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DIRECTOR'S PAGE

The Road to Tenure: Measures of Progress

A young investigator recently asked me how many publications are needed to achieve tenure at NIH. This question often arises from a prevalent misconception that the quantity of published papers is of paramount importance. Since the formula for career advancement is more complex, it seems worthwhile to summarize those elements that I feel are especially important in measuring progress toward tenure.

1. Scientific, clinical, or public health impact of published work.
2. Quality of studies, including scientific rationale and methodological rigor.
3. Innovation and originality in the form of new ideas, approaches, discoveries, and paradigms that open lines of further inquiry.
4. Reputation and fitness of journals in which peer-reviewed papers are published.
5. Leadership in developing an important body of work with a unifying theme.
6. Ability to set priorities and plan ahead, design and complete projects in a timely and efficient manner, and move strategically to the next stage of a scientific problem.
7. Skill in communicating results and conclusions of research, orally and in writing.
8. Ability to forge multidisciplinary partnerships, taking advantage of the breadth and depth of the NIH scientific environment.
9. Collaborative spirit and team-building that advance the mission of the Branch, Division, and Institute.
10. Development of resources, technologies, and methodologies that may galvanize research by other scientists.
11. Success in training and mentoring more junior colleagues.

12. Ability to manage, leverage, and steward resources supplied to the investigator.
13. High ethical standards and integrity in directing and conducting research.
14. Participation in committees, working groups, scientific conferences, peer review, and other activities that promote the scientific enterprise at NIH and more broadly.
15. Symbols of scientific recognition and leadership, including honors and awards, invited lectures and publications, membership on editorial boards, and election to scientific societies.

Each scientist should become familiar with the pamphlet entitled *Guidelines for the Conduct of Research in the Intramural Research Program at NIH*.

A statement is made that "tenure appointments and promotions should be based on the importance of the scientific accomplishments and not on the number of publications in which those accomplishments were reported." Thus, the driving consideration is the significance of the discoveries and concepts that contribute to the base of scientific knowledge. Also important are the other elements I have listed, which reflect an individual's breadth of accomplishment and potential for sustained intellectual growth and leadership in the field. When all is said and done, it is the demonstration of these qualities, not the number of publications or the length of time in a career-path position, that determines readiness for tenure. ■



Dr. Joseph F. Fraumeni, Jr.

—Joseph F. Fraumeni, Jr., M.D.

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COHORT CONSORTIUM

Efforts to Accelerate Research on Cancer Causation

In June, the NCI Cohort Consortium, a unique collaborative cancer epidemiology research program, received approval for funding for the first project that will be conducted under the group's auspices. DCEG and the Division of Cancer Control and Population Sciences (DCCPS) will play a vital part in this first "Proof of Principle" endeavor, which comprises a coordinated complex of studies that will examine variations in hormone- and growth factor-related genes and their associations with risk of breast and prostate cancer. Data will be drawn from more than 9,000 prostate cancer cases and 6,100 breast cancer cases and a large group of control subjects collected from 10 different cohorts.

Among the cohorts participating are two spearheaded by NCI: the Prostate, Lung, Colorectal, and Ovarian (PLCO) study, led by DCEG's **Richard Hayes, D.D.S., Ph.D.**, and the Alpha-Tocopherol Beta-Carotene (ATBC) Cancer Prevention Study, led by DCEG's **Demetrius Albanes, M.D.** The other contributing cohorts include the American Cancer Society/Cancer Prevention Study-II, the European Prospective Investigation into Cancer and Nutrition Study (International Agency for Research on Cancer), the Nurses' Health Study, the Physicians Health Study I and II, and the Health Professional's Follow-up Study (Harvard University), and the Multiethnic Cohort Study (University of Hawaii and University of Southern California). The extramural cohorts are funded through 4-year cooperative agreements managed by the DCCPS Epidemiology and Genetics Research Program (EGRP).

Together, these studies include nearly 800,000 research participants with avail-

able biospecimens. In addition to the molecular analyses, consortia researchers will investigate how certain variables, including diet, reproductive history, alcohol, physical activity, exogenous hormones, and circulating hormones and growth factor levels, interact with genetic variations to influence cancer risk.

The project represents a truly interdisciplinary research effort; the epidemiologists for each cohort collaborate with genomicists at their own Institution and with three major genome centers: the Whitehead/MIT Center for Genome Research, the Centre d'Etude du Polymorphisme Humain in Paris, and the NCI Core Genotyping Facility.

"The Consortium of Cohorts encourages researchers to establish a coordinated, interdisciplinary approach that will both accelerate the research process and allow scientists to perform subset analyses and confirmatory studies to examine gene-environment and gene-gene interactions," noted **Robert Hoover, M.D., Sc.D.**, Director of DCEG's Epidemiology and Biostatistics Program. "Investigators in these previously separate cohort studies are exploring ways to work together to provide 'instantaneous parallel replication' of each other's findings."

The consortium has its roots in the late 1990's, when the NCI Cancer Genetics Working Group recognized that dramatic advances in genetics and technology had created unprecedented opportunities for etiologic research into how susceptibility genes and environmental exposures interact to alter an individual's risk for cancer. It soon became clear, however, that large numbers of individuals

enrolled in robust epidemiologic studies would be required to capitalize on these opportunities, which could generate and test credible hypotheses in a systematic and inclusive manner.

The consortium, which includes investigators responsible for 23 population cohorts, is a voluntary partnership that will take advantage of existing resources while building an infrastructure to ensure that future studies address critical issues

cancer cases to conduct simultaneous, coordinated studies of gene-environment interactions for common cancer sites.

“The cohort consortium is a major development, not only for the NCI, but for the future of cancer research,” remarked Ed Trapido, Sc.D.,



Biospecimen freezers and technician freezing liquid nitrogen. Photo courtesy of Earl Zubkoff for BBI Biotech Research Laboratories



in an expedient and coordinated manner. Each cohort represents a sizeable population of individuals for whom extensive information on known or suspected risk factors for cancer have been collected prior to diagnosis of the disease. Additionally, each cohort will have biospecimen collections and a minimum of 1,500 individuals expected to be diagnosed with cancer by 2010. This first study includes the largest cohorts, which have enough individual

Associate Director of EGRP. “It presents the cancer research community, including NCI, with an extraordinary opportunity to advance research on genes and the environment using already existing resources. This initial study will provide the information and expertise to mount other studies based on the principle of pooling data across large-scale studies through consortial arrangements. We envision that this will make possible, for

example, the study of uncommon cancers of high lethality, such as pancreatic cancer and lymphoma, which cannot be effectively studied by single research groups.”

More information on the Cohort Consortium can be found online at <http://ospahome.nci.nih.gov/cohort/summary.htm>. ■

—Maria Sgambati, M.D.

DCEG TOWN MEETING HONORS SERVICE AND SCIENCE

Dr. Harold Freeman, Director of the NCI Center to Reduce Cancer Health Disparities, addressed DCEG during the annual town meeting held in April. In his talk, Dr. Freeman examined the continuum of biomedical discovery, development, and delivery, noting that a “critical disconnect” seems to occur between scientific development and health care delivery, which contributes to health disparities in cancer incidence and mortality. He also shared his vision for the Center, which was created in 2001 with the aim of decreasing the unequal racial and ethnic burden of cancer.

The town meeting also honored the service and scientific contributions of DCEG staff members. **Elyse Wiszneaukas** again served as the Combined Federal Campaign (CFC) coordinator, leading DCEG to a highly successful campaign that earned the Division a CFC Presidential Award for the fifth year in a row. The CFC team included branch key workers **Jennifer Connor, Sandra Coopersmith, Tonya Dedmond, Michelle Fitzpatrick, Kit Fox, Sadie Holmes, Faith Prigal, Claudine Samanic, Sandy Rothschild, Julie Russell,** and **Geoff Tobias.**

Gloria Rasband, of the NCI Division of Cancer Prevention, received the DCEG Special Recognition Award for managing the Executive Plaza South library for DCEG and other Divisions in the Executive Plaza complex. With extraordinary expertise and dedication, she has overseen the introduction of new technology into an expanding collection of books and journals, creating an electronic database of library resources and coordinating information retrieval services.

Awards for “Outstanding Research Paper” are selected for impact, innovation, and clarity of thought and language. Among DCEG fellows, **Philip Castle, Ph.D., M.P.H.**, was recognized for his paper entitled “A prospective study of high-grade cervical neoplasia risk among human papillomavirus-infected women,” published in the *Journal of the National Cancer Institute*. The winner among the staff scientists was **Qing Lan, M.D., Ph.D.**, for her paper on “Household stove improvement and risk of lung cancer in Xuanwei, China,” also published in the *Journal of the National Cancer Institute*.

The “Fellowship Achievement Awards” honor fellows who are nominated by



Dr. Harold P. Freeman

their Branch Chiefs on the basis of scientific productivity, as demonstrated by high-quality scientific publications and ongoing research projects. In addition to a plaque, the fellows receive a two-step increase in their stipend pay. Recipients this year were **Juan Alguacil, M.D., Ph.D., Michelle Althuis, Ph.D.,** and **Sowmya Rao, Ph.D.**

This year, DCEG fellows chose **Debra Silverman, Sc.D.**, as the “Outstanding Mentor.” Fellows noted that Dr. Silverman “provides invaluable advice and direction on how to realistically and practically approach work while looking out for each fellow’s interests and professional development, encourages



Drs. Joseph F. Fraumeni, Jr., and Philip Castle



Drs. Joseph F. Fraumeni, Jr., and Debra Silverman



Drs. Joseph F. Fraumeni, Jr., and Qing Lan



Drs. Michelle Althuis, Juan Alguacil, Sowmya Rao, and Joseph F. Fraumeni, Jr.

independence through writing papers and developing ideas and projects, and facilitates collaboration throughout the Division and with extramural scientists.”

Dr. Silverman provides invaluable advice and direction on how to realistically and practically approach work while looking out for each fellow’s interests and professional development

The “Exemplary Service Award” honors DCEG scientists who combine sustained research accomplishments with outstanding service to the Division and NCI. This year, **Elaine Ron, Ph.D.**, and **Nathaniel**

Rothman, M.D., M.P.H., were recognized. Dr. Ron, an internationally known investigator in radiation epidemiology, published the first comprehensive report of cancer incidence among the population of Japanese atomic bomb survivors in the Life Span Study, as well as cancer incidence among nuclear workers from the Mayak facility in Russia and villages near the Techa River. As a leading expert on the epidemiology of thyroid cancer, she spearheaded studies quantifying the radiation dose-response relationship and clarifying the role of other risk factors. During her tenure as the Radiation Epidemiology Branch (REB) Chief (1997–2002), the branch doubled in size and the large program of radiation research underwent rigorous review and revitalization. She helped guide the transfer of the Chernobyl project to REB and served as key editor for the three Branch monographs. Dr. Ron also helped develop material produced by

NCI’s Office of Communications on health risks associated with nuclear fallout and prepared a brochure on potential cancer risks associated with pediatric helical computed tomography scans that was mailed to 30,000 U.S. physicians.

