THE CANCER LETTER

Vol. 17 No. 13
March 29, 1991


Price $205 Per Year US, Canada.
$230 Per Year Elsewhere

P.O. Box 15189 Washington, D.C. 20003 Telephone 202-543-7665

## DCE Advisors Okay Cooperative Agreements For Epidemiologic Study Of Esophageal Cancers

Advisors to NCI's Div. of Cancer Etiology last week gave concept approval to a new program of cooperative agreement awards for an epidemiologic study of adenocarcinomas of the esophagus and gastric cardia. About three to four study centers would be funded for three

(Continued to page 2)

*In Brief*

## Beahrs, Murphy, Quan Honored By SSO; AACR Awards Mulligan, Wigler, Sporn, Witte

**SOCIETY OF SURGICAL ONCOLOGY** awards made this week at the annual meeting in Orlando: **Oliver Beahrs**, professor of surgery emeritus at Mayo Clinic, presented the James Ewing Lecture. **Gerald Murphy**, group vice president and chief medical officer of the American Cancer Society, received the Lucy Wortham James Basic Research Award; his lecture was "The Development of Biological Markers for the Diagnosis of Prostatic Cancer." **Stuart Quan**, professor of surgery at Cornell School of Medicine and attending surgeon in the Colorectal Service at Memorial Sloan-Kettering Cancer Center, received the Lucy Wortham James Clinical Award. . . . **AWARDS/LECTURES** that will be presented at the 82nd annual meeting of the American Assn. for Cancer Research May 15-18 in Houston: **Richard Mulligan**, Whitehead Institute for Biomedical Research, will deliver the Rhoads Memorial Award Lecture on "Retroviral Mediated Gene Transfer: Basic and Practical Applications." **Michael Wigler**, Cold Spring Harbor Laboratory, will present the Clowes Memorial Award Lecture on "The Ways of ras." **Michael Sporn**, NCI, has as his topic for the Cain Memorial Award Lecture, "Future Opportunities for Clinical Use of Retinoids and TGF-B." **Owen Witte**, UCLA, who will receive the Rosenthal Foundation Award, will lecture on "Role of the BCR-ABL Oncogene on Human Leukemia." **Bernard Weinstein's** Presidential Address is titled, "Molecular Oncology--A Bridge between Basic Science, Cancer Prevention, and Treatment." . . . **ROBERT GALLO,** chief of NCI's Laboratory of Tumor Cell Biology, has published the story of his controversial discovery of HIV in a book, "Virus Hunting: AIDS, Cancer and the Human Retrovirus: A Story of Scientific Discovery" (Basic Books, $22.95). . . . **DAVID BALTIMORE,** Nobel Prize winning molecular biologist, has asked that a paper published in "Cell" in 1986 be retracted because of evidence it contained fraudulent data. An NIH Office of Scientific Integrity investigation found that Baltimore's co-author, Thereza Imanishi-Kari of Tufts Univ., falsified data for the paper, according to news reports. OSI did not implicate Baltimore in scientific fraud.

## Advisors Ok Esophageal Ca Study, Approve $7.9 M In Recompetitions

(Continued from page 2)

years, with first year funding of $750,000, program coordinator William Blot told the DCE Board of Scientific Counselors.

The board also gave concept approval to recompetition of three contract programs, obligating a total of $7.97 million over four to five years.

In addition, the board committed NCI to providing $3 million over three years to the National Institute of Allergy & Infectious Diseases for continuing the Multicenter AIDS Cohort Study, one of the first long term studies to follow a population of homosexual and bisexual men from seroconversion to AIDS. NCI's contribution to the study funds the MACS malignancy program, which enables investigators to study the occurrence, distribution, and determinants of malignancies in HIV infected patients. (This concept will be published in a future issue of **AIDS update.**)

The board also approved the addition of $30,000 to an existing NCI/National Institute of Occupational Safety & Health interagency agreement for "Feasibility Assessments for New Topics." The funds will extend the project for 12 months to complete feasibility studies on four topics, including a study to clarify reported associations in miners between diesel exhausts and lung and bladder cancer. PEI Associates Inc. holds the contract.

Following are the concept statements for the esophageal study and the contract programs:

**An epidemiologic study of adenocarcinomas of the esophagus and gastric cardia.** Concept for cooperative agreements (U01), first year funding (FY92) $750,000, three years.

The objectives of this proposed project are to identify risk factors for adenocarcinomas of the esophagus and gastric cardia and contrast them with risk factors for other cancers of the esophagus and stomach.

Recent analysis of SEER incidence data have revealed sharply rising rates for adenocarcinomas of the esophagus and gastric cardia. The increases among males in the period 1976-87 ranged from 4-10 percent per year. In contrast, there were relatively stable trends for squamous cell carcinoma of the esophagus and slight declines for adenocarcinoma of more distal portions of the stomach. The adenocarcinomas of the esophagus and gastric cardia disproportionately affected white males and rarely occurred among women. The unexplained increase in incidence rates points to the need for investigation into the causes of these poorly understood cancers. Reasons for the striking racial differences between these cancers and squamous cell carcinomas of the esophagus or adenocarcinomas occurring elsewhere in the stomach also remain to be determined.

