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NCATS Update

Building New Bridges

BY CARLA GARNETT, *NIH RECORD*

NIH's proposed new addition—the National Center for Advancing Translational Sciences (NCATS)—is on schedule for its October 1, 2011, delivery date, said NIH Director Francis Collins at a March 14 town hall meeting in Masur Auditorium. The hour-long session provided a chance for Collins to update employees on NCATS' progress and answer their questions.

NCATS would establish a focused, integrated, and systematic approach for building new bridges to link basic discovery research with therapeutics development and clinical care. The center will have an intramural presence, but the details are yet to be determined.

Collins laid out the case for launching NCATS now. Scientific opportunities have never been more plentiful and primed for investigation, he said, and more important, the public has never been more ready and in need of medical breakthroughs. Some people have voiced doubts about the wisdom of NIH starting a project of such magnitude during the current climate of uncertainty. Collins addressed these concerns directly.

"If we at NIH are dedicated to serve the public by advancing opportunities to prevent and treat disease, and we see an opening to do that even better, then 'It's never the wrong time to do the right thing,'" he said, quoting his predecessor, former NIH Director Elias Zerhouni.

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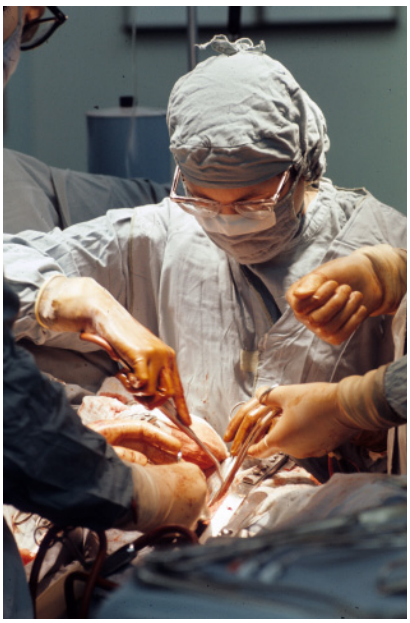
Innovation and Invention

NIH and Prosthetic Heart Valves

BY MICHELE LYONS AND HANK GRASSO, OFFICE OF NIH HISTORY

Visitors to the NIH Clinical Center will be swept back in time as they walk through the South Lobby and step into the new Stetten Museum exhibit. There they will discover how the development of blood banks, heart-lung machines, and open-heart surgery paved the way for the invention of replacement heart valves. NIH played a major role in the 1960s and 1970s in creating and testing these medical devices.

Following are photos and excerpts from the exhibit itself. These histories are more than timelines of material sciences, engineering, and technology—they are also personal stories of dedicated healers searching for solutions to heart ailments.



One of the first board-certified women cardiothoracic surgeons, NIH's Nina Starr Braunwald, performs an open-heart procedure in the 1960s.

World War II through the 1950s: The Road to Open-Heart Surgery and Valve Replacement

Many critical advancements in cardiac surgery grew out of the need to save lives during wartime. Heart surgery and battlefield surgery have one critical element in common: the need for speed. A brief window of opportunity exists to repair problems, during which oxygenated blood must continually supply vital organs.

NIH Invention: Spiral Artificial Lung and Dr. Theodor Kolobow

NIH researchers as well as surgeons made important contributions to open-heart surgery, making it less risky and more successful. One such NIH scientist, Theodor Kolobow, made an extraordinary contribution to the heart-lung bypass machine.

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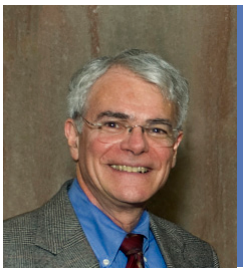


Mentoring Redux

BY MICHAEL GOTTESMAN, DDIR

I've often commented on the importance of good mentoring at NIH, and recent events have encouraged me to take up this subject again. FelCom's mentoring subcommittee recently completed its second survey of the realities and perception of mentoring by postdoctoral fellows at the NIH. Their original survey of a statistically significant sample of fellows was completed in 2001 and indicated a number of areas in which improvements could be made. This survey asked similar questions but was offered to all fellows, and 43 percent responded.

More details of the survey will be released as soon as a plan to implement its recommendations is developed by the Board of Scientific Directors (see the upcoming July-August 2011 issue of *The NIH Catalyst*). However, I have a few broad impressions that I would like to share with you now.

First, the overall responses of the fellows are amazingly similar to those of the 2001 survey despite nine years of effort to emphasize mentoring, annual reviews, and career counseling and to judge performance of our principal investigators based at least in part on their mentoring skills.

This similarity is not all bad; the majority of our fellows were then, and still are, very satisfied overall with the mentoring they are receiving. The core of dissatisfied fellows is a bit smaller than in the past, but there are still some unhappy trainees at the NIH, some of whom cannot with any certainty identify their mentors.

Second, there are some disparities in response based on the demographics of the responder. Although statistically significant, these do not indicate a serious problem, but do point to populations who need more attention. You will read more about this issue in the July-August *Catalyst*.

Whatever the details of the survey, it is clear that we still have some work to do. The NIH Scientific Directors are digesting the results over the next few months and will develop recommendations based on the conclusions and best advice of the fellows who worked on this project.

There is never a wrong time to emphasize the importance of good mentoring, including taking the best interests of your trainees to heart, recognizing the contributions of your fellows, providing clear advice and career counseling, and providing opportunities that will leverage the strengths of your trainees. For our PIs, good mentoring also implies appropriate advocacy of fellows for positions in which they can excel: letter-writing and personal recommendations for jobs; recommendations for presentations at meetings; and providing writing opportunities that will give visibility to your fellows.

We also have an institutional responsibility to provide educational experiences that will further the careers of fellows. NIH supports mentoring training and opportunities through our Office of Intramural Training and Education (https://www.training.nih.gov) and the institute training directors. The Clinical Center's Office of Clinical Research Training and Medical Education supports such opportunities for many clinical fellows.

There is never a wrong time to emphasize the importance of good mentoring.

We also depend on our training specialists and institute leadership to identify and resolve problematic laboratory situations that exploit rather than enhance the experience of our trainees. Hopefully, as the importance and tools of mentoring become widely known, these unfortunate situations will become few and far between. ●

NIH and Obesity Consensus-Development Conferences

BY CHIN JOU, OFFICE OF NIH HISTORY

Almost 30 years before the White House unveiled its plans to solve the problem of childhood obesity, NIH was conducting and supporting research aimed at understanding, preventing, and treating obesity and its related health problems. And in 1978, 1985, and 1991, NIH convened consensus-development conferences on obesity that have helped to shape public health policy, research, and medical practices for what many consider to be a disease.

The NIH Consensus Development Program was established in 1977 as a form of science court to resolve controversial topics in medicine and public health in an unbiased, impartial manner. The first conference recommended mammography as a routine diagnostic tool for breast cancer in women over 50.

Conferences are of two types: consensus-development conferences held when there is very strong evidence about a particular medical topic and there is a need to consolidate and broadly disseminate strong evidence-based recommendations for general practice; and state-of-the-science conferences held when the evidence is weak or contradictory and there is a need to highlight what evidence is available.

NIH organizes the conferences, but the consensus statements are prepared by independent nongovernmental panels of health professionals and public representatives. Since 1977, NIH has conducted 123 consensus-development conferences and 34 state-of-the-science conferences on a wide range of issues.

The 1978 consensus-development conference on the "Surgical Treatment of Morbid Obesity" evaluated different types of bariatric surgery. One of the more common bariatric procedures from the 1950s to the 1970s was the jejunoileal bypass, in which the middle (jejunum) and distal (ileum) segments of the small intestine were surgically attached to one another, bypassing most of the intestine to limit food absorption. The procedure helped obese people lose weight, but there were serious complications such as unremitting diarrhea, nutritional deficiencies, kidney stones, and bacterial overgrowth in the bypassed portion of the intestine.

At the conference, the 200 or so surgeons, internists, basic scientists, psychologists, legal experts, patients, and health insurance company representatives discussed the safety and efficacy of obesity surgery. They concluded that the gastric bypass procedure—where part of the stomach is bypassed—appeared to have "fewer long-term side effects" than did the intestinal bypass surgery. Although consensus-development conference panel statements are sometimes overturned by subsequent studies or consensus conferences, the 1978 statement has appeared to stand the test of time. Gastric bypass procedures are still performed, but the jejunoileal bypass has become obsolete.

In 1985, the NIH convened a consensus-development conference on the "Health Implications of Obesity." This meeting had 632 attendees (including physicians, scientists, health administrators, patients, and others), making it the best-attended consensus conference at the time. In the 1980s, 34 million American adults were considered overweight—with a body mass index (BMI) greater than 27.8 for men or 27.3 for women. An estimated quarter of all children were considered overweight, too.

The 1985 conference sought to define obesity, understand its effects on health and longevity, and delineate directions for future research. The health implications of obesity were established as including increased risk for cardiovascular disease (especially hypertension), dyslipidemia, diabetes, gallbladder disease, some cancers, and socioeconomic and psychosocial impairment. While most of the general conclusions have endured, the BMI threshold for being overweight has been lowered to 25 to 29.9 for both men and women; a BMI of 30 or greater is considered obese.

In 1991, NIH sponsored a consensus-development conference on "Gastrointestinal Surgery for Severe Obesity." The panel recommended that patients seeking therapy for severe obesity should be considered for a nonsurgical program that included a dietary regimen, appropriate exercise, and behavioral modification and support; that gastric restrictive or bypass procedures be considered for well-informed and motivated patients with acceptable operative risks; that candidates for surgical procedures be selected only after careful evaluation by a multidisciplinary team; and that the operation be performed by surgeons with the appropriate experience who are working in clinical settings with adequate support for all aspects of management.

NIH continues to be a key contributor to resolving the obesity epidemic. In 2003, the Obesity Research Task Force was established to accelerate the progress of obesity research across NIH. The task force recently released a strategic plan that will serve as a guide to accelerating research in obesity. ●

Chin Jou, a Stetten Fellow, is examining the relationship between the federal government and the obesity epidemic in the 1970s and 1980s. To find out more about NIH-sponsored consensus conferences, go to http://consensus.nih.gov/aboutcdp.htm. For information on the Obesity Research Task Force and its strategic plan, visit http://www.obesityresearch.nih.gov. Jou will be presenting her work at the Stetten Symposium on June 14; see page 19.

