THE CANCER LETTER

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Spending Measures Include Provisions On Ethics For NIH Extramural Scientists

By Paul Goldberg

Congress is intensifying its drive to strengthen regulation of scientists' conflicts of interest, as the appropriations measures for fiscal 2009 now include provisions to toughen ethics rules for extramural scientists receiving money from NIH.

The documents, which haven't been officially released, but were obtained by The Cancer Letter, include an amendment to the Senate appropriations bill and the language in the House and Senate appropriations committee reports that accompany the spending bills.

In addition to appropriations language, NIH faces scrutiny of oversight

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Cooperative Groups:

Policy Forum Workshop Discusses Need For Modernization, Funding Of Group System

By Kirsten Boyd Goldberg

The NCI Cooperative Group Program needs modernizing and additional funding to improve its ability to initiate and complete cancer clinical trials, participants at a workshop held by the Institute of Medicine's National Cancer Policy Forum said.

As an initial "big, hairy, audacious goal," NCI and the groups should try to cut in half the time it takes to move an idea for a study from concept to initiation, said John Mendelsohn, president of M.D. Anderson Cancer Center and chairman of the workshop planning committee.

"I believe that much of what we are going to talk about today we in this room can control," Mendelsohn said at the July 1-2 workshop at the National Academies. "The people in this room and participating in this conference can make changes and achieve this. It's a reasonable goal, and all of us will have to do some giving, but this is not something that goes to Congress. It is something that we internally can do."

According to a recent analysis, cooperative group trials take a median of 800 days to open, meaning that the scientific rationale for a study could be more than two years old by time the first patient is accrued. NCI asked the National Cancer Policy Forum, a panel it helps support through the National Academies, to hold a workshop involving top clinical trialists and others involved in the system to begin to develop solutions. More than 100

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Senate Bill Includes Provision On NIH Extramural Ethics

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committees. These investigations stem in part from conflicts of interest involving the leaders of the International Early Lung Cancer Action Program, who held patents and received royalties for lung screening technologies, but failed to disclose these commercial interests in academic publications and at continuing medical education events.

Though the institution where I-ELCAP is based, Weill Cornell Medical College, is responsible for monitoring the researchers' ethics, its top officials took part in running a non-profit that channeled tobacco money into the I-ELCAP research.

The Republican members of the House Committee on Energy and Commerce are investigating the matter, as is Sen. Chuck Grassley, the Iowa Republican, whose relentless probing of conflicts at NIH has contributed to the push for the appropriations measures.

In his multiple investigations, Grassley is forcing NIH, its funded institutions, and pharmaceutical companies, to produce documents on conflicts on the part of extramural researchers, making it clear that the flow of information about on conflicts into the media would not cease.

In the past, NIH claimed that institutions which receive nearly $24 billion in the institutes' funds are capable of regulating themselves, and that a centralized approach to monitoring and managing conflicts was not feasible. However, in a recent communication with the House Committee on Energy and Commerce, NIH acknowledged that it has started a review of its extramural conflict policies (The Cancer Letter, June 13).

The amendment to the Senate spending bill instructs the HHS secretary to initiate rulemaking to enhance disclosure by extramural researchers. The measure was introduced in response to lobbying by Grassley, who is the ranking member of the Senate Finance Committee, and is not a member of the appropriations panel. The bill has cleared the Senate appropriations committee that funds HHS on June 26.

The reports of the House and Senate appropriations committees are not binding, but federal agencies have to respond to these wishes of the committees.

While the Senate report simply tells the HHS secretary to "fix" the problem, the House report offers detailed prescriptions. The document directs NIH to develop standards for conflict management and disclosure as well as a plan for oversight of compliance. Also, the House report directs the HHS Office of Inspector General to investigate conflicts in the extramural program.

