NATIONAL CANCER INSTITUTE

# NCI Cancer Bulletin

*Eliminating the Suffering and Death Due to Cancer*

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**In this issue:**



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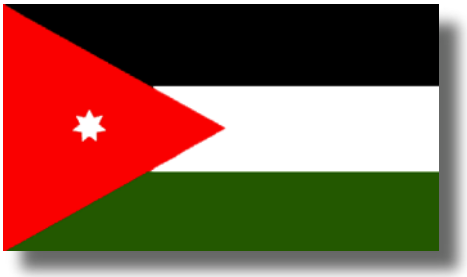
## Telehealth Demonstration Launched to Improve Cancer Research and Care

On March 1, HHS Secretary Tommy Thompson and NCI Director Andrew von Eschenbach launched a state-of-the-art, broadcast-quality telemedicine system at the King Hussein Cancer Center (KHCC) in Amman, Jordan.



"For so many regions of the world, technology and telemedicine will mean the difference between life and death for many patients," Thompson said. "I applaud the continued collaboration among all the nations who are working together to make our world a healthier place for all of us."

The demonstration of the system in Amman involved a link to St. Luke's Hospital in Dublin, Ireland, for a consultation on a patient at KHCC. The system will promote collaboration between cancer specialists, facilitate professional education and training, and permit consultation in cancer research protocols and patient care throughout Jordan and the Middle East, at selected sites in the United States as well as in the Republic of Ireland and Northern Ireland. Other sites around the globe are being planned.

Developed by NCI and the Center for Information Technology, this

*(continued on page 2)*

*Director's Update*

## *RPG Funding Policies for FY 2004*

There has been some confusion in the grantee community about our R01 policy and whether the cuts might represent a reduction of support from a grantee's current award level. I hope this message corrects any misunderstandings, and clarifies the rationale behind our decisions.

Although NCI funding remains at a historically high level, our operating budget in the current fiscal year (FY 2004) is slightly lower than that of last year as a result of cost-of-living adjustments, an increasing number of noncompeting grants, and assessments to support the NIH Roadmap Initiative and other centralized activities. To maintain the momentum of scientific discovery, we will continue to fund the maximum number of competing R01 research grants. The abrupt change in our rate of growth, however, has necessitated a modification in our funding policies. To secure the funds necessary to maintain the R01 payline at the 20th percentile, we will reduce the award amount of competing grants to a greater degree than has been the case over the past two years. This budget adjustment will enable us to support 75 more R01 grants than would have been possible if we maintained budget reductions at recent levels.

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*(Telehealth Demonstration continued from page 1)*
telemedicine system, called KHCC TELESYNERGY®, combines cameras, microscopes, audio equipment, and a variety of peripheral devices to provide high-resolution display of images from multiple medical modalities in both real-time and store-and-forward modes. It enables scientists and clinicians at multiple laboratories and hospitals to interact simultaneously with one another.

The launch of this system is part of an ongoing collaborative partnership between KHCC and NCI that promotes work across borders to enhance cancer research, treatment, and care throughout the countries involved.

"Cancer knows no political or geographic borders. We must all work together to be able to share knowledge and expertise. NCI's ongoing collaboration with the King Hussein Cancer Center will help reduce the suffering and death for the afflicted people in Jordan and throughout the region," Dr. von Eschenbach said.

In September 2002, KHCC forged a cooperative agreement with NCI for the purpose of enhancing medical sciences and improving cancer patient care in Jordan and the entire Middle East region. In support of the agreement, Dr. Samir Khleif, a clinical oncologist at NCI, was named the current KHCC director. The KHCC TELESYNERGY system provides the means to achieve distance learning for medical professionals throughout a global network now under construction.

The system also represents a distinct improvement over standard videoconferencing technologies. In practical terms, it offers better image resolution, eliminates delays in communication between cancer professionals, and minimizes travel by patients and providers. On a larger scale, it promotes national and international expertise in cancer research and treatment by enhancing the adoption of uniform standards of care.

