MOLECULAR GENETICS OF CANCER

Joint Conference of the
American Association for Cancer Research
and the
European Association for Cancer Research

September 9-12, 1997
Hertford College, University of Oxford
Oxford, England

CONFERENCE CHAIRPERSONS

Eric J. Stanbridge / Irvine, CA
Sir Walter Bodmer / Oxford, England

SCIENTIFIC PROGRAM

Keynote Lecture
Richard D. Klausner / Bethesda, MD

Lower Eukaryotes - What they Tell Us About Cancer Genes
Roel Nusse / Stanford, CA
Tian Xu / New Haven, CT
Ronald H. A. Plasterk / Amsterdam, The Netherlands
Joan Massagué / New York, NY

New Approaches to Cloning Tumor Suppressor Genes
Adi Kimchi / Rehovot, Israel
Stanley N. Cohen / Stanford, CA
Additional speakers to be announced

Cell Cycle Genes and Cancer
Paul Nurse / London, England
Gordon Peters / London, England
Charles J. Sherr / Memphis, TN
Xin Lu / London, England

Molecular Analysis of Multistep Progression
Peter Collins / Goteborg, Sweden
Paul Calmys / Baltimore, MD
Helene S. Smith / San Francisco, CA

Transgenic Mouse Models of Cancer
Walter Bodmer / Oxford, England
Terry A. Van Dyke / Chapel Hill, NC
Allan Bradley / Houston, TX
Anton J. M. Berns / Amsterdam, The Netherlands

Molecular Genetics of Cancer of the Cervix
Eric J. Stanbridge / Irvine, CA
Karen H. Vousden / London, England
Garret M. Hampton / La Jolla, CA

Applicants are encouraged to submit abstracts for poster presentation.

Application deadline: June 2, 1997

Information and Application Forms
American Association for Cancer Research
Public Ledger Building, Suite 826
150 South Independence Mall West
Philadelphia, PA 19106-3483 USA
215-440-9300 215-440-9313 (FAX)
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FACULTY POSITION
BREAST CANCER IMMUNOLOGY

The Barbara Ann Karmanos Cancer Institute, in the School of Medicine at Wayne State University, invites applications for a tenure track position at the level of Associate or Full Professor. This will be a joint appointment between the Karmanos Cancer Institute and an appropriate department in the Wayne State University School of Medicine with support derived from a Herrick Foundation endowment. Applicants must have an M.D. and/or a Ph.D. degree or equivalent and possess an active research program in breast cancer immunology, including vaccine development, gene therapy and/or immunotherapy. A strong history of publications in peer-reviewed journals, significant external research support and evidence of successful teaching at the graduate level will also be essential.

The candidate will be expected to collaborate with other investigators in the expansion of the Breast Cancer and Stem Cell Biology Programs. The Karmanos Cancer Institute, an NCI comprehensive Cancer Center, provides outstanding collaborative opportunities with clinical, basic, and public health scientists. The academic and community environment of southeast Michigan is one of cultural diversity, and we encourage applications from all qualified female and minority faculty.

Letters of application accompanied by a curriculum vitae, statement of research interests, and the names of three references should be sent to: Dr. Paul C. Montgomery, Chair of the Cancer Immunology Search committee, Karmanos Cancer Institute, 110 E. Warren Avenue, Detroit, MI 48201.

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DDE wants to license and develop antibodies (and other targeting moieties) that have therapeutic potential - these include well-characterized antibodies, such as antibodies to CD30, the c-erbB family, mucins, carbohydrates, etc., and other novel antibodies that react specifically and selectively with the surface of any cancer cell, including leukemia, lymphoma, melanoma, breast, prostate, lung, colon, CNS, ovarian, bladder, etc.

