The Definitive Reference for Your Lab and Library

Encyclopedia of Cancer

Editor-in-Chief

JOSEPH R. BERTINO
Sloan-Kettering Institute for Cancer Research, Memorial Sloan-Kettering Cancer Center, New York, New York, and Past President of the American Association for Cancer Research

From the Prepublication Reviews

Praise for the Article "Acute Telangiectasia Syndrome"
"Covers every aspect of the disease from its clinical features to its underlying cellular and molecular mechanisms in a concise and well-organized fashion. The material presented was complete and up-to-date."
—MICHAEL B. KASTAN, Johns Hopkins Hospital, Johns Hopkins University, Baltimore, Maryland

Praise for the Article "Interactions Between Drugs and Regulators in the Treatment of Leukemia"
"Excellent review and discussion by the author of an important area."
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"The manuscript is well written by two authors very knowledgeable in the subject, and the material covered is broad enough and in depth enough for the purpose stated in the publisher's descriptor."
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Praise for the Article "Radiotherapy and Concomitant Chemotherapy"
"This is a comprehensive review of the subject, dealing with rationale, toxicity, and applications of combined chemoradiotherapy. The coverage of various tumor types is particularly broad and well organized."
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Praise for the Article "RAS Gene Alterations in Human Lung Cancer"
"Excellent!"
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The Encyclopedia of Cancer is the authoritative reference source for the rapidly growing field of cancer research and all associated fields. This three-volume encyclopedia contains more than 150 expressly written articles exploring the causes, potential cures, and preventive measures of cancer. With the recent attention focused on breast cancer, cancer research has once again been thrust to the forefront of scientific investigation and interest.

The Editor and Editorial Board have successfully compiled a comprehensive source of information that is beneficial to undergraduates, graduate students, and seasoned professionals, as well as to the lay person interested in the causes and cures of cancer that may be affecting a loved one. The Encyclopedia is easy to read, easy to use, and meticulously covers all of the "hot" topics in cancer research. This three-volume set will be a valuable addition to libraries, universities, medical and nursing schools, biotechnology companies, and research institutions.

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CELL SIGNALING AND CANCER TREATMENT

An American Association for Cancer Research Special Conference
in Collaboration with
Austrian Cancer Society, British Association for Cancer Research,
German Cancer Society and the Austrian Biochemical Society

February 23-28, 1997
Interlaken-Hotel Tyrol
Telfs-Buchen, Austria

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SCIENTIFIC PROGRAM

Keynote Address
Paul Workman / Macclesfield, England

Growth Factor Antagonists and Growth Factor Receptor Blockers
Enrique Rozengurt / London, England
Nancy E. Hynes / Basel, Switzerland
Bernd Groner / Freiburg, Germany
Nicholas Lydon / Basel, Switzerland

Receptor and Post Receptor Signaling: Mechanisms and Targets in Cancer
Chemotherapy
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Ulf R. Rapp / Würzburg, Germany
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Cell Cycle and Cancer
Laurent Meijer / Roscoff, France
Christian Brechot / Paris, France
Rolf Müller / Marburg, Germany
J. Wade Harper / Houston, USA

Cytokine Signaling
Sylvie Gisselbrecht / Paris, France
Atsushi Miyayama / Tokyo, Japan
Ian M. Kerr / London, England
Gennaro Ciliberto / Rome, Italy

Programmed Cell Death: Role in Oncogenesis and Tumor Therapy
Gerard I. Evan / London, England
Caroline Dive / Manchester, England
Douglas R. Green / La Jolla, USA
Donald W. Nicholson / Pointe-Claire-Dorval, Quebec, Canada

Invasion and Metastasis
Max M. Burger / Basel, Switzerland
Louis F. Reichardt / San Francisco, USA
John G. Collard / Amsterdam, The Netherlands
Helmut Pont / Karlsruhe, Germany

Angiogenesis
Adrian L. Harris / Oxford, England
Kari K. Alitalo / Helsinki, Finland
Isaih J. Fidler / Houston, USA

Applicants are encouraged to submit abstracts for poster presentation.