KHCC TELESYNERGY has many potential and varied uses, including: clinical case conferences, grand rounds, expert case review, multicenter radiotherapy planning, clinical management protocol development, distance learning, seminars, and patient screening for clinical trials.

In addition to standard teleconferencing capability, the new system allows for the transmission of high-quality diagnostic radiology and pathology images and for the discussion and remote manipulation of biopsy specimens. ◆

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*(Director's Update continued from page 1)*
It is important to understand that these reduced funding levels apply only to competing grants and that we are taking into account the size of each grant. Smaller grants are being reduced, on average, by a smaller percentage than larger grants. Competing renewal grants (Type-2s) will also take a smaller average reduction than new (Type-1) applications; even after the reduction is taken, renewal grants will receive, on average, an approximately 10 percent budget increase over the current grant level. Furthermore, no competing renewal grant will be reduced below its current level of support unless the principal investigator has requested a smaller budget.

**NCI Budget Reductions and Competing R01 Grants**

| | | Average Reduction from Requested Budget | |
|---|---|---|---|
| **Mechanism** | **Size** | **Type-1** | **Type-2** |
| Traditional R01 | Recommended for 7 modules or fewer | 10% | 5% |
| | Recommended for 8 modules or more | 18% | 10% |

This "reduction from requested budget" policy will also apply to P01s, R21s, and all other research project grant (RPG) mechanisms, except R15s and R03s. However, it does not apply to noncompeting continuation R01s (often called Type-5s), as every Type-5 will receive the amount committed in its prior award. For nonmodular Type 5 grants (those whose direct costs exceed $250,000), there will be a cost of living adjustment of 3 percent. Research currently under way will not be affected by this policy.

All investigators conscientiously prepare their research budgets and are negatively affected by receiving less than the requested amount. Reductions, however, must be put into context. Since FY 2001, we have actively sought the advice of our scientific advisors on the National Cancer Advisory Board, the Board of Scientific Counselors, and the Board of Scientific Advisors regarding the funding options we face each year. Our advisors consistently express the view that, while we need to be cautious about imposing budget reductions in excess of 15 percent on competing grants, funding more R01s is a greater good—and should be a higher priority—than funding fewer grants with budgets as requested.

Given the unprecedented increases in the NIH and NCI budgets in recent years and the intense competing demands on the overall federal budget, we at NCI must plan for a period of nearly flat growth in the foreseeable future. That prospect is a challenge to all of us at NCI and to everyone in the cancer research community, and difficult decisions must be made. We remain eager to hear your best thinking as to how we can align NCI's budget with the best opportunities that will enable us to reach our goal of eliminating the suffering and death due to cancer by 2015. ◆

*Dr. Andrew von Eschenbach*
*Director, National Cancer Institute*

# Cancer Research Highlights

## Vaccine Shows Promise Against Lung Cancer

A vaccine made from autologous tumor cells genetically modified to secrete human granulocyte-macrophage colony-stimulating factor (GM-CSF) completely arrested non-small-cell lung cancer (NSCLC) in three patients with advanced disease, according to a study in the Feb. 18 *Journal of the National Cancer Institute*. Chemotherapy had already failed for two of the three "complete responders" in the study, and two others had a fairly uncommon NSCLC subtype. The vaccine had promising effects on overall survival and disease progression in the other advanced-stage patients but failed to show any benefit for patients in this small, phase I/II study who had early-stage NSCLC.

Success in manufacturing the vaccine was somewhat limited, and there was also dramatic variability in the vaccine's ability to secrete GM-CSF (which stimulates the body's immune system to produce cancer-fighting cells). Overall, only 43 patients were vaccinated, 10 with early-stage disease and 33 with advanced disease. "Only vaccine-associated GM-CSF secretion was statistically significantly associated with improved survival" in cohort B, the researchers wrote.