The Senate amendment:

Within six months of passage of this Act, the Secretary of the Department of Health and Human Services shall issue an Advanced Notice of Proposed Rulemaking to solicit public comment in advance of modifying regulations at 42 CFR Part 50 Subpart F for the purpose of strengthening federal oversight and identifying enhancements of policies, including requirements for financial disclosure to institutions, governing financial conflicts of interest among extramural investigators receiving grant support from the National Institutes of Health.

The Senate report:

The committee greatly appreciates the director's efforts to produce a stronger policy for its employees regarding conflicts of interest and financial disclosure.

This was an arduous task but worth the effort, as it served to reassure the public and Congress that NIH employees are meeting high standards of conduct.

However, the committee notes that the vast majority of NIH funding is awarded extramurally, to non-Federal employees and institutions.

Troubling allegations that some NIH-funded investigators have flaunted their universities; conflict-

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of-interest rules have recently come to light, and it seems clear that the NIH currently has no ability to monitor or prevent such abuses.

Moreover, up to this point the NIH leadership has not demonstrated much interest in dealing with the issue. That must change. The committee believes that the director has no higher priority in the coming year than to address this situation and fix it.

The House report:

In the report accompanying the fiscal year 2008 appropriations bill, the committee directed the NIH director, after consultation with the U.S. Office of Government Ethics, to develop a conflict of interest policy appropriate for the nearly 7,000 NIH contract staff.

The committee is pleased that the director has convened a workgroup to develop a conflict of interest and financial disclosure policy, but is disappointed that the workgroup does not expect to finish its work until June 2009, two years after the committee request was made. The committee understands that the policy area is complex and involves multiple executive branch stakeholders, but encourages NIH to take steps to accelerate the implementation of this important policy.

The committee is concerned by the financial conflicts of interest of some administrators of NIH grantee institutions and individual extramural investigators which have been identified by the HHS Office of Inspector General and Congressional investigators.

The committee realizes that NIH cannot be expected to monitor the behavior of each of the 300,000 scientists who work on NIH grants. Nevertheless, it is NIH's responsibility to establish clear, rigorous standards for its grantees and to have in place a credible oversight system. NIH intramural researchers seem to be subject to stricter standards regarding financial conflict of interest and disc1osure than their extramural colleagues.

The committee instructs the director of NIH to develop a policy for extramural grantees, including both institution administrators and scientists, that establishes requirements, at a minimum, for: (1) acceptance and reporting of outside income and benefits; (2) definition of occurrences of conflict; (3) the reporting in detail of the occurrence and nature of conflicts; and (4) NIH response to grantee violations of these rules.

The committee suggests that the director consult with representatives of NIH grantee institutions to achieve this policy in a way that recognizes the variation in institutional administrative structure and governance.

The director should include in his analysis the costs to NIH and the institutions of automating the necessary reporting systems and the cost to NIH of implementing rigorous oversight, at a minimum on a sample basis of reported cases.

The committee requests a report by January 1, 2009 on the director's activities to develop a policy in order to give sufficient time for Congressional review as part of the fiscal year 2010 budget process.

The committee would be willing to consider any 2008 reprogramming necessary to begin to implement an extramural conflict of interest policy during the current fiscal year. The committee acknowledges the complexity of developing such a conflict of interest and financial disclosure policy but believes that it is essential in order to be confident that the substantial sums the committee is recommending for NIH are spent appropriately.

The committee directs the HHS Office of Inspector General to conduct a follow-up assessment of the NIH extramural conflict of interest and financial disclosure policy and report to the committee within sixty days of the Committee's receipt of the NIH plan.

Appropriations:

President Signs Supplemental Funding For NIH And FDA

The supplemental appropriations bill signed by the President gives NIH and FDA $150 million each for the current year.

The new NIH funds will be used by the institutes and the Common Fund.

However, the NIH director is precluded from transferring the money to the buildings and facilities program, the Center for Scientific Review, the Center for Information Technology, the Clinical Center, the Global Fund for HIV/AIDS, Tuberculosis and Malaria, or the Office of the Director.