This concept proposes new research in the U.S. into the etiology of these emergent cancers. Since this will be the first systematic analytic epidemiologic study of adenocarcinomas of the esophagus and gastric cardia, it will explore associations with a variety of possible environmental and host determinants. It also will test hypotheses that risk factors for these cancers are similar to those previously recognized in NCI and other studies of other esophageal and stomach cancers, specifically evaluating tobacco and alcohol intake, diet, occupation, ethnicity, medications, prior medical conditions, family history and other factors.

Cooperative agreements will be sought to enable the conduct of a multicenter case-control study in several areas of the U.S. A goal of the projects will be to enroll cases newly diagnosed during a recent period with adenocarcinoma of the esophagus or gastric cardia. To compare characteristics of these patients with those of persons with other esophageal and stomach cancers, approximately equal number of squamous cell carcinomas of the esophagus and noncardia stomach cancers of similar age, sex, and race will also be included.

It is anticipated that the study subjects will be chosen from geographic areas with large numbers of patients with these cancers so that sufficient numbers of cases can be ascertained without an extended waiting period. To contain costs, it is anticipated that no more than three to four areas will be included, including one in the north central states, where rates of stomach cancer are the highest in the nation. To ensure sufficient numbers for pooled statistical analysis, it is anticipated that at least 500 cases (250 esophageal adenocarcinomas, 250 gastric cardia cancers) will be enrolled across all areas.

A steering committee will be established to design the overall study, develop a common protocol using standardized methods, and develop strategies for data analyses. The project will develop a questionnaire to be used in interviews to elicit information on potential risk factors for these cancers. If feasible, blood specimens may be collected from a sample for assay of serum antibodies to Helicobacter pylori, an infection closely linked to chronic gastritis and possibly to gastric cancer risk, and for storage for future assay. Medical records and diagnostic materials for the cancer cases will be sought for review to confirm the histologic diagnoses and search for evidence of precursor lesions, including Barrett's esophagus, and prior medical conditions. Also considered will be the collection of paraffin embedded tissue specimens for detection of prevalent Helicobacter pylori infection, possible future molecular genetic studies, and reclassification of cardia and other gastric cancers using the Lauren system to distinguish intestinal type from diffuse type tumors.

NCI will provide technical assistance to the awardees, with the principal investigators and the NCI program coordinator meeting


## THE CANCER LETTER

*Editor:* **Kirsten Boyd Goldberg**
*Associate Editor:* **Lisa M. O'Rourke**
Contributing Editor: Jerry D. Boyd

*Editorial/Subscriptions Office*
**PO Box 15189, Washington, DC 20003**
**Tel: (202) 543-7665 Fax: (202) 543-6879**

Subscription rate $205 per year North America, $230 elsewhere. ISSN 0096-3917. Published 48 times a year by The Cancer Letter Inc., also publisher of The Clinical Cancer Letter and AIDS Update.

periodically to review data acquisition and management procedures. NCI staff will take part in the joint development of the protocol for the conduct of the investigation, assist the participating institutions in the data collection in the field, provide for laboratory analysis of selected biologic specimens, serve as statistical coordinator and data processing center, and jointly analyze, interpret and report the collected information.

"This is a new phenomenon that has to be investigated," said board member Pelayo Correa. He asked whether the study would only include white males. Program coordinator William Blot, chief of the Biostatistics Branch, said the study would include all patients, "but due to the demographics of these cancers, most of the cases will be white men."

The concept was approved unanimously.

**Synthesis of selected chemical carcinogens.** Recompetition of contracts held by SRI International and Eagle Picher Industries Inc. Total award $2,971,982, five years, two awards.

This concept is for recompetition of two contracts to synthesize selected classes of carcinogens and chemopreventive agents, and for resynthesis of derivatives of polycyclic aromatic hydrocarbons (PAH) for distribution by the NCI Chemical Carcinogen Reference Standards Repository. A primary focus of the workscope is the re-preparation of selected derivatives of PAHs in gram quantities.

Compounds requiring resynthesis will be flagged by the computer generated inventory reported by the repository and assignment will be made to the particular contractor's laboratory which has responsibility for preparing that class of derivative. The contractors develop synthesis routes with a target of producing 1-5 grams, characterize products, determine stabilities, develop handling procedures, determine yield of production runs, etc. The PAH derivatives most frequently requiring resynthesis include epoxides, dihydrodiols, phemols, quinones, and diolepoxides. In addition to resynthesis work, each contractor will have primary synthesis and/or purification responsibility for various classes of carcinogenic, mutagenic or suspect compounds and chemopreventive agents.

The selected contractors will be assigned compounds to prepare as needed in the repository. Some will be newly identified and others will be among those stock items depleted through use or decomposition. In the event that more than one award is made, chemical classes and parent hydrocarbons will be equitably assigned to each contractor who will then have responsibility for preparing specified derivatives in those categories. The assignment of chemical classes will be designated in the contractor's workscope and will be based on the interest, experience, and capability of the selected contractors together with the objective of establishing a balanced workload distribution among contractors.