## Tumor-Cell Vaccine Proves Effective in Kidney Cancer Patients

Patients with renal cell carcinoma confined to the kidney who underwent radical nephrectomy had higher progression-free survival rates when treated with an autologous tumor-based vaccine than those who did not receive a vaccine, German researchers reported in the Feb. 21 issue of *The Lancet*. Nephrectomy (removal of part or all of the kidney) is the standard treatment for renal cancer. Adjuvant treatments post nephrectomy, including radiotherapy and chemotherapy, have not proven to help prevent disease recurrence. Around half of patients with renal cancer have disease recurrence within 5 years when treated according to the current standard of care.

This study, a phase III trial, which was not blinded or placebo-controlled, involved nearly 560 patients scheduled for radical nephrectomy from 55 medical centers across Germany. Before surgery, all patients were randomly selected to receive a vaccine made from their own tumor cells or no additional treatment. Overall, 343 patients successfully completed the entire protocol. At five years of follow-up, progression-free survival rates for patients at all tumor stages were 77.4 percent in the vaccine group and 67.8 percent in the control group. At 70 months, those rates were 72 and 59.3 percent, respectively.

In a related commentary, Drs. Mayer Fishman and Scott Antonia from the H. Lee Moffitt Cancer Center and Research Institute called the study's observations "an immunological breakthrough." But they also argued that methodological shortcomings could limit interpretation of the data.

## Panel Reports on Nevada Leukemia Cluster Investigation

The cause of a leukemia cluster in 16 children who lived in Churchill County, Nev., is unknown, according to an expert panel that reviewed the findings of an intense investigation into the cluster. The expert panel was initially convened in 2001 to advise the Nevada State Health Division on possible follow-up actions and priorities for its investigation of the "Fallon cluster," named after the largest town in Churchill County. The panel's final report was released last month. The 16 cases of leukemia were diagnosed between 1997 and July 2002. Acute lymphoblastic leukemia (also called acute lymphocytic leukemia, or ALL) was the diagnosis in all cases except one, and all 16 cases occurred in children who were resident in Churchill County at the time of or at some point prior to their diagnoses.

At the expert panel's recommendation, extensive environmental testing and pathway exposure evaluations were performed to address community members' concerns about the health of their environment, explained Dr. Malcolm Smith, a member of the expert panel and head of the NCI Cancer Therapy Evaluation Program's Pediatric Section.

"The results from this testing were that the levels of most contaminants measured were not elevated compared with national norms or existing environmental standards, and none of the measured contaminants were associated with the occurrence of leukemia," Dr. Smith said. "Arsenic, previously known to be present at high levels in the community, was noted as an ongoing environmental health hazard and one that the community is addressing, though arsenic

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*(Cancer Highlights continued from page 3)*
is not likely related to the leukemia cluster."

The panel also considered whether the cluster could have occurred by random chance—something that was not ruled out, but that appears unlikely, Dr. Smith explained. "The Fallon cluster is the most striking cluster involving childhood ALL that has been reported," he said. "A paper published online by Environmental Health Perspectives (search for: 10.1289/ehp.6592) reports that a cluster of this magnitude would be expected to occur in the United States by chance about once every 22,000 years. So, while it is true that chance cannot be excluded as a cause, it is also true that chance is not likely to be the sole explanation for the cluster."

The expert panel did not recommend specific follow-up research on the cluster at this time but did encourage continued childhood leukemia etiologic research. "The data and biological specimens that have been collected for the Fallon cluster may be useful in evaluating new hypotheses that are developed about the causes of childhood ALL clusters," Dr. Smith said.

Additional information about the Churchill County leukemia cluster is available at the Nevada State Health Division Web site at http://health2k.state.nv.us/healthofficer/leukemia/fallon.htm. ◆

# FDA Update

## First Anti-Angiogenesis Drug Approved by FDA

The Food and Drug Administration (FDA) last week approved the first angiogenesis inhibitor, bevacizumab (Avastin™), to be used in combination with intravenous 5-fluorouracil-based chemotherapy in the first-line treatment of patients with metastatic colorectal cancer. Attempts to develop drugs that prevent angiogenesis—the formation of new blood vessels that can fuel tumor growth—have been under way for more than three decades.