Dr. Rothman was recognized as an international leader in the field of molecular epidemiology and as a key investigator and philosophic force behind the molecular components for a number of the Division’s major epidemiologic investigations. He also has devoted a significant portion of his time to mentoring junior staff members. In addition to organizing the first DCEG Molecular Epidemiology Course, Dr. Rothman has chaired the Cohort Review Group, currently serves on the Prostate, Lung, Colorectal, Ovarian (PLCO) Cancer Steering Committee and the Biorepository Committee, and chairs the Molecular Epidemiology Review Committee. ■

DCEG BROCHURES GARNER PLAIN LANGUAGE AWARDS



Award winning brochures

Brochures detailing DCEG's research projects won several awards at the NIH Third Annual Plain Language Ceremony, held April 23. DCEG researchers **Debra Silverman, Sc.D.**, and **Dalsu Baris, M.D., Ph.D.**, received an award in the "excellent" category for the *New England Study of Environmental Health* participant brochure. Drs. Silverman and Baris worked with Westat staff members Vanessa Olivo, Anna McIntosh,

and Paul Hurwitz to develop the pamphlet, which accompanied an introductory recruitment letter sent to potential study subjects. **Joanne Colt, M.S., M.P.H.**, and **Wong-Ho Chow, Ph.D.**, also were recognized in the "excellent" category for a brochure on the *Kidney Cancer Study*, a case-control research project focusing on racial disparities in renal cell cancer incidence. Dr. Chris Handler, from Matthews Media Group,

assisted DCEG staff in developing the kidney cancer brochure, which is part of a campaign to educate Detroit- and Chicago-area residents about the study.

DCEG won two awards in the category of "honorable mention." **Elaine Ron, Ph.D.**, and **Ruth Kleinerman, M.P.H.**, were acknowledged for *Radiation and Pediatric Computer Tomography*, a newsletter sent to 160,000 health care providers, that alerted them to the potential radiation risks from the use of computed tomography in children and explained why and how to minimize radiation exposure. **Mark H. Greene, M.D.**, and **Joan Kramer, M.D.**, along with Rhonda DeJoice and Hong Vo from NCI's Office of Communication, were recognized for the *Familial Testicular Cancer—General Information* brochure. The pamphlet provides information for patients and referring physicians regarding DCEG's new multidisciplinary study of families with multiple cases of testicular cancer. This brochure and related materials have been used in a series of nationwide mailings to urologists and medical oncologists in North America, soliciting referral of new families to join DCEG's clinical study.

EPIINFORMATICS WORKING GROUP FORMED

DCEG investigators from several branches recently formed EpiInformatcs, a working group aimed at stimulating research and development in informatics to support population studies of cancer causation. Co-chaired by **Patricia Hartge, Sc.D.**, and **Mitchell Gail, M.D., Ph.D.**, and facilitated by **Chitra Mohla, M.S.**, the group meets monthly and has about 10 members as well as liaisons to other NCI and NIH groups involved in bioinformatics.

The group discusses the informatics challenges being encountered in cancer epidemiology, particularly in large-scale studies evaluating the role of susceptibility genes and environmental exposures, as well as their interactions in the initiation and progression of cancer.

Through seminars, panel discussions, and workshops, the group plans to engage investigators throughout the Division and NIH to develop and apply new technologies in this rapidly evolving area. The EpiInformatcs web site (<http://dcegod.nci.nih.gov/epi/index.htm>) contains a list of publications related to informatics in cancer epidemiology. Plans are underway to add other features that will assist researchers as they grapple with the informatics challenges posed by the application of technological advances in molecular epidemiology.

NIH launched the Plain Language Initiative in 1999, following a White House memorandum calling for clearer writing throughout the Federal government. Plain language documents should have logical organization, easy-to-read design features, and use personal pronouns, short sentences and common, everyday words. This year, the NIH Plain Language award committee received 271 nominations and gave a total of 60 awards. NCI received 9 of the 40 awards given in the excellent or outstanding category and 8 of the 20 honorable mentions. ■

—Maria Sgambati, M.D.

INTERNATIONAL WORKSHOP

Exploring the Etiology of Brain Tumors

Experts in brain tumor research gathered at NCI during February to discuss the current status and future directions in uncovering the etiology of neurological tumors. Approximately 45 investigators from five countries attended. Organized by **Peter Inskip, Sc.D.**, of the Radiation Epidemiology Branch, the meeting provided a forum for interaction, exchange, and collaboration among investigators interested in exploring the formation of a brain tumor consortium.

Part of the meeting was devoted to scientific presentations on a wide range of topics, including tumor classification, descriptive epidemiology, and potential risk factors, such as environmental, reproductive and hormonal factors, infectious agents, immune status, and genetic mechanisms.

Many brain tumor studies have been limited by small sample size, which does not always provide adequate statistical power to study gene-environment and gene-gene interactions, particularly for the less common tumor subtypes. Furthermore, as some of these epidemiologic studies begin to conduct genotyping on a large scale, it can be expected that a large number of false positive findings will be generated.

Presentations on other NCI-supported collaborative endeavors, including the Cohort Consortium and Interlymph, the non-Hodgkin's lymphoma case-control consortium, helped shed light on the challenges of studies conducted through such coalitions and possible solutions, including potential funding mechanisms and proper allocation of credit to individual investigators.

“Innovative, multidisciplinary approaches coupled with international collaboration, should help dissect the genetic and environmental components of brain tumors, provide new pathways to prevention, and open the door to answer questions that are beyond the reach of single studies,” remarked **Joseph Fraumeni, Jr., M.D.**, DCEG Director. “And while NCI has hosted this first meeting, we hope that a brain tumor consortium will be

that exploit the genetic and environmental variation available for study, helping to quantify risk factors as well as the mechanisms through which environmental exposures operate.

The workshop concluded with the establishment of eight working groups focused on tumor pathology and classification, family history, genotyping and candidate genes, immunologic and infectious



Magnetic resonance imaging showing brain tumor (arrow)

a self-organizing, self-directing body that empowers rather than restrains investigators.” A consortium would allow for coordination and parallel analyses of epidemiological and genetic data that would lead to rapid replication of findings. In addition, a collaborative approach would enable pooled analyses

agents, diet and nutrition, radiation and occupational exposures, and clinical outcomes. The group also made plans to meet at future scientific meetings, including those of the American Association for Cancer Research and the Society for Neuro-Oncology. ■

—Maria Sgambati, M.D.

NCI WORKSHOP ON EARLY REPRODUCTIVE EVENTS AND BREAST CANCER

Identifying Research Needs

DCEG played a major role in a recent NCI workshop on Early Reproductive Events and Breast Cancer, held during February in Bethesda, Maryland. The workshop grew out of the need for an integrated scientific assessment of the association between reproductive events and the risk of breast cancer. **Louise Brinton, Ph.D.**, Chief of DCEG's Hormonal and Reproductive Epidemiology Branch (HREB) and **Robert Hoover, M.D., Sc.D.**, Director of the DCEG's Epidemiology and Biostatistics Program, were prime organizers of the meeting, which gathered over 100 experts in the field of breast cancer, including epidemiologists, clinicians, basic scientists, and advocates. **Mark Sherman, M.D.**, a pathologist in the HREB, participated in the planning process as well.

Population studies have demonstrated profound relationships between reproductive events and risk of breast cancer. "Some of these risk factors have been known for over 150 years," noted

Dr. Hoover, who gave the keynote address for the meeting. "Yet attempts to develop practical preventative measures based on this knowledge have been stymied by insufficient understanding of the biological mechanisms underlying these associations." The workshop aimed to create a dialogue and forge collaborations between epidemiologists and basic scientists to develop strategies to close this gap.

Recently, cancer researchers have concentrated on translating promising clues from the laboratory into clinical and epidemiologic investigations. The area of reproductive events and breast cancer, however, clearly illustrates the need for the reverse—translating epidemiologic findings into laboratory and interdisciplinary studies.

The opening session of the workshop evaluated past research in this area, including how various aspects of pregnancy alter a woman's subsequent risk

of breast cancer and the biologic changes resulting from pregnancy that may underlie this modification in risk. Participants ranked research findings on risk factors according to four categories based on the "strength of evidence."

...attendees identified gaps in knowledge and future research directions for epidemiologic, clinical, and basic science investigations.

The categories included evidence that is well-established; favored by the weight of evidence; suggested from research findings, but speculative; and suggested from theoretical or laboratory evidence, but essentially unevaluated in humans. While much of the workshop was devoted to published literature, time was also given to discussion of unpublished materials and new scientific data. Based on these discussions, attendees identified gaps in knowledge and future research directions for epidemiologic, clinical, and basic science investigations.

DCEG runs an intramural and collaborative research program investigating potential risk factors for cancer, including reproductive and other factors that may affect hormonally related tumors, the measurement of endogenous hormones, the effects of exogenous hormones, the hormonal correlates of risk factors, and the conditions associated with marked hormonal changes, such as infertility. More information about the workshop may be found online at <http://www.cancer.gov/cancerinfo/ere>. ■



Dr. Maureen Hatch

MAUREEN HATCH ELECTED PRESIDENT OF THE SOCIETY FOR EPIDEMIOLOGIC RESEARCH

Maureen Hatch, Ph.D., who directs the Chernobyl Research Unit, was recently elected President of the Society for Epidemiologic Research (SER). Dr. Hatch will begin her term in June 2003 and serve for three years (president-elect, president, past-president). Established in 1968 as a forum for sharing the latest epidemiology research, SER now includes more than 2,300 members worldwide and sponsors the publications *American Journal of Epidemiology* and *Epidemiologic Reviews*.

NCI DIRECTOR VISITS DCEG

NCI Director Andrew von Eschenbach, M.D., visited DCEG in February to learn more about Divisional research. The visit was one of many that Dr. von Eschenbach has been making to stay up-to-date on NCI's work. At the meeting, the following DCEG scientific staff gave presentations. Biostatistics Branch: **Mitchell Gail, M.D., Ph.D.** (overview and use of the Gail Model to estimate risks and benefits of tamoxifen); Clinical Genetics Branch: **Mark H. Greene, M.D.** (overview), and **Blanche Alter, M.D., M.P.H.** (risk of cancer among Fanconi anemia patients); Genetic Epidemiology Branch: **Margaret Tucker, M.D.** (overview), and **Lynn Goldin, Ph.D.** (familial CLL: linkage analysis and a new international consortium); Hormonal and Reproductive Epidemiology Branch: **Louise Brinton, Ph.D.** (overview), and **Mark Schiffman, M.D., M.P.H.** (primary HPV screening: implications for etiologic studies); Nutritional Epidemiology Branch: **Arthur Schatzkin, M.D., Dr.P.H.** (overview), and **Dominique Michaud, Sc.D.** (energy balance and cancer);



Dr. Andrew von Eschenbach visits DCEG

Occupational and Environmental Epidemiology Branch: **Aaron Blair, Ph.D.** (overview), and **Nathaniel Rothman, M.D., M.P.H.** (molecular epidemiology of benzene-exposed workers); Radiation Epidemiology Branch: **Martha Linet,**

M.D., M.P.H. (overview), and **Lois Travis, M.D., Sc.D.** (lung cancer risk following Hodgkin's disease); Viral Epidemiology Branch: **James Goedert, M.D.** (overview), and **Robert Biggar, M.D.** (trends in AIDS-related malignancies). ■



Dr. Jennifer Rusiecki

JENNIFER RUSIECKI CALLED TO ACTIVE DUTY IN THE COAST GUARD

Jennifer Rusiecki, Ph.D., was recalled to active duty in the Coast Guard from January to May 2003. Dr. Rusiecki, who is a post-doctoral fellow in the Occupational and Environmental Epidemiology Branch, was on active duty in the Coast Guard from 1985 to 1995, when she worked as a Marine Inspector examining ships for compliance with safety and marine environmental regulations. Since 1995, she has been a member of the Coast Guard Reserves. During her recent tour of duty, Dr. Rusiecki was assigned to the 5th District Headquarters in Portsmouth, Virginia, in the Coast Guard Atlantic Area, where she monitored the movement of all U.S. merchant ships taking supplies to the Persian Gulf and all foreign flag ships entering any ports in the 5th District, which stretches from Philadelphia, Pennsylvania, in the north to Wilmington, North Carolina, in the south.