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Please send a brief description of your antibody and its specificity, current licensing and development status, and contact information to Dr. L.L. Houston, Drug Discovery Enterprises, Inc., PO Box 2802, Del Mar, CA 92014-5802 (e-mail llh@cts.com)
DIRECTOR, CANCER RESEARCH CENTER OF HAWAI'I
UNIVERSITY OF HAWAI'I AT MĀNOA

The University of Hawai'i is seeking a Director of its Cancer Research Center, a free-standing organized research unit. The Center has just received the status of a NCI designated Cancer Center with a three year core grant and comprises 33,000 sq ft of laboratory and office space contained in a modern well-equipped building in Honolulu standing on the campus of the largest Medical Center in the State. With a total budget of about $10 million, the Center has 26 full-time and affiliate faculty, 26 community-based clinical faculty, about 20 graduate and postdoctoral students and a staff of approximately 140. Through joint appointments and collaborations, the Center has close links with academic departments such as chemistry, genetics and molecular biology, microbiology, environmental biochemistry and the School of Public Health. Research at the Center takes advantage of Hawai'i's unique characteristics as a geographically defined multi-ethnic community and is focused on: (1) population-based studies which seek to discover reasons (dietary, genetic or behavioral) for the disparate cancer rates and treatment outcomes observed in different ethnic groups; (2) intervention studies that develop and test strategies for preventing and controlling cancer incidence, morbidity and mortality; (3) laboratory-based studies directed toward understanding molecular mechanisms of carcinogenesis and chemoprevention; (4) chemical and biological characterization of novel compounds with clinical potential from marine and terrestrial species; (5) the center participates in national clinical cooperative trials.

The Director reports directly to the Senior Vice President for Research and Dean of the Graduate Division, is responsible for interacting at the highest level with the University and the State, and is expected to further strengthen relationships with local health-care providers and the community. The position attracts a competitive salary, a high level of institutional support from the University and is tenurable.

Applications are sought from scientists with the M.D. or Ph.D. degree who possess a commitment to excellence; an outstanding record of research productivity and funding, preferably related to areas outlined above; demonstrated abilities of leadership and management; and the vision and drive necessary to fully exploit the challenges and opportunities for growth created by the location and resources of the Center. Applicants should send a letter of interest and curriculum vitae to: Chair, Cancer Center Director Search Committee, Pacific Biomedical Research Center, University of Hawai'i, 1993 East-West Road, Honolulu, Hawai'i 96822-2359. The search committee will begin reviewing applications on June 30, 1997 and will continue until the position is filled.

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DIRECTOR, GERALDINE BRUSH CANCER RESEARCH INSTITUTE

The Geraldine Brush Cancer Research Institute (GBCRI), a division of the California Pacific Medical Center Research Institute (CPMCR), invites applications for the Director's position. The Research Institute is part of California Pacific Medical Center, a 1,100-licensed-bed academic medical center affiliated with the Sutter/CHS healthcare system. The investigators of GBCRI, mainly supported by extramural funding, conduct research in a variety of areas related to cancer biology. Strong collaborative relations exist with the breast cancer research program at the University of California, San Francisco, including an ongoing Program Project grant and a SPORE grant, both funded by the National Cancer Institute.

Applicants must have a Ph.D. or M.D., an active research program in cancer supported by extramural funding, and a strong record of scientific achievement. The successful candidate should have the vision and interpersonal skills essential to further develop and to lead GBCRI research into the next century.

We offer a competitive compensation and excellent benefits package. Please send resume, a history of research activities and support, a short description of future research objectives, and the names of three references to: California Pacific Medical Center, Human Resources, Attn: D. Henderson, P.O. Box 7999, San Francisco, CA 94120 or FAX (415) 885-8633. EOEE.

POSTDOCTORAL ASSOCIATE/RESEARCH SCIENTIST

The Department of Surgery Research Laboratory is engaged in research on breast cancer etiology with particular emphasis on hormonally mediated pathways of tumorigenesis. We are seeking a postdoctoral associate or research scientist to work on this project. The successful candidate should have extensive knowledge of molecular biology methods, preferably with emphasis in the area of molecular endocrinology. Candidates with experience beyond that of Postdoctoral Associate will be considered for appointment as a Research Scientist. Salary commensurate with experience. Opportunity for advancement to faculty level in next 2–3 years.

Send cover letter and resume to Seema Khan, M.D., Surgery Department, SUNY Health Science Center at Syracuse, 750 E. Adams Street, Syracuse, New York 13210 or e-mail to: khanse@mailbox.hscsyr.edu. Review of applications will be immediate and continue until the position is filled.

