

What is it?
Where is it?

Story on page 16.



Poster

Dr. John Niederhuber Nominated as 13th Director of NCI

Dr. Elias Zerhouni, director of the National Institutes of Health, announced last August that President Bush intends to name Dr. John Niederhuber the 13th director of the National Cancer Institute. Dr. Niederhuber has been Acting Director since June and was also NCI's Deputy Director for Translational and Clinical Sciences.

In his e-mail message to NCI employees, Dr. Zerhouni said, "A renowned surgeon and research scientist, his career before coming to the NIH included positions at the University of Wisconsin School of Medicine, Stanford University, Johns Hopkins University School of Medicine, and the University of Michigan. While at the University of Wisconsin, he directed the University's Comprehensive Cancer Center supported by NCI.



Immediately before joining the NIH, Dr. Niederhuber chaired the National Cancer Advisory Board." ♦

2004 Chemistry Nobel Laureate Lectures Here

Thirty years ago, not many people realized that cancer can be caused by the lack of degradation of an oncoprotein or, on the other hand, by too rapid degradation of a tumor suppressor protein. Alterations in the ubiquitin system play a role in various cancers, such as colon, breast, uterine cervical carcinoma, sarcomas, aggressive cancers, and chromosomal instabilities. Now, thanks to Dr. Avram Hershko, Nobel Laureate in Chemistry in 2004, and his colleagues, study of the ubiquitin system has become an important tool in the battle against cancer.

Recently, Dr. Hershko, a member of the National Academy of Sciences, lectured here to an SRO crowd and a simultaneous videocast to NCI-Bethesda. Dr. Hershko noted in his talk that his interest in the ubiquitin system began in the 1970s as he sought to understand why energy is required for degradation. He developed a biochemical analysis, and his first results, published in the *Journal of Biological Chemistry*, revealed that degradation of TAT (tyrosine aminotransferase) was

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2004 Chemistry Nobel Laureate Lectures Here

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arrested by inhibitors of cellular energy production.

The Nobel Prize Committee's press release for the 2004 Nobel Prize noted that in protein degradation, the ubiquitin molecule attaches itself to

green light of his pointer darted over the screen like a glowing firefly as he pointed out important aspects of figures that summarized what has been learned and that described the new work he's doing in this field.

inflammation, immune response, and regulation of gene expression.

That first process—control of cell division—interests Dr. Hershko the most. He began researching cell division in the 1990s, noting (again, with his

gentle humor) that while most people use clams to make chowder, he finds them more useful in his studies of cell division because "It's easy to make extracts from the clam."

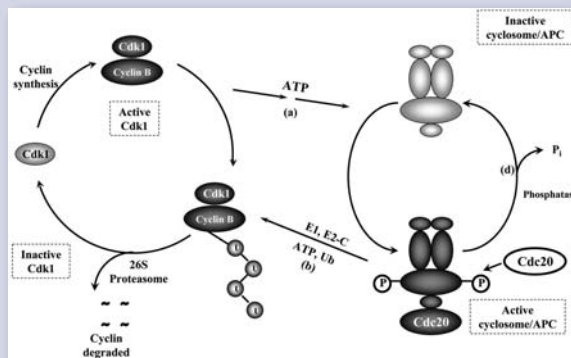
Tongue in cheek, Dr. Hershko concluded that he's learned two valuable lessons in his years of research: (1) Choose as your research subject something important but not yet interesting to others; (2) biochemistry is still much needed! In all of his research, he pointed out, he has remained true to his calling as a biochemist.

Dr. Hershko's pioneering work on ubiquitin, an important molecular target for many diseases, has brought him and his colleagues numerous awards. In 2000 he

and colleagues received the prestigious Albert Lasker Award for Basic Medical Research and in 2001 the Louisa Gross Horwitz Prize, given to recognize "exceptional accomplishments in biological and biochemical research." And, of course, the ultimate recognition of his work came in 2004 when he, Aaron Ciechanover, and Irwin Rose were jointly awarded the Nobel Prize in Chemistry. ♦



Dr. Avram Hershko, winner of the Nobel Prize in Chemistry, 2004



The figure above, taken from Dr. Hershko's Nobel Prize lecture in 2004, shows the control of the regulation of cell division by the Anaphase-Promoting Complex Cyclosome ubiquitin ligase. [Source: Figure courtesy of Dr. Avram Hershko.]

a protein to be destroyed and stays with it, alerting the proteasome that a protein is headed for processing. "Shortly before the protein is squeezed into the proteasome, its ubiquitin label is disconnected for re-use," the press release explained. "When the degradation does not work correctly," we become sick, the press release continued. Dr. Hershko's and his colleagues' work will be useful in developing drugs to battle many diseases.

Dr. Hershko delineated the stages in biochemical analysis of this complex system—the steps in making a cell-free extract that reproduces the cell-cycle process in the test tube—such as the breakdown of protein/degradation; fractionation, etc., all the way to reconstituting the cell system. The

He added in a humorous aside that he realized "Not many people were interested in the field" when he started. But times have changed. Today, protein degradation (protein breakdown and disposal) is considered one of the most important of the cell's cyclical functions and is involved in processes such as control of cell division, signal transduction, embryonic development, apoptosis, Circadian clocks, response to

Web sites of interest

- http://nobelprize.org/nobel_prizes/chemistry/laureates/2004/hershko-lecture.html
- http://nobelprize.org/nobel_prizes/chemistry/laureates/2004/hershko-slides.pdf
- <http://www.technion.ac.il/> ♦

ABCC Provides Resource for Scientific Computing

The Advanced Biomedical Computing Center (ABCC) is an NCI-funded center dedicated to providing cyber infrastructure for data-intensive computing to the NCI intra- and extramural scientific communities. Since 1985, the Center has been providing NCI-Frederick with networking, computer security, computational infrastructure, scientific applications and databases, as well as scientific collaborations, consultation and assistance. The Center has added or expanded many of these capabilities in recent years in response to the growing needs resulting from changes in high-throughput biology and new technologies. Services and resources at ABCC are free.

ABCC administers a heterogeneous computational infrastructure to tailor hardware to specific software applications and databases. ABCC provides many different scientific applications from both commercial and public sources as well as the databases required for their operation. For example, ABCC maintains local and up-to-date copies of many of the sequences from NCBI for use with the local installations of BLAT and BLAST genome searching programs. Besides providing existing bioinformatics tools and databases, ABCC works with scientists to develop novel applications and modify existing ones.