ANN HSING EARNS TENURE



Dr. Ann Hsing

Ann Hsing, Ph.D., of the Hormonal and Reproductive Epidemiology Branch, was appointed to the NIH tenured faculty in May. Since joining NCI as a postdoctoral fellow in 1989, she has built an active research program focused largely on defining risk factors for prostate cancer, including assessing the reasons for racial differences in incidence. Dr. Hsing's innovative approaches

as a molecular epidemiologist have led to an improved understanding of the causes of prostate cancer.

In an important descriptive epidemiology project, Dr. Hsing and her colleagues demonstrated an increasing incidence of prostate cancer worldwide, with a more rapid increase in developing countries despite the lack of screening in low

risk populations. She has also led the development of a number of complex, international, interdisciplinary studies, including ones that have explored the roles of obesity, insulin resistance, and genetic susceptibility in prostate cancer. While her focus has been primarily on prostate cancer, she also conducted the largest and most comprehensive multi-disciplinary population-based study of biliary tract cancer, which recently finished data collection and is now yielding valuable etiologic clues.

Dr. Hsing has authored more than 81 publications and is frequently invited to present at national and international meetings. She was the lead editor for a "highly acclaimed" monograph on prostate cancer published in *Epidemiology Reviews*.

Dr. Hsing serves on the Biological Specimen Advisory Board of the American Cancer Society as well as on various NCI committees, and she co-chairs the DCEG Prostate Cancer Working Group. She holds an adjunct appointment at The George Washington University, where she has been voted "best lecturer" several times by her students and is a member of the Executive Committee of the Medical Center. ■



Dr. Michael Leitzmann

MICHAEL LEITZMANN WINS INTRAMURAL RESEARCH AWARD

Michael Leitzmann, M.D., Dr.P.H., who joined NCI in 2002, won DCEG's Intramural Research Award for his proposal on "Physical activity and its components in relation to plasma inflammatory markers of cancer risk among Chinese adults." This project involves developing a comprehensive physical activity questionnaire and assessing its validity and reliability. It will also evaluate links between types and parameters of physical activity and circulating levels of specific inflammatory markers that have been associated with cancer risk, including C-reactive protein, interleukin-6, and soluble tumor necrosis factor alpha. The project will be carried out in two prospective population-based cohorts: the Shanghai Women's and Men's Studies, each of which have data on more than 70,000 participants.

The Intramural Research Award encourages tenure-track investigators and fellows to develop innovative research projects that cross the usual organizational boundaries. Proposals must demonstrate a potential for significant scientific or public health impact, innovation, interdisciplinary collaboration, and relevance to the missions of DCEG and NCI.

KATHERINE CHEN RETIRES

In February, Katherine Chen retired from DCEG after a 30-year career in the Federal government. Ms. Chen joined DCEG in 1983 as a computer programmer and a Chinese language translator. With her experience in several computing languages, one of her first projects was to develop a series of FORTRAN and PL/1 programs that analyzed data from the cohort study of U.S. veterans initiated by Dr. Harold Dorn. The results from these analyses provided the basis for several important publications.

A native speaker of Cantonese, Ms. Chen studied hard to learn Mandarin and proved to be an invaluable translation resource to DCEG. In 1990, she assisted Dr. Abby Ershow by translating the Chinese Food Composition Tables from Chinese to English. These tables were later published in the *Journal of Food Composition and Analysis*. In addition, for the past 10 years she has collaborated with **Gloria Gridley, M.S.** (Biostatistics Branch), on several case-control studies conducted in Shanghai, China, on digestive, prostate, and biliary cancers. Ms. Chen again contributed her invaluable translation skills to this research by interpreting and analyzing the dietary sections of these studies. Ms. Chen also enhanced Ms. Gridley's research efforts by demonstrating certain Chinese dietary habits. "Katherine dedicated many hours of effort to teaching me about botany, identifying dozens of Chinese vegetables and bringing in samples fresh from the market, her own garden, and seed packets," remarked Ms. Gridley. "She took our Shanghai colleagues, Dr. Gao and Dr. Deng, and me on trips to local restaurants to be sure I understood the Shanghai cooking methods."

Ms. Chen also worked in the Radiation Epidemiology Branch (REB), and contributed to the lung cancer and radon

exposure study in Gansu, China. She recognized the research potential of the Gansu cave dwellers, a uniquely exposed population with high radon levels, and brought it to the attention of REB researchers. In addition, she helped design the dietary history section of the questionnaire, edited the Chinese version, and back-translated it into English. She also translated the Chinese pathology forms into English.

Ms. Chen served as a liaison with the Chinese collaborators involved in this study and was a coauthor on two publications, "Residential radon and lung cancer risk in a high-exposure area of Gansu Province, China" (*American Journal of Epidemiology*, March 2002) and "Previous pulmonary diseases and risk of lung cancer in Gansu Province, China" (*International Journal of Epidemiology*, February 2001). In a separate but important contribution, Ms. Chen compiled the electronic version of the Radiation Research Bibliography.



Ms. Katherine Chen

For the last few years, Ms. Chen has continued her efforts with Chinese translations and worked with Ms. Gloria Rasband in the Executive Plaza South Library. Upon retirement, Ms. Chen hopes to spend more time pursuing her passion for gardening and botany. ■

—Sandy Rothschild

NIH RESEARCH FESTIVAL ADDS EPIDEMIOLOGY SESSION

The NIH Research Festival, an annual event held to highlight intramural research, will add a poster session devoted to epidemiology and a mini-symposium related to molecular epidemiology and clinical genetics. This year the festival takes place October 14–17 on the main NIH campus in Bethesda, Maryland, and is co-chaired by DCEG Director, **Joseph Fraumeni, Jr., M.D.**

The Festival will kick off with an all-day symposium celebrating the Clinical Center's 50th anniversary and will feature presentations by current and former NIH scientists. There will also be an NIH job fair aimed at postdoctoral fellows as well as special exhibits on NIH Resources and the technical sales association scientific equipment booths.

More information can be found online at: <http://festival03.nih.gov>.

WORKSHOP ADDRESSES BIOSPECIMEN ISSUES

To prepare for the latest developments in biospecimen collection, processing, and analysis and for the resulting effect on NCI's intramural research program, the NCI Epidemiology and Carcinogenesis Faculty, chaired by **Richard Hayes, D.D.S., Ph.D.**, convened a specimen processing workshop on February 24. Organized by DCEG's Repository Committee, the daylong event attracted 98 attendees, including extramural scientists, investigators from NCI's intramural research programs, NCI repository and laboratory contract managers, and representatives from several commercial vendors.



Specimen processing workshop speakers: Drs. Soon Paik, Mark Sherman, William Kopp, Jimmie Vaught, Jules Berman, Stephen Hewitt, and Ms. Elaine Gunter. Not shown: Drs. Richard Hayes, Michael Busch, John Semmes, Tim Veenstra, Andrew Bergen, Mark Rubertone, John Gillespie, Isabell Sesterhenn, and Angelo De Marzo.

The workshop addressed practical questions concerning specimen preservation, tissue handling, DNA extraction, storage, and specialized collections and techniques, and the workshop also promoted the development of standardized protocols. The morning presentations were given by DCEG investigators and invited guest speakers on blood and tissue processing, applications of new techniques, and microarrays. The afternoon was devoted to four breakout sessions focused on blood and buccal cell processing, tissue processing, nucleic acids, and proteomics. These sessions resulted in recommendations for developing new methods and quality assurance protocols, as well as plans for continuing discussions.

DCEG's biospecimen program has grown tremendously in recent years. Currently, biorepositories store and process more than 7,000,000 specimens from about 500 studies. The present goal is to effi-

ciently collect and process specimens for genomics-based applications. During the next two years, more than 80,000 samples are expected to enter the queue for DNA extraction at contract laboratories, followed by genotyping analyses, which will primarily be carried out at the NCI Core Genotyping Facility. With technologies developing at a rapid pace, the biospecimen program is also preparing for post-genomics applications such as the large-scale development of tissue microarrays and protein profiling. DCEG continues to improve its capabilities for collecting, maintaining, and analyzing standard biologic specimens such as blood and nucleic acids; however, proficiency is needed in the collection and processing of different tissue types for advanced applications. Even now, multiple DCEG projects propose to take advantage of newer analytical strategies and technologies, including

nanotechnology, proteomics, tissue microdissection, DNA and tissue microarrays, and expression arrays.

Overall, the attendees were pleased with the quality of the presentations, lively participation, and productive discussions during the workshop. DCEG investigators are already following up on several ideas generated during workshop discussions, including potentially useful methods for processing blood and buccal cells and for evaluating whole genome amplification technology. **Jim Vaught, Ph.D.**, who chairs the DCEG Repository Committee, will work with other committee members on a summary of the workshop proceedings for publication. In addition, Dr. Vaught anticipates the formation of several specimen processing working groups based on workshop recommendations. ■

—Alyssa Voss, M.P.H., and Jim Vaught, Ph.D.

MS. CATHERINE "KIT" FOX MOVES ON TO NEW CHALLENGES

In May, Ms. Catherine Bernadette Fox retired from DCEG's Office of the Director. Ms. Fox, better known as "Kit," had been the Secretary for DCEG's Deputy Director, Dr. Shelia Zahm, for the past five years.



Ms. Catherine B. Fox

"Kit is a true gem," notes Dr. Zahm. "Not only has she been outstanding in managing a wide range of challenging and demanding administrative responsibilities,

but she has done it all with the most amazing attitude. She is always cheerful, encouraging, reliable, and motivated... the ultimate professional, yet incredibly personable and a joy to be around. It has been a privilege to work with her and count her as a friend." Likewise, Ms. Fox's mutual admiration for Dr. Zahm is made clear because she refers to her supervisor as the "treasure of DCEG."

Ms. Fox's government service started in 1975, when she held a position with the Securities and Exchange Commission. She joined the National Cancer Institute in 1988, spent a brief period working at the Food and Drug Administration in the mid-1990's, and returned to DCEG in 1998. As a troubleshooter, organizer, communicator, and the right-hand person to the DCEG Deputy Director, Ms. Fox viewed her main role as making her boss's job easier.