FROM THE FELLOWS COMMITTEE

Quarterly ClinFelCom Meetings Open to All NIH Clinical Fellows

BY CHRISTINA HINES, NIMH

When we first arrived at NIH as clinical fellows, people warned us to watch out for deceleration injuries. We'd grown so used to the hectic pace of our residencies that we had trouble adjusting to the slower rhythms of clinical research. We welcomed having the time to think, catch up on our journal article reading, and become productive researchers. Still, making the transition was difficult.

The Clinical Fellows Committee (ClinFelCom) helped. A subcommittee of the Fellows Committee (FelCom), ClinFelCom provides clinical fellows with opportunities for networking, supplements training provided by the institutes, and facilitates communication with NIH Clinical Center Director Dr. John Gallin.

At ClinFelCom's March meeting, we heard from Dr. Robert Lembo (Deputy Director of the Office of Clinical Research Training and Education) and Dr. Gallin. Dr. Lembo presented a career-development roadmap that directs clinical fellows to NIH-wide resources that help streamline the fellowship experience and provide guidance to the next phase of the career-track. Dr. Gallin suggested that we attend the Society for Clinical and Translational Science meeting, which was held in April in Washington, D.C. He also recommended that we complete the clinical research curriculum certificate program. For information, contact Avril Bertrand (bertranda@mail.cc.nih.gov).

At the same meeting, ClinFelCom co-chair Nicole Gormley presented a proposal for an External Advisor Program, which would connect us with former NIH clinical fellows in academia, government, private practice, and industry. We will be asking former fellows who were at NIH within the past 10 years if they would be willing to be available by phone or e-mail for one to two hours a month. Nicole also mentioned that an alumni survey will help determine how well NIH is preparing fellows for various career tracks and will provide data on the percentages of fellows who become tenured professors in academia. When you graduate from your fellowship, we hope you will participate in the survey and consider becoming an advisor.

All clinical fellows are encouraged to attend ClinFelCom's quarterly meetings, which are held 4:30–6:00 p.m. in Building 10. Upcoming meetings: Monday, June 13, 2011, room 4-2551; Tuesday, October 25, 2011, room 6-3551; Monday, January 9, 2012, room 4-2551. For more information, contact co-chairs Nicole Gormley (gormleynj@mail.nih.gov) and Srinivas Vourganti (vourgantis@mail.nih.gov). ●

FROM THE INSTITUTES AND CENTERS TRAINING DIRECTORS

Training the Scientific Workforce of the Future

EXCERPTS FROM THE NIH TRAINING DIRECTORS SUMMIT REPORT

In December 2010, the NIH intramural training directors committee held its first retreat. The directors discussed topics ranging from revamping training programs and creating core competencies (such as negotiating skills, scientific writing, and grant writing); to considering best practices for increasing diversity; to enhancing the globalization of training.

Keynote speaker Howard Garrison (Federation of American Societies for Experimental Biology) painted a realistic picture of the job outlook for biomedical scientists and offered strategies for helping NIH's postdocs achieve career success. He pointed out the deteriorating conditions of academic employment, the difficulties in getting grant funding, and that most of the hiring is for non-tenure-track positions. Career opportunities aren't so great at pharmaceutical companies either; there's little data for other biomedical industries, but hiring seems to be down worldwide.

Yet the national commitment to research remains strong and unemployment for Ph.D. scientists is low. Postdoctoral training is shown to promote career success.

Garrison offered suggestions for what training directors can do to encourage continued career growth among their postdocs. He emphasized the value in analyzing what fields are hot and what skills are in demand. For example, training directors should consider the requirements of the health-care reform bill, comparative effectiveness research, bioinformatics, and other places where Ph.D.s will be needed. Postdocs need to be taught to market themselves, determine their priorities for the future, and develop communications and interpersonal skills to supplement their technical research know-how. They might also explore their interests through internships and fellowship programs, and by doing volunteer work on committees in professional societies. ●

This committee includes training directors and representatives from 20 institutes and centers, trainees, OITE leadership, and OIR representatives. It reports to Michael Gottesman and the Scientific Directors.

Meet FelCom Co-Chairs Shauna Clark and Nicole Gormley

INTERVIEW BY ADELE BLACKLER, NIMH

Want to know all about NIH's Fellows Committee (FelCom)? Co-chairs Nicole Gormley and Shauna Clark are eager to share all they know and then some. They recently agreed to be interviewed.

Gormley completed a B.A. in psychology at Cornell University (Ithaca, N.Y.) and an M.D. at the University of Toledo College of Medicine (Toledo, Ohio). She did an internal medicine residency at the University of Maryland Medical Center (Baltimore) before coming to the NIH in July 2006 as a hematology fellow in NHLBI. She is currently a critical care fellow in the Clinical Center's Critical Care Medicine Department, where she studies lung complications that can develop after stem cell transplantation.

Clark received a B.S. in biochemistry from Texas A&M University (College Station, Texas) and a Ph.D. in infectious diseases and microbiology from the Graduate School of Public Health at the University of Pittsburgh. In September 2008 she became a postdoctoral fellow in NIDDK, where she is studying how the gene *interleukin-28B* affects the response to hepatitis C treatment.

Felcom co-chairs Shauna Clark (left) and Nicole Gormley tell all—about the Fellows Committee, what they like about NIH, and more.

What attracted you to NIH?

Gormley: It was a place where I could train in both hematology and critical care.
Clark: I first visited NIH as part of the Graduate Student Research Festival. I already knew about the amazing science here, but at the festival I learned about career opportunities for fellows.

What should we know about FelCom?

Gormley: The FelCom meetings are open to all fellows and we often have candy!
Clark: FelCom is a great way to meet people and to become involved in the NIH community. There are also opportunities to meet with potential employers if you help the Job Networking subcommittee plan events.

Which subcommittees have you joined?

Gormley: ClinFelCom (the clinical fellows committee) and Service and Outreach (SOS). I was also a liaison to the NIH Child Care Board. As a mom with two children, I enjoyed the board because it grapples with issues that are near and dear to my heart.
Clark: I am the chair of the Mentoring Subcommittee. We are finishing a survey of NIH intramural fellows regarding their experiences with their NIH mentors. I was also on the SOS and the Social subcommittee and was a chief judge for the Fellows Award for Research Excellence.

What's so great about FelCom?

Gormley: It is a great opportunity for clinical and postdoctoral fellows to come together and discuss issues that can improve our experience at NIH. And it's a great way to develop leadership skills and get involved with the larger NIH community.
Clark: It has presented excellent opportunities to meet other fellows and get involved in activities. I've gained valuable leadership experience and improved my communication skills.

What about you may surprise people who don't know you well?

Gormley: I love to sing and have auditioned for *American Idol* 100 times (in the shower).
Clark: I can be quite silly at times and can be somewhat of a goofball. Also, I used to belong to a curling league.

What advice do you have for new fellows?

Gormley: Your time at NIH is limited and it's important to make the most of it.
Clark: Take the time to look up from your lab bench and experience all the wonderful opportunities at NIH.

What do you like to do outside of work?

Gormley: Cooking! It's a lot like lab work.
Clark: I love reading and dancing. I also belong to a dodge ball league. ●

FelCom meets the first Thursday of each month from 4:00 to 5:00 p.m. in the Wilson conference room (third floor of Building One). All clinical and postdoctoral fellows are welcome. To learn more, visit http://felcom.od.nih.gov.

Bye-Bye ICU Flow Sheets

BY NICOLE MARTINO, CC, AND LAURA S. CARTER

"I never thought I'd ever work in an intensive care unit without paper charts," said NIH critical care nurse Connie Kotefka. "It's our bible."

A handwritten bible, that is.

The 34-inch-long double-sided charts, a.k.a. critical care nursing flow sheets, contain hour-by-hour data on patients in the Clinical Center's ICU. The data—which include blood pressure, heart rate, hemodynamics, infusions, intake, output, respiratory status, laboratory data, and more—are recorded, by hand, on a grid containing more than 100 columns and 24 rows. A new flow sheet is prepared for each patient each day.

But now the NIH ICU has replaced the flow sheets with an electronic system that will streamline clinical documentation, increase efficiency, and improve patient safety.

Several other hospitals have similar ICU systems, but none have developed them to the extent that NIH has.

The old flow sheet system "was essential for the efficient management of the patient and the ICU, but was laborious for the nurse and could only be used by one person at a time," said Henry Masur, chief of the Critical Care Medicine Department. "The new system downloads most of the information from the monitors and labs, saving the nurse valuable time, and can be viewed from multiple sites."

It took a team of nurses, physicians, information technology specialists, and other staff to develop the ICU's new electronic documentation system. Some of the team members include: (back row, from left) Inna Etin, Susy Postal, Therese Kent, Windy Wallin, Nicole Sartain, Nancy Ames, Ryan Kennedy, Peter Eichacker, Henry Masur, Connie Kotefka, Richard Sherry, Dennis Brown; (front row, from left) Minnie Raju, Patty Sengstack, Gina Ford, Pam Horwitz, Deb Kolakowski.

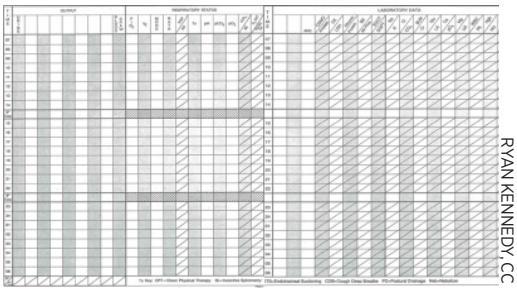
One of the main goals of this transition is to increase the quality, efficiency, and safety of patient care, said David Henderson, Clinical Center deputy director for clinical care. "The clinical data viewer in the ICU populates information automatically, eliminating the potential for human error."

The new system records and calculates many electronic observations made of a patient's condition, including vital signs, and mimics the format of flow sheets so it's easy to see patient information at a glance. It's accessible through the Clinical Research Information System (CRIS), too.

"We wanted to make it easier for nurses to document patient information while developing a way to display this information in an easier way for the physician group," said Ryan Kennedy, an information technology project manager in the Department of Clinical Research Informatics.