At FDA, $66.8 million is allotted to the Center for Food Safety and Applied Nutrition; $28 million is programmed for the Center for Drug Evaluation and Research; $12.7 million goes to the Center for Biologics Evaluation and Research; $6 million for the Center for Veterinary Medicine; $20.1 million for the Center for Devices and Radiological Health; $3.4 million for the National Center for Toxicological Research; and $12.9 million for other activities, including the Office of the Commissioner.

In a recent letter to Senate appropriators, FDA

Commissioner Andrew von Eschenbach said that in his judgment the agency needed an additional $275 million.

The President signed the bill on June 30.

FDA News:

"Complete Response" Letters To Be Issued To Sponsors

The FDA Center for Drug Evaluation and Research will stop issuing "approvable" and "not approvable" letters.

Sponsors of drugs that fail to get approval will instead receive the bad news in "complete response" letters, the agency said.

Explaining the agency's new "final rule," CDER Director Janet Woodcock said the designation would allow the agency to speak in a "more consistent and neutral way."

The final rule, which will become effective Aug. 11, is posted at http://www.fda.gov/cder/regulatory/complete_response_FR/default.htm.

The 2002 law that reauthorized the user fee system mandated the agency "to simplify regulatory procedures… to provide for the issuance of either an 'approval' or a 'complete response' action letter at the completion of a review cycle for a marketing application."

Centers for Biologics Evaluation and Research have been using this terminology for several years.

The agency's critics said the change in nomenclature will make the agency's decisions less transparent.

Now, outsiders—especially investors—will not know whether the agency has told the sponsor to correct routine irregularities with a drug's manufacturing process, a problem that would have warranted an approvable letter, or required new randomized trials powered for survival, which would have warranted a not approvable letter.

The final rule published by the agency acknowledges that sponsors had complained about the system.

"In the past, some drug manufacturers expressed concern that a not approvable letter sent an unintended message that a marketing application would never be approved, which could adversely affect a company's ability to raise capital," the agency document states.

"Thus, in addition to allowing us to meet our commitments under the user fee performance goals, this regulatory change addresses industry comments by adopting a more neutral mechanism to convey that an NDA or ANDA cannot be approved in its current form."

The agency is precluded from releasing complete response letters, and sponsors generally keep these documents secret.

Cooperative Groups:

NCI And Groups Could Shorten Time To Protocol Activation, Workshop Participants Say

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representatives of government, regulatory agencies, academia, industry, and patient groups attended the event.

The policy forum intends to write a report from the workshop that would include recommendations.

With federal funding for the cooperative groups held flat at $145 million a year, the groups are forced to turn to industry for financial support, and increasingly are doing so, Mendelsohn said. The groups can provide a greater patient diversity than companies can recruit, and many of the groups have tissue banks and can study genes and molecular targets.

"As we're moving into more personalized medicines, these groups can carry out the kinds of trials we are all interested in," Mendelsohn said.

The NCI Cooperative Group Program includes 1,700 institutions under 12 groups that recruit about 22,000 patients to cancer clinical trials each year.

"We have a system that is inefficient, time-consuming, and under-funded," NCI Director John Niederhuber said to the workshop. "In an era of targeted therapy, the system is geared toward the testing of nonspecific regimens. It lacks the capacity to highly characterize each patient and carefully match that patient profile to a targeted therapeutic."

In 1997, an independent review panel said that the Cooperative Group program needed to be properly funded, and since then, the costs of running trials have risen without similar budget increases.

Federal funds support about half of the activity of the groups, said Richard Schilsky, chairman of Cancer and Leukemia Group B and professor of medicine at University of Chicago. The groups raise financial or in-kind support from philanthropy, industry, and academic institutions and hospitals. Physicians enrolling patients on trials aren't paid for their work. The per-case reimbursement provided by NCI to the enrolling institution doesn't cover the full cost of patient care.

Schilsky proposed several changes to the current

system:

—For studies where NCI holds the IND, aim for combined NCI and FDA protocol review within 30 days.