Wide Array of Resources

In addition to providing the hardware and networking for these applications, ABCC provides both classroom and one-on-one instruction in using these applications. The classes include many topics, from basic Unix usage to sequence analysis and molecular modeling, docking, and other structural analysis methods.

The revolution in biology produces data ever-increasing in both complexity and volume. To help head off potential problems resulting from this growth, ABCC has large capacity storage to house the data and high bandwidth to rapidly access the data. ABCC has further helped confront this problem by providing access to, and help with designing relational databases and Web access tools to those databases. ABCC has both mySQL and Oracle databases online, hosted on multiple servers with a high data capacity.

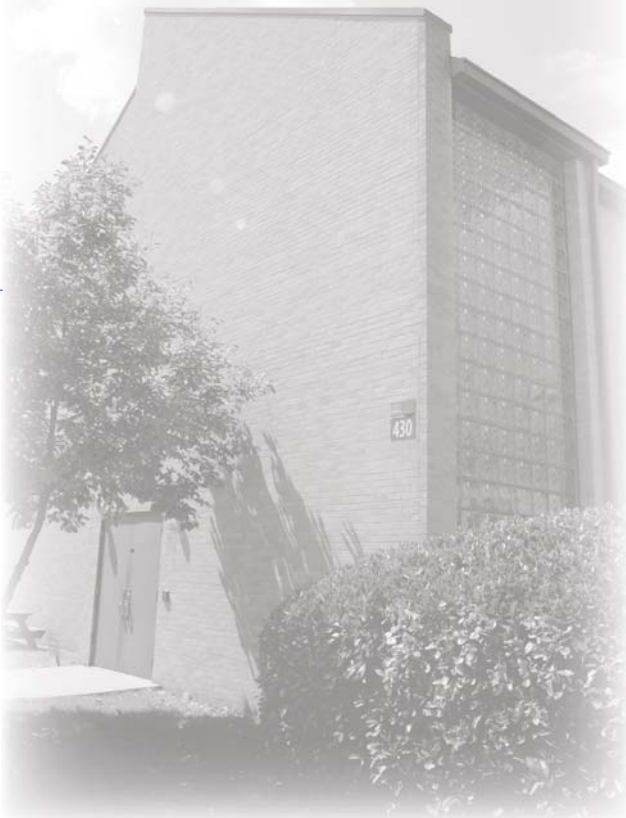
One example of this rapid expansion is in the area of high-throughput genome sequencing. Now that whole genome sequences for various species are becoming available, the demand for functional and comparative genomic analysis and annotation is escalating. These comparative studies are revealing insights in the investigation of human disease genes. Since these gigabytes of data can be too large for a desktop computer to handle, ABCC provides the large storage and computational resources, as well as the bioinformatics expertise necessary for embarking on these kinds of explorations.

Tools for Data Mining

At ABCC, bioinformatics researchers and analysts continuously work on developing tools that aid laboratory researchers as well as mine the vast amounts of experimental data. One of the major responsibilities of the bioinformatics team is assisting in the sequence analysis and annotation of survey sequenced genomes. Apart from

the well-known, fully sequenced mammalian genomes such as the human, mouse, dog, chimp and rat and several yeast and other microbial genomes, some species such as the cat and elephant have been undergoing survey sequencing. Others are being constantly added to this list. Early during the initial releases of these genomes, it became apparent that there was a need for more rapid tools for genome annotation. This was further evidenced by the release of multiple versions of each genome as more information and more accurate sequence assemblies were produced. ABCC was able to speed up a tool that identified short tandem repeat sequences within chromosomes by more than 100-fold. Many of these tools are available through Web interfaces and the results are stored in databases for instant retrieval.

In upcoming issues of the *Poster*, we will profile some of these tools. ♦



Our Partners

The Colonel Loves Her Job!

The National Cancer Institute at Frederick partners with many intramural and extramural entities as we search for cures for cancer, AIDS, and other infectious diseases. Our own campus is adjacent to the stronghold of one of those partners: Fort Detrick. Often, our two entities intertwine—in shared commitment to our nation’s health, in shared research projects, in shared facilities, and in strong leaders who love what they do.

Just as we have Dr. Craig Reynolds heading NCI-Frederick, the army has Colonel Mary Deutsch, Deputy Installation Commander of Fort Detrick, who provides vitally important support services to research, logistics, and communications at Fort Detrick. And, as she enthusiastically noted in a recent interview for this newsletter, she loves her job and the people she works with.



Medical Groups Long a Part of Fort Detrick

Medical groups have formed an integral part of Fort Detrick since 1942. In NCI-Frederick’s mission to make cancer easily treatable, thus helping to safeguard the nation’s health, we form partnerships with both intramural and extramural investigators, such as with the U.S. Army Medical Research Institute of Infectious Diseases (USAMRIID).

As part of that national concern, Fort Detrick researchers also focus on finding cures for cancer, developing

vaccines, and creating other products that safeguard the health of our soldiers. Currently, the post is home to a number of Army medical units, among them the U.S. Army Medical Materiel Activity, an arm of the U.S. Army Medical Research and Materiel Command (USAMRMC). “Everything we develop here goes to all four services, once they’re approved by the Defense Medical Standardization Board. Our research puts products in the field that really help the soldiers,” Colonel Deutsch explained.

A Colonel’s Job Is Never Done

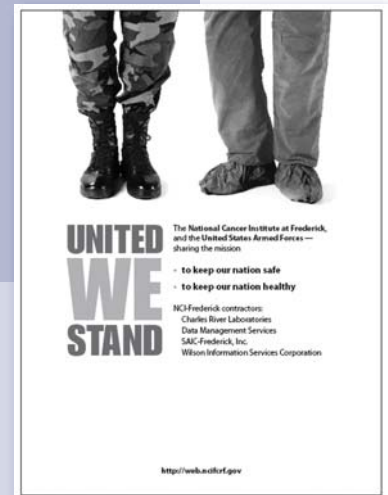
Colonel Deutsch’s duty “day” is almost 24 hours. “The responsibility is not just the mission of taking care of my soldiers. It’s making sure of the security of the installation, family housing, the buildings, infrastructure. Anything could happen at any time. Having that situational awareness at all times is probably the most demanding part of the job. As an army installation, we have responsibilities for the perimeter and security of the installation. I take that as one of my most important jobs,” she said.