In general, relatively complex multistep syntheses are required, and many of the compounds and synthetic intermediates are relatively unstable, necessitating a high level of skill and experience for the synthesis and isolation in a pure state. For these reasons and because of the hazard and expense of handling large quantities of carcinogenic compounds, it is necessary to conduct initial exploratory syntheses on quite a small scale, generally employing only sufficient amounts of intermediates to determine by NMR, HPLC, or other appropriate analytical techniques whether and to what extent desired reactions have taken place.

Numerous repetitions are frequently require to: a) find a suitable reagent to selectively effect a desired transformation, b) develop optimum conditions with respect to temperature, solvent, stiochiometry, pH, etc., and c) devise satisfactory analytical and workup procedures for the isolation in a pure state and characterization of these often unstable compounds. Compounds are characterized by a meaningful combination of appropriate techniques including possibly infrared and ultraviolet visible spectrophotometry, melting point, thin layer chromatography, elemental analysis, NMR, HPLC, GC/Mass spectroscopy, and optical rotation.

When compounds require resynthesis, the procedures from previous experience are utilized. Since repetition of the successful research scale (milligram) synthesis on larger scale is seldom straightforward, several additional runs are generally required to solve the remaining problems involving maximization of yield at each step and purification of molecules sensitive to decomposition. Since the majority of the compounds synthesized cannot be recrystallized or chromatographed by conventional methods without substantial decomposition, the most generally applicable and powerful technique for purification has proven to be preparative high pressure liquid chromatography. It is expected that the successful contractor will carry out the same highly productive, responsive and innovative synthesis work that in the past has resulted in the availability to the carcinogenesis research community of a continuous supply of highly pure, innovatively prepared chemical standards.

**David Longfellow,** chief of the Chemical & Physical Carcinogenesis Branch, said the payback system instituted at the repository results in average receipts of $157,000 annually, a 27 percent cost recovery of the combined annual repository operations. All of the contractors in the program participate in the users fee system. A fee for chemical cost and shipping is charged to recipients, and as funds are received at the repository, they are deducted from the voucher billed to NCI by the chemical synthesis contractors.

"There are few other sources for these compounds," said Board Chairman Barry Pierce.

The concept was approved unanimously.

**Laboratory support for processing and storage of biological specimens from persons at high risk of cancer.** Recompetition of a contract held by Biotech Research Laboratories. Total award $3.2 million, four years.

Since 1977, a contract laboratory has supplied a variety of repository and specimen processing support services primarily to the Viral Epidemiology & Family Studies Sections of the Environmental Epidemiology Branch, the Clinical Studies and Clinical Genetics Sections of the Clinical Epidemiology Branch, and to a lesser extent other units of the four intramural branches of the Epidemiology & Biostatistics Program. The objectives of this project are:

--To provide services necessary for accessioning and processing biological specimens for epidemiologic studies.

--To organize, aliquot, and disperse samples to collaborating investigators for testing.

--To maintain the existing repository of samples and add new samples in an organized way.

--To maintain accurate information on the quality, quantity and location of samples, and to provide these data in a timely manner for the computerized sample inventory.

These services are tailored to the needs of different investigators. Standard protocols for processing different types of samples are followed to ensure that biological materials are suitable for their intended use. This includes procedures for separating and viably freezing lymphocytes for cell culture, tissue typing, cell surface markers, DNA extraction, and genetic polymorphism analysis. Other materials requiring specialized processing include red blood cells, urine, feces, tumor tissue, semen, exudates, and transudates. Serum and plasma are processed, aliquoted, and stored at the time of sample receipt. A portion designated by the NCI investigator is utilized for specified analyses and the remainder is aliquoted for long term storage in the repository. For each sample, records of internal freezer location as well as external designation are recorded, and these data entered into the computerized inventory system. Samples are stored at suitable temperatures in mechanical or liquid nitrogen freezers, and 24 hour per day monitoring is maintained to guard against sample loss due to equipment failure. Appropriate biosafety measures are scrupulously adhered to in order to protect laboratory staff and to prevent any possible exposure to HIV and other pathogens which are the focus of EBP study.

The repository currently houses over 250,000 serum and plasma samples, 46,000 viably frozen lymphocyte samples, 75,000 cervical cell samples, and 12,000 samples of other types, including tumor, stool, urine and other materials. Over 175,000 samples have been disseminated in the past four years as a result of this contract to 177 collaborators. On a monthly average, between 5,000 and 10,000 samples are accessioned, and between 30 and 150 lymphocyte transfer packs are processed each month.

**Board member Abraham Nomura** said he "wholeheartedly supports" this program, but asked about specimen disposal and freezer space. Project officer Paul Levine said specimens are rarely discarded. "When a study is well done and specimens are well characterized, the specimens are still used. We find ourselves going back to very early samples," he said.

The concept was approved unanimously.

**Record linkage studies utilizing resources in population based tumor registries.** Recompetition of multiple master agreements, total $1.8 million, four years.

Population based cancer registries provide unique opportunities to conduct cost efficient record linkage studies of cancer etiology. Because of the large number of cancers reported, small effects or rare cancers can be effectively studied by combining results from several registries.