—For studies where a cooperative group holds the IND, only FDA review—rather than additional NCI review—should be required. "What is the value added of the NCI review, when we have the regulatory responsibility in the group and have to report to FDA?" Schilsky said.

—For non-IND studies, review should be undertaken by the groups, bypassing NCI. "The most common question I get from pharmaceutical companies is, 'Does this have to be reviewed by NCI?'" he said. "The group ought to be able to do the studies and defend them in peer review."

—Modify the terms of the U10 grant that funds the groups to give the groups greater flexibility. "Why does NCI provide 50 percent of the funding but maintain 100 percent of the control?" Schilsky said.

—FDA should specify a "minimum data set" necessary for NDA submission.

—FDA should assess whether its Special Protocol Assessment adds value to the process.

—NCI and the groups should re-examine the value of the Central IRB. "This was a great idea, but it has been extremely difficult to implement," Schilsky said. "Only 20 percent of sites subscribe to the CIRB, which means that 80 percent of the sites are held hostage to the CIRB," and can't begin to enroll patients until the CIRB review is completed.

—CMS should cover all clinical care costs for patients on trials and should institute a higher billing rate for doctors who put patients on trials.

David Dilts, professor of management and engineering at Vanderbilt University and co-director of Vanderbilt's Center for management Research in Healthcare, who studied trial activation times within the groups, said that at best it takes a year and a half, and—at worst—seven years, to open a study. "And we don't know which it's going to be," Dilts said.

Dilts proposed what he called "quick fixes":

—Use standard and consistent terminology.

—Use schedules and priorities, and penalize late responses. Stop tweaking studies.

—"Just say no" to studies. "If you are a cooperative group and can only open 10 studies, which do you want to do?" he said. Begin to triage studies using scientific merit and operational complexity.

—Eliminate non-value added steps in the entire process.

—Change the culture from one of a feeling of entitlement and build a "mass customization process" instead of the present "engineered-to-order" process.

—Use focused teams to rapidly develop phase III concepts with the goal to activate a high-quality phase III trial in 90 days, and reward success with funding.

Jan Buckner, chairman of the North Central Cancer Treatment Group and professor of oncology at Mayo Clinic, described his group's attempt at shortening the time the group took from receipt in its Protocol Development Unit to submission to IRB or NCI.

Prior to the project, studies took a median of 23 weeks, with a maximum of 160 weeks. The group worked on eliminating extraneous reviews, Buckner said. "We cut out part of the emailing," and required investigators to appear on a certain date for a protocol planning meeting, he said.

The group was able to cut the time for protocol development by 75 percent, to a median for all studies of 6 weeks.

"The goal of a 50 percent cut in time to activating a protocol is doable," Buckner said.

In the Cancer Centers:

Emory's Brain Tumor Program To Participate In TCGA Project

EMORY WINSHIP CANCER INSTITUTE'S Brain Tumor Program is participating in the Cancer Genome Atlas, a three-year pilot project sponsored by NCI and the National Human Genome Research Institute to analyze the molecular basis of cancer. Ten academic medical centers across the U.S. will catalogue DNA alterations in brain, lung and ovarian cancer to find targeted treatments. **Erwin Van Meir**, co-director of Brain Tumor Program and director of the laboratory for molecular neuro-oncology, was chosen by NIH to supply samples and associated clinical history to catalogue genetic alterations in glioblastoma. To collect the 500 cases per tumor type, patients are being asked to contribute cancer tissue and blood samples. "We have already seen the potential in separating breast cancers into subtypes and designing targeted therapies for the subtypes," said **Brian Leyland-Jones**, director of Emory Winship. "With the information catalogued by the Cancer Genome Atlas, I expect doctors will be able to extend that idea to other types of cancer." The core Emory TCGA team includes **Daniel Brat**, professor in the School of Medicine Department of Pathology and Laboratory Medicine, and **Gena Marie Mastrogianakis**,