During her career at the National Cancer Institute, Ms. Fox received numerous work performance awards and several special service awards. The award justifications note that she has "provided the highest quality of executive administrative support to the DCEG Director and Deputy Director." Ms. Fox chaired

DCEG's Combined Federal Campaign (CFC) for several years, collecting accolades for running extremely successful drives. Her colleagues are quick to observe that she always divided her CFC Special Service Award money among the other DCEG campaign workers.

Those who meet Ms. Fox quickly learn that her personal strength and perseverance are rooted in her sense of spirituality, which many people referred to when they spoke about her. "What a pleasure and privilege it has been to work with Kit," remarked DCEG Director, Dr. Joseph Fraumeni, Jr. "All of us in the Division have benefited greatly from her high level of competence, her kind spirit and warm personality, and her terrific sense of humor."

A lifelong learner and a member in two academic honor societies, Phi Theta Kappa and Psi Beta, Ms. Fox received a Bachelor of Science in Business Management degree with minors in English and Psychology from the University of Maryland in 1993. She plans to continue her education by studying ancient history during her retirement.

When asked what she considers to be her greatest achievement, with a laugh, Ms. Fox instantly responded, "Raising three children!"

Ms. Fox described her career as a secretary as very rewarding, emphasizing the vital importance of a secretary's role. "I am very fortunate to have been recognized by all the people I served in DCEG," she acknowledged, pointing out that the most important aspect of her career has been the opportunity to serve other people. Ms. Sandy Rothschild, a

Those who meet Ms. Fox quickly learn that her personal strength and perseverance are rooted in her sense of spirituality.

colleague in the Office of the Director remarked, "If need be, Ms. Fox has the quality to turn a bad situation into something that is not only tolerable but acceptable. She treats everyone equally and with a winning smile. She is a unique individual, and with her retirement, we will all feel a sense of loss."

Ms. Fox plans to divide her time between volunteering with her church, traveling, and taking university courses. ■

—Kris Kiser, M.H.A.

DCEG RESEARCHERS ELECTED TO AMERICAN EPIDEMIOLOGY SOCIETY

In March, Arthur Schatzkin, M.D., Dr.P.H., Margaret Tucker, M.D., and Sholom Wacholder, Ph.D., were elected into the American Epidemiology Society (AES). Founded in 1927, AES is composed of distinguished leaders in epidemiology, and has more than 240 active and 130 emeritus members. Each year, AES hosts an important scientific meeting at which significant research papers are presented and discussed.

SCIENTIFIC HIGHLIGHTS

BREAST CANCER

Breast Cancer Risk in Young Women

A population-based case-control study of 3,307 premenopausal women aged 20–54 years was conducted to assess risk factors for breast cancer in relation to age. Among the youngest age group (younger than age 35, $n = 545$), significant predictors of risk included African American race (relative risk [RR] = 2.7, CI = 1.4–4.9) and recent use of oral contraceptives (RR = 2.3, CI = 1.4–3.6). Delayed childbearing was a risk factor for estrogen-receptor-positive tumors among the older premenopausal women; however, for women younger than age 35, early childbearing was associated with an increased risk, reflecting a short-term increase in risk immediately following a birth. Family history of early-onset breast cancer was more strongly associated with risk among women younger than age 35 (RR = 3.2) than women aged 45–54 years (RR = 1.5). (Althuis MD, Brogan DD, Coates RJ, Daling JR, Gammon MD, Malone KE, Schoenberg JB, and Brinton LA. Breast cancers among very young premenopausal women (United States). *Cancer Causes Control* 2003;14:151–160)

Oral Contraceptives and Breast Cancer Risk Among Young Women

The risk of breast cancer and recent oral contraceptive use was evaluated in a U.S. population-based study of 1,640 breast cancer cases aged 20–44 years and 1,492 controls. Women who recently used oral contraceptives containing more than 35 μg of ethinyl estradiol per pill had a higher risk of breast cancer than users of lower dose preparations when compared to never users (relative risks [RR] = 2.0 and 1.3, respectively, p for trend < 0.01). This relationship was more marked among women younger than age 35, among whom risks associated with high- and low-dose ethinyl estradiol use were 3.6 and 1.9 (p for trend < 0.01),

respectively. Significant trends of increasing breast cancer risk for pills with higher progestin and estrogen potencies were also observed and were most pronounced among women younger than age 35. Newer low-potency/low-estrogen dose oral contraceptives may impart a lower risk of breast cancer than that associated with earlier high-potency/high-dose preparations. (Althuis MD, Brogan DR, Coates RJ, Daling JR, Gammon MD, Malone KE, Schoenberg JB, Brinton LA. Hormonal content and potency of oral contraceptives and breast cancer risk among young women. *Br J Cancer* 2003;88:50–57)

Benefit Estimates for Breast Cancer Chemoprevention With Tamoxifen

Weighted data from the year 2000 National Health Interview Survey Cancer Control Module were used to estimate the total number of U.S. women aged 35–79 years who were eligible for tamoxifen chemoprevention based on the FDA eligibility criteria and a positive benefit/risk index. Among the 65,826,074 women aged 35–79 years without reported breast cancer in the United States in 2000, 10,232,816 women (15.5 percent) would be eligible for tamoxifen chemoprevention. Eligibility varied dramatically by race; 18.7 percent of white women, 5.7 percent of black women, and 2.9 percent of Hispanic women were eligible. Of the 50,104,829 white U.S. women aged 35–79 years, 2,431,911 (4.9 percent) would have a positive benefit/risk index for tamoxifen chemoprevention. Of the 7,481,779 black U.S. women aged 35–79 years, only 42,768 (0.6 percent) would have a positive benefit/risk index. Among white women, 28,492 breast cancers would be prevented or deferred if those women who have a positive net benefit index took tamoxifen over the next five years. (Freedman AN, Graubard BI, Rao SR, McCaskill-Stevens W, Ballard-Barbash R, Gail MH. Estimates of the number of U.S. women who could benefit from

tamoxifen for breast cancer chemoprevention. *J Natl Cancer Inst* 2003;95:526–532)

CERVICAL CANCER

HPV Genotype and Cofactors Affect Cervical Cancer Histology

Human papillomavirus (HPV) genotypes and sexual and reproductive risk factors were examined among women with adenocarcinoma ($n = 124$), squamous cell carcinoma ($n = 139$), and control subjects ($n = 301$). HPV 18 was most strongly associated with adenocarcinoma (odds ratio [OR] = 105, CI = 23–487), and HPV 16 was most strongly associated with squamous cell carcinoma (OR = 30, CI = 12–77). More than three lifetime sexual partners was a risk factor for both adenocarcinoma and squamous cell carcinoma. Ever being pregnant was inversely associated with adenocarcinoma (OR = 0.4 CI = 0.2–0.8), while five or more pregnancies was associated with squamous cell carcinoma (OR = 2.2, CI = 0.9–5.4). The relative importance of HPV genotypes 16 and 18 and the differences in reproductive cofactors suggest distinct causes for cervical adenocarcinoma and squamous cell carcinoma. (Altekruze SF, Lacey JV Jr, Brinton LA, Gravitt PE, Silverberg SG, Barnes WA Jr, Greenberg MD, Hadjimichael OC, McGowan L, Mortel R, Schwartz PE, Hildesheim A. Comparison of human papillomavirus genotypes, sexual, and reproductive risk factors of cervical adenocarcinoma and squamous cell carcinoma: northeastern United States. *Am J Obstet Gynecol* 2003;188:657–663)

COLORECTAL CANCER

Fiber Intake Decreases Risk of Large Bowel Adenomas

The relation between fiber intake and frequency of colorectal adenoma was studied using subjects enrolled in the Prostate, Lung, Colorectal, and Ovarian (PLCO) Cancer Screening Trial. Fiber intake was compared between 33,971 participants who were sigmoidoscopy-

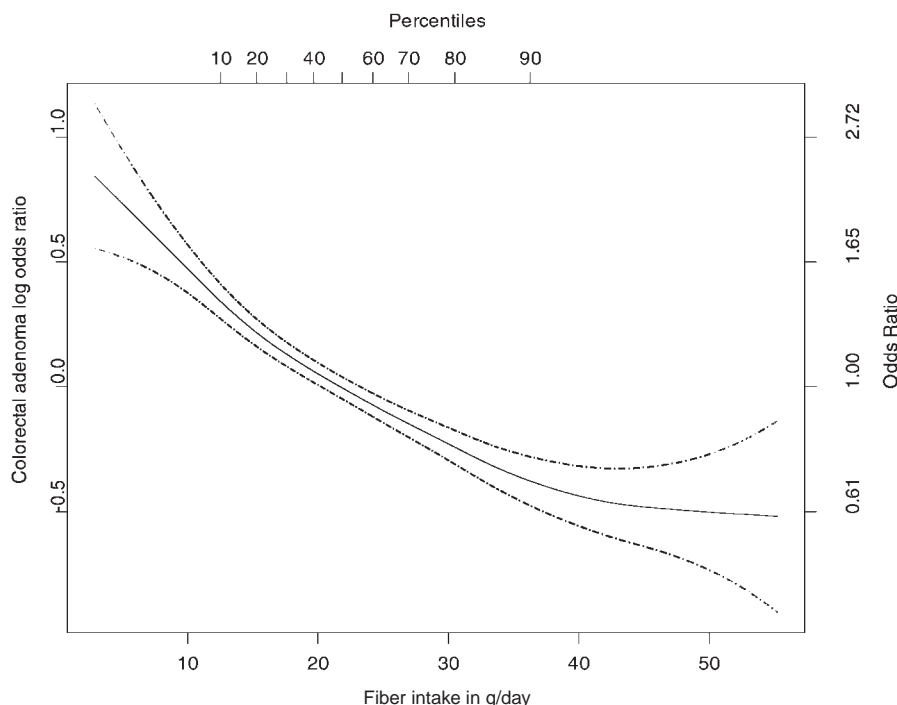


Figure 1. Total dietary fiber (g/day) and risk of distal colorectal adenoma. Dotted lines are 95 percent CI. (Peters, et al. *Lancet* 2003;361:1491–1495)

negative for polyps and 3,591 participants with at least one histologically verified adenoma in the distal large bowel (descending colon, sigmoid colon, or rectum). Subjects in the highest quintile of dietary fiber intake were found to have a 27 percent (CI = 14–38, p for trend = 0.002) lower risk of adenoma than those in the lowest quintile. (See Figure 1.) The inverse association was strongest for fiber from grains and cereals and fruits. Risks were similar for advanced and non-advanced adenoma. No association was seen for rectal adenoma. (Peters U, Sinha R, Chatterjee N, Subar AF, Ziegler RG, Kulldorff M, Bresalier R, Weissfeld JL, Flood A, Schatzkin A, Hayes RB. Dietary fibre and colorectal adenoma in a colorectal cancer early detection programme. *Lancet* 2003;361: 1491–1495)