Application deadline: November 1, 1996

Information and Application Forms
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AMERICAN ASSOCIATION FOR CANCER RESEARCH

The American Association for Cancer Research (AACR) is a professional society of over 11,000 scientists and physicians involved in all aspects of basic, clinical, and translational cancer research. Members of the AACR enjoy

• subscriptions to Cancer Research, Cell Growth & Differentiation (CG&D), Cancer Epidemiology, Biomarkers & Prevention, and Clinical Cancer Research at reduced member rates
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Associate Professor/Professor
Departments of Medicine and Immunology

The myeloma program at the University of Arkansas for Medical Sciences’ Arkansas Cancer Research Center invites applications for a senior immunologist position in the Departments of Medicine and Immunology. Applicants should have a strong record in basic immunology, preferably transplantation immunology and must demonstrate ability to interact with clinical scientists in performing translational research that will introduce novel immunotherapeutic approaches to cancer into the clinic. In its 3rd year of NIH funding, the myeloma program consists of a dozen basic and clinical scientists dedicated to understanding and treating multiple myeloma and occupies 12,500 ft² of laboratory space. More than 300 patients with myeloma are treated annually. Expertise is available in myeloma biology, gene therapy, myeloma-related bone disease, cellular and molecular genetics, and transplantation. The successful candidate will have a history of peer-reviewed funding with experience in the basic science/clinical interface of immunologic research and immunotherapy. Outstanding salary, full university benefits, and start-up support are available, depending on the candidate’s past record of productivity and academic seniority. Send CV to: Bart Barlogie, MD, PhD; Director, Division of Hematology/Oncology; Director of Research and Deputy Director, ACCR; University of Arkansas for Medical Sciences; 4301 W. Markham, Slot 508; Little Rock, AR 72205; FAX: 501-686-6442.

INTERNATIONAL AGENCY FOR RESEARCH ON CANCER

World Health Organization
Lyon - France

FELLOWSHIPS FOR RESEARCH TRAINING IN CANCER
1997-1998

Applications for training fellowships in 1997-1998 are invited from junior scientists wishing to be trained in those aspects of cancer research related to the Agency’s own programmes: epidemiology, biostatistics, environmental and viral carcinogenesis, cell biology, cell genetics, molecular biology and mechanisms of carcinogenesis. Applications are encouraged from epidemiologists and laboratory scientists for interdisciplinary training that will facilitate the conduct of genetic and molecular epidemiological research. Applicants requiring basic training in cancer epidemiology will also be considered.

Applicants should be engaged in research in medical or allied sciences and intend to pursue a career in cancer research.

Fellowships are awarded for one year and are tenable at the Agency or in any other suitable institution abroad. Fellows will, in general, be selected from applicants with some postdoctoral research experience related to cancer in medicine or the natural sciences. Applicants must have an adequate knowledge, both written and spoken, of English or the language of the country in which their fellowship is tenable.

Applications cannot be accepted and will not be considered if the applicant is receiving postdoctoral training abroad, or has already started postdoctoral work at the host institute. Preference will be given to applicants who have not previously received postdoctoral training abroad in cancer research.

Fellowship stipends will vary according to the cost of living in the country of study. The cost of travel for the applicant, and in certain circumstances that of one dependent, will be met.

This programme is partially supported by the Italian Association for Research on Cancer.

Fellowship application forms and more detailed information are available from:

Cancer Research Fellowship Programme
INTERNATIONAL AGENCY FOR RESEARCH ON CANCER
150 cours Albert-Thomas, 69372 Lyon Cedex 08, France
Tel: 72 73 84 48; Fax: 72 73 85 75; e-mail: elakroud@iarc.fr

Applications must reach the Agency no later than 31 December 1996.
AMERICAN ASSOCIATION FOR CANCER RESEARCH
SCIENTIFIC CONFERENCES

OCTOBER 2-6, 1996
Novel Approaches in Blood and Marrow Transplantation
Second Annual Meeting of the American Society for Blood and Marrow Transplantation
Chairpersons: O. Michael Colvin, Durham, NC; Bruce R. Blazar, Minneapolis, MN
Hotel Del Coronado, San Diego, CA

OCTOBER 6-9, 1996
Carcinogenesis from Environmental Pollution: Assessment of Human Risks and Strategies for Prevention
Joint Meeting with International Agency for Research on Cancer
Chairpersons: Frederica Perera, New York, NY; Paul Kleihues, Lyon, France
Hotel Gellért, Budapest, Hungary

OCTOBER 19-23, 1996
Programmed Cell Death
Chairpersons: Stanley J. Korsmeyer, St. Louis, MO; Shigekazu Nagata, Osaka, Japan; Andrew Wyllie, Edinburgh, Scotland
The Sagamore, Bolton Landing (Lake George), NY

JANUARY 10-14, 1997
Basic and Clinical Aspects of Lymphoma
Joint Meeting with the American Society of Clinical Oncology
Chairpersons: Joseph R. Bertino, New York, NY; James O. Armitage, Omaha, NE
Stouffer Renaissance Esmeralda Resort, Indian Wells (Palm Springs), CA