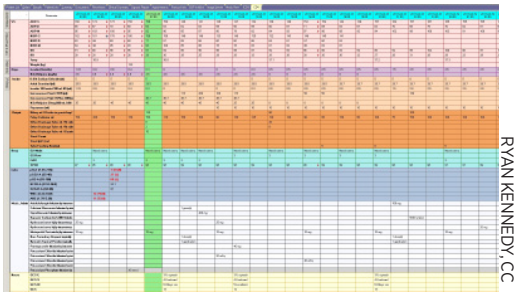
Kennedy coordinated the project, which involved customizing CRIS's clinical data viewer. "Physicians used to have to physically go up to the ICU, go to the bed, and look at a paper flow sheet to see what was going on," he said. "Now [they] can see the clinical data viewer in their offices or from home."

The new system will also allow investigators to access information for clinical research projects. "All the data that are collected on these patients was never entered into the clinical research documentation in the past," Henderson explained. The researchers will be able to easily access and use patient information that is collected in the ICU.



RYAN KENNEDY, CC

The old ICU paper flow sheets (above) have been replaced by an electronic documentation system that displays all the same patient information on a computer screen (below).



RYAN KENNEDY, CC

This project, which took more than three years to complete, was developed after receiving feedback from Nursing, Critical Care Medicine Department staff, and other Clinical Center staff members who care for or see patients in the ICU.

"We have already had nurses say that the new electronic flow sheets are easier to use and speed up the ability to enter information," said Kennedy.

Kotefka, who was one of the key players in the project and is now training people to use the new system, agrees. Not only is it faster to enter information, but health-care providers no longer need to shuffle through page after page of paper flow charts to assess how a patient is doing. Now you can see up to several weeks worth of data on one computer screen, Kotefka said. "It's like one-stop shopping."

"This new sheet is spectacular and an advance over what most institutions have," said Masur. But, he adds, "no care is adequate without direct bedside contact with the patient." ●

American Academy of Arts and Sciences Elects NIHers

Three NIH scientists have been elected to the American Academy of Arts and Sciences, whose members include some of the world's most accomplished leaders from academia, business, public affairs, the humanities, and the arts.

Gisela Storz (NICHD) is a senior investigator and deputy director of the Cell Biology and Metabolism Program. She is also the chief of the Section on Environmental Gene Regulation, which has long been studying the problem of how bacteria perceive changes in their environment and convert these signals into changes in gene expression and cell metabolism. In recent years, the group has been interested in regulatory roles of very small RNAs and small proteins that previously were unknown.

Joseph Francis Fraumeni, Jr. (NCI) is the director of the Division of Cancer Epidemiology and Genetics. A cancer epidemiologist, he has unraveled environmental and genetic determinants of cancer. His work includes the discovery, with his colleague Frederick Li, of a familial multiple-cancer syndrome associated with inherited mutations in the p53 tumor-suppressor gene. The condition, which affects children and young adults, is known as Li-Fraumeni syndrome.

Okihide Hikosaka (NEI) is a senior researcher and chief of the Section of Neuronal Networks in the Laboratory of Sensorimotor Research. His research involves the control of eye movements, functions of the basal ganglia, neural mechanisms of motivation, neural mechanisms of procedural learning, and mechanisms of spatial attention.

Other inductees into the 2011 class of fellows include documentary filmmaker Ken Burns; singer-songwriter Paul Simon; and Roberta Ramo, the first woman to serve as president of the American Bar Association.

The new class will be inducted at a ceremony on October 1, 2011, at the Academy's headquarters in Cambridge, Mass. ●

NIH Adherence Network and Other New SIGs

New SIG: The NIH Adherence Network

The Adherence Network is a trans-NIH initiative that provides leadership and vision for adherence research at NIH. Adherence research is relevant to the nation's health and wellbeing. Poor adherence to prescription medications and treatments has been labeled a "worldwide problem of striking magnitude" (World Health Organization, 2003). Research over the past 40 years has documented universally poor adherence to prescription medications and biobehavioral treatments. For example, up to 20 percent of patients fail to fill new prescriptions and 50 percent of people with chronic health conditions discontinue their medication within six months. Access to medical care is vitally important, but if people do not comply with their physicians' recommendations, then mere access will not lead to better health outcomes. The Network achieves its goals by generating trans-NIH funding announcements, hosting speakers, and supporting panels and symposium at conferences. The network meets monthly on the third Thursday from 2:00–3:00 p.m. at different sites. For more information, visit http://obssr.od.nih.gov/scientific_areas/health_behaviour/adherence/adherenceresearchnetwork.aspx. To join the Network, contact Wendy Nilsen at nilsenwj@od.nih.gov.

New SIG: Childhood Autoimmune Diseases Interest Group

The Childhood Autoimmune Diseases Interest Group formed in late 2010 and is still in the process of organizing its initial meeting. The group will discuss a variety of childhood diseases, such as pediatric uveitis, juvenile idiopathic arthritis, and sarcoidosis. For more information, contact H. Nida Sen, Staff Clinician and Director, Uveitis and Ocular Immunology Fellowship Program, National Eye Institute, 301-480-5798, senh@nei.nih.gov.

New SIG: Cancer Stem Cell Interest Group

The Cancer Stem Cell Interest Group is geared to fellows and others involved in cancer stem-cell work. During our meetings we get very specific about technical aspects of cancer stem-cell detection and study, the challenges of looking at small populations of cells, cell lineages, cell sorting, use of mouse models for xenografts (value of different strains, sites of implantation, tricks of the trade to get good implantation) and mice as models of study. Sometimes the format is a fellow-led seminar, with ample time for discussion; other times it is a roundtable exchange about experiences and troubleshooting, or maybe a journal club. Potential members come from NCI but also from institutes such as NHLBI, NIDDK, and NIDCR, where researchers are working on different aspects of the cancer stem-cell hypothesis. The scope, format, and target audience of the group are different from those of the "Stem Cell" interest group, as we focus more on technical aspects of research and open exchange and less on speaker-led seminars. For more information, contact moderator Ana Robles, roblesa@intra.nci.nih.gov. ●

For a complete SIG list, go to http://www.nih.gov/sigs or see the July-August 2010 issue of *The NIH Catalyst*, pages 9–12, at http://www.nih.gov/catalyst/2010/10.08.01/catalyst_v18i4.pdf.

Research Briefs

NCI: HIGHER THYROID CANCER RISK CONTINUES AFTER CHERNOBYL

Nearly 25 years after the accident at the Chernobyl nuclear power plant in Ukraine, thyroid cancers are still occuring among people who were children or adolescents and lived in the area at the time of the accident. They were exposed to radioactive iodine-131 from fallout, say NCI researchers who led an international team. More than 12,500 participants who were under 18 years old and lived near the accident site were measured for thyroid radioactivity levels within two months of the accident. Researchers calculated cancer risk in relation to how much energy from the radioactive iodine-131 was absorbed by each person's thyroid and then continued to screen participants for thyroid cancer up to four times over 10 years. Screening methods included thyroid exams, ultrasounds, and a series of questionnaires relevant to thyroid dose estimation. If warranted, participants were referred for biopsies or surgery. In total, 65 of the study participants were diagnosed with thyroid cancer.

Researchers believe that the screening should continue in light of a separate, previous analysis of atomic bomb survivors and medically irradiated individuals that showed that cancer risk began to decline about 30 years after exposure, but was still elevated 40 years later. (NIH authors: A. Brenner, M. Hatch, J. Lubin, A. Bouville, E. Ron; *Environ Health Perspect* DOI: 10.1289/ehp.1002674)

NHGRI, NIAMS, CC, NIAID: NEW TREATMENT FOR MYSTERIOUS RECURRENT FEVER

NIH researchers identified the cause of—and possible treatment for—a mysterious but common periodic fever disease in children. The syndrome, called PFAPA—or periodic fever associated with aphthous stomatitis (canker sores), pharyngitis (sore throat), and cervical adenitis (swollen glands)—is characterized by monthly flare-ups. Although PFAPA attacks are predictable—episodes last three to six days and are usually three to eight weeks apart—the pathogenesis was previously unknown. Using a systems biology approach, scientists found that during PFAPA flare-ups, patients had decreased numbers of activated T cells and showed overexpression of genes activated in innate immune responses, including the gene for interleukin-1, a molecule that is important in triggering fever and inflammation. The scientists hypothesized that anakinra, a drug that prevents interleukin-1 from binding to its receptor, could be therapeutic.

Up to now the only remedy for PFAPA has been corticosteroids, which can increase the frequency of flare-ups, or surgery to remove the tonsils. The experimental treatment with anakira wards off the inappropriate immune system attacks without increasing the frequency of flare-ups. In a small study, five children who received an injection of anakinra on the second day of their PFAPA fevers showed a reduction in symptoms within hours. A larger clinical trial is planned. (NIH authors: T. Fleisher, M. Brown, M. Ward, R. Colbert, H. Sun, G. Wood, B. Barham, A. Jones, I. Aksentijevich, R. Goldbach-Mansky, K. Barron, D. Kastner; *Proc of the Nat Acad Sci USA* **108**:7148–7153, 2011)

NIDA: OPIOID PRESCRIPTION ABUSE

By analyzing national prescribing patterns, NIDA researchers determined that more than half of the patients who received an opioid prescription in 2009 had filled another opioid prescription within the previous 30 days. The researchers produced the report based on sample data from a privately owned national-level prescription database and patient tracking service. The report suggested potential opportunities for intervention aimed at reducing abuse of prescription opioids.

The sample included 79.5 million prescriptions dispensed in the United States during 2009, which represent almost 40 percent of all the opioid prescriptions filled nationwide. The researchers broke down the prescriptions by physician specialty, patient's age, duration of prescription, and whether the patient had previously filled a prescription of an opioid analgesic within the past 30 days. The researchers found that approximately 56 percent of the painkiller prescriptions were given to patients who had filled another prescription from the same or different providers within the past month. Nearly 12 percent of opioids prescribed were to patients between the ages of 10 and 29. Dentists were the main prescribers for young patients aged 10–29, who are more at risk than older adults for opioid abuse and later addiction. Nearly 46 percent of opioid prescriptions were given to patients between the ages of 40 and 59, and most of those were from primary-care providers.

The issue of *JAMA* in which the study appeared included an accompanying commentary from NIDA Director Nora Volkow and Thomas McLellan of the University of Pennsylvania School of Medicine (Philadelphia). They pointed out that prescription opioid overdose is the second leading cause of accidental death in the United States and that this is compelling evidence for the need to develop strategies to curtail the use of opioid analgesics, without jeopardizing pain treatment. (NIH authors: N. Volkow, J. Cotto, M. Karithanom, S. Weiss; *JAMA* **305**:1299–1301, 2011)

NIDDK: GENETIC HOTSPOTS

NIDDK and Uniformed Services University of the Health Sciences (Bethesda, Md.) researchers have zoomed in on mouse chromosomes to map hotspots of genetic recombination. The findings may improve the detection of genes linked to disease and the understanding of the root causes of genetic abnormalities.

