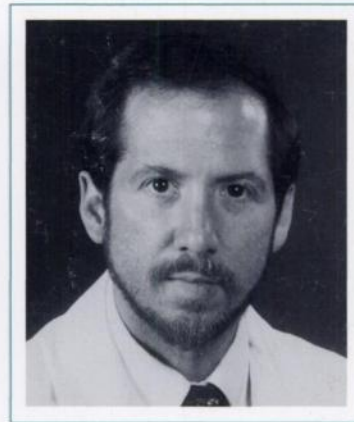
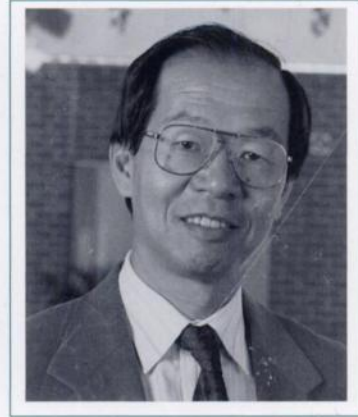
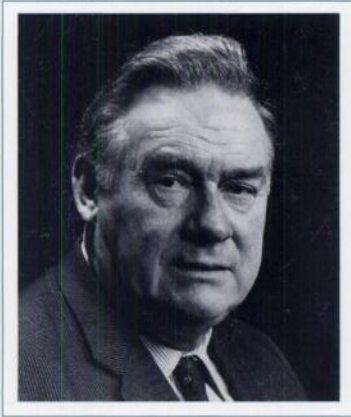




# Cancer Research

AN OFFICIAL JOURNAL OF THE AMERICAN ASSOCIATION FOR CANCER RESEARCH



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# The American Association for Cancer Research Presents

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## Molecular Biology in Clinical Oncology: A Workshop

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An intensive, one-week summer workshop on molecular biology designed for clinical oncologists in training or in their early academic careers.

June 30-July 6, 1995  
The Given Institute  
Aspen, Colorado

### ORGANIZERS

STEPHEN H. FRIEND  
Fred Hutchinson Cancer  
Research Center  
Seattle, WA

L. MICHAEL GLODÉ  
University of Colorado School  
of Medicine  
Denver, CO

JENNIFER A. PIETENPOL  
Vanderbilt University  
School of Medicine  
Nashville, TN

- Lectures by leading experts on molecular biology concepts and the latest developments in molecular oncology such as gene therapy, oncogenes and growth factors, tumor suppressor genes, fusion proteins, genetic mutations, antisense, metastasis, and drug resistance.
- Small group laboratory sessions to demonstrate the important experimental techniques utilized in molecular biology.
- A workshop syllabus containing relevant published papers, references to key articles in the literature, and details on important laboratory procedures.
- Financial support for participants who are physicians in training or oncology fellows.
- Category I CME credits through the University of Colorado School of Medicine.

### Faculty

#### **Lectures**

STEPHEN H. FRIEND/ Seattle, WA  
MICHAEL B. KASTAN/ Baltimore, MD  
ANDRÉ BERNARDS/ Charlestown, MA  
HAROLD L. MOSES/ Nashville, TN  
TYLER JACKS/ Cambridge, MA  
ROBERT EISENMAN/ Seattle, WA

A. THOMAS LOOK/ Memphis, TN  
THEA D. TLSTY/ Chapel Hill, NC  
ALLEN I. OLIFF/ West Point, PA  
NADIA ROSENTHAL/ Charlestown, MA  
ERIC R. FEARON/ New Haven, CT  
L. MICHAEL GLODÉ/ Denver, CO

PATRICIA S. STEEG/ Bethesda, MD  
MARC E. LIPPMAN/ Washington, DC  
JENNIFER A. PIETENPOL / Nashville, TN  
CALVIN B. HARLEY/ Menlo Park, CA  
JACQUELINE A. LEES/ Charlestown, MA  
KATHLEEN R. CHO / Baltimore, MD

Additional Speakers to be Announced

#### **Laboratory Rotations**

DAVID LANDSMAN/ Bethesda, MD. "Computer Searching in Molecular Biology."  
ANDREW LIU/ Denver, CO. "Polymerase Chain Reaction Technology."  
JAMES P. HOEFFLER/ Denver, CO. "Transfer of Nucleic Acids and Proteins."  
MARILEILA V. GARCIA/ Denver, CO. "Practical Cytogenetics."  
(INSTRUCTOR TO BE ANNOUNCED) "Gene Expression Systems."