Previously in charge of the Medical Logistics Battalion, a field organization that provides medical products to America’s armed forces, Colonel Deutsch came to Fort Detrick in 2000, serving as chief of staff for Major General Lester Martinez-Lopez, the previous installation and USAMRMC commander. Being stationed here during Fort Detrick’s recent growth has “paid tremendous dividends for my learning curve. It is fun, challenging, exciting. One of the best positions I have ever had,” she said.



Partnering with NCI-Frederick

Colonel Deutsch noted that Fort Detrick partners with NCI-Frederick “in a lot of our initiatives,” such as collaborating on some research projects, allowing NCI-Frederick employees to use most of the free programs and services the base offers; and participating in annual events, such as the May Spring Research Festival and the July Take Your Child to Work Day.



An important part of this partnership is the civilian support in many matters connected to infrastructure. For example, Colonel Deutsch said, she considers us strong partners in developing efficiencies in our energy consumption. “We are certainly

Our Partners

partners in that. Every mission dollar that we can save in energy goes toward being able to complete our mission,” Colonel Deutsch said.

Looking at the long-range plans for Fort Detrick with the Homeland Defense project that is being built and the changes that brings to the infrastructure, security, and other aspects of the installation, Colonel Deutsch noted that “We get support from all our ‘mission partners’ because we are all working toward the same end—to have a secure workplace where we can complete our missions in the most efficient manner. Certainly, any decisions we make are going to impact NCI, as well as other federal agencies. We work very hard at keeping communications open and working to come to decisions that we all agree on,” she said.

She added, “I appreciate the partnership that we have with NCI. It’s a very good, long-standing

relationship. And now we are growing and using some of the things we’ve worked out with NCI as our framework for our new partners that we’re bringing on the installation.”

While Fort Detrick is the largest command she’s had, Colonel Deutsch has had no problems commanding as a woman. She points out that the Army expects any of its leaders, male or female, “to be able to stand toe-to-toe with all of your counterparts. There is just a higher expectation if you are going to strive to become a leader, regardless of sex. That’s just expected of anyone. If you’re not willing to make sacrifices to do that, then you shouldn’t try to be the leader. Fort Detrick is one of the greatest army installations. It is small, it is defined by what we do. It has a purpose and mission in life, to protect not only the war fighter, but our nation. I’m just tremendously honored and humbled to be in this position. And I love my job!” ♦

If you want to know more...:

- For more on County facts, go to <http://www.discoverfrederickmd.com/fastfacts/documents/FrederickBEF06.pdf>.
- For more about Fort Detrick, go to <http://www.detrick.army.mil>
- “Materiel,” not “material,” refers to “equipment, apparatus, and supplies used by an organization or institution,” according to the Merriam-Webster on-line dictionary, <http://www.m-w.com/cgi-bin/dictionary?book=Dictionary&a=materiel>. ♦

Check It Out!

Were you looking for information about...

Diversity-related information?

- http://diversity.ncifcrf.gov/flash_content/default.asp
- <http://www3.kumc.edu/diversity/>
- <http://life.familyeducation.com/diversity/respecting-equality/34476.html>

Hispanic American Month (September 15–October 15)?

- <http://www.clnet.ucla.edu/heritage/hhhispan.htm>
- <http://www.cr.nps.gov/nR/feature/hispanic/>
- http://www.smithsonianeducation.org/heritage_month/index.html

NCI-Frederick?

- <http://saic.ncifcrf.gov/fitnesschallenge/>
- <http://web.ncifcrf.gov/campus/committees/>
- <http://web.ncifcrf.gov/research-technologies/default.asp>

Flu updates?

- <http://www.pandemicflu.gov/> ♦

Improve Your Speaking Skills

NCI-Frederick employees are able to participate in many Fort Detrick activities. If you would like to gain confidence in oral presentations, you might consider joining a toastmasters club. Two meetings will be held in October to determine interest. You are welcome to bring your lunch (or breakfast, in the case of the second meeting).

Wed., Oct. 11, 11:30 a.m.-1:00 p.m.,
NCI-Frederick Café Meeting Room
Thur., Oct 12, 7:00 a.m.- 8:00 a.m.,
Fort Detrick’s new dining facility
Conference Room on Freedman Drive

If you are interested, contact Major Katherine V. Suarez, USAMRIID, at katherine.suarez@amedd.army.mil or 301-619-2965. ♦

Off-Site Programs

Core Genotyping Facility Offers State-of-the-Art Gene Analysis

Editor's note: From time to time, we offer you a profile of one of the many NCI-Frederick programs that are off-site so that you can learn a little about your colleagues that you don't often see at our main campus. If your program has not been profiled, please let the editors know at spgm@ncifcrf.gov.

If your research focus includes genetics, then you may need the resources offered through the Core Genotyping Facility (CGF), comprising both research and development and bioinformatics. Located in the Advanced Technology Center in Gaithersburg, CGF, as part of the NCI's Division of Cancer Epidemiology and Genetics (DCEG), assesses human genetic variation, including single nucleotide



Tabassum Bandey and Shaila Sharmeen, both research associates, prepare to hybridize fluorescently labeled PCR products to fiber-optic arrays used for Illumina's GoldenGate® Assay.

polymorphisms (SNPs) and other types of genetic variation, such as microsatellites or insertion/deletion mutations, in many of NCI's population and family studies.



Core Genotyping Facility staff, Advanced Technology Center, Gaithersburg. Several people were unable to be present for the photo.

CGF uses seven major technology platforms to assess human genetic variation. These include:

- TaqMan® fluorescent 5' nuclease cleavage,
- Fluorescent DNA fragment analysis and sequencing detected by automated capillary electrophoresis systems,
- MGB Eclipse™ 3' hybridization triggered fluorescence,
- SNPlex™ oligonucleotide ligation assay (OLA) in combination with PCR chemistry and fluorescent DNA fragment analysis,
- Affymetrix GeneChip® Mapping Arrays for high-throughput genotype analysis—both custom and 500 k,
- Illumina GoldenGate® technology for custom SNP genotyping, and
- Illumina Infinium™ technology with the Sentrix® HumanHap550 BeadChip, powered by the Infinium™ II assay.