project manager. Other institutions contributing to the glioblastoma collection are Duke University, Henry Ford Hospital System, Mayo Clinic, M.D. Anderson Cancer Center, and University of California at San Francisco. . . . **EPPLEY CANCER CENTER** at the University of Nebraska Medical Center will honor **Robin Roberts**, co-anchor of the ABC television program, Good Morning America and a breast cancer survivor, with the Ambassador of Hope Award. The award is given for significant contributions in the fight against cancer through research, patient care activities, or by raising public awareness of cancer. Roberts, who authored her first book, "From the Heart: Seven Rules to Live By," will be honored at a gala on Oct. 18. "With the proceeds raised from the gala, we hope to develop a statewide breast cancer registry, that would be available online," said **Ken Cowan**, director of the UNMC Eppley Cancer Center. . . . **ROSWELL PARK CANCER INSTITUTE** distinguished member **Peter Demant**, of the Department of Molecular and Cellular Biology, was awarded a four-year, $1.2 million grant from NCI to evaluate how an individual's genes impact the immune response to cancer. Demant and his colleagues recently mapped novel genes that determine the intensity of the immune response to cancer in each patient. The grant will allow the researchers to expand upon this work and improve the understanding of the function of these genes. "We wanted to know why the immune cells in some patients migrate into the tumors, and why in others they do not," said Demant. "Our hypothesis was that it is the genes of each individual that determine the intensity of each individual's immune response." Laboratory studies led the researchers to a novel group of genes that have not, until now, been known to play a role in the defense against cancer. "These novel genes have great potential in assessing the prognosis of each patient and the probability that the immune cells will be able to invade the cancer," Demant said. Also, RPCI appointed **David Mattson Jr**. director of the Breast Radiation Oncology Program, Department of Radiation Medicine. Before his appointment at RPCI, Mattson completed fellowship and residency training in the Department of Radiation Oncology at the University of Iowa Hospital and Clinics. After earning his medical degree at the John A. Burns School of Medicine, University of Hawaii at Manoa, he completed a research fellowship in the Radiation Oncology Sciences Program, Molecular Radiation Oncology Section at NCI. . . . **CITY OF HOPE** named **William Gorenstein** vice president of finance. He was associate vice president, finance-corporate controller at the University of Pennsylvania Health System, where he had been for 14 years. . . . **SMILOW CANCER HOSPITAL** in New Haven, Ct. , received a $1 million contribution from United Technologies Corp. The hospital will provide care to patients throughout the region by expanding clinical space for Yale-New Haven Hospital, Yale Cancer Center and Yale School of Medicine. "Smilow Cancer Hospital will provide world-class care to our community and play an important role in the search for a cure to this terrible disease," said **Louis Chênevert**, UTC president and chief executive officer. "Yale Cancer Center is one of only 39 National Cancer Institute-designated comprehensive cancer centers, and the only one in southern New England. I'm proud that UTC can support this exceptional new cancer facility in our community."

The 14-story, 497,000-square-foot Smilow Cancer Hospital will house 112 inpatient beds, outpatient treatment rooms, expanded operating rooms, diagnostic imaging services, therapeutic radiology and a specialized Women's Cancer Center. It is scheduled for completion in 2009.

"Smilow Cancer Hospital will allow us to deliver cancer care in a truly integrated manner, benefiting our patients," said Marna P. Borgstrom, Yale-New Haven Hospital president and chief executive officer.

Chênevert has served as a member of Yale Cancer Center's Director's Advisory Board since 2001 and currently serves as co-chairman of the Smilow Cancer Hospital Campaign Committee.

The contribution from UTC will be recognized in the Women's Health Center Oncology reception area of Smilow Cancer Hospital, which will celebrate its last construction milestone with a "topping-off" event on July 24.

Drug Marketing:

PhRMA's New Ethics Code Prohibits Trinkets, Dinners; Speaking Fees Still OK

The Pharmaceutical Research and Manufacturers of America has revised the code of ethics governing drug companies' marketing practices.

Under the new code of ethics, dinners out and distribution of branded doodads has become verboten, but speaking fees remain unrestricted.