A concept to conduct studies was approved by the BSC in 1983 and reapproved in 1987. This is a program wide project available to all branches within the Epidemiology & Biostatistics Program. At present there are 21 registries holding master agreements. No money is involved with the initial awards for master agreements. Registries in the master agreement "pool" are entitled to compete for subsequent contracts for collaborative research, called master agreement orders. For specific studies, RFPs are sent to all master agreement holders, who compete for awards by submitting a complete technical proposal. Technical proposals are reviewed by an in house source evaluation group which makes recommendations for the final project awards. Twenty-four MAOs have been active since the last review by in 1987, including 15 recent awards. Results from several of the record linkage studies are noteworthy.

The objectives of this project are to utilize the diverse resources of population based cancer registries to conduct record linkage and record abstraction studies, and to evaluate the effects of medical treatments, occupational exposures, and other risk factors in cancer etiology.

This project provides for the managerial, data collection, and computer processing support to address issues where resources from population based tumor registries could be best utilized. The services are used for collaborative research, including support of investigators in the SEER program and other population based registries. For cohort studies, rosters of study subjects are linked to cancer registry records, new cancers are identified and numbers are compared to expected values based on rates for the corresponding general population and appropriate person years at risk. For case control studies, cancer cases are identified and appropriate controls selected, and further detailed exposure and risk factor information is obtained from additional sources, such as the hospital of treatment.

The following investigations are likely to be considered or continued under this project: 1) linkage of rosters of patients treated for various diseases to identify subsequent cancers (such as patients receiving renal transplants and dialysis), 2) studies linking specific population rosters with cancer registries (such as the linkage of twin registries, and genetic and congenital disease registries), 3) further linkage of occupational rosters and cancer registries to test and generate hypotheses regarding occupational related cancer, 4) linkage of data in several cancer registries to evaluate the influence of radiation treatment on the likelihood of second cancers (such as the risk of leukemia following radiotherapy for endometrial cancer or cervical cancer), 5) linkage of data in several cancer registries to evaluate leukemia risk following chemotherapy (such as for non-Hodgkin's lymphoma or Hodgkin's disease), 6) the linkage of tuberculosis records with cancer registry records to identify excess malignancies associated with various therapies (e.g., breast cancer risk factors among tuberculosis patients exposed to fluoroscopy), and to examine whether tuberculosis itself increases the risk of lung and other cancers, 7) linkage of persons with stored serum samples with cancer registry records, 8) a continuation of the study of subsequent cancer risk among women exposed to estrogen-progestin combination therapy, and 9) linkage of prescriptions of other medications and drugs with cancer registries (such as diuretics and the risk of renal cancer).

**The concept** was approved unanimously. Radiation Epidemiology Branch Chief John Boice is the project officer.

## Edward Harlow Is Recipient Of Bristol-Myers Squibb Award

Edward Harlow, of the Massachusetts General Hospital Cancer Center, will receive the 14th annual Bristol-Myers Squibb Award for Distinguished Achievement in Cancer Research.

Harlow, recently appointed director of the Laboratory of Molecular Oncology at MGHCC, will receive a cash prize of $50,000 on April 10.

The award recognizes Harlow for "his revolutionary discovery that two seemingly independent genes--a cancer promoting virus oncogene and a tumor suppressing gene--actually team up in a common

system to convert normal cells to cancer cells," according to a Bristol-Myers statement. With this discovery, Harlow united several lines of research, simplified the explanation of the development of certain cancers, and provided a new focus for cancer research.

"I can think of no recent development in cancer research that equals the excitement and magnificence of this contribution," said Harold Varmus, the 1989 Nobel Laureate, of Univ. of California (San Francisco).

Harlow's group showed that a virus protein, instead of acting independently as was generally believed, can link up with a tumor suppressor gene to inactivate it. This interaction mimics the cancer causing effects of mutation. Harlow made the finding in 1988 after 10 years of study of mutated virus oncogenes. This led to the discovery that the adenovirus E1A protein could attach to several different cellular proteins.

Harlow's lab showed that E1A proteins can inactivate proteins like the retinoblastoma tumor suppressor gene. Others have expanded on Harlow's work to show that various combinations of mutated proteins from different virus oncogene groups can interact to promote cancer growth.

Harlow recently moved to Massachusetts from Cold Spring Harbor Laboratory. He serves as professor of genetics at Harvard Medical School. In 1989, he received the Milken Family Medical Foundation Cancer Research Award and the Wallace Rowe Award for Excellence in Virologic Research.

## Former Hostage Polhill To Receive ACS Courage Award From President

Robert Polhill, the former American hostage in Beirut, Lebanon, was scheduled to receive the American Cancer Society's Courage Award from President George Bush in a White House ceremony this week.

Polhill was diagnosed with cancer of the larynx four days after he was freed from captivity. He was held for 39 months by pro-Iranian radicals. The award honors him for his courage as a hostage and as a cancer patient, who, because of his captivity was denied prompt treatment.

Polhill was working as a business professor at Beirut Univ. College when he was kidnapped, in January 1987, along with two other professors and a number of other Westerners who remain in captivity.

