-, or N-*ras*, *erb*-B2, or c-*myc* and *raf*) or a mutant *p53* tumor suppressor gene (Mol. Carcinogen., *1:* 151–160, 1988; Oncogene Res., *3:* 401–408, 1988; Proc. Natl. Acad. Sci. USA, *86:* 10075–10079, 1989; Proc. Natl. Acad. Sci. USA, *89:* 2759–2763, 1992; Cancer Res., *53:* 2035–2043, 1993). Allelic deletion analysis of non-small cell lung cancer revealed losses on chromosomes 3p, 11p, and 17p (Proc. Natl. Acad. Sci. USA, *86:* 5099–5103, 1989). The allelic deletion at 17p proved to be related to *p53* mutation [Nature (Lond.), *342:* 705–708, 1989], the most common genetic lesion in human cancer [reviewed in Science (Washington DC), *253:* 49–53, 1991; N. Engl. J. Med., *329:* 1318–1327, 1993; Cancer Res., *54:* 4855–4878, 1994]. *p53* mutation and protein accumulation are early events in bronchogenic carcinogenesis (Lancet, *339:* 576–580, 1992; Cancer Res., *52:* 6092–6097, 1992). The *p53* mutational spectra differ between lung cancers from smokers and never smokers, and a positive dose-response relationship between smoking history and G to T transversions on the nontranscribed DNA strand of the *p53* gene was observed (Lancet, *342:* 1520–1521, 1993; see *cover figure* also). This strand bias is consistent with DNA adducts formed by chemical carcinogens found in tobacco smoke being responsible for these *p53* mutations.

Dr. Harris and coworkers also have significantly contributed to the use of molecular epidemiology of human lung cancer in identifying individuals at high cancer risk due to exposure to carcinogens or inherited cancer susceptibility [reviewed in J. Am. Med. Assoc., *266:* 681–687, 1991; Science (Washington DC), *262:* 1980–1981, 1993]. Indicators of carcinogen exposure (carcinogen-DNA adducts and serum antibodies recognizing PAH-DNA adducts) and inherited predisposition have also been investigated (Proc. Natl. Acad. Sci. USA, *82:* 6672–6676, 1985; Cancer Res., *45:* 66–68, 1985; Cancer Res., *46:* 4178–4183, 1986; Proc. Natl. Acad. Sci. USA, *85:* 9243–9247, 1988; J. Natl. Cancer Inst., *85:* 1264–1272, 1990; Cancer Epidemiol., Biomarkers & Prev., *2:* 481–485, 1993).

Dr. Harris received an M.D. from the University of Kansas School of Medicine in 1969, followed by training in Internal Medicine at UCLA. He currently is Chief of the Laboratory of Human Carcinogenesis and Head of its Molecular Genetics and Carcinogenesis Section, and is a Clinical Professor of Medicine at Georgetown University School of Medicine. He has authored several hundred original research reports and reviews and has written and edited 10 books. He is an Executive Editor of *Carcinogenesis* and serves on the Editorial Boards of several other journals, including two American Association for Cancer Research (AACR) journals, *Cancer Research* and *Cancer Epidemiology, Biomarkers & Prevention.*

His awards include the 1993 Alton Oschner Award, and he has frequently given honorary lectures, served on national and international advisory committees, and held offices in scholarly societies, including the AACR. In addition to serving on the AACR Board of Directors from 1992–1995, he has generously given of his time and expertise to assist the Association in many other activities, such as through his chairing of the Program Committee for the 1991 Annual Meeting, his heading of a Task Force on Carcinogenesis in 1992, as well as his serving on another Task Force on Clinical Investigations and on the Publications Committee from 1991–1993.

We are indebted to Dr. Harris for information and photographs for this cover feature.

Sidney Weinhouse