The industry group last revisited its Code on Interactions with Healthcare Professionals six years ago.

"Although our member companies have long been committed to responsible marketing of the life-

enhancing and life-saving medicines they develop, we have heard the voices of policymakers, healthcare professionals and others telling us we can do better," said Billy Tauzin, president and CEO of PhRMA, said in a statement. "This updated Code fortifies our companies' commitment to ensure their medicines are marketed in a manner that benefits patients and enhances the practice of medicine. Simply put, it marks a renewed pledge to 'practice what we preach.' We hope all companies that interact with healthcare professionals will adopt these standards."

The new document, compliance with which is voluntary, states that interactions between drug reps and healthcare providers "should be focused on informing the healthcare professionals about products, providing scientific and educational information, and supporting medical research and education."

The changes in the code include:

• The document prohibits distribution of non-educational items (such as pens, mugs and other "reminder" objects typically adorned with a company or product logo) to healthcare providers and their staff. The code acknowledges that such items, even though of minimal value, "may foster misperceptions that company interactions with healthcare professionals are not based on informing them about medical and scientific issues."

• Company sales representatives are prohibited from providing restaurant meals, but are allowed to provide occasional meals in healthcare professionals' offices in conjunction with informational presentations. The code also strengthens previous statements that companies should not provide any entertainment or recreational benefits to healthcare professionals.

• In new provisions, the code require companies to ensure that their representatives are sufficiently trained about laws, regulations and industry codes of practice that govern interactions with healthcare professionals. Companies are asked to assess their representatives periodically and to take appropriate action if they fail to comply with relevant standards of conduct.

• The code proposes that each company state its intentions to abide by its provisions and that company CEOs and compliance officers will certify each year that they have processes in place to comply, a process patterned after the concept of Sarbanes-Oxley compliance mechanisms. Companies also are encouraged to get external verification periodically that they have processes in place to foster compliance with the code. PhRMA will post on its Web site a list of all companies that announce their pledge to follow the code, contact information for company compliance officers, and information about the companies' annual certifications of compliance.

Other additions to the code include more detailed standards regarding the independence of continuing medical education; principles on the responsible use of non-patient identified prescriber data; and additional guidance for speaking and consulting arrangements with healthcare professionals, including disclosure requirements for healthcare providers who are members of committees that set formularies or develop clinical practice guidelines and who also serve as speakers or consultants for a pharmaceutical company.

Drug Development:

HHMI Researchers Launch Online Protein Folding Game

Howard Hughes Medical Institute researchers at the University of Washington are bringing the arcane world of protein folding to the online gaming arena with the launch of "Foldit," a free game in which players around the world compete to design proteins.

The real world benefit: Scientists will test proteins designed by the game's players to see if they make viable candidate compounds for new drugs.

Users can access the game via the web at www.fold.it.

The development of the online game is a natural extension of HHMI investigator David Baker's quest to understand how proteins fold into unique three-dimensional shapes. Over the past decade, Baker and his colleagues have made steady progress in developing computer algorithms to predict how a linear string of amino acids will fold into a given protein's characteristic shape. A detailed understanding of a protein's structure can offer scientists a wealth of information, revealing intricacies about the protein's biological function and suggesting new ideas for drug design.

Predicting the shapes that natural proteins will take is one of the preeminent challenges in biology, and modeling even a small protein requires making trillions of calculations. Over the last three years, volunteers around the globe—now numbering about 200,000—have donated their computer down-time to performing those calculations in a distributed network called Rosetta@home. The computing logic behind the network is an algorithm called Rosetta that uses the Monte Carlo technique to find the best "fit" for all of the parts of a given protein.

But as the Rosetta volunteers watched their

computers blindly trying to work out a solution by methodically testing every possible combination and shape to find the best fit, they began to think that a little human intervention might speed things up.

"People were writing in, saying, 'Hey! The computer is doing silly things! It would be great if we could help guide it,' " said Baker, who is based at the University of Washington, where he developed the Rosetta algorithm and network.