Genetic recombination occurs at hotspots in the cells that form sperm and eggs. By studying precursors of mouse sperm cells during the early stages of genetic recombination, the scientists have created a precise,

first-of-its-kind map of recombination hotspots in a multicelled organism. The researchers used cutting-edge DNA sequencing technology and lots of computational power to take a snapshot of all the individual pieces of DNA that were taking part in recombination at a given moment in living cells. They then used this snapshot of short DNA pieces to draw a map of where chromosomes have an increased potential to be broken and to come back together in new ways.

The end result is a catalog of about 10,000 hotspots and resembles a detailed map of where diversity can arise in the genome and of sites where such processes may go awry. The researchers will apply what they've learned from this new map to further understand chromosomal abnormalities, genetic recombination, genome stability, and evolution. (NIH authors: I. Gregoretti, K. Brick, P. Khil, R.D. Camerini-Otero; *Nature* **472**:375–378, 2011)

NICHD: PROGESTERONE REDUCES RATE OF EARLY PRETERM BIRTH IN AT-RISK WOMEN

An NICHD-led multicenter study has found that progesterone reduced the rate of preterm birth before the 33rd week of pregnancy by 45 percent among one category of at-risk women. The study also found that infants born to women who had received progesterone were less likely to develop respiratory distress syndrome, a breathing complication occurring in preterm infants.

The women in the study had a short cervix, which is known to increase the risk for preterm birth. A short cervix is thought to be a sign of a possible shortage of progesterone, a naturally occurring hormone essential to maintain pregnancy.

A total of 458 women with a short cervix (10–20 millimeters) were randomly assigned to receive either a vaginal gel progesterone preparation or a placebo between the 19th and 23rd week of pregnancy. Progesterone treatment was associated with a lower rate of preterm delivery. Infants born to women who received progesterone had a lower rate of respiratory distress syndrome than those in the placebo group.

Infants born preterm are at high risk of early death and long-term health and developmental problems. Preterm infants are also at increased risk for death in the first year of life, breathing difficulties, cerebral palsy, learning disabilities, blindness, and deafness. (NIH authors: S. Hassan, R. Romero; *Ultrasound in Obstet Gynecol* DOI:10.1002/uog.9017)

NIAMS: GENETIC KEY TO MUSCLE REPAIR

Why do patients with Duchenne muscular dystrophy (DMD) manage well through childhood and adolescence, yet succumb to their disease in early adulthood? Why do elderly people who lose muscle strength after bed rest find it difficult or impossible to recover? NIAMS researchers think that a gene found in satellite cells may hold the key. The researchers found that when they inactivated the gene *Ezh2* in satellite cells of laboratory mice, the mice failed to repair muscle damage caused by traumatic injury. The satellite cells could not proliferate. *Ezh2* expression is known to decline during aging, and the new research in mice suggests that therapies to activate *Ezh2* and promote satellite cell proliferation might eventually play a role in treating degenerative muscle diseases. The researchers caution, however, that while the identification of *Ezh2*'s role is a crucial step, any therapies are still many years away. (NIH authors: A. H. Juan, A. Derfoul, X. Feng, J. G. Ryall, S. Dell'Orso, J. M. Simone, H. Zare, V. Sartorelli; *Genes Dev* **25**:789–794, 2011) ●

NIH MANAGEMENT INTERN STEPHANIE BONHOMME IS DOING A ROTATION IN THE COMMUNICATIONS OFFICE IN THE OFFICE OF INTRAMURAL RESEARCH. SHE COMPILED THE RESEACH BRIEFS, EDITED SOME RECENTLY TENURED ARTICLES, AND WORKED ON OTHER SECTIONS OF THIS ISSUE.

Awards: iPS Cells

The NIH Center for Regenerative Medicine Award Program is supporting 13 proposals for induced pluripotent stem cell (iPS) technology from 13 intramural investigators.

Manfred Boehm, NHLBI: Reprogramming and lineage differentiations of iPS cells from HIES patients

Chuxia Deng, NIDDK: Targeted correction of human and mouse iPS cells for liver diseases

Cynthia Dunbar, NHLBI: Preclinical development of reprogrammed cells utilizing the rhesus macaque

Kenneth Fischbeck, NINDS: An iPS cell system for the study of motor neuron disease

Anton Jetten, NIEHS: Induction of pancreatic beta cell development in iPS cells by *GLIS3*

Harry Malech, NIAID: Gene repaired autologous iPSC to treat chronic granulomatous disease

Sheldon Miller, NEI: Mechanisms of AMD initiation using iPS cell-derived RPE

John Park, NINDS: Stimulation of antiglioma immune responses by iPS cell-derived microglia.

Vittorio Sartorelli, NIAMS: Role of epigenetic regulators in iPS and SCNT-derived ESCs

Ellen Sidransky, NHGRI: iPSc to study and treat Gaucher disease and associated Parkinsonism

Anand Swaroop, NEI: Therapies for early-onset retinal degeneration using iPS cell technology

Heiner Westphal, NICHD: iPS cells for the analysis and treatment of SLOS, a rare childhood disorder

Neal Young, NHLBI: iPS cells to model telomere regulation and cell therapies for human aplastic anemia ●

Kolobow came to the National Heart Institute in 1962 after completing his residency at the Cleveland Metropolitan General Hospital. He used his background in engineering, his experiences in the machine shop in college, and a friend's introduction to machining and foundry techniques to improve the artificial lung in heart-lung machines.

Kolobow wrapped sandwiched layers of fabric-reinforced silicone rubber (chosen for its inert and highly permeable properties) and plastic spacer sheets around a spool of polycarbonate. His invention was patented in January 1970 as an "Artificial Organ for Membrane Dialysis of Biological Fluids" and has been in production in various applications for over 40 years. This artificial lung made the heart-lung machine work better so that surgeons could perform open-heart operations such as valve repairs and replacements more successfully.

Kolobow is credited with over 20 patents, many associated with improving endotracheal tubes for patient ventilation. The latest, in 2009, is for a "mucus slurping endotracheal tube," an apparatus that helps to prevent such complications as pneumonia, which may sometimes be associated with ventilators.

A Young Heart-Repair Patient's Adventures: "Tommy" Lingenfelter

Before the invention of the heart-lung machine enabled surgeons to perform open-heart surgery, physicians could offer little hope to parents of children with complex heart ailments. At first, open-heart surgery benefitted three main groups: people born with a heart condition, people whose childhood strep throat had turned into rheumatic fever that damaged their heart valves, and older people who had developed life-threatening heart disease.

In Walter "Little Tommy" Lingenfelter's case, his heart problems were present at birth. In 1958 NIH surgeon Andrew "Glenn" Morrow repaired two damaged heart valves and sewed up a partition in the 10-year-old boy's heart. Morrow told Lingengfelter's parents that their son might live to the age of 18.

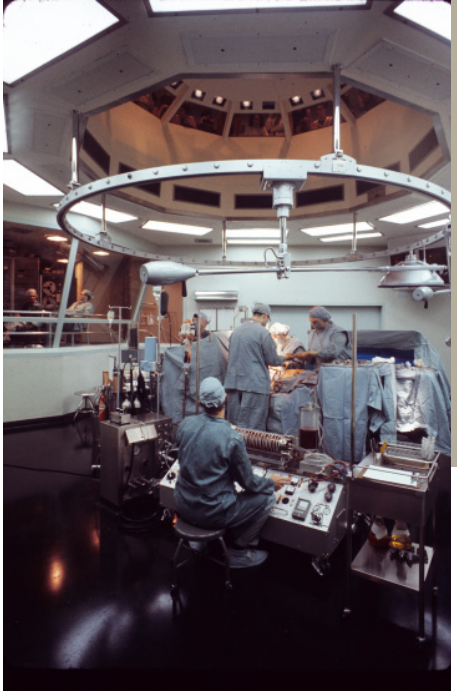
Thankfully, Morrow's intuition was wrong. Morrow's repairs held until 2006, when Lingenfelter once again needed heart surgery. NHLBI surgeon Keith Horvath and his team performed the surgery at the nearby Suburban Hospital. (Horvath had and still has a dual appointment at NHLBI and that hospital.) Lingenfelter was once again placed on a heart-lung machine, but this time his heart was also cooled with iced saline. After the surgery, an echocardiogram showed there was still a mitral valve problem, so Horvath installed an annuloplasty ring. Back in his home state of Ohio, Lingenfelter also had a pacemaker implanted. Today, Lingenfelter is a grandfather enjoying retirement.

Heart Valve Surgery Pioneer: Dr. Nina Starr Braunwald

On March 11, 1960, in the NIH's Clinical Center, cardiothoracic surgeon Nina Starr Braunwald performed the first successful replacement of a mitral heart valve with an artificial one. Designed to mimic nature, Braunwald's polyurethane valve had woven Teflon "chordae tendineae" (laces) hand-sewn by Braunwald and Joan Fuller, Morrow's assistant. The laces anchored the valve to minimize regurgitation.

Braunwald paved the way for women in heart surgery, becoming the first woman certified by the American Board of Cardiothoracic Surgery and elected to the American Association for Thoracic Surgery. Magazine articles directed national attention to her professional accomplishments while emphasizing that they did not impede her success as a wife and mother.

Braunwald also tested and altered other designers' valves. She designed the Braunwald-Cutter valve, made of titanium and completely cloth-covered. About 5,000 of these were distributed from 1968 to 1974. She pioneered the use of aortic human tissue for mitral valve replacements and developed tissue cultures so that cells could be used instead of fabric on artificial valves and circulatory assist devices.



Mentor and Inventor, Specialist with Heart: Dr. Andrew "Glenn" Morrow

Andrew "Glenn" Morrow designed an operating environment that incorporated the best features of existing facilities and added significant new capabilities. Constructed between 1959 and 1963, the NIH Clinical Center's innovative operating theater incorporated an observation deck that allowed surgeries to be viewed from less than seven feet away, a cardiac recording room that displayed patient data such as heart rate and blood pressure so that surgeons had instant information about patients, and a small window directly above the operating table so that operating techniques could be photographed and filmed.