To help meet NCI the challenge of curing cancer by 2015, CGF supports the genotyping and DNA sequencing needs of the DCEG and NCI's Center for Cancer Research. The facility performs high-throughput genotyping and sequencing to support genetic analysis for a broad range of projects for NCI's intramural research program. CGF senior staff works with investigators to select the best SNPs

for analysis from SNP500Cancer site assays or commercially available panels. New assays are designed and optimized for ongoing studies.

In the Research and Development section, CGF staffers evaluate and develop technologies for cancer genomic research, focusing on integrated “wet” and “dry” analysis. During 2005 and 2006, the CGF completed a number of significant projects in DNA quantification, whole genome amplification, whole genome SNP analysis, and analytical tool evaluation.

The Bioinformatics team has developed a series of tools and workflows to address internal workflow and to provide public



Colin Stefan, research technician, precipitates DNA for the PCR step in Illumina's GoldenGate® Assay.

Off-Site Programs

access and tools for analysis of genetic variation. These include Genewindow, the SNP500Cancer data base, and Tagzilla (a program for selecting tagSNPs based on the “greedy” algorithm). For example, on the SNP500Cancer Web site (<http://snp500cancer.nci.nih.gov>), you can search for SNPs by any of several



Herbert Higson, research technician, creates a PCR master mix for a TaqMan® SNP genotyping assay.

key links: SNP identifier, gene symbol, gene alias, the chromosome location, or a gene ontology pathway.

Please note that while CGF can provide investigators with sample

handling, candidate gene assay development, and genotyping services on a fee-for-service basis, it cannot perform “cost comparisons” for genotyping services.

Another project in which CGF is involved is the Cancer Genetic Markers of Susceptibility (CGEMS) initiative (*Cancer Bulletin*, 2[16]:7, 2005; <http://cgems.cancer.gov>) to perform dense whole genome scans that identify and validate susceptibility genes in the induction and progression of prostate and breast cancer. CGF is conducting most of the laboratory work, including bioinformatic analysis, for this project. CGEMS represents a three-year NCI initiative coordinated among the DCEG, CGF, and the NCI Office of Cancer Genomics. CGEMS is a resource for

the strategic partnerships between intramural and extramural groups joining forces to incorporate genomic and other emerging technologies in large-scale epidemiologic studies.



Dr. Stephen Chanock, director of the Core Genotyping Facility, reviews notes for a project.

Dr. Stephen Chanock, NCI, heads the Core Genotyping Facility. Senior staff includes Dr. Meredith Yeager-Jeffery, Scientific Director; Robert Welch, Deputy Director; Dr. Laurie Burdett, Sequencing head; and Bernice Packer, Bioinformatics head.

For information about CGF and its work, contact Dr. Chanock (chanocks@mail.nih.gov) or Dr. Yeager-Jeffery (yeagerm@mail.nih.gov). ♦

Bow Season Opens

Fort Detrick’s white-tail deer bow season began September 15, 2006, and continues through January 31, 2007.

To be eligible to hunt on Fort Detrick property, you must have a Maryland Resident or Nonresident Consolidated Hunting License or regular hunting license with an archery stamp and must comply with the Maryland Department of Natural Resources hunting regulations. You must also pass the Fort Detrick Bow Hunting Qualification Test to receive a Fort Detrick hunting permit. Those eligible include: active duty and retired

military and their dependents (12 and older); Fort Detrick active and retired civilian employees and their dependents (12 and older); and government contractor personnel at Fort Detrick and their dependents (12 and older).

Qualification testing continues through December 15, Monday–Friday, 4:00–5:00 p.m., at the Nallin Farm Multi-Purpose Events Complex. Call 301–619–2759/2957 for an appointment or for information. ♦

FORT DETRICK 2006-2007

WHITE-TAILED DEER

BOW SEASON

Hunt Season: 15 September 2006 – 31 January 2007

Qualification Testing: 28 August–15 December 2006 (Monday-Friday)
1600-1700, Nallin Farm Multi-Purpose Events Complex
APPOINTMENTS REQUIRED. CALL 301-619-2759/2957.

Eligible hunters possessing a Maryland Resident or Nonresident Consolidated Hunting License or regular hunting license with archery stamp may hunt on Fort Detrick.

HUNTERS MUST ALSO PASS THE FORT DETRICK BOW HUNTING QUALIFICATION TEST TO RECEIVE A FORT DETRICK HUNTING PERMIT!

ELIGIBILITY:

- Active duty military and their dependents (12 years of age or older)
- Retired military and their dependents (12 years of age or older)
- Fort Detrick civilian employees, including retired Fort Detrick employees and their dependents (12 years of age or older)
- Government contractor personnel with place of duty at Fort Detrick and their dependents (12 years of age or older)

HUNTERS ARE RESPONSIBLE FOR COMPLYING WITH MARYLAND DEPARTMENT OF NATURAL RESOURCES HUNTING REGULATIONS. INFORMATION CAN BE OBTAINED AT [HTTP://WWW.DNR.STATE.MD/CN/SHW/INDEX_FLASH.ASP](http://www.dnr.state.md/cn/shw/index_flash.asp)

FOR MORE INFORMATION, CALL 301-619-2957



*Dr. Lino Tessarollo
Acting Director, Mouse Cancer
Genetics Program*



Dr. Tessarollo earned his Ph.D. in biological sciences from the University of Padua, Italy, in 1987, where he studied the molecular mechanisms underlying tumors induced by the Moloney murine sarcoma virus in mouse and rat.

In 1990, he came as a postdoctoral fellow to the ABL-Basic Research Program at NCI-Frederick, where he helped develop new technology in gene targeting by homologous

recombination in mice. He established the Special Program in Germline Mutation in 1994 to generate targeted mouse models. He later formed the Neural Development Group and established a mouse gene targeting program for the National Cancer Institute. In 1999, he joined the Center for Cancer Research, NCI, where he directs the Neural Development Section and the Gene Targeting Facility in the Mouse Cancer Genetics Program. He is currently Acting Director of the Mouse Cancer Genetics Program.