Baker didn't know how he could make that happen until about 18 months ago, when he went hiking on Mt. Rainier with his neighbor David Salesin, a University of Washington computer scientist who also runs a research laboratory at nearby Adobe Systems. Baker and Salesin began discussing ways to make Rosetta more interactive. With the inherent fun of competition, Salesin thought a multiplayer online game was the way to go. By the time they got back to the car, they had settled on that idea. Salesin provided Baker with the names of three colleagues, led by UW computer scientist Zoran Popović, who could help Baker create the game.

Over the next several months, Popović and his students Adrien Treuille and Seth Cooper created the program, and tested it. One match between teams from the University of California and the University of Illinois aroused unexpected fervor and cheering among spectators. "30 or 40 people participated," says Baker. "The competition was very intense."

"Foldit" takes players through a series of practice levels designed to teach the basics of protein folding, before turning them loose on real proteins from nature. "Our main goal was to make sure that anyone could do it, even if they didn't know what biochemistry or protein folding was," said Popović. At the moment, the game only uses proteins whose three-dimensional structures have been solved by researchers. "Soon we'll be introducing puzzles for which we don't know the solution," Popović said.

Baker hopes that the game will speed up the sometimes tedious business of structure prediction. But the part of the game that excites him most is scheduled to debut this fall, when gamers will be able to design all-new proteins. Novel proteins could find use in any number of applications, from pharmaceuticals to industrial chemicals, to pollution clean up. With the ability for any person with a computer and an internet hookup to start building proteins, Baker thinks the pace of discovery could skyrocket.

"My dream is that a 12-year-old in Indonesia will turn out to be a prodigy, and build a cure for HIV," he said.

Funding Opportunities:

Foundation Seeks Applicants For Lymphoma Research Grants

The Lymphoma Research Foundation is accepting applications for its 2008 grant program which includes: Post-Doctoral Fellowships, Clinical Investigator Career Development Awards, Follicular Lymphoma Research Initiative Grants and Follicular Lymphoma Correlative Clinical Studies Awards.

Through its Post-Doctoral Fellowships LRF looks to attract the nation's best scientific minds to careers in lymphoma by allowing them to pursue promising leads under the guidance of a sponsor. The Clinical Investigator Career Development Awards fund the training of clinicians who will participate in developing new therapeutics and diagnostic tools for lymphoma. With the follicular-focused awards, LRF hopes to advance the understanding of the human biology of follicular lymphoma, verify molecular targets, and seek correlative clinical studies.

Applicants must submit applications online by Sept. 10, with the exception of the Letters of Intent for the Follicular Lymphoma Grants due Aug. 1. Further information is available at www.lymphoma.org/research/grants.

NIH Funding Opportunities

RFA-RM-08-019: Centers for Innovation in Membrane Protein Production for Structure Determination. P50. Letters of Intent Receipt Date: Sept. 21. Application Receipt Date: Oct. 21. Full text: http://www.grants.nih.gov/grants/guide/rfa-files/RFA-RM-08-019.html. Inquiries: John Norvell, 301-594-0533; norvellj@nigms.nih.gov.

PA-08-192: Geographic and Contextual Influences on Energy Balance-Related Health Behaviors. R01. Full text: http://www.grants.nih.gov/grants/guide/pa-files/PA-08-192.html. Inquiries: David Berrigan, 301-451-4301; berrigad@mail.nih.gov.

PA-08-193: Geographic and Contextual Influences on Energy Balance-Related Health Behaviors. R21. Full text: http://www.grants.nih.gov/grants/guide/pa-files/PA-08-193.html.

RFP N02-CM-91000-16Cancer Therapy Evaluation Program's Informatics and Computer Support. Full text: http://www.fbodaily.com/archive/2008/07-July/05-Jul-2008/FBO-01607476.htm. Inquiries: Annmarie Keane, 301- 435-3814; ak155a@nih.gov., or Richard Hartmann, 301-496-8620; hartmari@mail.nih.gov.

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