**Application Deadline March 27, 1995**

For further information, contact



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Public Ledger Building, Suite 816  
150 S. Independence Mall West  
Philadelphia, PA 19106-3483  
Telephone: (215) 440-9300 • FAX: (215) 440-9313

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# AMERICAN ASSOCIATION FOR CANCER RESEARCH

## 86th Annual Meeting

Donald S. Coffey, Program Chairperson

Metro Toronto Convention Centre, Toronto, Ontario, Canada

March 18-22, 1995



### *Titles of Major Sessions*

(Confirmed Chairpersons in Parentheses)

#### SPECIAL LECTURES

**G.H.A. Clowes Memorial Award Lecture**  
(Bert Vogelstein)

**Presidential Address** (Edward Bresnick)

**American Cancer Society Award Lecture**  
(Frederick P. Li)

**Richard and Hinda Rosenthal Foundation  
Award Lecture** (Ellen S. Vitetta)

**Cornelius P. Rhoads Memorial Award  
Lecture** (Eric S. Lander)

**Bruce F. Cain Memorial Award Lecture**  
(Kenneth R. Harrap)

#### PLENARY SESSION

**Integrated View of the Cancer Cell**  
(Donald S. Coffey)

#### SYMPOSIA

**Growth Factors, Their Receptors and  
Differentiation** (Angie Rizzino)

**Oligonucleotide-mediated Modulation of  
Mammalian Gene Expression** (Kevin J.  
Scanlon)

**Biomarkers of Carcinogenesis** (David  
Sidransky)

**DNA Repair Pathways: Recent Surprises**  
(Philip C. Hanawalt)

**Mechanistic Basis of Ethnic Differences in  
Cancer Risk** (Kenneth Olden)

**Genetic Susceptibility to Cancer** (Kenneth  
W. Kinzler)

**Combinatorial Libraries for Cancer  
Research and Drug Discovery** (Sydney  
E. Salmon)

**Telomeres and Telomerases** (Carol W.  
Greider and Jerry W. Shay)

**Immunotherapy: Tumor Vaccines** (David  
A. Berd)

**Glycosylation Defining Malignancy** (Sen-  
itiroh Hakomori)

**New Strategies and Targets for  
Chemotherapy** (Joseph R. Bertino and  
Eddie Reed)

**The Biology of Radiation Oncology** (H.  
Rodney Withers and C. Norman  
Coleman)

**Genes, Development and Cancer** (Eric N.  
Olson)

**Dietary Intervention in Hormonal  
Carcinogenesis** (Diane F. Birt and  
Lovell A. Jones)

**Translational Research in Breast Cancer**  
(Marc E. Lippman)

**DNA Methylation** (Peter A. Jones and  
Stephen B. Baylin)

**Genetic Approaches to Invasion and  
Metastasis** (Robert S. Kerbel and  
Patricia S. Steeg)

**The Role of Stromal-Epithelial  
Interactions in Growth and Neoplasia**  
(Leland W. K. Chung)

**Contribution of Environmental Factors to  
Cancer** (Kenneth Olden)

**Stem Cell Transplantation and High Dose  
Chemotherapy** (Peter J. Quesenberry)