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UNIVERSITY OF NEW MEXICO SCHOOL OF MEDICINE
SIX TENURE-TRACK ASSISTANT PROFESSOR
POSITIONS IN BIOMEDICAL RESEARCH

With support from the Howard Hughes Medical Institute Research Resources Program, the University of New Mexico School of Medicine seeks outstanding applicants to fill six new tenure-track positions at the rank of Assistant Professor in the following areas:

Molecular Epidemiology: Molecular Epidemiology of Cancer
Molecular Genetics and Oncology: Fundamental Mechanisms of Tumorigenesis; Cell Cycle Regulation; DNA Repair; Human Cancer Genetics
Cell Adhesion/Signal Transduction: Receptor-Mediated Adhesion and Signal Transduction in Leukocyte-Endothelial Interactions in Models of Inflammation, Angiogenesis, or Asthma
Metastasis/Motility/Extracellular Matrix: Molecular and Cell Biology of Metastasis, Matrix, and Cell Motility in Models of Cancer and Development
Viral Immunology/Molecular Virology: Immune Responses to Viral Infection; Viral Pathogenesis
Neurosciences: Molecular Mechanisms of Neural Plasticity

Applicants must have an advanced degree (Ph.D., M.D., or equivalent) and have completed postdoctoral or fellowship training; demonstrated productivity measured in publications and attempts to obtain/maintain extramural funding are highly desired. Successful candidates will be expected to develop a highly vigorous, competitive, and interactive research program and will participate in teaching medical and graduate students and postdoctoral fellows. Attractive start-up packages are available. Successful candidates will be appointed to an appropriate School of Medicine Department. Up to four applicants will be hired in 1997 and two in 1998. More information regarding each of these positions may be found at: http://somas.unm.edu/hughes. Positions will remain open until successful candidates are identified. For best consideration in 1997, applicants should submit the following before June 9, 1997: a curriculum vitae, the names of three references, a concise description of your research program or plan, the position for which you wish to be considered, and your date of availability to: Dr. Cheryl Willman, PI, HHMI Program, UNM SOM Research Office, BMSB, Box 520, Albuquerque, New Mexico, 87131-5196. Applicants must be eligible to work in the United States. UNM is an Equal Opportunity/Affirmative Action Employer.

CANCER BIOLOGY
RESEARCH ASSISTANT POSITION
MAYO MEDICAL SCHOOL
CLINIC AND FOUNDATION

Position immediately available to work on dysregulation of apoptosis as a mechanism of hepatobiliary oncogenesis. Expertise in cancer biology, molecular biology techniques, and cell culture are required. Please submit curriculum vitae and three letters of reference to:

Nicholas F. LaRusso, M.D.
Professor of Medicine and Biochemistry
and Molecular Biology
Mayo Clinic
200 First Street SW
Rochester, MN 55905

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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
• reduced registration rates at the AACR Annual Meeting, Special Conferences, and International Meetings
• Employment Register, Directory of Members, public education activities, and many other benefits

Special programs to provide enhanced career development opportunities for minority scientists include

• Session on Career Development at Annual Meeting
• Mentorship Program
• Travel Awards to Scientific Meetings

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CLINICAL RESEARCH DIRECTOR
BREAST CANCER PROGRAM

The Barbara Ann Karmanos Cancer Institute (KCI) in Detroit, Michigan is seeking a leader for its clinical research program in breast cancer. The institution is the product of the merger of the Meyer L. Prentis Comprehensive Cancer Center of Metropolitan Detroit with Wayne State University (WSU), the Detroit Medical Center, and the Michigan Cancer Foundation. The partnership holds the prestigious NCI designation of Comprehensive Cancer Center.

The Breast Cancer Clinical Program includes a multidisciplinary practice, a comprehensive breast diagnostic center and system-wide leadership, and authority in expansion of multidisciplinary and diagnostic satellites as networks and affiliations are pursued. This program is part of the overall Breast Cancer Program; the Breast Cancer Research Program has strong peer-reviewed grant-funded clinical and laboratory research in the areas of molecular and cellular biology of preneoplastic and early breast cancer, breast cancer heterogeneity and progression, stromal-epithelial interactions in breast cancer development, mechanisms of metastatic spread, development of drug resistance and host responses to breast cancer development, prevention research in high risk individuals, clinical trials of new antineoplastic agents alone or in combination, and studies of high-dose chemotherapy with autologous bone marrow transplant in high-risk individuals and in patients with advanced disease. The program is an active member of the Southwest Oncology Group and the National Surgical Adjuvant Breast and Bowel Project.