"The approval of Avastin…is one of a number of recent new treatments for colorectal cancer that, taken together, have significantly improved the armamentarium for fighting this disease," said FDA Commissioner Dr. Mark B. McClellan. Recently the FDA also approved cetuximab (Erbitux™) for use in patients with metastatic colorectal cancer that had progressed after treatment with standard irinotecan-based chemotherapy.

Such advances, noted Dr. William Figg, head of the Clinical Pharmacology Research Core in the NCI Center for Cancer Research and co-chair of the NCI Angiogenesis Working Group, are important for the treatment of all cancers. "The approval of bevacizumab has a big impact," he said. "It proves that this pathway, angiogenesis, is important and can be targeted. It also renews interest in drug development of antiangiogenesis agents and moves us beyond proof-of-principle type trials to finding agents or combinations that impact patients."

Bevacizumab is a monoclonal antibody that is thought to work by inhibiting vascular endothelial growth factor, or VEGF, a protein that plays an important role in angiogenesis. In a study presented at the 2003 American Society of Clinical Oncology annual meeting, patients with newly diagnosed metastatic colon cancer who received bevacizumab in combination with a chemotherapy regimen known as IFL (irinotecan, 5-fluorouracil, and leucovorin) survived longer and had longer periods without cancer progression than those in the IFL-alone group. In its approval, the FDA stated bevacizumab can be used in combination with any chemotherapy regimen that includes 5-FU for patients with untreated metastatic colorectal cancer.

In the 1960s, Harvard researcher Dr. Judah Folkman postulated that angiogenesis fueled tumor growth and that therapies could be designed to block this action. NCI has long provided support for Dr. Folkman's research in this area. In addition, NCI's Cancer Therapy Evaluation Program, in collaboration with Genentech, is sponsoring more than 30 trials to investigate the use of bevacizumab in other settings of colorectal cancer and in patients with a variety of solid tumor and hematological malignancies.

NCI, along with other NIH institutes and the Juvenile Diabetes Research Foundation, has established a trans-institute angiogenesis initiative to find overlapping opportunities to apply vascular biology research findings across diseases.

While only one angiogenesis inhibitor has been approved, others may not be far behind. "There are numerous agents in development in both preclinical and clinical settings that look extremely promising," Dr. Figg said. ◆

# Special Report

## caBIG: The Launch of a Bioinformatics Community

When NCI announced the pilot of the cancer Biomedical Informatics Grid, or caBIG, last summer, it marked the beginning of a potentially powerful avenue for cancer research that is open to the entire cancer community. With caBIG, all cancer researchers will have access to a common research infrastructure that creates a plethora of opportunities to not only make important new findings but to do so more quickly and efficiently than ever before.

Currently in its early stages of development, this new system will offer a library of tools and resources—from clinical trial management systems to tissue bank and pathology tools—that are all built to common standards and are interoperable with other existing systems. It will also allow researchers to tap into an ocean of raw published data. As currently envisioned, a researcher could, for example, use caBIG to tap into appropriately anonymized, published molecular data from all U.S. cancer centers on patients with prostate cancer who are being treated with a specific drug. By providing such access supported by these innovative tools, study populations' data can be far more robust and researchers can mine the data in a way that simply isn't possible at the moment.

Technically, caBIG will work much like a home entertainment component system in which components are made by different manufacturers. Each component—the CD player, the FM receiver, the speakers, etc.—is built to certain common standards. As a result, each component, no matter who manufactures it, can be hooked up to the other and they will all work seamlessly. To date, this is not the case with applications and data generated within the cancer research establishment.

"Each cancer community has its own dialect, its own standards for capturing and reporting data, and each cancer center builds its own unique software, its own clinical trial management systems, its own gene expression array data capture systems," says Dr. Ken Buetow, the project director for caBIG. "While in and of itself this is not bad, there is no interoperability between systems from cancer center to cancer center—or commonly within a single cancer center—meaning that volumes of valuable raw data are not being tapped, effective best practices are not being widely distributed, and resources are being wasted because of duplication of effort.