**Signal Transduction and Gene Control  
and Development** (James E. Darnell)

**Natural Products in Chemoprevention of  
Cancer** (Michael B. Sporn)

**The Cell Cycle and Tumor Suppressor  
Genes** (Thea D. Tlsty)

**Transcription Factors in Development and  
Neoplasia** (Frank J. Rauscher III)

**Gene Therapy in Cancer Clinical Trials**  
(Jonathan W. Simons)

**Graft *versus* Tumor Effects** (Richard J.  
O'Reilly)

**Angiogenic Control of Tumor Growth**  
(Judah Folkman and Adrian L. Harris)

**Extracellular Matrix, Gene Expression  
and Cell Signalling** (Hynda K.  
Kleinman)

**Apoptosis** (Alan R. Eastman)

**Cancer Prevention and Intermediate  
Biomarkers** (Peter Greenwald)

#### CONTROVERSY SESSIONS

**Breast Cancer Prevention: What Will We  
Advise Women with BRCA1?** (Louise  
C. Strong)

**Does the Current Body Burden of Dioxin  
Pose a Risk to the Health of the North  
American Population?** (Alan Poland)

**What Are the Limits and Benefits of  
Protein Specific Antigen as a  
Screening Tool?** (John Trachtenberg)

**Is Mammography Before Age 50  
Beneficial?** (Virginia L. Ernster)

**Is Bone Marrow Transplantation  
Indicated for Breast Cancer?** (Nancy  
E. Davidson)

**Are Estrogens Implicated in Breast  
Cancer?** (Lovell A. Jones)

#### MEET-THE-EXPERT SUNRISE SESSIONS

**Pediatric Malignancies** (Joseph V. Simone)

**A Primer on Analyzing Clinical Trials**  
(Steven Piantadosi)

**Farnesyl Transferase as a Target for  
Therapy** (Alexander W. Wood)

**Multidrug Resistance** (Victor Ling)  
**Is a Mutagenic Event Involved in  
Initiation?** (Ann R. Kennedy)

**Everything You Always Wanted to Know  
About Prostatic Cancer but Were  
Afraid to Ask** (John T. Isaacs)

**Colon Cancer** (Ronald N. Buick)

**The Use of Hematopoietic Cells to  
Support High-Dose Chemotherapy**  
(Elizabeth J. Shpall)

**Multivariate Determinants of  
Radiocurability** (Richard P. Hill)

**Glutathione and Associated Enzymes in  
Anticancer Drug Response** (Kenneth D.  
Tew)

**Gene Therapy for Urological Cancers**  
(Jonathan W. Simons)

**Chemical and Viral Etiologies of Liver  
Cancer: Application of Mechanistic  
Knowledge to Prevention Interventions**  
(John D. Groopman)

**Human AH Receptor and Human  
Responses to Dioxins** (Allen B. Okey)

**Organ-specific Carcinogenesis (Location,  
Location, Location)** (Cheryl Lyn  
Walker)

**Pharmacokinetic/Pharmacodynamic  
Relationships in Cancer  
Chemotherapy** (Merrill J. Egorin)

**Cellular and Molecular Biology  
Underlying Relationships Between  
Major Forms of Human Lung Cancer**  
(Stephen B. Baylin)