GENETICS

Fumarate Hydratase Gene Mutations Cause HLRCC

Hereditary leiomyomatosis and renal cell cancer (HLRCC) is an autosomal dominant disorder characterized by smooth-muscle tumors of the skin and uterus

and/or renal cancer. Fumarate hydratase (FH) gene sequence analysis among 35 North American families with cutaneous leiomyomas revealed germline mutations in 31 families (89 percent). Twenty different mutations in FH were identified, 18 of which were novel. Of these 20 mutations, 2 were insertions, 5 were small deletions that caused frameshifts leading to premature truncation of the protein, and 13 were missense mutations. Eleven unrelated families shared a common mutation: R190H. Ninety-eight percent (46/47) of women with cutaneous leiomyomas also had uterine leiomyomas; of these women, 89 percent (41/46) had had a total hysterectomy, 44 percent having a total hysterectomy at age 30 or younger. Unilateral and solitary renal tumors were identified in 13 individuals from five families. Seven individuals from four families had papillary type II renal cell carcinoma, and another individual from one of these families had collecting duct carcinoma of the kidney. HLRCC is associated with FH mutations and clinically significant uterine fibroids and aggressive renal tumors. (Toro JR, Nickerson ML,

Wei MH, Warren MB, Glenn GM, Turner ML, Stewart L, Duray P, Tourre O, Sharma N, Choyke P, Stratton P, Merino M, Walther MM, Linehan WM, Schmidt LS, Zbar B. Mutations in the fumarate hydratase gene cause hereditary leiomyomatosis and renal cell cancer in families in North America. *Am J Hum Genet* 2003;73) [In print July 2003. Electronically published May 23 at <http://www.journals.uchicago.edu/AJHG>]

Cancer Incidence Among Individuals With Down Syndrome

Mortality and cancer incidence were evaluated in a combined cohort of 4,872 individuals in Sweden or Denmark with a diagnosis of Down syndrome (DS). Individuals with DS had an increased risk of incident acute lymphocytic (standardized incidence ratio [SIR] = 24.2, CI = 15.2–36.6) and acute nonlymphocytic (SIR = 28.2, CI = 15.7–48.3) leukemias. Risks of testicular cancer (SIR = 3.7, CI = 1.0–9.4, n = 4) and liver cancer (SIR = 6.0, CI = 1.2–17.5, n = 3) were also elevated. Individuals with DS also experienced elevated mortality attributed to stomach cancer (SMR = 6.4, CI = 1.7–16.4; n = 4), dementia and Alzheimer disease, epilepsy, ischemic heart disease, other heart disease, cerebrovascular disease, infectious diseases, and congenital anomalies. These results provide clues regarding chromosome 21 gene involvement in diseases that complicate DS. (Hill DA, Gridley G, Cnattingius S, Møller M, Linet M, Adami HO, Olsen JH, Nyren O, Fraumeni JF Jr. Mortality and cancer incidence among individuals with Down syndrome. *Arch Intern Med* 2003;163:705–711)

Misspecification of Genetic Random Effects in Family Studies

Family studies to identify disease-related genes frequently collect only families with multiple cases. If risk factors known to influence disease risk in the general population also play a role in the study families, these factors should be incorporated into the genetic analysis to control for confounding. Pfeiffer and colleagues (*Biometrika* 2001;88:933–948) proposed a variance components or

random effects model to account for common familial effects and for different genetic correlations among family members. After adjusting for ascertainment, maximum likelihood estimates of the measured exposure effects were calculated. While this model accounts for genetic correlations as well as for the ascertainment of families, the distribution of random genetic effects also need to be specified. An investigation of the robustness of the proposed model with respect to various misspecifications of genetic random effects in simulations found that when the true underlying genetic mechanism is polygenic with a small dominant component, or Mendelian with low allele frequency and penetrance, the effects of misspecification on the estimation of fixed effects in the model are negligible. (Pfeiffer RM, Hildesheim A, Gail MH, Pee D, Chen CJ, Goldstein AM, and Diehl SR. Robustness of inference on measured covariates to misspecification of genetic random effects in family studies. *Genet Epidemiol* 2003;1:14–23)

Choice of Score in Trend Tests for Case-Control Studies

When applying the Cochran-Armitage (CA) trend test for an association between a candidate allele and a disease in a case-control study, a set of scores must be assigned to the three genotypes. Sasieni (*Biometrics* 1997;53:1253–1261) suggested scores for the number of “A” alleles that are appropriate for the recessive, additive, and dominant models but did not examine their statistical properties. In this analysis, the use of the criteria of minimizing the required sample size of the CA trend test to achieve pre-specified type I and II errors showed that the scores given by Sasieni are optimal for the recessive and dominant models and are locally optimal for the additive one. The additive scores are shown to be locally optimal for the multiplicative model. (Zheng G, Freidlin B, Zhaohai L, Gastwirth J. Choice of score in trend tests for case-control studies of candidate gene associations. *Biometrical Journal* 2003;45:335–348)

Variations in Cytokine Genes and Risk of Gastric Cancer

Polymorphisms in the interleukin (IL)-1 beta gene cluster and four other cytokine genes were assessed in a population-based study of upper gastrointestinal cancers, including gastric cardia ($n = 126$) and noncardia adenocarcinoma ($n = 188$), esophageal squamous cell carcinoma ($n = 53$) and adenocarcinoma ($n = 108$), and controls ($n = 212$). Proinflammatory genotypes of tumor necrosis factor alpha (TNF- α) and IL-10 were each associated with more than doubling of the risk of noncardia gastric cancer. Carriage of multiple proinflammatory polymorphisms of IL-1B₀ IL-1 receptor antagonist, TNF- α , and IL-10 conferred greater risk, with odds ratios (CI) of 2.8 (1.6–5.1) for 1, 5.4 (2.7–10.6) for 2, and 27.3 (7.4–99.8) for 3 or 4 high-risk genotypes. These polymorphisms were not consistently related to the risks of esophageal or gastric cardia cancers. Polymorphisms in IL-4 and IL-6 were not associated with any of the cancers studied. A proinflammatory cytokine genetic profile increases the risk of noncardia gastric adenocarcinoma but not other upper gastrointestinal cancers, possibly by altering response to gastric *Helicobacter pylori* infection. (El-Omar EM, Rabkin CS, Gammon MD, Vaughan TL, Risch HA, Schoenberg JB, Stanford JL, Mayne ST, Goedert J, Blot WJ, Fraumeni JF Jr, Chow WH. Increased risk of noncardia gastric cancer associated with proinflammatory cytokine gene polymorphisms. *Gastroenterology* 2003;124:1193–1201)

INFECTIOUS AGENTS

KSHV Infection Among Pregnant Women With HIV-1

Among HIV-1-infected pregnant women ($n = 887$) and their offspring ($n = 900$) from six sites in the United States and Puerto Rico, 5.3 percent of the women and 0.3 percent of the infants were Kaposi's sarcoma-associated herpesvirus (KSHV) seropositive. KSHV in the women was associated with enrollment in Puerto Rico, Houston, Brooklyn, or

Manhattan; non-completion of high school; the number of sexually transmitted diseases; and especially with injection drug use and hepatitis C virus infection (odds ratio [OR] = 3.5, CI = 1.5–7.9). These findings suggest that transmission of KSHV can occur by blood inoculation. (Goedert JJ, Charurat M, Blattner WA, Hershov RC, Pitt J, Diaz C, Mofenson LM, Green K, Minkoff H, Paul ME, Thomas DL, Whitby D. Women and infants transmission study. Risk factors for Kaposi's sarcoma-associated herpesvirus infection among HIV-1-infected pregnant women in the USA. *AIDS* 2003;17:425–433)

HHV8 Infection Among Injection Drug Users

The association between injection drug use and human herpesvirus 8 (HHV8) was examined among 1,905 injection drug users (IDUs) enrolled in a cross-sectional study in San Francisco. Subjects were tested for K8.1 antibodies to HHV8 lytic antigen; HHV8 seroprevalence was 10 percent among women, 10 percent among heterosexual men, and 23 percent among men who have sex with men. HHV8 seroprevalence increased with longer duration of injection drug use for each of these groups ($p = 0.01$, $p = 0.03$, and $p = 0.049$ for trend, respectively). HHV8 infection was relatively common among IDUs in San Francisco, and longer duration of injection drug use was associated with an increase in the risk of HHV8 infection that could not be explained by sexual behavior or demographic differences. These results are consistent with the occurrence of bloodborne transmission of HHV8 among IDUs. (Atkinson J, Edlin BR, Engels EA, Kral AH, Seal K, Gamache CJ, Whitby D, O'Brien TR. Seroprevalence of human herpesvirus 8 among injection drug users in San Francisco. *J Infect Dis* 2003;187:974–981)

Cancer Risk After Exposure to Poliovirus Vaccine Contaminated with SV40

Cancer incidence in three Danish birth cohorts was examined to clarify whether simian virus (SV) 40 infection increases

risk of mesothelioma, ependymoma, choroid plexus tumors, and non-Hodgkin's lymphoma or the risk of childhood cancers. SV40 exposure at the time when the polio vaccine contained SV40 was not associated with these specific tumors of interest. (See Figure 2.) After 69.5 million person-years of follow-up, individuals exposed to SV40-contaminated poliovirus vaccine as infants or children had lower overall cancer risk (relative risk [RR] = 0.86, CI = 0.81–0.91 and RR = 0.79, CI = 0.75–0.84, respectively; $p < 0.001$ for both) than unexposed individuals. Ependymoma incidence was higher during the exposed period than during the unexposed period (RR = 2.59, CI = 1.36–4.92; $p = 0.004$ versus the period before contamination); however, incidence peaked in 1969, after the vaccine was cleared of SV40. (Engels EA, Katki HA, Nielsen NM, Winther JF, Hjalgrim H, Gjerris F, Rosenberg PS, Frisch M. Cancer incidence in Denmark following exposure to poliovirus vaccine contaminated with simian virus 40. *J Natl Cancer Inst* 2003;95:532–539)

AIDS-Related Immune Deficiency and Cancer Risk

The relationship between cancer risk and AIDS-related immunosuppression was studied among 82,217 adults who had a CD4 count measured at AIDS onset and had survived into the follow-up period. Data were obtained using linked records from AIDS and cancer registries in 11 U.S. regions. The standardized incidence ratios (SIRs) for AIDS-defining Kaposi's sarcoma (KS), non-Hodgkin's lymphoma (NHL), and cervical cancer were 258, 78, and 8.8, respectively. For each fall of 100 CD4 cells/mm³, relative risks were 1.36 (CI = 1.29–1.43) for KS and 1.48 (CI = 1.37–1.59) for NHL. Among NHL subtypes, the association with lower CD4 counts was strongest for immunoblastic lymphoma (relative risk [RR] = 1.64, CI = 1.37–1.96, per decline of 100 CD4 cells/mm³) and central nervous system lymphoma (RR = 2.29, CI = 1.95–2.69).