NIH engineers and researchers developed diagnostic techniques—including radioactive tracers, dyes, and catheterization procedures—and tested the efficacy of valve designs. These capabilities made the Cardiology Branch the premier resource for testing and evaluating heart valves and for collecting objective performance data. Morrow's group set new standards of patient care including studies of the timing of

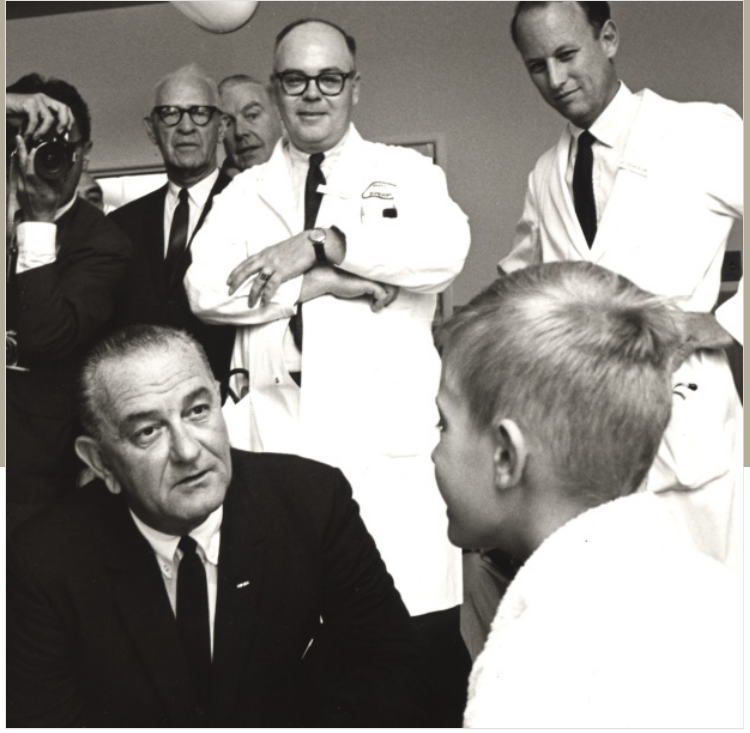
LEFT

Andrew "Glenn" Morrow designed an operating theater in the early 1960s that incorporated an observation deck, a cardiac recording room that displayed patient data, and a small window directly above the operating table so that operating techniques could be photographed and filmed.

RIGHT

President Lyndon Johnson chats with a young patient at NIH's Clinical Center in 1965. Dr. Morrow is second from right behind the president. On the far right is Dr. Donald Fredrickson who later served as the director of NIH (1975–1981).

(ALL PHOTOGRAPHS COURTESY OF THE NATIONAL LIBRARY OF MEDICINE; JERRY HECHT, PHOTOGRAPHER)



heart surgery, and long- and short-term postoperative monitoring. The diagnostic research conducted under Morrow led to pivotal breakthroughs in catheterization techniques and a far greater understanding of heart action and performance.

Morrow invented numerous operative techniques that are still used and bear his name. He was also the first to conceive of using a nuclear power source (plutonium 238) to extend a pacemaker's useful life from what was then 11 years to 20 years. Such a pacemaker power cell was subsequently developed under contract by the Atomic Energy Commission.

The list of surgeons and investigators who trained under Morrow in the 1960s and 1970s is a "who's who" of cardiac surgery, and these people played central roles in the extraordinary and specialized surgical community that Morrow created.

Taming the Frontier: FDA and Oversight of Implanted Devices

During the 1960s and early 1970s, surgeons and engineers invented new artificial heart-valve designs and tried out new materials. Scores of valves were created, although few were tried on more than a handful of patients, and fewer still were ever commercially produced. Even medical students were given assignments to design new valves. Surgeons might tinker with a valve design during an operation. Patients, who had few if any commercial choices, were often given a valve that their own surgeon had invented. And after a valve replacement, patients and their long-term success were rarely tracked, except at research centers such as the NIH.

But the heyday of the "surgineer" was drawing to a close by the mid-1970s; the basic engineering and material questions had been answered and effective valves were on the market. The 1976 Medical Device Amendment further formalized the field by enabling the Food and Drug Administration (FDA) to define procedures and establish regulations: Heart valves and other implanted devices had to pass rigorous clinical trials to prove that they were indeed effective; they had to withstand wear testing demonstrating their durability; and they were stamped with a date of manufacture or a viable shelf life. And recipients had to be tracked over long periods and carry cards that precisely identified their implants. FDA regulations also protected patients by requiring uniform safety and trial data from all manufacturers.

NIH Bench-to-Bedside Research and Design Team: Dr. Keith Horvath

Although the large role played by surgeons at the NIH in the 1960s and 1970s in designing and testing heart-valve replacements has largely been taken over by manufacturers and the FDA, NIH surgeons are still developing radical surgical innovations. An example of a contemporary addition to NIH's long history of applying new technologies to the repair and replacement of damaged hearts is that of NHLBI's Keith Horvath and the Cardiothoracic Surgery Research Program. Horvath and his team are using real-time magnetic resonance imaging to allow the precise implantation of a replacement heart valve (a porcine valve sewn to a patented self-expanding stent) delivered by a device through the apex of the heart.

Come to the exhibit to learn more and to see an amazing collection of heart valves. To portray the individuals whose work is featured, the exhibit team interviewed many of the surgeons and bioengineers who lived these histories. If you have stories about NIH history you would like to share, contact Hank Grasso, in the Office of NIH History, at 301-496-6610. ●

The exhibition was produced by the Office of NIH History's DeWitt Stetten, Jr., Museum of Medical Research in collaboration with the FDA's Office of History. Funding was provided by the Foundation for the NIH through the generous support of Edwards Lifesciences, the American Association for Thoracic Surgery, the Thoracic Surgery Foundation for Research and Education, and Women in Thoracic Surgery; the FDA Alumni Association; the FDA; and NHLBI. Other projects in the works include a documentary film, a Web-based version of the exhibit, and more.

Symposium Ushers in NIH-Lasker Clinical Research Scholars Program

BY RAYMOND MACDOUGALL, NHGRI STAFF WRITER

The dual role of the physician-scientist is part biomedical research and part clinical care. NIH has played an important part in nurturing this breed of expert who is as comfortable at the laboratory bench as at the bedside.

To help perpetuate this training tradition, the NIH announced in December 2010 the establishment of the NIH-Lasker Clinical Research Scholars Program. NIH partnered with the Albert and Mary Lasker Foundation (known for granting the prestigious Lasker Awards in basic and clinical medical research), for this career opportunity. The program will support a select group of exceptional clinical researchers, designated as Lasker Clinical Research Scholars, in the early stages of their careers. The goal is to promote their development to fully independent clinical researchers.

A symposium to kick off the program, featuring talks by four exemplars of the physician-scientist experience, took place March 31, 2011, in the Masur Auditorium on NIH's Bethesda campus.

NIH Director Francis Collins, NIH Deputy Director for Intramural Research Michael Gottesman, and NCI Director Harold Varmus set the stage for the symposium with remarks that applauded the new career award. Lasker Board President Maria Freire and Board Chairman Alfred Sommer matched the tone of expectation. "NIH is a great place for this and putting together a program to support this is timely," said Collins, adding that physician-scientists are a vanishing breed. He predicts that Lasker scholars will be among future Lasker Award and Nobel prize recipients.

Lasker scholars will receive NIH funding for clinical research as long as 11 years. The program combines a period of independent research as a principal investigator in the NIH Intramural Research Program for five to seven years, with the opportunity for additional years of independent financial support either at the NIH or at an extramural research institution. The NIH expects to appoint at least three Lasker scholars in the first year of the program.

"The expectation is that this program is going to draw in talented physician-scientist investigators who will come to the NIH and take advantage of the clinical opportunities at the Clinical Center to boost their careers," said NHGRI Scientific Director Dan Kastner, one of the four presenters, who came to NIH in 1985 as a rheumatology fellow. "It is a win-win-win situation for the Clinical Center, the individuals, and the wider biomedical research community."

BILL BRANSON

Dan Kastner, far left, Christine Seidman, Marston Linehan and Charles Sawyers, far right, presented talks at the NIH-Lasker Clinical Research Scholars Program symposium.

Each of the four science talks presented at the symposium featured a first-person perspective into the experience of accomplished physician-scientists and their unique forays into basic science discovery applied through access to patients in the clinic.

Marston Linehan, chief of the Urologic Oncology Branch at NCI, described his extensive clinical and bench investigation into the genetic basis of kidney cancer. At the outset of his career, it was believed that kidney cancer had a single genetic cause. Linehan's lab is now far advanced in studying several different causal genes for kidney cancer as well as the biological mechanisms that make each form of the disease unique. Some slow-growing tumors can be managed and watched, but more virulent ones require aggressive treatment. Linehan's research with patients at the NIH Clinical Center is advancing therapeutic approaches in managing the disease.

Charles Sawyers, a Howard Hughes Medical Institute investigator and chairman of the Human Oncology and Pathogenesis Program at Memorial Sloan-Kettering Cancer Center in New York, described his early training and being part of a diaspora of peers from leading research universities to important clinical research positions around the country. His career achievements include a key role in conducting clinical trials for imatinib, a drug that targets the molecular defect in chronic myeloid leukemia, with dramatic arrest of the disease.

For Dan Kastner, his story of prominence in the field of immunology began with a chance encounter in the rheumatology clinic of the NIH Clinical Center. His patient had a recurrent inflammatory condition known as familial Mediterranean fever (FMF), caused by an ancient mutation in a gene that Kaster's laboratory subsequently identified. In the years he studied the disorder and various other autoimmune conditions, the laboratory and clinic resided in the same complex.

Kastner's laboratory determined the prevalence of another disease, called Behçet's disease, that traces its genetic origins among populations from the Middle East to the Far East, along the ancient Silk Road trade routes.

Christine Seidman, a Howard Hughes Medical Institute investigator and a professor of medicine and genetics at the Harvard Medical School and Brigham and Women's Hospital, both in Boston, described her study of the genetic causes of cardiomyopathy. Among the various forms is hypertrophic cardiomyopathy, which can cause sudden death among young athletes. Another form of heart condition is dilated cardiomyopathy, in which nuclear membranes in the cells of the heart muscle are distorted. Seidman has studied this abnormal condition and its genetic cause—mutations in the gene *TTN*, which codes for the largest human protein, titan. This gene's very size, containing the largest number of exons in any single gene and producing a protein composed of roughly 33,000 amino acids, poses a daunting prospect for biomedical researchers. But over the years, as Seidman and her collaborators have worked in the laboratory and with cardiac patients, they have made significant progress in knowing where amid this vast gene to look for disease-causing mutations, at the carboxyl end versus the amino proximal end.