**Prostate-specific Gene Expression in  
Transgenic Mice** (Norman M.  
Greenberg)

**Tyrosine Kinases and Phosphatases  
Molecular Determinants of Multidrug  
Resistance** (Elizabeth W. Newcomb)

#### METHODS WORKSHOPS\*

**General, *In Situ*, and Quantitative PCR**  
(Saraswati Sukumar)

**Gene Targeting and Gene Trapping in  
Mice** (Janet Rossant and Andras Nagy)

#### EDUCATIONAL WORKSHOPS\*

**Molecular Modeling to Medical Monitor-  
ing: The Development of New Anti-  
cancer Agents** (Daniel D. Von Hoff)

**Gene Therapy** (Albert B. Deisseroth)

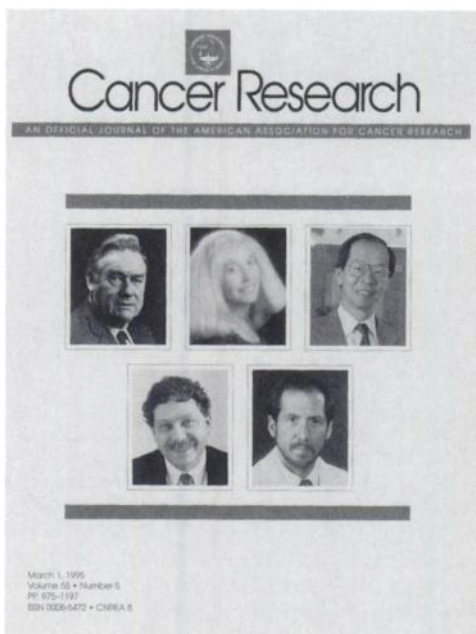
**Genetic Instability in Cancer** (Lawrence A.  
Loeb)

**Cytochrome P450** (Colin R. Jefcoate)

\*Additional application and registration fee  
required



# COVER LEGEND



Portrayed on the cover are the recipients of the annual awards of the American Association for Cancer Research (AACR) for 1995. The awardees will present lectures during the 86th Annual Meeting, March 18–22, 1995, Toronto, Ontario, Canada, at the Metro Toronto Convention Centre.

The G. H. A. Clowes Memorial Award is presented annually for outstanding accomplishments in basic cancer research. Supported by Eli Lilly and Company, this award is in memory of Dr. Clowes who was a founding member of the AACR and Research Director at Eli Lilly. The 1995 Clowes Award is presented to Bert Vogelstein, M.D. (*bottom right*), Professor of Oncology, with joint appointments to the Departments of Molecular Biology and Genetics at The Johns Hopkins University School of Medicine. The title of Dr. Vogelstein's lecture will be "The Genetic Basis of Human Colorectal Cancer." In his study of the molecular biology of human colon and rectum cancers, he and his colleagues discovered several of the genes that through mutations are responsible for the development of these tumors. He showed that mutations in these genes occur in a defined temporal order, with the first mutations leading to benign tumors, and subsequent mutations to malignancy and metastasis. In addition, his group has identified genes in colon tumors that also play a role in human tumors of the breast, bladder, and brain. Dr. Vogelstein has been instrumental in establishing the growth-inhibitory signals involving both cyclin kinase inhibitors and inhibition of DNA replication. His work integrates sophisticated genetic technology with the study of clinical disease, leading to a new understanding of human cancer with profound implications for diagnosis, prevention, and treatment. He was an Associate Editor of *Cancer Research* and currently serves on several journal editorial boards. Dr. Vogelstein is a member of the National Academy of Sciences and of the AACR and is a previous recipient of the Bristol-Myers Squibb Award, the American Cancer Society's Medal of Honor, and the AACR's 10th Rhoads Memorial Award. He serves as Co-chairperson of an AACR Special Conference entitled, "Cancer: The Interface between Basic and Applied Research," to take place in November 1995.

Awarded for outstanding research leading to improved clinical care in the field of cancer, the 1995 Richard and Hinda Rosenthal Foundation Award is presented to Ellen S. Vitetta, Ph.D. (*top center*), Director, Cancer Immunobiology Center, and Professor of Microbiology, University of Texas Southwestern Medical Center, Dallas, TX, for her outstanding work in immunology and basic, translational, and clinical cancer research. The Awards Committee particularly wishes to recognize Dr. Vitetta for her many contributions to the use of immunotoxins in the treatment of lymphoid leukemias and lymphomas. This therapy is currently considered one of the most important novel approaches for improving outcomes in these diseases, particularly in instances of minimal residual disease. Her work has also contributed to advances against graft *versus* host disease as well as AIDS and other immune disorders. Her award lecture is entitled, "Monoclonal Antibodies as Carriers of Toxins and as Agonists in the Therapy of Lym-

phoma." Dr. Vitetta is a member of the National Academy of Sciences and of the AACR. She has served on the AACR's Program Committee and as an Associate Editor of *Cancer Research*. She is the 19th recipient of the Rosenthal Award which is reserved for a scientist under the age of 51.