The successful candidate should be an outstanding board certified internist and medical oncologist as he/she will also lead the breast clinical service in the Division of Hematology-Oncology. WSU rank is to be determined. Expertise in translational clinical-laboratory research in breast cancer is preferable. Salary and benefits are competitive and commensurate with experience. The academic and community environment of southeast Michigan is one of cultural diversity, and we encourage applications from all qualified female and minority faculty. Submit CV and names of three references to Gloria Heppner, Ph.D., Search Committee Chair, Karmanos Cancer Institute, Breast Cancer Program, 110 E. Warren, Detroit, MI 48201. Telephone 313/833-0715 ext. 2272 or fax 313/831-3564.

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You can obtain free sample copies of Cancer Research from the American Association for Cancer Research, Attn: Marketing, Public Ledger Building, Suite 826, 150 S. Independence Mall West, Philadelphia, PA 19106-3483, USA. Tel: (215) 440-9300; Fax: (215) 440-9355; e-mail: aacr@aacr.org.

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1998 GERTRUDE B. ELION CANCER RESEARCH AWARD

Supported by an Educational Grant from
Glaxo Wellcome Oncology

- This Award was established in honor of Nobel Laureate Dr. Gertrude B. Elion, Scientist Emeritus at Glaxo Wellcome Co. and Past President and Honorary Member of the AACR.

- The Gertrude Elion Cancer Research Award is a one-year, $30,000 grant for a scientist in the U.S. or Canada engaged in meritorious basic, clinical, or translational research in cancer etiology, diagnosis, treatment, or prevention at the level of non-tenured Assistant Professor.

- The AACR will reimburse the Awardee for travel to the 1998 Annual Meeting in New Orleans, LA, where Dr. Elion will personally present this Award.

Eligibility

Candidates must have completed postdoctoral studies or clinical fellowships not later than July 1 of the award year, and ordinarily not more than five years earlier. Tenured faculty in academia, federal government employees, and employees of private industry are not eligible for this award. A candidate need not be a member of the AACR at the time of application, but must be nominated by a member of the AACR. Associate Members may not be nominators.

Selection Process

Applications are evaluated by a committee consisting of AACR members who are experts in basic, clinical, and translational cancer research. The application deadline will be early 1998. For information and application forms, please contact:

AMERICAN ASSOCIATION FOR CANCER RESEARCH
Public Ledger Building, Suite 826
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e-mail: aacr@aacr.org
ATTN.: Jenny Anne Horst-Martz
American Association for Cancer Research, Inc. is pleased to announce

National Cancer Survivors Day
June 1, 1997

What is National Cancer Survivors Day?
National Cancer Survivors Day (NCSD) is a nationwide celebration of life which is held annually in over 650 communities throughout North America on the first Sunday in June. Participants from coast to coast unite in a symbolic event honoring the 10 million Americans who are cancer survivors. NCSD demonstrates that cancer survivors are an active, productive segment of society. Presented each year by the non-profit National Cancer Survivors Day Foundation and its participating organizations, this is the world’s largest cancer survivor event.

For more information on attending your local National Cancer Survivors Day event, please contact:

National Cancer Survivors Day Foundation
P.O. Box 682285 Franklin, TN 37068-2285
Phone: (615) 794-3006
Fax: (615) 794-0179
When Vincent G. Allfrey completed the Ph.D. in Chemistry from Columbia University in 1949, he was offered the opportunity to study the chemistry of the cell nucleus via an appointment at the Rockefeller Institute for Medical Research (now Rockefeller University). In collaboration with Alfred E. Mirsky, methods were developed for the isolation of cell nuclei that were capable of RNA synthesis in vitro. This opened the way to isotopic analysis of the interlocking activities of DNA, RNA, and nuclear proteins. Early experiments established that RNA synthesis in the nucleus is entirely DNA dependent (Proc. Natl. Acad. Sci. USA, 48: 1590, 1962). A direct role for RNA in protein synthesis was indicated by the finding that the inhibition of RNA synthesis by the antiviral agent DRB resulted in a progressive decrease in protein synthesis (Ann. New York Acad. Sci., 5: 267, 1957).