JANUARY 17-21, 1997
Disrupted Transcription Factors in Cancer
Chairpersons: Peter K. Vogt, La Jolla, CA; Frank J. Rauscher III, Philadelphia, PA
Hotel Del Coronado, San Diego, CA

FEBRUARY 13-16, 1997
Growth Factors, Signalling, and Cancer
Joint Meeting with Lorne Cancer Conference
Chairpersons: Antony Burgess, Parkville, Victoria, Australia; Robert J. Coffey, Nashville, TN; Ashley R. Dunn, Parkville, Victoria, Australia; Webster K. Cavenee, La Jolla, CA
Erskine House, Lorne, Victoria, Australia

FEBRUARY 23-28, 1997
Cell Signaling and Cancer Treatment
In Collaboration with British Association for Cancer Research, Austrian Cancer Society, German Cancer Society, and Austrian Biochemical Society
Chairpersons: Hans H. Grunicke, Innsbruck, Austria; Garth Powis, Tucson, AZ; Paul Workman, Macclesfield, England
Interalpen-Hotel Tyrol, Telfs-Buchen, Austria

MARCH 7-12, 1997
Basic and Clinical Aspects of Breast Cancer
Chairpersons: J. Carl Barrett, Research Triangle Park, NC; Karen S.H. Antman, New York, NY; Mary-Claire King, Seattle, WA
Keystone Resort, Keystone, CO

APRIL 12-16, 1997
88th Annual Meeting
Chairperson: Frederick P. Li, Boston, MA
Co-Chairpersons: Clara Derber Bloomfield, Buffalo, NY; Stephen H. Friend, Seattle, WA
San Diego Convention Center, San Diego, CA
Abstract Deadline: November 12, 1996

JUNE 7-12, 1997
Cancer of the Central Nervous System
Conference with Neurosurgery Joint Section on Tumors
Chairpersons: Peter McL. Black, Boston, MA; Webster K. Cavenee, La Jolla, CA
Loew's Coronado Bay Resort, San Diego, CA

AACR members will receive brochures on the above conferences as soon as they are available. Nonmembers should call or write:
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CARCINOGENESIS FROM ENVIRONMENTAL POLLUTION: ASSESSMENT OF HUMAN RISK AND STRATEGIES FOR PREVENTION

Joint Meeting Organized by the American Association for Cancer Research (AACR) and the International Agency for Research on Cancer (IARC)

With the Collaboration of the Hungarian Cancer Society

October 6-9, 1996
Hotel Gellért
Budapest, Hungary

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Manfred F. Rajewsky / Essen, Germany
David Zariedge / Moscow, Russia

SCIENTIFIC PROGRAM

Keynote Address
Curtis C. Harris / Bethesda, USA

Cancer Incidence and Etiology
Witold A. Zatorński / Warsaw, Poland
Frederica Perera / New York, USA
J. Carl Barrett / Research Triangle Park, USA
Helmut Bartsch / Heidelberg, Germany

Air, Water, Food, and Soil Contamination
Radim J. Srám / Prague, Czech Republic
Joellen Lewtas / Research Triangle Park, USA
Wiesław Jedrzychowski / Cracow, Poland
Olav Axelson / Linköping, Sweden

Ambient, Environmental, and Occupation Exposure and Cancer Risk
Mieczyslaw R. Chorząy / Gliwice, Poland
Alán Pintér / Budapest, Hungary
Kimmo Peltonen / Helsinki, Finland
Monica C. Hollstein / Heidelberg, Germany
Kari Hemminki / Stockholm, Sweden

Tobacco
Ivan Plesko / Bratislava, Slovakia
Barbara S. Hulka / Chapel Hill, USA
Paolo L. Vineis / Turin, Italy
Stephen S. Hecht / Valhalla, USA
Krystyna Frenkel / New York, USA
Bernadette Schoket / Budapest, Hungary

Strategies for Prevention
Waun Ki Hong / Houston, USA
I. Bernard Weinstein / New York, USA
Anna Tompa / Budapest, Hungary