The Cornelius P. Rhoads Memorial Award recognizes outstanding contributions to cancer research by a scientist under the age of 41. It honors Cornelius P. Rhoads, a founder and first director of the Sloan-Kettering Institute for Cancer Research. The 16th Rhoads award recipient is Eric S. Lander, Ph.D. (*bottom left*), Director, Center for Genome Research, Whitehead Institute/MIT, and Professor, Department of Biology, Massachusetts Institute of Technology, Cambridge, MA. His lecture, entitled "Mapping Genes and Genomes: Genetic Dissection of Complex Traits," will describe his analysis of complex traits that are caused by the action of multiple genes in rat and mouse animal models of human disease, including cancer, hypertension, diabetes, and asthma. Dr. Lander is being honored for his groundbreaking contributions to our knowledge of cancer etiology through mathematical analysis of polygenic traits and the construction of both mammalian genetic maps and a new genetic linkage map of the mouse genome. Recent use of his methodology resolves and maps genes in mouse strains that modify the frequency of development of colon cancer. His work provides the conceptual and technical framework for designing experiments to dissect quantitative (polygenic) traits.

Established by Warner-Lambert, the Bruce F. Cain Memorial Award is presented for outstanding preclinical investigations leading to the improved care of cancer patients. This year's awardee is Kenneth Harrap, Ph.D., D.Sc., C. Chem., F.R.S.C., D.C.C. (*top left*), who holds the posts of Director, Cancer Research Campaign Centre for Cancer Therapeutics at The Institute of Cancer Research, and Professor at the University of London. His work is concerned with aspects of developmental cancer chemotherapy, from the design and synthesis of new compounds through their therapeutic, toxicological, pharmacological, and clinical studies. Dr. Harrap is honored for his substantial involvement in the development of platinum compounds and antimetabolites as anticancer agents. An important example of the former is carboplatin which is used for ovarian, lung, and head and neck cancer therapy and is a common component of high-dose regimens directed against solid tumors. He also contributed to the development of JM216, the first orally administered platinum drug. In the area of antifolates, Dr. Harrap's group has worked with Zeneca Pharmaceuticals to produce molecules that attack thymidylate synthase, a site which is important to tumor cell metabolism. The resulting compound, Tomudex, has recently shown encouraging activity against colon cancer. He also developed the antibody-directed prodrug therapy (ADEPT) and antiviral and antiendocrine agents used in the treatment of breast and prostate cancer. Dr. Harrap, recipient of the Queen's Award for Technological Achievement and a corresponding member of the AACR, will present a lecture entitled, "Initiatives with Platinum- and Quinazoline-based Antitumor Molecules."

Research Excellence in Cancer Epidemiology and Prevention is the focus of the 4th American Cancer Society Award presented to Frederick P. Li, M.D. (*top right*), Chief of the Division of Cancer Epidemiology and Control, Dana-Farber Cancer Institute, and Professor, Harvard Medical School. For more than 20 years, Dr. Li has made major contributions to the study of environmental exposure and genetic factors that predispose to cancer. His work has focused on the frequency of inherited colon and breast cancer susceptibility in the U.S. population. The Awards Committee particularly wishes to honor Dr. Li for his multidisciplinary approach to the cancer problem. His work has become a model for collaborative research leading to new approaches for diagnosis and treatment because it bridges clinical, epidemiological, and cytogenetic or molecular genetic studies. Clinical observations, followed by studies to assess and evaluate excessive risk of cancer, are coupled with laboratory investigations to elucidate the underlying mechanism of predisposition. He has also examined the ethical implications of applying this information to high-risk patients, and his laboratory investigations of high-risk families have revealed inherited susceptibility genes, particularly tumor suppressor genes and mismatched repair genes. Dr. Li's lecture is entitled, "Inherited Susceptibility to Cancer: From Epidemiology to Interventional Research." In 1988, Dr. Li received the AACR's Richard and Hinda Rosenthal Foundation Award. He has been an AACR member since 1975, has served on several Association committees, and has just been elected to the AACR Board of Directors (1995–1998).