The observation that RNA synthesis is inhibited by histones (Proc. Natl. Acad. Sci. USA, 49: 414, 1963) led to many experiments on histone metabolism and function. A major breakthrough was the finding that histones are subject to a variety of postsynthetic modifications, such as acetylation, methylation, and phosphorylation. Histone acetylation is of particular interest because it involves a neutralization of the positive charges on lysine residues in important DNA-binding domains, thus weakening electrostatic interactions with the negatively charged DNA helix. A rapid exchange of ε-N-acetyl-lysine groups occurs in the absence of histone synthesis (Proc. Natl. Acad. Sci. USA, 51: 786, 1964). Its functional significance was indicated by the surge in acetate uptake preceding new RNA synthesis at early stages of gene activation (Proc. Natl. Acad. Sci. USA, 55: 805, 1966). These findings suggested a model in which histone acetylation modifies chromatin structure to release constraints on DNA to facilitate its transcription. That view was confirmed by the fact that DNA associated with acetylated histones is far more susceptible to DNase attack, a hallmark of transcriptionally active chromatin.

Clusters of eight histone molecules constitute the core of the nucleosome, the basic repeating unit of chromatin. Nucleosomes, in their compactly beaded form, impede transcription of the DNA encircling the histone core, but comparisons of nucleosomes from active and inactive regions of ribosomal genes revealed that transcription was accompanied by an unfolding of the nucleosome to reveal previously shielded SH-groups of histone H3 molecules at the center of the core (Cell, 34: 1033, 1983). This change in SH-availability in active nucleosomes suggested that they could be separated from inactive nucleosomes by affinity chromatography on mercurated-agarose columns (Meth. Cell Biol., 35: 315, 1991). Using this technique, Dr. Allfrey and a number of gifted colleagues showed that it was possible to monitor the expression of many genes by recovering the SH-reactive nucleosomes and hybridizing their DNA to the appropriate probes for the gene or transcript of interest. Particular attention was directed to the transcription of oncogenes. When the method was tested on quiescent cells stimulated to reenter the growth cycle, the recovery of SH-reactive nucleosomes was shown to reflect within minutes the timing and extent of expression of the proto-oncogenes c-myc and c-fos (Proc. Natl. Acad. Sci. USA, 84: 5252, 1987).

The results made it clear that the nucleosome is a dynamic structure capable of unfolding and refolding within minutes. A great advantage of the chromatographic isolation procedure is that it allows a direct comparison of the composition and structures of active and inactive nucleosomes. All of the active nucleosomes were shown to contain hyperacetylated histones, whereas the inactive nucleosomes were hypoacetylated. Recent studies of the active nucleosomes, using electron spectroscopic imaging, have confirmed that the nucleosome core unfolds during transcription to increase the accessibility of the DNA (Nucleic Acids Res., 24: 321, 1996). Such changes in nucleosome topography appear to be a general aspect of transcribing chromatin.

More specific controls exerted by the nonhistone proteins of the nucleus are also influenced by postsynthetic modifications. This was evident in early experiments showing that a surge in nonhistone protein phosphorylation preceded RNA synthesis in mitogen-activated lymphocytes (Science, 154: 780, 1966). Both events were preceded by the transport of protein kinase and many cytoplasmic proteins into the nucleus (J. Biol. Chem., 249: 4900, 1974). Of particular interest were the highly specific changes in DNA-binding proteins and phosphorylation at very early stages in DMH-induced carcinogenesis of the colon (Cancer Res., 36: 2678, 1976; Cancer, 40: 2584, 1977).

The most recent experiments exploit the capacity of biotinylated peptide nucleic acids (PNAs) to invade specific genes in chromatin. PNA hybridization to DNA is so strong it permits the isolation of chromatin restriction fragments containing the targeted gene (Proc. Natl. Acad. Sci. USA, 92: 1901, 1995). Ongoing experiments showing that an appropriately designed PNA can block MYC transcription in colonic cancer cells suggest that targeting of these novel DNA analogues to aberrant genes will provide new approaches to cancer chemotherapy.

After assuming his position as Research Assistant at Rockefeller in 1949, Dr. Allfrey advanced to Research Associate in 1952 and then to Associate Professor (1957–63) and Professor (1963–present). He has also been a Visiting Professor at Yale University (1964–65) and an Adjunct Professor at Cornell University Graduate School of Medical Sciences (1973–91). He has been a member of the American Association for Cancer Research since 1981, and he holds memberships in several other professional societies as well as serving on many advisory and review committees including the Organ Systems Program of the NCI and American Cancer Society Committees on the Etiology of Cancer and on Nucleic Acids and Protein Synthesis. He has served on the Editorial Boards of several publications including an 8-year term as an Associate Editor for Cancer Research (1977–85).