In his DDIR column in the January-February 2011 issue of *The NIH Catalyst*, Gottesman wrote, "By combining intramural and extramural research support, the new program will make careers in clinical research more attractive and perhaps recapture the 'golden years' of NIH intramural research when talented investigators routinely spent formative time here before moving on to leadership positions in academic medical centers." (http://www.nih.gov/catalyst/2011/11.02.01/catalyst_v19i1.pdf, page 2) ●

For more information about the NIH-Lasker Scholars, go to http://www.nih.gov/science/laskerscholar.

"[Of course establishing NCATS] will require us to do in tight times things that we wish we could do more generously and flexibly," he warned, but the opportunity is too extraordinary to pass up, the potential impact on public health too great to ignore.

Building a Bridge

Collins then presented "Catalyzing Innovation," a slide show outlining the goals and strategy for creating NCATS and how that strategy aligns with U.S. investment priorities for the future.

At one point, he showed a graphic of two shorelines. The left coast represented "Fundamental Knowledge." The right was "Application of Fundamental Knowledge." The beaches were separated by a large body of water. Collins said NIH is developing NCATS to bridge that span, to get information from one side to the other.

To put it in practical terms, Collins showed a rainbow-striped diagram illustrating the long, complex steps a potential new drug must travel from a researcher's lab to a patient's bedside. It's a process that can take years.

"It would be—especially at this time—good for NIH to look for ways that we can optimize this process, working in partnership with pharma and biotech," he said.

The ultimate goal of NCATS is to make the journey shorter and faster. By studying the process in a scientific way, he suggested, NCATS will be a bridge-builder between new therapies and the patients waiting for them.

Busting the Myths

Since the new center was announced several months ago, several concerns have been raised about the concept of NCATS. At the town hall, Collins addressed three of the main worries he's heard.

The new center will "facilitate—not duplicate"—translational research efforts already under way at NIH.

NCATS is meant to "complement—not compete with"—private sector drug and therapy development.

The center will "reinforce—not reduce"—NIH's commitment to basic research.

"NCATS will have its success by catalyzing collaborations across NIH," he stressed.

Collins also acknowledged the fears and anxieties felt by employees, particularly those who work at the National Center for Research Resources (NCRR), which is being dismantled to create NCATS.

"I know this can be disruptive," he concluded, noting that the scientific community has always embraced change when the opportunity arises. "I know there are real people involved in these programs. They are not just boxes on a chart. . . . I firmly believe that what we end up with this fall is going to be a very exciting new kind of NIH organizational structure."

The Center would be formed initially by integrating selected translational research programs now located within NHGRI, NCRR, and the NIH Director's Common Fund. Another component could be the new Cures Acceleration Network, which was authorized by the Affordable Care Act but has not yet received an appropriation.

If you would like to provide feedback on NCATS, visit http://feedback.nih.gov. NIH is using the Web site to address questions and collect input on NCATS and other topics. To view the entire town hall session, visit http://videocast.nih.gov, click on "Past Events," then "NIH Only," and choose "NCATS Town Hall—National Center for Advancing Translational Sciences (NIH Only)," March 14, 2011. ●

Recently Tenured

RAFAEL DE CABO, NIA

ADRIAN FERRÉ-D'AMARÉ, NHLBI

JAY GIEDD, NIMH

SATOSHI IKEMOTO, NIDA

VINEET KEWALRAMANI, NCI

RAFAEL DE CABO, PH.D., NIA

Senior Investigator; Chief of the Mechanisms and Interventions of Aging Section, Laboratory of Experimental Gerontology

Education: University of Córdoba, Spain (B.S. and M.S.); Purdue University, West Lafayette, Ind. (Ph.D. in nutritional biochemistry)

Training: Postdoctoral training in the Laboratory of Neurosciences, NIA

Came to NIH: In 2000 for training; in 2004 appointed tenure-track investigator in the Laboratory of Experimental Gerontology

Other professional activities: Editor-in-Chief, *Journal of Gerontology: Biological Sciences*; member, Publications and Membership committees, Gerontological Society of America

Outside interests: Sailing; playing squash; and cooking

Research interests: We know that limiting the intake of calories, a.k.a. caloric restriction (CR), can delay aging processes in some short-lived species. Our lab is striving to identify CR-protective mechanisms so we can evaluate the consequences of dietary interventions on lifespan, pathology, and behavior.

We are exploring CR using rodent and in vitro models. CR induces measurable changes in the circulating concentrations of several hormones and growth factors that regulate cell growth and proliferation. It also prevents and reverses aging-induced macromolecular damage. As CR reduces oxidative stress, animals reach a new bioenergetic equilibrium. Two major components in the bioenergetic pathway are the mitochondrial electron transport chain and the plasma membrane redox system (PMRS).

Preliminary data suggest that, in rats and mice, CR modifies several components of the PMRS that are altered during aging. We will analyze the bioenergetic balance between mitochondria and the plasma membrane. In doing so, we hope to explain how CR provides enhanced resistance to oxidative stress during aging; and design potential CR mimetics and nutritional interventions.

ADRIAN R. FERRÉ-D'AMARÉ, PH.D., NHLBI

Senior Investigator, RNA Biophysics and Cellular Physiology Section

Education: Instituto Tecnológico y de Estudios Superiores de Monterrey, Mexico (B.S. in chemistry); Rockefeller University, New York (Ph.D. in molecular biophysics)

Training: Laboratory of Molecular Biophysics, Rockefeller University; Department of Molecular Biophysics and Biochemistry, Yale University (New Haven, Conn.)

Before coming to NIH: Howard Hughes Medical Institute investigator and member, Fred Hutchinson Cancer Research Center (Seattle, Wash.); affiliate associate professor, University of Washington (Seattle)

Came to NIH: In March 2011

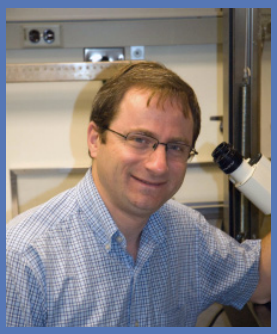
Outside interests: Photography; rock climbing; mountaineering

Research interests: Our laboratory takes a multidisciplinary approach to understanding the general structural principles that underlie the function of biological RNAs. We aim to harness this knowledge to intervene in disease.

RNA can fold into intricate three-dimensional structures that recognize other RNAs, proteins, and small molecules. Cellular RNAs with complex architectures carry out biochemical catalysis and regulate the expression of genes.

For instance, the ribosome, which is responsible for the synthesis of all proteins on Earth, is a catalytic RNA. Riboswitches regulate the expression of essential genes in most bacteria, including pathogens such as Bacillus, Listeria, Staphylococcus, and Vibrio.

Our laboratory's important accomplishments include using X-ray crystallography to make the first atomic-level



JOSEPH MINDELL, NINDS

TERESA PRZYTYCKA, NLM

BENJAMIN WHITE, NIMH

movies of catalytic RNAs in action. We have also elucidated the mechanism of action of the RNAs that control two processes of clinical significance: the synthesis of the bacterial cell wall and the formation of biofilms.

JAY GIEDD, M.D., NIMH

Senior Investigator; Chief, Unit on Brain Imaging, Child Psychiatry Branch

Education: University of North Dakota, Grand Forks, N.D. (B.S. in mathematics and natural sciences; B.A. in philosophy); University of North Dakota School of Medicine and Health Sciences (M.D.)

Training: Residencies in adult psychiatry at the Menninger Foundation (Topeka, Kan.); psychiatry/neurology at the Barrow Neurological Institute (Phoenix); and child and adolescent psychiatry at Duke University (Durham, N.C.)

Came to NIH: In July 1991

Other professional activities: Member of several committees and advisory boards related to the interface between education science and neuroscience

Outside interests: Conducting "field work" with three teenagers and one 11-year-old teen-in-training

Research interests: My team uses brain imaging, genetics, and psychological assessments to explore the biology of cognition, emotion, and behavior in health and illness. Over the past 20 years we have acquired more than 7,000 magnetic resonance imaging scans from healthy twins and singletons as well as from children with attention-deficit-hyperactivity disorder, autism, and childhood-onset schizophrenia. Our project is collaborative and has generated publications with more than 500 scientists in 80 institutions throughout the world.

Our recent work is focused on the teenage brain. We are considering why many psychiatric disorders emerge during adolescence, the public policy implications of adolescent neurobiology, and the educational opportunities inherent in adolescent brain plasticity. Pediatric neuropsychiatric disorders have different ages of onset, prevalence, and symptomatology in boys compared with girls, so we are also examining male and female differences in the developing brain. Our twin studies are unraveling the contributions and interactions of genes and environment on the developing brain. Our long-term goal is to elucidate the paths, influences, and mechanisms of brain maturation in order to guide clinical interventions and optimize healthy development.

SATOSHI IKEMOTO, PH.D., NIDA

Senior Investigator and Chief, Neurocircuitry of Motivation Section, Behavioral Neuroscience Research Branch

Education: Southern Illinois University at Carbondale, Carbondale, Ill. (B.A. in psychology); Bowling Green State University, Bowling Green, Ohio (M.A. in psychobiology; Ph.D. in behavioral neuroscience)

Training: Postdoctoral training in drug reward circuitry at the Institute of Psychiatric Research, Indiana University School of Medicine (Indianapolis); in animal models of drug use and abuse at Louisiana State University School of Medicine (Shreveport, La.); and in neural mechanisms of drug rewards at NIDA's Behavioral Neuroscience Research Branch

Came to NIH: In 1998 for training; appointed tenure-track investigator in 2004

Outside interests: Spending time with family including four children (three to 13 years old); working out five days a week to keep body and brain young

Research interests: Our research uses systems neuroscience on motivation to study commonly abused drugs, food, and sensory stimuli. We have examined whether chemical agents including drugs of abuse can serve as rewards when they are delivered directly into the brain. We found that rats can learn to self-administer a variety of neurochemicals—not only cocaine, opiates, and nicotine, but also GABAergic and glutamatergic receptor agonists and antagonists—directly into several discrete brain regions. Recently, we have used electrophysiological and optogenetic tools to examine the neural mechanisms of reward-seeking behavior. Our current research focuses on what motivates sensation-seeking behavior because there is a comorbidity between sensation-seeking

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Recently Tenured

CONTINUED FROM PAGE 15

and drug-abuse behaviors. We believe that our efforts to understand the neural mechanisms of such motivated behaviors will shed light on drug addiction as well as on mood, psychotic, and obsessive-compulsive disorders.