(See Figure 3.) The SIR for cervical cancer did not vary with CD4 count. For non-AIDS-defining cancers, neither the combined risk nor the risk of specific types were associated with declining

CD4 counts. (Mbulaiteye SM, Biggar RJ, Goedert JJ, Engels EA. Immune deficiency and risk for malignancy among persons with AIDS. *J Acquir Immune Defic Syndr* 2003;32:527–533)

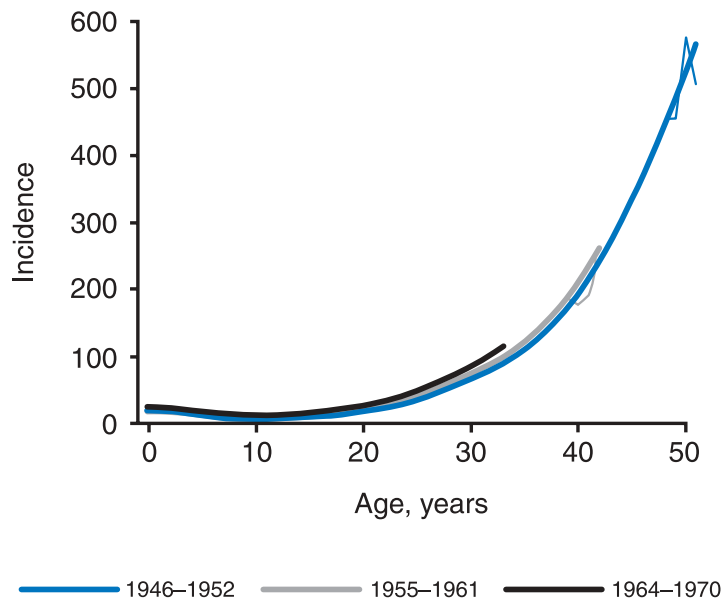
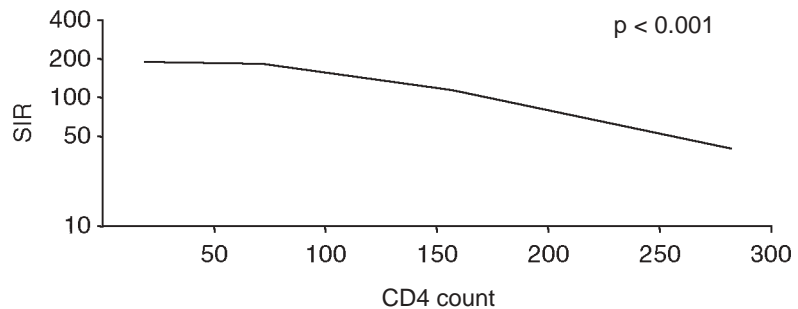


Figure 2. Age-specific cancer incidence for three Danish birth cohorts with varying exposure to SV40-contaminated poliovirus vaccine for all cancers combined. (Engels, et al. *J Natl Cancer Inst* 2003;95:532–539)

Immunoblastic lymphoma



CNS lymphoma

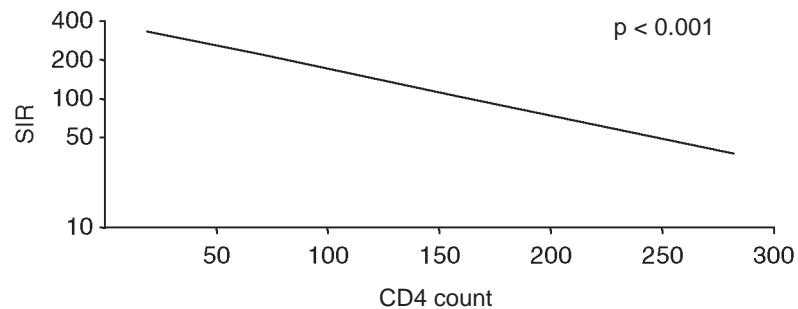


Figure 3. Risk of cancer in persons with AIDS by CD4 count (measured in units of cells /mm³) at AIDS onset for immunoblastic lymphoma and central nervous system lymphoma presented on a log-transformed scale as the (SIR). (Mbulaiteye, et al. *J Acquir Immune Defic Syndr* 2003;32:527–533)

LEUKEMIA

Risk of Myelodysplastic Syndrome and Acute Myeloid Leukemia After Transplantation for Lymphoma

A case-control study of 56 patients with myelodysplastic syndrome (MDS)/acute myeloid leukemia (AML) and 168 matched controls within a cohort of 2,739 patients receiving autotransplants for Hodgkin's disease or non-Hodgkin's lymphoma was conducted to investigate the role of transplantation-related therapy in these diseases. MDS/AML risk significantly increased with the intensity of pretransplantation chemotherapy with mechlorethamine (relative risks [RRs] = 2.0 and 4.3 for cumulative doses < 50 mg/m² and ≥ 50 mg/m², respectively; trend over dose categories, $p = 0.04$) or chlorambucil (RRs = 3.8 and 8.4 for duration < 10 months or ≥ 10 months, respectively; trend, $p = 0.009$), compared with cyclophosphamide-based therapy. An increased risk was found for transplantation-conditioning regimens including total-body irradiation at doses of 13.2 Gy (RR = 4.6, $p = 0.03$). Peripheral blood stem cells were associated with a nonsignificant increased risk of MDS/AML (RR = 1.8 $p = 0.12$) compared with bone marrow grafts. (Metayer C, Curtis RE, Vose J, Sobocinski KA, Horowitz MM, Bhatia S, Fay JW, Freytes CO, Goldstein SC, Herzig RH, Keating A, Miller CB, Nevill TJ, Pecora AL, Rizzo JD, Williams SF, Li CY, Travis LB, and Weisdorf DJ. Myelodysplastic syndrome and acute myeloid leukemia after autotransplantation for lymphoma: a multicenter case-control study. *Blood* 2003;5:2015–2023)

LUNG CANCER

Lung Cancer After Treatment for Hodgkin's Disease

To better understand radiation-induced lung cancer, 227 patients with lung cancer and 455 controls were evaluated in an international study of Hodgkin's disease. The estimated excess relative risk (ERR) per Gy was 0.15 (CI = 0.06–0.39), and there was little evidence of departure

from linearity even though lung doses for the majority of Hodgkin's disease patients treated with radiotherapy exceeded 30 Gy. The interaction of radiation and alkylating agent chemotherapy was almost exactly additive, and a multiplicative relationship could be rejected ($p = 0.017$). Conversely, the interaction of radiation and smoking was consistent with a multiplicative but not an additive relationship ($p < 0.001$). The ERR/Gy for males was about four times than that for females. There was little evidence of modification of the ERR/Gy by time since exposure (after a 5-year minimum latent period), age at exposure, or attained age. Hodgkin's disease patients receive high radiation doses and other therapy, so these findings may not be generalizable to other populations. (Gilbert ES, Stovall M, Gospodarowicz M, Van Leeuwen FE, Andersson M, Glimelius B, Joensuu T, Lynch CF, Curtis RE, Holowaty E, Storm H, Pukkala E, van't Veer MB, Fraumeni JF, Boice JD Jr, Clarke EA, Travis LB. Lung cancer after treatment for Hodgkin's disease: focus on radiation effects. *Radiat Res* 2003;2:161–173)

Selenium and Risk of Lung Cancer

Among 250 incident lung cancer cases and 250 controls within the Alpha-Tocopherol Beta-Carotene Cancer Prevention cohort, a protective association was suggested for higher selenium status among men who entered the trial early (when the range of selenium values included very low levels). For men with adjusted toenail selenium concentrations at the 75th percentile compared to those with the lowest selenium concentrations, the odds ratios (CI) ranged between 0.2 (0.1–0.4) for men randomized earliest in the trial and 0.6 (0.3–1.4) for men randomized in the fifth year. Low selenium status may be associated with increased risk for lung cancer. (Hartman TJ, Taylor PR, Alfthan G, Fagerstrom R, Virtamo J, Mark SD, Virtanen M, Barrett MJ, Albanes D. Toenail selenium concentration and lung cancer in male smokers (Finland). *Cancer Causes Control* 2002;13:923–928)

OCCUPATION

Occupational Groups and Glioma Incidence

Associations between occupation and glioma incidence in adults were evaluated among 489 patients with glioma and 799 controls. Several occupational groups were associated with increased glioma incidence, including butchers and meat cutters (odds ratio [OR] = 2.4; CI = 1.0–6.0), computer programmers and analysts (OR = 2.0; CI = 1.0–3.8), electricians (OR = 1.8; CI = 0.8–4.1), general farmers and farmworkers (OR = 2.5; CI = 1.4–4.7), inspectors, checkers, examiners, graders, and testers (OR = 1.5; CI = 0.8–2.7), investigators, examiners, adjustors, and appraisers (OR = 1.7; CI = 0.8–3.7), physicians and physician assistants (OR = 2.4; CI = 0.8–7.2), and store managers (OR = 1.6; CI = 0.8–3.1), whereas occupation as a childcare worker was associated with decreased glioma incidence (OR = 0.4; CI = 0.2–0.9). (De Roos AJ, Stewart PA, Linet MS, Heineman EF, Dosemeci M, Wilcosky T, Shapiro WR, Selker RG, Fine HA, Black PM, Inskip PD. Occupation and the risk of adult glioma in the United States. *Cancer Causes Control* 2003;14:139–150)

Pesticide Use Increases Risk of Prostate Cancer

A prospective cohort of 55,332 male pesticide applicators from Iowa and North Carolina in the Agricultural Health Study was examined for associations between 45 agricultural pesticides and prostate cancer incidence. Pesticide use data were collected by means of self-administered questionnaires completed at enrollment. Prostate cancer risk was increased among cohort members (standardized incidence ratio = 1.14; CI = 1.05–1.24). Chlorinated pesticide use among applicators over 50 years of age and methyl bromide use were significantly associated with prostate cancer risk. Several other pesticides showed a significantly increased risk of prostate

cancer among study subjects with a family history of prostate cancer but not among those without a family history. (Alavanja MCR, Samanic C, Dosemeci M, Lubin J, Tarone R, Lynch CF, Knott C, Thomas K, Hoppin JA, Barker J, Coble J, Sandler DP, Blair A. Use of agricultural pesticides and prostate cancer risk in the Agricultural Health Study cohort. *Am J Epidemiol* 2003;157:800–814)

Cancer Risk Among Dry Cleaners

To evaluate cancer risks associated with organic solvents, mortality was evaluated among a cohort of 5,369 members of a dry cleaner union. Adjusted total mortality was similar to that of the U.S. population (standardized mortality ratio [SMR] = 1.0, $N = 2,351$, CI = 1.0–1.1). Excess cancer mortality was observed for Hodgkin's disease (SMR = 2.0, CI = 0.6–4.6) and cancers of the esophagus (SMR = 2.2, CI = 1.5–3.3), larynx (SMR = 1.7, CI = 0.6–3.7), lung (SMR = 1.4, CI = 1.1–1.6), and cervix (SMR = 1.6, CI = 1.0–2.3). Small increases were noted for bladder cancer among white men and women and for kidney cancer among black men and women. Relative risks for cancers of the larynx, lung, and kidney were larger among subjects estimated to have higher levels of exposure and risks from bladder cancer and chronic nephritis were greater among persons who entered the dry cleaner union after 1960. (Blair A, Petralia SA, Stewart PA. Extended mortality follow-up of a cohort of dry cleaners. *Ann Epidemiol* 2003;1:50–56)