Dr. Tessarollo's research focuses on the signals controlling mammalian nervous system cell proliferation and survival. "Our goal," he said, "is to identify specific pathways that can be activated to promote survival of cell populations affected in neurodegeneration, thus preventing uncontrolled cell proliferation leading to cancer." The neurotrophin growth factors and their Trk tyrosine kinase receptors are critical to the development and maintenance of the mammalian nervous systems

and, thus, are potential therapeutic targets for the management of neurodegenerative disorders such as Parkinson's and Alzheimer's diseases. Neurotrophin receptors are also frequently overexpressed in human cancer, including pancreatic and prostate carcinoma, melanoma, medulloblastoma, and neuroblastoma.

"Our work has established a non-catalytic TrkC isoform as an unsuspected upstream activator of ARF6, a regulator of processes important for cell motility, raising an important question concerning the role of Trk receptors in tumor progression," Dr. Tessarollo said. While expression of Trk receptors has been found in many tumor types, how the favorable or negative prognosis is associated with the expression of a specific Trk receptor is not understood. "Our findings," he explained, "raise the intriguing possibility that expression of truncated receptors alone, or in association with the tyrosine kinase isoforms, may account for some tumor growth characteristics, including proliferation and metastatic potential." ♦

Esteban PF, Yoon HY, Becker J, Dorsey SG, Caprari P, Palko ME, Coppola V, Saragovi HU, Randazzo PA, Tessarollo L.

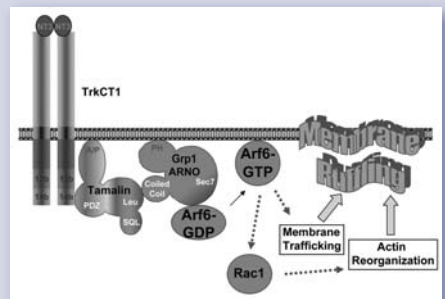
A Kinase-Deficient TrkC Receptor Isoform Activates Arf6-Rac1 Signaling through the Scaffold Protein Tamalin

J Cell Biol 173(2):291-299, 2006

Neurotrophins play an essential role in mammalian development. Most of their functions have been attributed to activation of the kinase-active Trk receptors and the p75 neurotrophin receptor. Truncated Trk receptor isoforms lacking the kinase domain are abundantly expressed during development and in the adult; however, their function and signaling capacity is largely unknown. We show that the neurotrophin-3 (NT3) TrkCT1-truncated receptor binds to the scaffold protein tamalin in a

ligand-dependent manner. Moreover, NT3 initiation of this complex leads to activation of the Rac1 GTPase through adenosine diphosphate-ribosylation factor 6 (Arf6). At the cellular level, NT3 binding to TrkCT1-tamalin induces Arf6 translocation to the membrane, which in turn causes membrane ruffling and the formation of cellular protrusions. Thus, our data identify a new signaling pathway elicited by the kinase-deficient TrkCT1 receptor. Moreover, we establish NT3 as an upstream regulator of Arf6. ♦

Schematic representation of the newly identified NT-3-activated signaling pathway leading to cell ruffling and actin reorganization.



For complete article and details on the figure, go to <http://www.jcb.org/cgi/content/full/173/2/291>. ♦

The following 36 articles have been selected from a quarterly listing of publications in 12 of the most prestigious science journals.

Apoptosis

Chandra D, Bratton SB, Person MD, Tian YA, Martin AG, Ayres M, Fearnhead HO, Gandhi V, Tang DG. Intracellular nucleotides act as critical prosurvival factors by binding to cytochrome c and inhibiting apoptosome. *Cell* 125(7):1333–1346, 2006.

Cellular Immunology and Immune Regulation

Kim BG, Li CL, Qiao WH, Mamura M, Kasperczak B, Anver M, Wolfraim L, Hong S, Mushinski E, Potter M, Kim SJ, Fu XY, Deng CX, Letterio JJ. Smad4 signalling in T cells is required for suppression of gastrointestinal cancer. *Nature* 441(7096):1015–1019, 2006.

Liepinsh DJ, Grivennikov SI, Klarman KD, Lagarkova MA, Drutskaya MS, Lockett SJ, Tessarollo L, McAuliffe M, Keller JR, Kuprash DV, Nedospasov SA. Novel lymphotoxin alpha (LT alpha) knockout mice with unperturbed tumor necrosis factor expression: Reassessing LT alpha biological functions. *Mol Cell Biol* 26(11):4214–4225, 2006.

Mason LH, Willette-Brown J, Taylor LS, McVicar DW. Regulation of Ly49D/DAP12 signal transduction by Src-family kinases and CD45(1,2). *J Immunol* 176(11):6615–6623, 2006.

Chemokines, Cytokines, and Interleukins

Zhang N, Yang D, Dong HF, Chen Q, Dimitrova DI, Rogers TJ, Sitkovsky M, Oppenheim JJ. Adenosine A2a receptors induce heterologous desensitization of chemokine receptors. *Blood* 108(1):38–44, 2006.

Clinical Immunology

Khan T, Stauffer JK, Williams R, Hixon JA, Salcedo R, Lincoln E, Back TC, Powell D, Lockett S, Arnold AC, Sayers TJ, Wigginton JM. Proteasome inhibition to maximize the apoptotic potential of cytokine therapy for

murine neuroblastoma tumors. *J Immunol* 176(10):6302–6312, 2006.

Shorts L, Weiss JM, Lee JK, Welniak LA, Subleski J, Back T, Murphy WJ, Wiltrout RH. Stimulation through CD40 on mouse and human renal cell carcinomas triggers cytokine production, leukocyte recruitment, and antitumor responses that can be independent of host CD40 expression. *J Immunol* 176(11):6543–6552, 2006.

DNA: Replication, Repair, and Recombination

Bampi C, Bibillo A, Wendeler M, Divita G, Gorelick RJ, Le Grice SFJ, Darlix JL. Nucleotide excision repair and template-independent addition by HIV-1 reverse transcriptase in the presence of nucleocapsid protein. *J Biol Chem* 281(17):11736–11743, 2006.

Epidemiology and Prevention

Michaud DS, Daugherty SE, Berndt SI, Platz EA, Yeager M, Crawford ED, Hsing A, Huang WY, Hayes RB. Genetic polymorphisms of interleukin-1B (IL-1B), IL-6, IL-8, and IL-10 and risk of prostate cancer. *Cancer Res* 66(8):4525–4530, 2006.