After Polhill's release, surgery to remove his larynx was performed at Walter Reed Army Medical Center in Washington. He is undergoing rehabilitation and training in esophageal speech.

## NCI Launches Cancer Education Initiative For Older Americans

NCI is launching an initiative to target Americans over age 65 and the health providers who serve them for cancer education and prevention information, the institute announced last week.

NCI said it plans to work with mass media and through organizations such as the National Institute on Aging and the American Assn. of Retired Persons to improve the information available to older persons about cancer.

NCI's John Burklow, coordinator of the initiative, said education efforts are needed to bring the latest information about cancer to older people, increase early detection and other health promotion practices in this age group, and increase the proportion of older patients who receive optimal cancer treatment.

Cancer affects persons over age 65 more frequently than any other age group, NCI statistics show. Nearly 60 percent of all cancers occur in persons age 65 or older. This population is growing rapidly. According to U.S. Census estimates, this age group is expected to double in size from just under 32 million in 1990 to more than 64 million by 2030.

For persons under age 65, the cancer death rate declined 4.5 percent between 1973-1987. In contrast, the overall cancer mortality for persons age 65 or older has increased 13 percent during the same 15 year period.

A number of studies have found that many older persons are uninformed about cancer risk, according to an NCI statement. An NCI survey showed that persons over age 65 were much less likely to think they were at risk of getting cancer than were people age 45-54. Other surveys show that older persons are less likely that younger adults to have cancer screening tests.

NCI said it plans to deliver messages about cancer through print media, radio, television, and through organizations involved with older persons.

Also, NCI plans to reach health professionals with information on the special needs of older patients and how to prevent age bias in diagnosis and treatment.

Burklow said a special effort will be made to reach professionals in community hospitals, which treat over 80 percent of all cancer patients.

### ACS Targets Older Persons

The American Cancer Society also has targeted cancer control in older persons as one of its priorities for the decade.

"Cancer in older individuals poses a serious public health problem," ACS President Gerald Dodd told the

annual ACS Science Writers' Seminar, held this week in Phoenix. "Older people are likely to take their aches and pains very much for granted. Many physicians regard the aging process as one of inevitable and universal biological deterioration."

Some health care providers are discriminating and negative toward older persons, Dodd said. Physicians have been shown to:

--treat patients according to chronological age rather than physiologic age,

--support screening activities for older people less often than for most of their younger patients,

--spend less time during office visits with the elderly,

--refrain from rigorous adjuvant therapies in cancer patients.

Older persons should be encouraged to participate in early cancer detection, and primary and secondary cancer prevention as well, Dodd said. For example, less than one-third of women over 60 follow mammography screening guidelines. The reason patients usually give is "not recommended by a physician."

"Clinically, cancer manifests itself differently in the elderly than the young and its management can also be different," Dodd said. "We need more information about how standard treatments affect older people." The patient's metabolism of drugs, drug dosing and resistance, and the role of immune deficiencies in tumor growth need more study, he said. In addition, "There is a great need to stimulate and encourage research to develop basic information relevant to age related cancers--information on the genetic, cellular, immunological and clinical levels."

The Society's recently completed Cancer Prevention Study II and its new National Cancer Data Bank "should provide some very useful information on the benefits of early detection and the results of treatment regimes in older persons," Dodd said.

## Research Opportunities Growing, Dollars Are Shrinking, Young Says

At precisely the time when cancer researchers are making important inroads in discovering how cancer advances, federal funding for research is declining, a prominent oncologist told a Congressional briefing recently.

Robert Young, president of Fox Chase Cancer Center and immediate past president of the American Society of Clinical Oncology, spoke at a special legislative briefing hosted by Rep. Mary Rose Oakar (D-OH). The briefing, cosponsored by the Susan Komen Foundation, was held to inform members of Congress about advances in breast cancer research and related federal funding needs.

Bernard Fisher, professor of surgery at Univ. of Pittsburgh Medical Center, testified about research and treatment advances in breast cancer.

Oakar introduced a bill (HR 381) authorizing an additional $25 million for NCI to conduct basic research on breast cancer.

"Major national biomedical research groups are slugging it out over how to divide a shrinking pie. Many thoughtful people argue that biomedical research has, in general, been well treated," Young testified. "Why, if science is receiving increased support, do scientists feel so poor? Why are bright young Americans turning away from science? Why are young investigators unable to start their careers in biomedical research? If all is well, why are fewer than 25 percent of meritorious cancer grants funded? Why are there only 15 funded scientists in this country who have grants primarily to do basic research on another deadly killer of women, ovarian cancer? Why has funding to the only national clinical cooperative group devoted entirely to women's cancers declined in the last 10 years? Why, if the pace of cancer research is so vital to the public interest, are we slowing rather than accelerating our research effort?"

Young pointed out that NCI's budget in the last decade has fallen 6 percent in constant dollars; and, if funding for AIDS is subtracted, the decline is 18.5 percent. "In 1990 dollars, NCI would need to receive $200 million more than it did this year just to keep up with inflation," he said.