ORAL CANCER

Alcohol Concentration and Risk of Oral Cancer

Oral cancer risk and alcohol intake was examined among 286 males aged 21–79 years and 417 population-based male controls in Puerto Rico. Heavy consumers of liquor (43 drinks or more per week) had strongly increased risks of oral cancer (odds ratio [OR] = 6.4, CI = 2.4–16.8); beer/wine intake showed only modest

effects. Among liquor drinkers, risks were consistently greater for those who drank straight (undiluted) liquor than for those who usually drank mixed (diluted) liquor (OR = 4.0, CI = 2.4–6.7). Risks associated with combined exposure to tobacco were also more pronounced when subjects drank liquor straight. The elevated risks associated with drinking homemade rum were similar to those for other types of liquor. These results suggest that alcohol concentration is a risk factor for oral cancer independent of the total quantity of alcohol consumed. (Huang WY, Winn DM, Brown LM, Gridley G, Bravo-Otero E, Diehl SR, Fraumeni JF Jr, Hayes RB. Alcohol concentration and risk of oral cancer in Puerto Rico. *Am J Epidemiol* 2003;157:881–887)

PROSTATE CANCER

Insulin Resistance Markers and Risk of Prostate Cancer

The relationship between insulin resistance and prostate cancer risk was examined in Chinese men among 128 case and 306 control subjects. Waist-to-hip ratios (WHR), fasting serum glucose, and insulin levels were used in the homeostasis model to derive indices of insulin sensitivity and resistance. Men in the lowest compared to the highest tertile of insulin sensitivity had a reduced risk of prostate cancer (odds ratio [OR] = 0.4, CI = 0.2–0.6), but men in the highest tertile of insulin resistance had an increased risk of prostate cancer (OR = 2.8, CI = 1.6–4.7). The effect of insulin resistance was apparent in all tertiles of WHR, and men in the highest tertile of insulin resistance and WHR had the highest risk (OR = 8.2, CI = 2.8–23.7). The associations between prostate cancer risk and insulin sensitivity or resistance were independent of total caloric intake and serum levels of insulin-like growth factors, sex hormones, and sex hormone-binding globulin. (Hsing AW, Gao YT, Chua S Jr, Deng J, Stanczyk FZ. Insulin resistance and prostate cancer risk. *J Natl Cancer Inst* 2003;95:67–71)

RADIATION

Mortality Among U.S. Radiologic Technologists

In a nationwide cohort of 146,022 U.S. radiologic technologists (73 percent female) standardized mortality ratios (SMRs) were low for all causes (SMR = 0.76) and for all cancers (SMR = 0.82). A subgroup of 90,305 technologists who responded to a baseline questionnaire had higher relative risks (RR) for all cancers (RR = 1.28, CI = 0.93–1.69) and breast cancer (RR = 2.92, CI = 1.22–7.00) among subjects first employed prior to 1940 compared to those first employed in 1960 or later, and risks declined with more recent calendar year of first employment (p for trend = 0.04 and 0.002, respectively), irrespective of employment duration. Compared to technologists first employed in 1950 or later, an increased risk for the combined category of acute lymphocytic, acute myeloid and chronic myeloid leukemias was observed among those first employed prior to 1950 (RR = 1.64, CI = 0.42–6.31). Risks rose for breast cancer (p for trend = 0.018) and for the three leukemia subtypes (p for trend = 0.05) with increasing duration of employment as a technologist prior to 1950. The elevated mortality risks for breast cancer and for the combined group of leukemias are consistent with a radiation etiology given greater occupational exposures to ionizing radiation prior to 1950. (Mohan AK, Hauptmann M, Freedman DM, Ron E, Matanoski GM, Lubin JH, Alexander BH, Boice JD Jr, Doody MM, Linet MS. Cancer and other causes of mortality among radiologic technologists in the United States. *Int J Cancer* 2003;103:259–267) ■

DCEG PEOPLE IN THE NEWS



Dr. Demetrius Albanes

Demetrius Albanes, M.D., Nutritional Epidemiology Branch (NEB), spoke on “Vitamin E: epidemiological and experimental evidence in support of a role in prostate cancer” at the First International Conference on Chemoprevention of Prostate Cancer held during March in San Antonio, Texas. Dr. Albanes also spoke on “Randomized trials with vitamin supplements—the ATBC Study” at the “Selenium and vitamin E cancer prevention trial (SELECT) workshop” held during the Southwest Oncology Group’s annual meeting during April.

Aaron Blair, Ph.D., Occupational and Environmental Epidemiology Branch (OEEB), gave an invited seminar at The George Washington University School of Public Health in January on the Agricultural Health Study.

Louise Brinton, Ph.D., Hormonal and Reproductive Epidemiology Branch (HREB), recently became a Senior Editor for the journal *Cancer Epidemiology, Biomarkers, and Prevention*.

Linda M. Brown, Dr.P.H., Biostatistics Branch (BB), was appointed as DCEG’s representative to the Cancer Health Disparities Progress Review Group Steering Committee, which includes representatives from all NCI Divisions, selected agencies of the Department of Health and Human Services, and the Office of the Secretary. Dr. Brown was also selected to serve on the “Champion” Team for Cancer Health Disparities, which will draft the section on Cancer Health Disparities for the NCI Director’s 2005 Bypass Budget.

Kenneth Cantor, Ph.D. (OEEB), taught a class on “Design issues in case-control studies” for an advanced course in epidemiologic methods at Yale University.

Since December, **Philip Castle, Ph.D., M.P.H.** (HREB), has given eight invited talks on “Human papillomavirus (HPV) and the development of cervical pre-cancer and cancer” to various audiences, including Johns Hopkins University School of Medicine and the Gynecologic Oncology Group. Dr. Castle also spoke on “HPV infection and immunity” for the HIV and Cancer Virology Faculty

and vaccine working group meeting on “Future vaccines for papilloma and AIDS viruses” held at NCI during February.



Dr. Jinbo Chen

Jinbo Chen, Ph.D. (BB), gave an invited talk on “Updating the Gail Model by incorporating mammographic density as a risk predictor” at the Breast Cancer Surveillance Consortium Meeting held in Portsmouth, New Hampshire, during April.



Ms. Mary Fraser

In November, **Mary Fraser, R.N., M.A.**, Genetic Epidemiology Branch (GEB), gave an invited talk on “Advances in genetics research: evolving challenges and clinical implications for hereditary cancers” at the 108th Annual Meeting of the Association of Military Surgeons of the United States in Louisville, Kentucky. Ms. Fraser served as a co-guest editor for the February 2003 issue of *Seminars in Oncology Nursing*, which was devoted to melanoma and non-melanoma skin cancers. Ms. Fraser was also recently appointed to the American Society of Clinical Oncology’s People Living With Cancer (www.plwc.org) web site advisory panel on skin cancer and melanoma. In addition, Ms. Fraser represents the Dermatology Nurses’ Association on the National Council on Skin Cancer Prevention and on the American Academy of Dermatology’s Melanoma/Skin Cancer Committee.

Patricia Hartge, Sc.D., Epidemiology and Biostatistics Program (EBP), lectured on “Genes and environment interactions in cancer” at Yale University in April.



Ukrainian-American “Working meeting on quality control and interviewing techniques” workshop

The Chernobyl Research Unit of the Radiation Epidemiology Branch (REB) held a workshop during March entitled “Working meeting on quality control and interviewing techniques.” The workshop, held in preparation for the third screening cycle for thyroid disease, was attended by close to 20 Ukrainian members of the Ukrainian-American Thyroid Study.

Robert Hoover, M.D., Sc.D. (EBP), gave Grand Rounds at the Norris Cotton Cancer Center at Dartmouth College, on “Hormonal etiology of breast cancer: 1700–2003.” Dr. Hoover also chaired a symposium on genetic epidemiology at the American Society for Preventative Oncology meeting held in Philadelphia during March.

In December, **Ann Hsing, Ph.D.** (HREB), gave two talks in Taipei, Taiwan. The first, entitled “Racial differences in prostate cancer risk: implications for etiology,” was at the Department of Urology, Veterans General Hospital, and the second, “Molecular epidemiology of prostate cancer,” was at the National Defense Medical College. While in Taipei, Dr. Hsing also received an award from the National Scientific Council in Taiwan for “Outstanding Overseas Researcher.”

Peter Inskip, Ph.D. (REB), gave an invited talk on the “Epidemiology of brain tumors in adults: possible clues to etiology” at the University of Pittsburgh Cancer Institute Clinical Oncology Grand Rounds during January.

Manolis Kogevinas, M.D., Ph.D., who



Dr. Manolis Kogevinas

is on sabbatical in the OEEB, gave several invited talks this year including “Occupational asthma in Europe: the European Community Respiratory Health Survey—ECRHS” at the University of Texas School of Public Health and at Vanderbilt University School of Medicine in Nashville. He also spoke on “Disinfection by-products in drinking water and bladder cancer” at the Emory School of Public Health, the Centers for Disease Control and Prevention, and the Center for Environmental Health Sciences at Dartmouth University. He also addressed the Center for the Evaluative Clinical Sciences at Dartmouth

University on “The Human health effects of dioxins and the IARC classification process.”

Mary Lou McMaster, M.D. (GEB),



Dr. Mary Lou McMaster

spoke at the International Waldenstrom’s Macroglobulinemia Foundation Annual Patient Education Forum held in April. Dr. McMaster spoke on “Understanding Waldenstrom’s macroglobulinemia: the power of family.”



Dr. Pauline Mysliwiec

Pauline Mysliwiec, M.D., M.P.H. (NEB), gave two talks on her work on “Surveillance colonoscopy for colorectal polyps: recommendations by U.S. gastroenterologists and general surgeons.” The first was an oral presentation at the Digestive Disease Week meeting held during May in Orlando, Florida, and the second was an invited talk given to the Department of Clinical Epidemiology at the University of North Carolina, Chapel Hill, during April. Dr. Mysliwiec was also invited to give Gastrointestinal Grand Rounds at the University of California at Davis during December on “Characteristics of baseline adenomas as predictors of adenoma recurrence.”



Drs. James D. Watson and Roxana Moslehi



Dr. Jay Nuckols

Jay Nuckols, Ph.D. (OEEB), gave an invited presentation on “Using GIS for exposure assessment” at the 2003 International Conference on Health and Environment held by the European Health and Environment Information System for Disease and Exposure Mapping and Risk Assessment/Small Area Health Statistics Unit in Ostersund, Sweden, during March.



Dr. Tanuja Rastogi

Tanuja Rastogi, Ph.D. (NEB), addressed the Society for Epidemiologic Research on “Physical activity and risk of coronary heart disease in India” during a spotlight session at the annual meeting held in Atlanta, Georgia, during June.



Dr. Cécile Ronckers

Cécile Ronckers, Ph.D. (REB), received the Inglenook Scholar-in-Training Award for the 2003 American Association for Cancer Research (AACR) annual meeting in July. Dr. Ronckers will present her work on “Multiple diagnostic x-rays and risk of breast cancer: findings from the U.S. Scoliosis Cohort Study.”

Roxana Moslehi, Ph.D., M.S. (GEB), gave two invited talks: one in March at The George Washington University on “Genetics of breast and ovarian cancer” and one in April at Georgetown University on “Genetic studies of ovarian cancer.” Dr. Moslehi was also selected from an international competition of postdoctoral fellows to attend the World Life Sciences Forum Meetings held in Lyon, France, during April. The meetings honored the 50th anniversary of the discovery of DNA’s double helix structure by Drs. James Watson and Francis Crick.

Nathaniel Rothman, M.D., Ph.D.