"An increasing fraction of a scientist's effort is spent managing and manipulating the ever-growing, complex datasets being generated by modern biomedical studies," he continues. "Institutions are spending vast resources reinventing basic infrastructure to support these activities. Yet the creativity in being a scientist, and the impact of our research, is really about answering questions. With caBIG, the research community can focus its attention on innovation in prevention, diagnosis, and treatment, not on data management and constantly building and troubleshooting the basic underlying research infrastructure."

The caBIG initiative represents NCI's response to calls from the community to assist it in dealing with the tsunami of biomedical research data, and its development has been a community-wide effort, involving more than 50 cancer centers.

**The Pilot**

The central element of the initial three-year caBIG pilot is represented by the "workspaces"—virtual environments where related caBIG resources and tools are grouped. In individual workspaces, staff from participating cancer centers will work on projects as both "developers," that is, those that develop tools and resources based primarily on existing and proven items, and "adopters," those that test, validate, and apply the tools and who contribute data resources used in this validation. There are also working groups that provide guidance and support to each workspace and the pilot as a whole.

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(Special Report continued from page 5)

These are truly collaborative efforts. The clinical trial management systems workspace and working group, for instance, include 15 participating cancer centers. The integrative cancer research workspace and working group have 23.

As Dr. Buetow points out, the intention of caBIG is not to reinvent the whole system of cancer research. In each strategic area of the pilot, existing tools and resources are being assembled whenever possible and adapted to become compatible with caBIG. The projects being tackled in this three-year pilot are those that were identified by the cancer centers as representing the greatest areas of need.

"We couldn't do everything at one time," says Dr. Buetow. "A lot of worthwhile projects were suggested. Working with the cancer centers, we are focusing on tools and resources that will be most immediately helpful. We will definitely get to the other projects over time—developing, testing, and validating them as needed, based on input from the community."

The goal for caBIG, Dr. Buetow stresses, is that it will ultimately evolve into a community-driven activity, with the effort expanding beyond the groups directly supported by NCI, including industry.

"If caBIG meets its pilot objectives, its value to the cancer research community will become clear beyond any 'measurements' we can make," Dr. Buetow says. "We clearly have high expectations for caBIG and, based on the initial response we've had and the progress we've made to date, I'm confident that we'll meet and possibly surpass them."

More information on caBIG, including a virtual tour, is available on the NCI Web site at http://cabig.nci.nih.gov/. ◆

# Funding Opportunities

**The NCI Career Development Award for Quantitative Scientists**

RFA-CA-04-016
Letter of Intent Receipt Date: March 22, 2004
Application Receipt Date: April 20, 2004

The purpose of this Request for Applications (RFA) is to solicit applications to encourage doctoral-level quantitative scientists to develop and apply their skills to biomedical cancer research. Examples of scientific and technical backgrounds considered appropriate for this award are physics, mathematics, computer science, imaging science, informatics, statistics, economics, chemistry, engineering, and nanotechnology. The RFA will use the K25 award mechanism.

For more information see http://cri.nci.nih.gov.

Inquiries: Dr. Lester S. Gorelic, gorelicl@mail.nih.gov

**An SBIR/STTR Initiative for Image-Guided Cancer Interventions**

PA-04-063
Application Receipt Dates: April 1, 2004; Aug.1, 2004; Dec. 1, 2004; April 1, 2005; Aug. 1, 2005; Dec. 1, 2005

The purpose of this Program Announcement (PA) is to support the development and clinical validation of systems for image-guided interventions (IGI) for cancer. Specifically, the goals of this program are to provide support for 1) the development and optimization of fully integrated cancer imaging, monitoring, and therapy systems; 2) the validation of integrated IGI systems through clinical evaluations; 3) the development of multiple prototype integrated IGI systems as required for multisite clinical evaluations; and 4) partnerships among businesses and academic clinical centers, in order to reach the research goals.