Young said he supported Oakar's effort to add $25 million for breast cancer research. "We will achieve little or nothing, however, if we simply take that money away from one research effort and put it in breast cancer," he said. "The real danger is in failing to realize that the pie is shrinking, that resources are already spread too thin, and that the heart and soul of biomedical research in this country is in decline."

## NCI Advisory Group, Other Cancer Meetings For April, May, Future

**Cytokines and Their Receptors**--April 1-7, Keystone, CO. Contact Keystone Symposia, 2032 Armacost Ave., Los Angeles, CA 90025, phone 213/207-5042.

**National Council on Radiation Protection & Measurements Annual Meeting**--April 3-4, Washington. Contact NCRP, 301/657-2652.

**Meeting Patient & Family Support & Referral Needs**--April 3 and 10, Beaver, PA. Contact Pittsburgh Cancer Institute, 412/624-8120.

**Cancer Management Course**--April 5-6, Charleston, SC.

Contact Dr. Frederick Greene, ACOS, Cancer Dept., E. Erie St., Chicago, IL 60611, phone 312/664-4050.

**Leukemia: Advances in Biology and Therapy**--April 6-12, Big Sky, MT. Contact Keystone Symposia, 2032 Armacost Ave., Los Angeles, CA 90025, phone 213/207-5042.

**Biometry & Epidemiology Contract Review Committee**--April 8, NIH Executive Plaza North conference rm 8, open 9-10 a.m.

**Recent Advances in Cellular Growth & Malignancy**--April 8-9, Boston, MA. Contact Corinne Servily, Coordinating Council for Cancer Research, 555 Madison Ave., Ste. 2900, New York, NY 10022, phone 212/319-6920.

**American Society of Preventive Oncology**--April 9-12, Seattle, WA. Contact Dr. Richard Love, ASPO, 1300 University Ave., Madison, WI 53706.

**Integration of Molecular Genetics Into Cancer Management**--April 10-12, Miami, FL. Contact American Cancer Society, 404/329-7712.

**International Conference on Smokeless Tobacco: Tobacco & Health**--April 10-13, Columbus, OH. Contact Ohio State Univ. Office of Continuing Education, 614/292-8571.

**Ultrasound & Prostate Cancer: New Directions 1991**--April 11-13, Mobile, AL. Contact DCMI, PO Box 2508, Ann Arbor, MI 48106, phone 313/665-2535 or 800/458-2535.

**Gynecologic Oncology Symposium**--April 11-13, Baltimore, MD, Hyatt Regency Inner Harbor. Contact Johns Hopkins Medical Institutions, Office of Continuing Medical Education, Turner Bldg., 720 Rutland Ave., Baltimore, MD 21205, phone 301/955-2959.

**Advanced Radiation Therapy**--April 11-13, Munich, Germany. Contact ART 91, Scientific Secretariat, Institut f. Radiol Onkologie der TU, Ismaninger Strasse 15, D-8000 Munchen 80, FRG, phone 089/4140-4305, fax 089/4140-4396.

**Cambridge Conference on Breast Cancer Screening**--April 15-17, Cambridge, UK. Contact Marie Curie Memorial Foundation, Education Dept., 11 Lyndhurst Gardens, London NW3 5NS, UK.

**Frederick Cancer Research & Development Center Advisory Committee**--April 16-17, FCRDC Bldg. 549 Executive Board Rm. Open 8:30-9 a.m. April 16.

**Quality of Life Issues**--April 17, Cleveland, OH. Contact Ireland Cancer Center, 2074 Abington Rd., Cleveland, OH 44106, phone 216/844-7858.

**Photodynamic Therapy**--April 18-19, Knoxville, TN. Contact Jean Sylwester, education coordinator, Thompson Cancer Survival Center, phone 615/541-1749.

**Cancers of the Skin 4th World Congress**--April 18-20, New York City. Contact Roberto Fuenmayor, CME Office, Memorial Sloan-Kettering Cancer Center, 1275 York Ave., New York, NY 10021, phone 212/639-6754.

**Minority Conference**--April 18-20, Houston, TX. Contact Jeff Rasco, M.D. Anderson Cancer Center, phone 713/792-2222.

**Gene Transplant Therapy**--April 19, Memphis, TN. Contact Dr. James Hamner, Forum Director, Univ. of Tennessee, 847 Monroe, Suite 235, Memphis, TN 38163, phone 901/528-6354.

**Federation of American Societies for Experimental Biology Annual Meeting**--April 21-25, Atlanta, GA. Contact FASEB, 9650 Rockville Pike, Bethesda, MD 20814, phone 301/530-7075.

**Cancer Management Course**--April 22-23, Santiago, Chile. Contact Dr. Juan Arrazota, ACOS Cancer Dept., 55 E. Erie St., Chicago, IL 60611, phone 312/664-4050.

**European Assn. for Cancer Education**--April 24-27, Istanbul, Turkey. Contact Dr. Wim Bender, Secretary EACE, Centre Med Uduc Res & Devel (BOOG), Bloemsingel 1, 9713 BZ Groningen, The Netherlands, phone 3150632888, fax 3150632883.

**Neoplastic Transformation in Human Cell Systems in Vitro: Mechanism of Carcinogenesis**--April 25-26, Washington. Contact Mary Smith, Georgetown Univ. Medical Center, phone 202/687-2144.