Endocrinology

Nunez NP, Oh WJ, Rozenberg J, Perella C, Anver M, Barrett JC, Perkins SN, Berrigan D, Moitra J, Varticovski L, Hursting SD, Vinson C. Accelerated tumor formation in a fatless mouse with type 2 diabetes and inflammation. *Cancer Res* 66(10):5469–5476, 2006.

Enzyme Catalysis and Regulation

Dash C, Fisher TS, Prasad VR, Le Grice SF. Examining interactions of HIV-1 reverse transcriptase with single-stranded template nucleotides by nucleoside analog interference. *J Biol Chem* 2006 [Epub ahead of print].

Genes: Structure and Regulation

McCauslin CS, Heath V, Colangelo AM, Malik R, Lee S, Mallei A, Mocchetti I, Johnson PF. CAAT/enhancer-binding protein delta and cAMP-response element-binding protein mediate inducible expression of the nerve growth factor gene

in the central nervous system. *J Biol Chem* 281(26):17681–17688, 2006.

McCauslin CS, Heath V, Colangelo AM, Malik R, Lee S, Mallei A, Mocchetti I, Johnson PF. C/EBPdelta and CREB mediate inducible expression of the nerve growth factor gene in the central nervous system. *J Biol Chem* 281(26):17681–17688, 2006.

Genetics

Cui CY, Hashimoto T, Grivennikov SI, Piao Y, Nedospasov SA, Schlessinger D. Ectodysplasin regulates the lymphotoxin-beta pathway for hair differentiation. *Proc Natl Acad Sci USA* 103(24):9142–9147, 2006.

Hematopoiesis

Suh HC, Gooya J, Renn K, Friedman AD, Johnson PF, Keller JR. C/EBP alpha determines hematopoietic cell fate in multipotential progenitor cells by inhibiting erythroid differentiation and inducing myeloid differentiation. *Blood* 107(11):4308–4316, 2006.

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Technology Transfer Branch (TTB)

Collaboration Agreements: Gone Are the Days of the Handshake!

Recently, the NCI Technology Transfer Branch (TTB) received the following question:

“Is there some way to document an ongoing collaboration in which materials will be shipped back and forth without having to get a signature each time something is sent?”

With the advent of technology transfer, a collaboration being conducted with a nod and a handshake is not always advantageous. At times, there is a security in having written, guiding principles that are agreed to by both parties when collaborating, even with an academic or government institution.

A Simple Letter Agreement (SLA) or a Material Transfer Agreement (MTA) provides guidelines for transferring material in one direction. Until recently, the Cooperative Research and Development Agreement (CRADA) was the only mechanism for transferring materials back and forth between NCI investigators and their collaborators without generating and signing a separate agreement for each transfer. However, a CRADA is not a suitable mechanism to document some collaborations.

To foster team science and collaboration, the NCI TTB recently developed the Collaboration Agreement (CA), an instrument that eases much of the administrative burden of these arrangements. The CA defines guiding principles through terms that serve to protect the interest of NCI and the NCI investigator involved in the collaboration.

How Does the CA Compare with an MTA?

The CA combines the terms of an MTA with those of the Confidential Disclosure Agreement (which is used for the exchange of confidential

information) for a period of 3 to 5 years. The CA is considered a modified MTA and can be as easy to initiate as an MTA, allowing you to begin your research quickly. To execute, the CA requires only an authorized signature from the NCI-TTB office, similar to the MTA. Unlike the MTA, the CA requires a research plan that delineates the anticipated responsibilities of the parties. Furthermore, the CA anticipates transfer of additional research materials consistent with the research plan and provides for such transfers to be made with a simple e-mail, fax, or memo between the parties describing the materials being transferred and referencing the CA. A copy of this communication is then forwarded to TTB for the official file. No additional signatures are required.

How Does the CA Compare with a CRADA?

When deciding whether to enter into a CRADA or a CA, several aspects

should be considered, including license rights, funding, the review process, time to execution, and types of collaborating parties. See the table below for a comparison of these significant issues.

Is a CA the Right Mechanism for Your Collaboration?

Here are several situations in which the CA has been successfully applied:

- A long-standing scientific relationship needs to be documented so that the exchange of materials and data may be managed.
- A collaborator on a project sends materials to the other party. The receiving party modifies the materials and transfers the new materials back to the original sending party.
- A postdoctoral fellow or other laboratory staff member leaves for

continued on page 15

CRADA or CA: What You Should Consider

Consideration	CRADA	CA
License rights	Conveys to the collaborator first right to an exclusive license to any inventions made under the research plan.	Does not include licensing terms, but collaborator may apply for a license following the standard government licensing regulations.
Funding	Collaborator may provide funds to the NCI laboratory in support of the research.	No financials may be involved.
Review process	Requires review by the NIH CRADA subcommittee, followed by signatures from NCI director's office and several NIH CRADA subcommittee members.	Requires TTB review and signature only.
Time to execute	3 to 8 months	Similar to an MTA or CDA (typically 1 to 4 weeks)
Collaborator	For-profit entity (company)	For-profit entity (company); non-profit entity (academic or government institution)

Environment, Health, and Safety Program

Fitness Challenge 2006 Update

The Fitness Challenge has grown! As of July 1, the rest of the Fort Detrick community joined NCI-Frederick in pursuit of a healthier workforce, and the competition is fierce. Fort Detrick's mission partners are confident that they can accomplish their fitness goals in half the time. So, let's show them what we're made of!

Enough Miles for World Travel

Over the past nine months we've been striving to walk, bike, and run around the world (approximately 25,000 miles). So far, we've traveled nearly 16,000 miles, enough to follow NCI-Frederick scientists as they participated in clinical trials, conferences, and gathered samples for research throughout Japan, South Korea, China, Vietnam, Cambodia, Singapore, and South Africa. We are quickly racking up enough miles to move from South Africa to Botswana, where our colleagues have actually captured wild lions to obtain research samples! From there, we'll head northwest to visit our friends in Mali before heading back to Frederick for our grand finale on December 21.