For more information see http://cri.nci.nih.gov.

Inquiries: Dr. Keyvan Farahani, farahank@mail.nih.gov; Dr. Laurence P. Clarke, lclarke@mail.nih.gov

**Development of Assays for High-Throughput Drug Screening**

PA-04-068
Application Receipt Dates: June 1, 2004; Oct. 1, 2004; Feb. 1, 2005; June 1, 2005; Oct. 1, 2005; Feb. 1, 2006; June 1, 2006; Oct. 1, 2006; Feb. 1, 2007

The purpose of this PA is to encourage the use of high-throughput small molecule screening for use in both research and drug discovery programs by funding the development of innovative assays that may be adapted for automated screening. NCI is especially interested in proposals related to cancer prevention, treatment, or treatment monitoring with imaging agents.

For more information see http://cri.nci.nih.gov.

Inquiries: Dr. Ronald J. Dubois, rd41n@nih.gov ◆

# Notes

### NCI's Web Site Redesign

A redesign of the NCI Web site (http://cancer.gov) is in progress, with a launch scheduled for June 2004. The proposed new design reflects extensive user research and is intended to help all site visitors more readily find the information they need. Please go to http://redesign.cancer.gov to see a few of the redesigned Web pages. The sample pages will be available at this URL through March 19. Your comments can help NCI make important refinements. Please use the e-mail link at http://redesign.cancer.gov to provide feedback.

### NCI-Supported Researchers Receive MERIT Awards

Four NCI-supported researchers were recently honored with MERIT (Method to Extend Research in Time) Awards. These National Institutes of Health (NIH) awards honor researchers who have demonstrated superior competence and outstanding productivity in research endeavors. The awards provide long-term support to investigators with impressive records of scientific achievement in research areas of special importance or promise. Less than 5 percent of NIH investigators are selected to receive MERIT Awards.

New NCI awardees are: Dr. William H. Fenical, Scripps Institution of Oceanography, University of California, San Diego; Dr. Stephen P. Goff, Columbia University Medical Center; Dr. Benjamin G. Neel, Beth Israel Deaconess Medical Center, Harvard University; and Dr. Timothy A. Springer, CBR Institute for Biomedical Research, Harvard University.

For more information on MERIT Awards and for a list of all NCI researchers who have received this award, see http://cancer.gov/researchfunding/MERIT.

### NCI Hosts Science Writers' Seminar

NCI will host a special Science Writers' Seminar at the National Press Club on March 9 for reporters nationwide. The topic will be the cancer Biomedical Informatics Grid—caBIG: Achieving the Promise of Molecular Medicine.

Scientists are creating a groundbreaking new research infrastructure that has the potential of fundamentally changing how cancer research is conducted. Through a partnership with the cancer community, NCI is developing a biomedical electronic informatics network that will generate a library of interoperable cancer research tools and data. NCI director Dr. Andrew von Eschenbach will speak at the seminar. Dr. Ken Buetow will give an overview of caBIG, Dr. Jo Anne Zujewski will discuss early-phase breast cancer clinical trials and describe the grid's value for clinicians conducting those trials, and Dr. Howard Fine will discuss how this initiative will support a national protocol for molecular diagnostics of brain tumor samples.

Space is limited to credentialed press only, but everyone can view the seminar via a live Webcast at http://www.ConnectLive.com/events/nci.

### Scientists Focus on Tobacco Products

On February 26 and 27, researchers and federal officials assembled in Washington, D.C., to discuss ways to study new tobacco products that are purported to be less harmful than others on the market. Sponsored by NCI, the Centers for Disease Control and Prevention, the National Institute on Drug Abuse, and the National Institute on Alcohol Abuse and Alcoholism, the meeting featured presentations by these institutes and centers, as well as by the FDA and researchers from throughout the United States.

While there is increasing interest by both pharmaceutical and tobacco companies in developing products that decrease the health risks in smokers, there currently are no standard methods to conduct studies to assess risk reduction from these products, nor is there agreement regarding which biomarkers should be assessed to determine whether the use of new products actually decreases risk.