**Heatopoietic Cell Regulation and its Clinical Application in Bone Marrow Transplantation**--April 26-27, Detroit, MI. Contact Dr. Lyle Sensenbrenner, Div. of Hematology & Oncology, Dept. of Medicine, Wayne State Univ., PO Box 02188, Detroit, MI 48202, phone 313/745-8853.

**National Assn. of Oncology Social Workers Annual Conference**--April 28-May 1, Monterey, CA. Contact Christina Blanchard, Div. of Medical Oncology A-52, Albany Medical College, Albany, NY 12208, phone 518/459-0703.

**Bethesda System for Reporting Cervical/Vaginal Cytologic Diagnoses**--April 29-30, NIH, Lister Hill Center. Contact Dr. Diane Solomon, Chief, Cytopathology Section, NCI, phone 301/496-6355.

**Early Detection of Prostate Cancer, Transrectal Ultrasound 1991**--May 4, Boston, MA. Contact DCMI, PO Box 2508, Ann Arbor, MI 48106, phone 313/665-2535 or 800/458-2535.

**American Radium Society Annual Meeting**--May 4-8, 1991, Paris, France. Hotel Inter-Continental. Contact Office of the Secretariat, American Radium Society, 1101 Market St. 14th Floor, Philadelphia, PA 19107, phone 215/574-3179.

**American Roentgen Ray Society Annual Meeting**--May 5-10, Boston, MA. Contact ARRS, 1891 Preston White Dr., Reston, VA 22091, phone 703/648-8992.

**Mechanisms of Antimutagenesis & Anticarcinogenesis**--May 5-10, Pisa, Italy. Contact D.M. Shankel, Dept. of Microbiology, Univ. of Kansas, Lawrence, KS 66045, phone 913/864-4904.

**National Cancer Advisory Board**--May 6-7, NIH Bldg. 31, Conference Rm 10. Open 8:30 a.m.-recess on May 6 and 1 p.m.-adjournment on May 7.

**Oncology Nursing Society Annual Congress**--May 8-11, San Antonio, TX. Contact ONS, 1016 Greentree Rd., Pittsburgh, PA 15220-3125.

**Cancer Management Course**--May 10-11, Louisville, KY. James Graham Brown Cancer Center. Contact Dr. John Spratt, American College of Surgeons, Cancer Dept., 55 East Erie St., Chicago, IL 60611, phone 312/664-4050.

**Polyamines in Cancer**--May 10-14, Houston, TX. Contact Jeff Rasco, Conference Services, Box 131, MD Anderson Cancer Center, 1515 Holcombe Blvd., Houston, TX 77030, phone 713/792-2222.

**Nuclear Magnetic Resonance Imaging & Spectroscopy**--May 15-17, Bethesda, MD. Contact Marketing Dept., New York Academy of Sciences, 2 E.63rd St., NY, NY 10021, phone 212/838-0230.

**American Assn. for Cancer Research Annual Meeting**--May 15-18, Houston, TX. Contact AACR, Public Ledger Bldg., Suite 816, 6th & Chestnut Sts., Philadelphia, PA 19106, phone 215/440-9300.

**Super-Family of Ras Related Genes & Breast Cancer Therapeutic Strategy & Molecular Biology**--May 17-24, Crete, Italy. Contact Demetrios Spandidos, National Hellenic Research Foundation, 48 Vas Constantinou Ave., Athens 11 635, Greece, phone 724-1505, fax 721-2729.

**American Society of Clinical Oncology Annual Meeting**--May 19-21, Houston, TX. Contact ASCO, 435 N. Michigan Ave. Suite 1717, Chicago, IL 60611, phone 312/644-0828.

**NCI Div. of Cancer Prevention & Control Board of Scientific Counselors**--May 23-24, Bethesda Ramada Inn, 8400 Wisconsin Ave. Open 8:30 a.m.-5 p.m. on May 23 and 8:30 a.m.-1p.m. on May 24.

**International Assn. for Breast Cancer Research**--May 26-29, Saint Vincent, Italy. Contact Dr. Roberto Ceriani, John Muir Cancer & Aging Research Institute, 2055 N. Broadway, Walnut Creek, CA 94596.

**Future Meetings**

**Emerging Treatments for Breast Cancer**--June 11, NIH Lister

Hill Aud., National Library of Medicine, 8 a.m.-5 p.m. Contact 202/835-0367.

**Clinical Problems & Solutions in Ovarian Cancer**--July 18, Indianapolis, IN. Westin Hotel. Contact Carol Lewis, Indiana Univ., Div. of Continuing Medical Education, 1226 West Michigan BR 156, Indianapolis, IN 46202, phone 317/274-8353.

**Exercise, Calories, Fat & Cancer**--Sept. 4-5, Pentagon City, VA. Ritz Carlton Hotel. Sponsored by American Institute for Cancer Research. Contact Rita Taliaferro, Conference Management Div., Associate Consultants Inc., 1726 M St. NW Suite 400, Washington, DC 20036, phone 202/737-8062.