(OEEB), gave an invited talk in January on “Methodological issues in the study of common polymorphisms in cancer epidemiology studies” for the Georgetown University Medical School Tumor Biology Seminars. Dr. Rothman also spoke at an AACR-sponsored meeting on Molecular and Genetic Epidemiology of Cancer, held in Hawaii during January on “False positive reports in studies of genetic risk factors in epidemiologic studies: problem, analytic solution, and implications” and at the Environmental Mutagen Society annual meeting, held in Miami during May on “Application of new technologies to epidemiologic studies.”



Dr. Nathaniel Rothman



Dr. Arthur Schatzkin

Arthur Schatzkin, M.D., Dr.PH. (NEB), gave an invited talk entitled “Will multifactorial measures of dietary intake solve our problems?” at the 5th International

Conference of Dietary Assessment Methods held in Chaing Rai, Thailand, during January. In April, he spoke at the Federation of American Societies for Experimental Biology meeting held in San Diego on “Food frequency questionnaires: What is the problem for large-scale epidemiologic studies?” Dr. Schatzkin served on a working group that is preparing an International Agency for Research in Cancer monograph on fruits and vegetables.

Mark Sherman, M.D. (HREB), received an NCI Breast Cancer Faculty Infrastructure Award for his proposal on a “Study to collect normal breast tissue from organ and tissue donors.” In December, Dr. Sherman gave three presentations on cervical pathology and human papillomavirus infection to the Michigan Society of Pathology in Ann Arbor. Additionally, Dr. Sherman spoke on “Non-endometrioid types of endometrial carcinoma” as part of a symposium on endometrial carcinoma at the annual meeting of the International Society of Gynecological Pathologists held in Washington during March.

Rashmi Sinha, Ph.D. (NEB), gave an invited talk in May on “Impact of the environment on colon cancer” at the International Scientific Conference organized by the Environmental Mutagen Society in Miami. Dr. Sinha also chaired a biorepository session at the AACR Molecular and Genetic Epidemiology of Cancer meeting in Hawaii.

In December, **Rachael Stolzenberg-Solomon, M.P.H., Ph.D.** (NEB), gave an invited talk on “Dietary methyl donors, biochemical indicators of methyl group availability, and pancreatic cancer risk” at a meeting on Nutritional Links to Possible Mechanisms Underlying Pancreatic Cancer sponsored by the Nutritional Sciences and Cancer Biomarkers Research Groups of NCI’s Division of Cancer Prevention.

Jorge Toro, M.D. (GEB), gave an invited talk in May on “Mutations in the fumarate hydratase gene cause hereditary



Dr. Jorge Toro

leiomyomatosis and renal cell cancer” at the International Society of Investigative Dermatology annual meeting held in Miami Beach and at the Washington Dermatological Society in Bethesda. He has also been selected to participate in the World Health Organization’s classification of skin tumors. Dr. Toro gave an oral presentation on “Birt-Hogg-Dube syndrome and hereditary leiomyomatosis and renal cell carcinoma” at the World Congress of Dermatology meeting held in Paris.

Roel Vermeulen, Ph.D. (OEEB), gave an invited seminar at The George Washington University in February on “Exposure assessment: dealing with variability.” In March, Dr. Vermeulen addressed the Dutch Occupational Hygiene Society in the Netherlands, on “Trends in occupational exposures: who gets the credit?”



Dr. Mary Ward

Mary Ward, Ph.D. (OEEB), gave an invited seminar at The George Washington University in March on “Geographic Information Systems (GIS) as a tool for exposure assessment in cancer epidemiology studies.”

Margaret Wright, Ph.D., a fellow in NEB, successfully defended her doctoral dissertation at Yale University School of Public Health. Her thesis was titled “An epidemiological investigation of the role of dietary antioxidant nutrients, fruits and vegetables, and residential radon exposure in the etiology of lung cancer.”

Shelia Zahm, Sc.D., Office of the Director, recently joined the Editorial Board of *Cancer Causes and Control*. ■

NEW BRANCH NAMES TAKE EFFECT

To better reflect the type of research being conducted, two DCEG branches underwent name changes in March. The Environmental Epidemiology Branch became the Hormonal and Reproductive Epidemiology Branch and the Occupational Epidemiology Branch became the Occupational and Environmental Epidemiology Branch.

COMINGS ... GOINGS

Michael Bradshaw left the Office of the Director (OD) in April. Over the last three years, Mike assumed many responsibilities including serving as the sub-custodian for property management for the office, assisting in the development of DCEG directories, and updating databases for *Linkage* distribution. He is finishing his undergraduate degree in Finance from the University of Maryland and has accepted a position as a Pastoral Intern at Covenant Life Church in Gaithersburg, Maryland.



Dr. Shih-Chen Chang

Shih-Chen Chang, Ph.D., joined the Nutritional Epidemiology Branch (NEB) as a visiting postdoctoral fellow. Dr. Chang received an M.S. in nutritional biochemistry from National Taiwan University in 1995 and then worked at the Asian Vegetable Research and Development Center in Taiwan. In 1997, he joined the doctoral program in the Center for Human Nutrition at Johns Hopkins School of Public Health. For his thesis, he examined the impact of dietary and lifestyle factors as well as hemoglobin concentrations on fetal growth and birth outcomes in pregnant African American adolescents. He will work with Dr. Michael Leitzmann in investigating the association of diet and physical activity with breast and colon cancer risk.

Andrew Flood, Ph.D., a postdoctoral fellow in the NEB, joined the University of Minnesota School of Public Health

faculty in April as an assistant professor in the Division of Epidemiology. He will also be a member of the University of Minnesota Cancer Center. During his DCEG fellowship, Dr. Flood examined dietary factors and risk factors of colorectal cancer.



Dr. Srmena Krstev

Srmena Krstev, M.D., Ph.D., is spending a year as a visiting scientist in the Occupational and Environmental Epidemiology Branch. She currently serves as Head of the Center for Development in Occupational Health and International Relations at the Clinical Center of Serbia in Belgrade, Yugoslavia. During her visit, Dr. Krstev is collaborating with DCEG staff to evaluate occupational risks for stomach cancer in a Polish case-control study and for asthma and chronic bronchitis in the Shanghai women's cohort study.



Dr. Unhee Lim

Unhee Lim, Ph.D., has joined the NEB as a visiting fellow. Dr. Lim obtained a bachelor's degree in food and nutrition from Hanyang University, South Korea, in 1992. She received graduate training at Cornell University, completing a master's degree in maternal and child nutrition in 1996, a dietetic certification program in 1997, and a Ph.D. in nutritional epidemiology in 2002. Dr. Lim's dissertation research was on folate nutri-

tion, genetic susceptibility, and the occurrence of cardiovascular disease. She will work with Dr. Rachel Stolzenberg-Solomon, and others in determining the role of folate and one-carbon metabolism in carcinogenesis with integration of hereditary polymorphisms in regulatory enzymes.

Tania Mara Welzel, M.D., Ph.D., has joined the Viral Epidemiology Branch as a visiting fellow. Dr. Welzel, a native of Stuttgart, Germany, received her medical and doctoral degrees



Dr. Tania Mara Welzel

from the Heidelberg Medical School. For her thesis, she characterized the stable expression of hantavirus nucleocapsid proteins. She had a one-year rotation at the Massachusetts General Hospital in Boston and completed an internal medicine residency at the Ludwig-Maximilians-University in Munich. Dr. Welzel will be working with Drs. Denise Whitby, Thomas O'Brien, and James Goedert on studies related to hepatitis B and C infection. She also will be participating in the NIH/Duke University Clinical Epidemiology Training Program.

Alyssa Voss, M.P.H., a health communications fellow in the OD, left DCEG in March to accept a position with The George Washington University Biostatistics Center as a research associate. Ms. Voss worked on a variety of communications issues during her 15-month stay, including writing articles for *Linkage*, developing web-based communication models for various studies, and training staff to handle press activities. Ms. Voss received a technology transfer award for her work on media communications for human papillomavirus studies and for developing several Quick Reference Guides for DCEG staff. ■



Ms. Katrina Wahl, Ms. Nancy Carter, and Dr. Patricia Hartge

Katrina Wahl, who had been the Office Program Specialist for the Epidemiology and Biostatistics Program since February 2000, left this past March to move to Ohio. Ms. Wahl also worked on the Interlymph Case-Control Consortium and helped several branches prepare for site visits.

GIL BEEBE LEAVES ENDURING LEGACY

Dr. Gilbert Wheeler Beebe, an NCI epidemiologist and statistician famed for his monumental studies of populations exposed to ionizing radiation, died on March 3, 2003, at the age of 90. Until the two days before his death, Dr. Beebe was a daily fixture at DCEG, working as a Scientist Emeritus after retiring from his official duties as head of the Chernobyl Research Unit in spring 2002.

During a research career spanning nearly 70 years, he had an enormous and lasting influence on generations of fellow scientists as a leader, mentor, colleague, and friend. “One way to measure the merit of a person’s life is by the magnitude and persistence of fond memories in the minds of that person’s family, his colleagues, his peers, and his friends,” reflected Dr. Evan Douple, Director of the National Academy of Sciences (NAS) Board on Radiation Effects Research. “By that metric, Gil was a giant.”

Dr. Beebe studied Sociology and Statistics at Columbia University and received a doctorate in 1942. During World War II, he worked in the office of the Surgeon General of the Army with Dr. Michael DeBakey to create the Medical Follow-Up Agency, which Dr. Beebe directed until 1977. “The Medical Follow-Up Agency is a living testimony to the worth of an idea conceived many years ago by Gil and Mike,” commented Mr. Seymour Jablon of NAS at the memorial service. Mr. Jablon worked with Dr. Beebe on a major reorganization of another NAS program, the Atomic Bomb Casualty Commission (ABCC), which documented the effects from the 1945 atomic bombings of Hiroshima and Nagasaki. Dr. Beebe spent a total of seven years in Japan as ABCC’s Statistics Chief. The program still flourishes today under



Dr. Gilbert Beebe

ABCC’s successor, the binational Radiation Effects Research Foundation. In 1977, Dr. Beebe joined the National Cancer Institute in what later became the DCEG. After the Chernobyl accident

During a research career spanning nearly 70 years, [Gil Beebe] had an enormous and lasting influence on generations of fellow scientists as a leader, mentor, colleague, and friend.

in 1986, he organized and led an ongoing international study of thyroid cancer and leukemia risk among radiation-exposed populations in Belarus and Ukraine.

In the spring of 2002, the Department of Energy, the National Cancer Institute, and the NAS Board on Radiation Effects Research honored Dr. Beebe by establishing the Gilbert W. Beebe Fellowship in Radiation Sciences. The fellowship provides support for recipients to work at the Radiation Epidemiology Branch (REB) and the Radiation Effects Research Foundation. The NAS commemorated the occasion last summer by sponsoring the first annual Gilbert Beebe Scientific Symposium; the second symposium will be held in July 2003. Following Dr. Beebe’s death, the REB started a memorial fund in his name, which will be used for travel awards for young investigators attending the Radiation Research Society Annual Meeting.

Dr. Beebe is survived by his wife of 69 years, Ruth, four children, Alfred, Beatrice, Brian, and Christopher, and five grandchildren. ■

—Kris Kiser, M.H.A.