It's Not Just about You

If you haven't been entering your weight loss, miles, or exercise hours on the Fitness Tracker, now's the time to get started! If you are behind, or missed a few days of entering your data, you can always go back and update the tracker. Remember, every pound, mile, or hour counts toward your personal goals. Just as important, however, is your organization's total. Remember, the operative word is "challenge," and we have been challenged to see which organization can lose the most.



Dr. Larry Arthur is an active proponent of the Fitness Challenge.

Check Out a Fitness Video

Many new fitness DVDs have been added to the Center for Health Information's video collection in Building 549. Stop by to borrow a video and try some new exercises. You'll find videos for all types of exercise: low-impact aerobics, walking away the pounds, tai-chi, pilates, and yoga, as well as strength training for all fitness levels. ♦

Fitness Challenge Events This Fall

Get inspired by one of the events presented this fall, during the last quarter of the Fitness Challenge. Unless otherwise noted, events are in the auditorium in Building 549, from 12:00 to 1:00 p.m. Bring your lunch and enjoy!

October 4: Fort Detrick Community Expo & Health Fair

OHS, the Scientific Library, and the Cancer Information Service will join lots of other exhibitors at this installation-wide event.
11:30 a.m. – 2:30 p.m.
Odom Fitness Center

October 12: How to Involve the Family with Exercise and Nutrition

Presented by Occupational Health Services

October 15: Diabetes 5K Walk in Baker Park

Start Time 1:00 p.m.
Baker Park Bandshell
For more information go to <http://walk.diabetes.org> or call 888-DIABETES

Four Months to Go!

Here's how we're doing as a group. All information is based on data entered into the Fitness Tracker as of September 5. We've made some significant progress in our miles biked, run, and walked, as well as in our "other" category. We still have a ways to go with the weight loss. So for the next four months, let's just say "No!" to that dessert!

Activity	Average Per Person*	Total	Goal	Percentage Accomplished
Pounds lost	5	756	2,000	38%
Miles biked	105	4,633		
Miles run	62	3,748		
Miles walked	60	7,466		
Total, bike, run, walk		15,847	25,000	63%
Hours Other	68	7,339	8,760	84%

Environment, Health, and Safety Program

November 9: *Stress during the Holidays*

with guest speaker Selden Cooper, Employee Assistance Program Coordinator

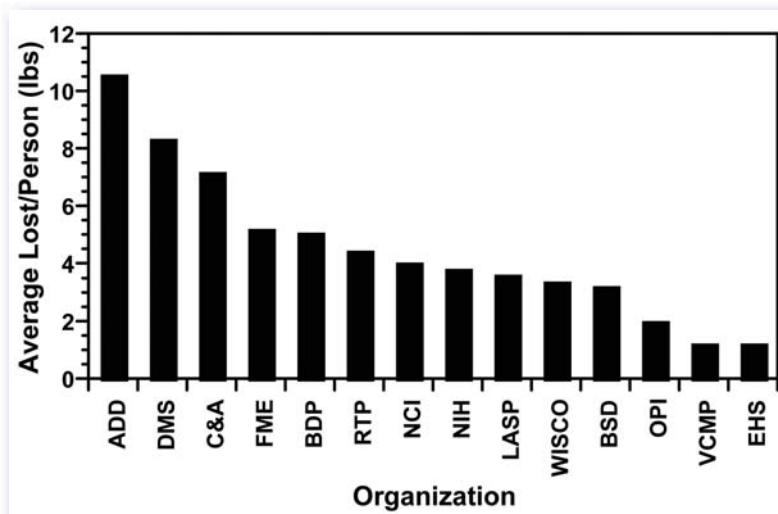
December 21: *Fitness Challenge 2006 Finale*

This is it – the moment of truth. Be sure to attend to find out the final results and celebrate our success!

Share Your Success!

If you have a Fitness Challenge success story you'd like to share, OHS would love to hear it! Call 301-846-1096, or email: ohs@ncicrf.gov. ♦

How Is Your Organization Doing?



Remember to enter your results! ♦

PALS

PALS Art Auction

Part of Take Your Child to Work Day was an art auction held at the day care center, Play and Learning Station, PALS. With the art on exhibit in the 549 Conference areas, people could inspect finger paintings and sponge paintings ranging from bright yellow fish to the American flag, montages of bright colored papers in triangles, squares and rectangles, as well as red, blue, and brown footprints. Many of the paintings would give Jackson Pollack a run for his money!

This year, the auction raised nearly \$270. Monies raised will be used for materials needed for the day care center. ♦



Environment, Health, and Safety Program

NCI-Frederick: Environmentally Friendly

A researcher in the middle of a procedure realizes she needs 20 milliliters of concentrated sulfuric acid to make up a reagent. There is none in her lab, and no adjacent labs use concentrated sulfuric acid. What can she do?

Chemical Recycling

Fortunately, NCI-Frederick operates a Chemical Surplus Program to collect and store unopened bottles of shelf-durable chemicals such as solvents, acids, bases, salts, and specialized cleaning supplies. Surplus chemicals are advertised on the NCI-Frederick Web site by the Environment, Health, and Safety (EHS) Waste Management office (see box on page 17). Using this Web site, our researcher finds that a 100-mL bottle of concentrated sulfuric acid is available. She makes a quick phone call to Waste Management, and the sulfuric acid is delivered the same day.

Where does EHS get surplus chemicals?

Unused chemicals are frequently obtained whenever a lab moves, is renovated, or cleaned out.

Also, many labs purchase chemicals

in bulk because they are less expensive; unfortunately, most of the chemicals will expire before they can be completely used. However, if the labs send what they don't—or can't—use to the Chemical Surplus Program, such waste can be reduced or even eliminated.

For example, according to Environmental Safety Officer Paul Stokely, from September 2004 to September 2005, 108 containers of chemicals were placed in safe storage and 57 of them were re-issued, at no cost, to laboratories and shops at the NCI-Frederick campus. This resulted in a cost savings of approximately \$2,912.

General Recycling

NCI-Frederick enjoys many benefits from working within Fort Detrick, including participation in their recycling program. Every week, the United States Army Garrison (USAG) collects office paper from several dozen areas around the NCI-Frederick campus.

The USAG also provides recycling containers for glass, plastic bottles, aluminum, cardboard, newspapers, and more (see box for information on where to find these drop-off points). Many lunchrooms have containers for empty plastic bottles and aluminum cans, and we are fortunate that staff



Technician surveys chemicals available to researchers through the Chemical Surplus Program.

members volunteer to deliver these items to the drop-off points.