VINEET N. KEWALRAMANI, PH.D., NCI

Senior Investigator, Center for Cancer Research; Head, Model Development Section, Retroviral Replication Laboratory, HIV Drug Resistance Program

Education: University of Wisconsin at Madison (B.S. in zoology and in molecular biology); University of Washington, Seattle (Ph.D. in microbiology)

Training: Postdoctoral training at New York University Medical Center (New York); Howard Hughes Medical Institute Fellow and Damon Runyon-Walter Winchell Fellow

Came to NIH: In 2000

Other professional activities: Assisting in scientific reviews for intramural and extramural committees; mentoring trainees who have gone on to be successful independent investigators

Outside interests: Hanging out with his son; following the Green Bay Packers; and playing table tennis

Research interests: I first became fascinated with retroviruses as an undergraduate working in a lab at the University of Wisconsin at Madison. I was majoring in mathematics and computer sciences, but exploring new territory. The retroviral genome appeared to be simple, yet it had profound effects on the host. I didn't understand the contradiction. As I dutifully wrote my computer code, my thoughts would continually stray to the powerful programs that viruses exerted on their hosts. It wasn't long before I decided to change majors.

After completing my bachelor's degree, I continued this pursuit, studying the genetics and host interactions of human immunodeficiency virus (HIV). Today, my group investigates the role of host factors in HIV infection and the biology of HIV in animal models, primarily macaques. HIV and other retroviruses hack our genetic program to propagate their code. And they rapidly evolve in the face of selective roadblocks. We are studying the variables in their replication, attempting to reveal the unknowns, and intend to use this knowledge to impede the dynamic viral program.

My sandbox may be bigger at NCI, but I find this effort no less thrilling than I did as an undergraduate reading sequencing gels, wondering how many levels of information were buried within the code.

JOSEPH A. MINDELL, M.D., PH.D., NINDS

Senior Investigator, Membrane Transport Biophysics Section

Education: Yale University, New Haven, Conn. (B.S. in molecular biophysics and biochemistry); Albert Einstein College of Medicine, New York (M.D.; Ph.D. in neuroscience)

Training: Residency in internal medicine at Harvard's Brigham and Women's Hospital (Boston); postdoctoral training in ion channel biophysics and structural biology at Brandeis University (Waltham, Mass.)

Came to NIH: In 2002

Outside interests: Playing with his children; biking; and woodworking

Research Interests: We are investigating the physical principles that govern the function of membrane transporter proteins. These proteins play important roles in health and disease. We are investigating how transporters achieve the delicate coupling between ions and substrates. We are particularly interested in a family of glutamate transporter proteins that remove neurotransmitters from synapses after neurotransmission, thereby priming the nervous system for further signaling. We are using a model transporter from bacteria that live in deep ocean thermal vents.

We are also investigating the role of chloride transport in lysosomes (stomach-like organelles within cells). To digest proteins and other large molecules ingested by the cell, lysosomes create an acidic environment. We discovered that a chloride transport protein, which moves chloride and protons in opposite directions, is essential for this process. We are exploring how this protein functions and how it works with other transporters to keep a constant acid level inside the lysosome.

TERESA M. PRZYTYCKA, PH.D., NLM

Senior Investigator, Computational Biology Branch, National Center for Biotechnology Information

Education: Warsaw University, Warsaw, Poland (Magister in computer science); University of British Columbia, Vancouver, Canada (Ph.D. in computer science)

Training: Postdoctoral fellowship in computational biology at Johns Hopkins University (Baltimore)

Before coming to NIH: Assistant professor of computer science at University of California, Riverside (Riverside, Calif.); assistant professor of computer science at University of Southern Denmark (Odense, Denmark); associate researcher in biophysics at John Hopkins University (Baltimore)

Came to NIH: In February 2003

Other professional activities: Associate editor of *BMC Bioinformatics*; associate editor of *IEEE/ACM Transactions on Computational Biology and Bioinformatics*

Outside interests: Playing piano; hiking in the mountains

Research interests: We use computer simulation and mathematical theories to create models in order to explore the complexities of biological systems. Computational models, like physical models, function as visual thinking tools, but they also offer the analytical and computational support, which allows us to organize and interpret large amounts of data. Methods such as high-throughput screening, genomic sequencing, protein structure determination, and the determination of cellular and intercellular processing networks all produce voluminous data. The data can be analyzed to help us understand the emergence of phenotype variations such as cancer.

We are interested in the large-scale organization of biological systems, the properties of protein-protein interactions, and regulatory networks. By measuring all of the interactions in cells, we create models that allow us to explore how variations in DNA sequence and structure affect gene expression, cell function, and organismal phenotype. Recently, we developed computational methods to reveal interactions between genes, identified molecular pathways that are dysregulated in cancer, and predicted causal genes and loci. Identifying such pathways—and their key regulators—is essential for understanding disease mechanisms and helpful for developing drug therapies.

We are also trying to understand the evolutionary origins of biomolecular sequences and systems and study the emergence of genomic properties such as codon usage, gene regulatory elements, and sequence motifs.

BENJAMIN H. WHITE, PH.D., NIMH

Senior Investigator, Laboratory of Molecular Biology

Education: University of Oregon's Clark Honors College, Eugene, Ore. (B.A. in physics and mathematics); Washington University in St. Louis (Ph.D. in neural sciences)

Training: Postdoctoral training at Yale School of Medicine (New Haven, Conn.)

Came to NIH: In 2002

Outside interests: Hiking; birdwatching

Research interests: Although there has been considerable progress in understanding the molecular and cellular foundations of nervous system function, little is known about the integrative processes that give rise to behavior. Fortunately, scientists are rapidly developing new genetics tools that allow the precise manipulation of neural circuits in freely behaving animals. My laboratory is generating such tools to identify and analyze neuronal circuits in fruit flies. We recently introduced a new tool for activating fruit fly neurons in response to small temperature shifts and have also developed a method for systematically restricting transgene expression that is allowing us to characterize, in great detail, a specific behavioral circuit.

The circuit my lab has focused on is developmentally important and integrates environmental and hormonal signals to regulate expansion of the fly's wings. Using this circuit as a model, we are trying to identify the mechanisms by which extrinsic and intrinsic factors act on neuronal networks to orchestrate a specific behavioral output and to determine the developmental genes that specify behavioral circuits.

If you have been tenured in the last year or so, the editors will be in touch soon to include you on these pages.

NIH ABBREVIATIONS

CC: NIH Clinical Center
CIT: Center for Information Technology
FAES: Foundation for Advanced Education in the Sciences
FelCom: Fellows Committee
FDA: Food and Drug Administration
IRP: Intramural Research Program
HHS: U.S. Department of Health and Human Services
NCCAM: National Center for Complementary and Alternative Medicine
NCI: National Cancer Institute
NEI: National Eye Institute
NHGRI: National Human Genome Research Institute
NHLBI: National Heart, Lung, and Blood Institute
NIA: National Institute on Aging
NIAAA: National Institute on Alcohol Abuse and Alcoholism
NIAID: National Institute of Allergy and Infectious Diseases
NIAMS: National Institute of Arthritis and Musculoskeletal and Skin Diseases
NIBIB: National Institute of Biomedical Imaging and Bioengineering
NICHD: Eunice Kennedy Shriver National Institute of Child Health and Human Development
NIDA: National Institute on Drug Abuse
NIDCD: National Institute on Deafness and Other Communication Disorders
NIDCR: National Institute of Dental and Craniofacial Research
NIDDK: National Institute of Diabetes and Digestive and Kidney Diseases
NIEHS: National Institute of Environmental Health Sciences
NIGMS: National Institute of General Medical Sciences
NIMH: National Institute of Mental Health
NIMHD: National Institute on Minority Health and Health Disparities
NINDS: National Institute of Neurological Disorders and Stroke
NINR: National Institute of Nursing Research
NLM: National Library of Medicine
OD: Office of the Director
OITE: Office of Intramural Training and Education
OIR: Office of Intramural Research

NIH CAREER SYMPOSIUM: "BUILD YOUR CAREER; SHAPE YOUR FUTURE"
Tuesday, May 10, 2011
8:00 a.m.–4:30 p.m.
Natcher Conference Center (Building 45)
Lister Hill Auditorium (Building 38A)
Calling all NIH graduate students, postdoctoral trainees, and clinical fellows. Learn about scientific career options and explore options for success. Panel sessions cover academic, government, industry, and nonprofit career paths. More than 80 speakers will provide insights into their own careers. Keynote speaker is Donna Shalala, president, University of Miami (Coral Gables, Fla.) and former Secretary of the Department of Health and Human Services. For more information, visit https://www.training.nih.gov/events/view/_2/433/4th_Annual_Career_Symposium.

CANCER NANOBIOLOGY THINK TANK
Tuesday, May 17, 2011
8:30 a.m.–5:30 p.m.
Building 549 Auditorium
NCI-Frederick, Frederick, Md.
Registration deadline: May 9, 2011
This year's think tank will be devoted to triggered nanoparticles. Tumor-specific delivery of anticancer agents may be improved by providing the nanoparticles a disruption mechanism that occurs at the tumor site. Experts will discuss currently available strategies, approaches, and mechanisms of triggered drug release. Brainstorming sessions, too. For more information and to register, visit http://web.ncifcrf.gov/events/nanobiology/2011/default.asp. For other questions contact Julia Lam at lamj@mail.nih.gov.

JOIN THE HHS MENTORING PROGRAM
Permanent federal employees interested in serving as mentors and mentees across the NIH community are invited to join the NIH Spring/Summer cohort. Building a confidential, interactive relationship is the cornerstone of this program. The program's emphasis on developing leadership and management competencies at various levels will ensure a beneficial experience for both mentors and mentees. This program does not supplant the NIH scientific mentoring and customized IC leadership mentoring programs that are available to employees in some institutes and centers. For more information and to register, visit http://trainingcenter.nih.gov/hhs_mentoring.html. For additional questions, contact Rachel Pemble at nihhhsmentoringprog@od.NIH.gov.