Roundtable Discussion
Paul Kleihues / Lyon, France
Hans-Olov Adami / Uppsala, Sweden
Paolo Boffetta / Lyon, France
Edward Bresnick / Worcester, USA
Andrew E. Czeizel / Budapest, Hungary
Terri Damstra / Research Triangle Park, USA
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This issue’s cover features Joseph H. Burchenal, an outstanding figure in cancer chemotherapy. His interest in the subject extends from his undergraduate days as a chemistry major at Princeton through his medical training at the University of Pennsylvania. At the start of his medical career, chemotherapy involved only quinine for malaria and neoaarsphenamine for syphilis. By his third year of medical training, prontosil was being used, and by his internship in 1937, sulfanilamide was available for certain bacterial infections. In his pediatric rotation, he was impressed by the fulminating nature of acute leukemia, which is similar to an acute infection and thus possibly amenable to treatment with chemotherapy. He began early studies in this area at New York Hospital aided by Claude Forkner and Jacob Furth (Am. J. Cancer, 39: 309, 1940). Later, at Thorndike Memorial Laboratory of Harvard University, he studied under William B. Castle and George Minot. Beginning in 1942, he served in the Fifth General Hospital (Harvard) in Northern Ireland, England, and France. After three years as Chief of Infectious Diseases at the Fifth General and six months as Chief of Tropical Medicine at Walter Reed Hospital, he was discharged in 1946. About this time, C. P. “Dusty” Rhoads had reassumed the Directorship of Memorial Hospital and the newly established Sloan-Kettering Institute for Cancer Research. He was looking for someone interested in pursuing the chemotherapy of mouse and human leukemias and found this person in Dr. Burchenal who, on the day of his discharge, joined the Memorial Hospital and Sloan-Kettering Institute and remained there until his retirement.

With an excellent team recruited by Dr. Rhoads that included C. Chester Stock, Frederick S. Philips, David A. Karnofsky, M. Lois Murphy, Rose Ruth Ellison, and M. P. Sykes, there followed many studies on the nitrogen mustards which, though of limited use in the acute leukemias, were useful in the chronic leukemias and lymphomas. This team also found the first oral alkylating agent active against lymphomas, triethylenemelamine (Arch. Biochem., 26: 321, 1950; Trans. Am. Coll. Phys., 63: 136, 1950). Then, inspired by Sidney Farber’s success with aminopterin, Dr. Burchenal also found temporary remissions with this and other folic antagonists in children with acute leukemia. There followed promising but mixed results in chronic myelocytic leukemia with 2,6-diaminopurine, obtained from George Hitchings and Gertrude Elion (Cancer, 4: 549, 1951). This was superseded by 6-mercaptopurine synthesized in 1951 by Drs. Hitchings and Elion, which within 10 months was found to produce remissions in untreated as well as methotrexate- and cortisone-resistant acute leukemias in children and some adults (Blood, 8: 965, 1953). These positive results were quickly confirmed and led to combination therapy with these agents. In 1958, Dr. Burchenal was granted American Cancer Society funds for travel to Africa. Working with Denis Burkitt, Herbert F. Oettgen, and Peter Clifford, spectacular results were obtained with lengthy remissions in tumors of the head and neck (Burkitt’s tumor) (Cancer, 16: 616, 1963).

In 1962, Dr. Burchenal became Chairman of the World Health Organization Advisory Committee on Cancer Chemotherapy and arranged two international conferences, one on Burkitt’s tumor (chaired by Drs. Burkitt and Burchenal) and the other on female choriocarcinoma (chaired by James F. Holland). A sustained effort clearly demonstrated lasting inhibition of Burkitt’s tumor throughout many clinical trials (Cancer Chemother. Rep., 27: 45, 1963; Cancer Res., 26: 2393, 1966).

Throughout the course of his work, Dr. Burchenal has authored over 700 peer-reviewed publications. His career has also been marked by a wealth of important advisory roles, encompassing many committeeships and officerships in professional organizations. His contributions to the American Association for Cancer Research (AACR) over the years have been numerous, including service on the Board of Directors (1963–68), as AACR President (1965–66), and election as an Honorary Member of the Association in 1987. And, in 1996, the Joseph H. Burchenal AACR Clinical Research Award was established to honor Dr. Burchenal’s work as a major figure in clinical cancer research. Sponsored by Bristol-Myers Squibb Oncology, this award is presented annually to a researcher who has made significant contributions to clinical care in the field of cancer.

In addition to his AACR service, Dr. Burchenal has been a consultant to the U.S. Senate Committee on Labor and Public Welfare (1970–71) and a special consultant to the NCI, as well as a member of numerous NCI task forces and American Cancer Society panels. He also served on the U.S. National Committee of the International Union Against Cancer. He has received a host of awards, including the Alfred P. Sloan Award (1963); Prix Leopold Griffuel (1970); the Albert Lasker Award in Clinical Cancer Chemotherapy (1972); the David A. Karnofsky Memorial Award of the American Society of Clinical Oncology (ASCO) (1974); the James Ewing Award (1975); the American Cancer Society Annual Award (1982); the Return of the Child Award of the Leukemia Society of America (1986); and the Distinguished Scientific Award of ASCO (1994).

Sidney Weinhouse