**Prostatic Cancer and Benign Hypertrophy: ACS, AUA Workshop**--Oct. 26-30, The Cloister, Sea Island, GA. Contact Dr. Gerald Murphy, American Cancer Society, 1599 Clifton Rd. NE, Atlanta, GA 30329, phone 404/320-3333.

## RFAs Available

**RFA CA-91-12**

Title: Clinical investigator award for research on special populations

Letter of Intent Receipt Date: April 5

Application Receipt Date: May 17

The Comprehensive Minority Biomedical Program, Div. of Extramural Activities, NCI, announces the availability of clinical investigator awards for research on special populations. This program is intended to:

--Encourage newly trained clinicians to develop research interests and skills in the basic and applied sciences relevant to cancers and risks for cancers that have a high prevalence or incidence in special populations that may be underserved by limited access to current knowledge and medical care.

--Increase the pool of cancer physician-investigators, particularly in medical oncology, epidemiology, nutrition, behavioral medicine, surgical oncology, preventive oncology, and diagnostic and therapeutic radiology, who are committed to investigation of the unique problems facing special populations.

--Provide the opportunity for clinically trained physicians with a commitment to research to develop into independent biomedical research investigators.

The term "special populations" refers to those population segments which may experience or are known to experience high cancer rates and are underserved in terms of: cancer prevention and control programs (e.g., smoking or health screening programs); diagnostic and treatment modalities; study for special risk factors or underlying biological differences; and who may have limited access to regular medical care. This definition is taken to include: African Americans, Alaskan Natives, American Indians, Asian Americans, Pacific Islanders, the elderly, Hispanics, and low income groups.

The award will enable candidates to undertake from three to five years of specialized study and supervised research experience tailored to individual needs with a sponsor or sponsors competent to provide research guidance. This award is intended to cover the transition between postdoctoral experience and a career in independent investigation, and to acquaint the candidate with the often unique challenges and circumstances involved in designing research protocols directed toward improving the health of groups comprising a significant and often disproportional percentage of individuals at risk from high cancer morbidity and mortality rates.

This award differs from the NIH Research Career Development Award in that it seeks to develop research ability in individuals with a clinical background early in the candidate's career rather than to promote the further development of research skills of individuals already demonstrating significant research achievement. A major purpose of this award is to increase the number of cancer oriented research physicians in the U.S. with research interests and experience focused specifically on the unique needs of special populations and the broad array of issues at the biological, behavioral, social, economic, and medical levels that render such populations at increased risk for cancer and for mortality from cancer.

Support of this program will be through the NIH grant in aid (K08). Applicants may request three to five years of support. Up to $300,000 has been set aside in FY 1991 to fund this competition. Approximately one to three clinical investigators will be funded with a start date of Sept. 30, 1991.

Prospective applicants are asked to submit a letter of intent to Dr. Lemuel Evans, Div. of Extramural Activities, Comprehensive Minority Biomedical Program, NCI Bldg. 31 Rm 10A04, Bethesda, MD 20892, phone 301/496-7344. For information on budgetary or administrative issues related to this RFA, contact Leo Buscher, Chief, Grants Administration Branch, NCI, Executive Plaza South Rm 216, Bethesda, MD 20892, phone 301/496-7753.

**RFA CA-91-13**

Title: Minority school faculty development award

Letter of Intent Receipt Date: April 5

Application Receipt Date: May 17

The Comprehensive Minority Biomedical Program, Div. of Extramural Activities, NCI, invites academic health centers or schools and other health professional schools that employ, educate or serve a preponderance of minority faculty, staff, trainees and communities to submit applications for support of activities directed at the development of faculty investigators at minority schools in areas relevant to cancer. The intent of the award is to provide the awardee with increased access to research opportunities through collaborative arrangements with outstanding cancer research scientists, usually at institutions within a 100 mile radius of the applicant organization.

Despite a variety of efforts to increase minority faculty representation, the percentage of minority faculty in the U.S. medical and other health professional schools has remained at consistently low levels. The continuation of this deficiency is projected by observing the discrepancies between the proportion of underrepresented minorities in the medical school population and the general population. While 12 percent of the U.S. population is African American, less than 1 percent of persons holding a PhD in science are African American and the percentages of other minority groups are correspondingly small.

The proportion of minority biomedical investigators, especially those receiving funding support from agencies of the federal government, is strikingly low. This program is designed to offer support for cancer related research to minority school faculty members at the MD, PhD, or equivalent level who have the interest and capabilities of doing state of the art research in this area.

The objective of this RFA is to broaden the experience of faculty members at minority schools, increase the pool of biomedical and behavioral investigators in cancer research, and have graduate and undergraduate students, most of whom will be minority individuals, become more cognizant of research opportunities in cancer research.

Support of this program will be through the NIH grant in aid (K14). Applicants may request three to five years of support. Approximately $300,000 in total costs per year has been set aside for this program, with a starting date of Sept. 30, 1991.

Applicants may receive a copy of the complete RFA from Dr. Lemuel Evans, Div. of Extramural Activities, Comprehensive Minority Biomedical Program, NCI Bldg. 31 Rm 10A04, Bethesda, MD 20892, phone 301/496-7344.