NIAMS SYMPOSIUM HONORING PAUL PLOTZ: "A VOCATION IN MEDICINE: AUTOIMMUNITY, AUTOPHAGY, MUSCLE DISEASE, AND HUMAN RIGHTS"
Thursday, May 19, 2011
9:00 a.m.–4:30 p.m.
Building 60 (The Cloister)
The symposium will feature prominent scientists who will highlight Paul Plotz's scientific contributions and commitment to human rights and bioethics. The symposium is free and open to the public. For more information, visit www.niams.nih.gov.

FRONTIERS IN INTRAVITAL MICROSCOPY
May 18–19, 2011
Natcher Conference Center (Building 45)
Registration deadline: May 15, 2011
Intravital microscopy has developed into an exciting and powerful technique, but its potential has not yet been fully explored. Hear from top scientists as they discuss state-of-the-art intravital microscopy in cell biology, immunology, neuroscience, stem cells, and tumor biology. For more information and to register, visit http://www.nidcr.nih.gov/Research/NIDCRLaboratories/OralPharyngeal/IntravitalMicroscopy.htm.

WEDNESDAY AFTERNOON LECTURES
Wednesdays through June 29, 2011
3:00–4:00 p.m. (reception follows)
Masur Auditorium (Building 10)
Information at http://wals.od.nih.gov. Lectures are videocast live at http://videocast.nih.gov.

Special Friday Lecture
May 20, 11:30 a.m.–12:30 p.m.
Eric Lander will present the first annual Marshall Nirenberg Lecture. Lander is one of the principal leaders of the Human Genome Project and founding director of the Broad Institute (Cambridge, Mass.).

CLINICAL ASSAY DEVELOPMENT PROGRAM
2011 Call for Applications
Deadlines: June 15 and October 15
The NCI Clinical Assay Development Program (CADP) is requesting applications from investigators seeking clinical assay validation resources. These resources are designed to assist with the development of assays that may predict therapy response or prognostic behavior of a diagnosed cancer, primarily for use in clinical trials. Researchers with approved projects will have access to NCI's assay development and validation resources, including project management support. When applying, investigators must define the intended clinical use for assays; indicate that the assays have been tested on human tissue; and provide basic protocol(s). Proposals will be reviewed for scientific merit, feasibility, and clinical importance. Note: This call is not a solicitation for biomarker discovery and is not a grants program. To learn more or to submit an application, visit http://cadp.cancer.gov.

NIAMS 25TH ANNIVERSARY SCIENTIFIC SYMPOSIUM: "IMPROVING LIVES THROUGH DISCOVERY"
Monday, June 13, 2011
8:30 a.m.–4:30 p.m.
Lipsett Auditorium (Building 10)
Registration deadline: May 13, 2011
The symposium will feature scientific advances made possible with NIAMS support, highlight how they have improved patients' lives, and address future directions for NIAMS research. A reception and poster session will follow. The symposium is free and open to the public. For more information, visit http://www.niams.nih.gov.

THIRD ANNUAL OFFICE OF NIH HISTORY STETTEN SYMPOSIUM

Tuesday, June 14, 2011
8:00 a.m.– 5:00 p.m.
Wilson Hall (Building One)

The DeWitt Stetten Fellows will regale you with tales of how NIH has been helping to shape biomedical sciences in the 20th century. The DeWitt Stetten Fellowship in the History of the Biomedical Sciences and Technology or Medicine brings postdoctoral scholars from leading universities to the NIH campus. At the symposium, the fellows will each give a 20-minute presentation followed by a 10- to 15-minute commentary by an expert in the field and a 15- to 20-minute open discussion. All are welcome to attend. For more information, or to request sign language interpreters and/or reasonable accommodation, contact Sharon Mathis (smathis@mail.nih.gov or 301-496-6610).

Program

8:00–8:30 a.m. Coffee

8.30–8:45 a.m. Introduction by Robert Martensen, Director, Office of History, NIH

Chin Jou, "Obesity and the Federal Government in the 1970s and 1980s"

Judith Friedman, "Science Fiction to Science Fact: The Biological Validation of Anticipation"

Johanna Crane, "Globalizing HIV Science: AIDS, Africa, and the Internationalization of American HIV Research"

Sharon Ku, "Laboratory in Translation: A Sociological Analysis of the Nanotechnology Characterization Laboratory"

Marian Moser Jones, "Taking It to The Streets: The Federal Research Response to the 1980s Homeless Crisis"

Brian Casey, "Searching for the Biological Roots of Mental Illness: Stories from the National Institute of Mental Health"

Grischa Metlay, "NIAAA, NIDA, and the Prevention of Alcohol and Drug Problems, 1978–1992"

Eric Boyle, "Contested Science and the Recent History of Alternative Medicine"

FMRI/MRI SUMMER COURSE

Tuesdays and Fridays, June 14–September 2
3:00–4:00 p.m.
Building 10, Room 2-3330

This course is ideal for summer students working in research labs. It teaches the basics of, latest developments in, and controversies surrounding functional MRI (fMRI) and MRI. Topics include hardware, methodology, processing, and applications. To learn more, subscribe to the FMRI_COURSE_NIH Listserv at https://list.nih.gov/cgi-bin/wa.exe?A0=fmri_course_nih or contact Dorian Van Tassell at vantasselld@mail.nih.gov.

STEM CELL RESEARCH SYMPOSIUM

July 14, 2011
8:00 a.m.–5:00 p.m.
Building 31C (6th Floor, Room 6C10)
Registration deadline: June 1, 2011
(Registrants will be notified by June 13)

The NIH Center for Regenerative Medicine (NCRM) and the NIH Stem Cell Interest Group (SCIG) are co-sponsoring the inaugural NCRM/SCIG Stem Cell Research Symposium, which will focus on research that lends itself to the clinical translation of embryonic stem cells, induced pluripotent stem cells, and/or adult stem cells. Registration is required. The event will not be videocast. To register visit http://fmp-8.cit.nih.gov/ncrm-scig/registration.html. For further information contact Scott Lipnick (scott.lipnick@nih.gov or 301-496-6798) or Megan Laycock (megan.laycock@nih.gov or 301-594-7827).

NIH GRADUATE AND PROFESSIONAL SCHOOL FAIR

Friday, July 22, 2011
9:00 a.m.–3:30 p.m.
Natcher Conference Center (Building 45)
Lister Hill Auditorium (Building 38A)

NIH summer interns, NIH postbacs, and college students from the Washington, D.C., area are invited to explore educational programs leading to the Ph.D., M.D., D.D.S., M.D.-Ph.D., and other graduate and professional degrees. Visit with representatives from more than 100 college and university biomedical graduate and professional programs. Medical scientist training program directors will also be on hand to discuss M.D.-Ph.D. programs. Workshop and panel topics include making successful transitions; interviewing; getting into graduate and professional school; and careers in public health, pharmacy, and psychology. For more information, including a list of participating institutions, and to register, visit https://www.training.nih.gov/gp_fair.

NEW WEB SITE TO HELP RESEARCHERS COLLABORATE

http://www.ctsaweb.org/index.cfm?fuseaction=quicklink.showCollabOpps

Researchers can use this new Web site to post requests for collaborators and search for opportunities to collaborate with others. Postings can be for developing projects as well as established projects. Projects should address an interesting question in clinical or translational research. Although the Web site is sponsored by the Clinical and Translational Science Awards (CTSA) Consortium, those who post and respond do not need to be affiliated with a CTSA institution. To be notified when colleagues post projects, subscribe to the CollabOppNotice Listserv at https://list.nih.gov/cgi-bin/wa.exe?A0=collaboppnotice. The NIH National Center for Research Resources administers the CTSA program http://www.ncrr.nih.gov/ctsa, which supports a cooperative network of institutions focused on advancing clinical and translational research.

JAPANESE EARTHQUAKE RELIEF

Want to Help?

The Foundation for Advanced Education in the Sciences (FAES) has established a fund to help earthquake victims in Japan. Voluntary contributions may be sent to FAES, NIH Building 60, Suite 230 (One Cloister Court, Bethesda, MD 20814) and designated for the "Japanese Earthquake Fund."

U.S. DEPARTMENT OF HEALTH AND
HUMAN SERVICES
National Institutes of Health
Building 1, Room 333
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Bethesda, Maryland 20892

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CATALYTIC REACTIONS?

If you have a photo or other graphic that reflects an aspect of life at NIH (including laboratory life) or a quotation or confession that scientists might appreciate and that would be fit to print in the space to the right, why not send it via e-mail: catalyst@nih.gov; fax: 301-402-4303; or mail: *The NIH Catalyst*, Building 1, Room 333.

Also, we welcome "letters to the editor" for publication and your reactions to anything on the *Catalyst* pages.

IN FUTURE ISSUES:

- OBESITY RESEARCH
- SIG DIRECTORY
- SHARED RESOURCES

LABORATORY CONFESSIONS

You're Listening to What?

BY NAME WITHHELD

I worry that I no longer can trust my lab chief. He was the primary reason why I came to the NIH. His work is nothing short of brilliant, and he should be on the short list for the Nobel Prize. Or so I thought.

Now my world has turned upside-down with a disturbing discovery about his personal life. It's nothing horribly sordid (so don't get your hopes up, dear reader). I made my discovery a few weeks ago when he offered to drive me home after a late meeting and social gathering. It was dark, and we were alone. I did feel a little strange because I had never been in such a situation with him. And he was acting uncharacteristically loose. But nothing could prepare me for what would happen next.

When he turned on the ignition, the stereo was already in the "on" position. Out came blasting Justin Bieber, the teenybopper sensation du jour. This wasn't an aberration, no stray music station left on by accident. This was a CD, an earlier and rather obscure one, I later learned, implying this guy has the entire Bieber discography. And he was singing to it . . . loudly!

That this middle-age man without children would purchase and enjoy a Justin Bieber CD, to me, could very well invalidate 20-plus years of innovative biomedical work. Imagine a Harvard paleontologist who doesn't believe in evolution, or a Stanford cosmologist who subscribes to the heliocentric model? DNA and Bieber's "U Smile" are simply incompatible.

My lab chief senses nothing of my disapproval. But in the meantime, until he writes my letter of recommendation, I'll have to hide my Pearl Jam MP3s for fear of shocking him.

EDITOR'S NOTE: HAVE A LATE-NIGHT LABORATORY CONFESSION? WE MIGHT PRINT IT IF IT IS INDECENT ENOUGH.

The NIH Catalyst is published bimonthly for and by the intramural scientists at NIH.

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