The introduction of these products and the fact that approximately 440,000 people in the United States die of tobacco-related diseases each year underscores the need to develop new product testing methods and validated biomarkers of exposure and harm. Investigators interested in pursuing these questions are encouraged to review two reports relevant to these issues. The first is a report from the Institute of Medicine, Clearing the Smoke: The Science Base for Harm Reduction. The second is the NCI Monograph, Risks Associated with Smoking Cigarettes with Low Machine-Measured Yields of Tar and Nicotine. Dr. Peter Shields of the Lombardi Cancer Center discussed many of the complex scientific challenges facing investigators in an article in the Oct. 2, 2002 *Journal of the National Cancer Institute.* ◆

# Featured Meetings

This is a list of selected scientific meetings sponsored by NCI and other organizations. For locations and times and a more complete list of scientific meetings, including NCI's weekly seminars and presentations open to the public, see the NCI Calendar of Scientific Meetings at http://calendar.cancer.gov.

## NCI Advisory Committee Upcoming Meetings, March 2004

| Date | Advisory Committee |
|---|---|
| Mar 15 | Annual Joint Meeting of the NCI Board of Scientific Advisors and Board of Scientific Counselors |
| Mar 15 | Clinical Sciences and Epidemiology—Subcommittee 1, Board of Scientific Counselors, NCI |
| Mar 15 | Basic Sciences—Subcommittee 2, Board of Scientific Counselors, NCI |
| Mar 15-16 | NCI Board of Scientific Advisors |

## Selected Upcoming Meetings of Interest

| Date | Meeting | Speakers |
|---|---|---|
| Mar 3 | Cancer Nanotechnology Symposium—Nanotechnology: Visualizing and Targeting Cancer | Dr. Anna Barker, Deputy Director, Advanced Technologies and Strategic Partnerships |
| Mar 4 | Cancer Nanotechnology Symposium—Nanotechnology: Enabling Breakthroughs in Cancer Early Detection and Therapeutics | Dr. Anna Barker, Deputy Director, Advanced Technologies and Strategic Partnerships |
| Mar 9-12 | UCSF Comprehensive Cancer Center's Cancer Prevention Seminar | Dr. Peter Greenwald, Director, Division of Cancer Prevention |
| Mar 17-18 | Imaging in Oncology | Dr. Ellen Feigal, Acting Director, Division of Cancer Treatment and Diagnosis |
| Mar 19 | Director's Seminar Series: Biotechnology and NCI: Partners in Bringing Patients the Next Generation of Cancer Therapy | Carl B. Feldbaum, President, Biotechnology Industry Organization |
| Mar 24-27 | 25th Anniversary Annual Meeting & Scientific Sessions of the Society of Behavioral Medicine | Dr. Robert T. Croyle, Director, Division of Cancer Control and Population Sciences |
| Mar 24-28 | 9th Biennial Symposium on Minorities, the Medically Underserved & Cancer | Dr. Andrew C. von Eschenbach, Director; Dr. Anna Barker, Deputy Director, Advanced Technologies and Strategic Partnerships; Dr. Mark Clanton, Deputy Director, Cancer Care and Delivery Systems; Dr. Harold P. Freeman, Director, Center to Reduce Cancer Health Disparities |

## NCI Exhibits

NCI Exhibits are presented at various professional and society meetings. Further information about the NCI Exhibits Program can be found at http://exhibits.cancer.gov.

This *NCI Cancer Bulletin* is produced by the National Cancer Institute (NCI). NCI, which was established in 1937, leads a national effort to eliminate the suffering and death due to cancer. Through basic and clinical biomedical research and training, NCI conducts and supports research that will lead to a future in which we can prevent cancer before it starts, identify cancers that do develop at the earliest stage, eliminate cancers through innovative treatment interventions, and biologically control those cancers that we cannot eliminate so they become manageable, chronic diseases.

For more information on cancer, call 1-800-4-CANCER or visit http://cancer.gov.

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