Plastic Pipette Trays

Disposable pipette tips are packaged in trays or boxes made of low-density polyethylene (#5) plastic. The Waste Management office will collect these

boxes from labs and grind them on-site for pick-up by a local recycling firm. The processed resins from these plastics are used to make plastic coat hangers, flower pots, and other general consumer items.

Recycling Benefits Children's Inn at NIH

You can arrange for Waste Management to pick up Tyvek garments from clean rooms and production labs. These garments are washed and re-used by other industries; for every suit recycled, \$0.25 is donated to Children's Inn at NIH to help juvenile cancer patients.

Ink and toner cartridges from printers and copiers may be dropped off in specially marked boxes found in many offices. When these boxes are nearly full, Waste Management will pick them up. Proceeds from these cartridges also go to Children's Inn.

It Doesn't Stop There

Other items that may be recycled include:

- lead acid batteries from computer backup systems and shop equipment
- X-ray and photographic film and paper
- metal gas cylinders and lecture bottles
- fluorescent light tubes
- lead shielding
- shrink wrap

Check the Web site (see box on next page) for the complete list of recyclable items.

If you have any questions or comments about NCI-Frederick recycling or other environmental efforts, please call the Waste Management office, at 301-846-5718. ♦

Environment, Health, and Safety Program

Questions about Recycling?

General Recycling:

<http://home.ncifcrf.gov/ehs/recycling/>

This Web site provides information on over 20 types of items that can be recycled at NCI-Frederick, and how to package your recyclables for pick-up. You'll even find an interactive map showing the Ft. Detrick drop-off points by type of material.

Surplus Chemicals:

<http://home.ncifcrf.gov/ehs/ehs.asp?id=79>

This Web site provides information on how to recycle chemicals or to order chemicals from the list of those currently in surplus.

General questions, or to arrange for pick-up of recyclables:

Call the Waste Management Office, 301-846-5718. ♦

Environmental Accountability Mandated by Executive Order

Executive Order 13148, issued by President Clinton in 2000 and endorsed by President Bush in 2004, mandates that government facilities develop recycling programs and reduce waste wherever practical. NCI-Frederick developed its environmentally friendly programs in response to this mandate and encourages everyone's participation. ♦

Where Are They Now?

Dr. Lori Bernstein

Graduate student, 1987-1992; post-doctoral fellow, 1995-1996

Dr. Lori Bernstein worked first in Dr. Nancy Colburn's laboratory. While doing post-doctoral work at NCI-Frederick in Dr. Scott Durum's laboratory, Dr. Bernstein found "that AP-1 activation occurs in cells susceptible to oncogenic transformation but not in cells resistant to oncogenic transformation" (Bernstein and Colburn, *Science* 244[4904]:566-569, 1989), according to a recent e-mail she sent in response to our questions. Reminiscing, Dr. Bernstein noted that her tenure at NCI-Frederick was during the Persian Gulf war, and she remembers that there was a "big increase in security at the gates."

Since leaving NCI-Frederick, she has continued her research and has identified "new AP-1 DNA binding proteins that repress AP-1 target gene transactivation

and mRNA expression, and mediate neoplastic transformation" (Samuel, et al. *Biochem J* 388(Pt. 3):921-928, 2005), she wrote.

Currently, she is an assistant professor in the Molecular and Cellular Medicine Department, College of Medicine, Texas A & M University. Dr. Bernstein said that Dr. Colburn "was and continues to be an excellent and dedicated graduate mentor and scientist. I am grateful for having known her and worked with her." ♦



continued from page 11

a new position but will continue to work collaboratively with NCI. Materials and confidential information will be shared.

- Preliminary studies are needed to decide if a CRADA is the next step in the development of the technology.
- Multiple NCI investigators are receiving compounds to be used as screening agents against multiple disease targets, and the collaborator will supply derivatives of compounds as a result of the initial hit.
- The NCI investigator wants to memorialize or capture technology transfer activities for reporting requirements (site visits or awards, for example).

If the CA sounds like something that you may be interested in using, or if you have any questions related to this or any other technology transfer topic, please do not hesitate to contact TTB at 301-846-5465 or on-line at <http://www.ttb.nci.nih.gov>. ♦

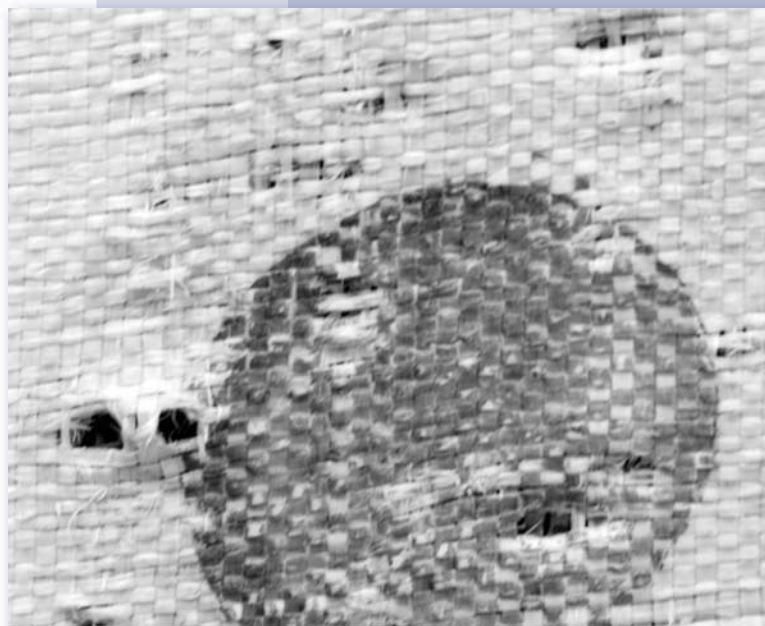
Poster Puzzler

What is it?

Where is it?

Your challenge, should you decide to accept it, is to correctly identify the item and its location from the picture to the right. Clue: It's somewhere at Fort Detrick/NCI-Frederick. Win a framed photograph of the Poster Puzzler by e-mailing your guess, along with your name, e-mail address, and daytime phone number, to Poster Puzzler at poster@ncifcrf.gov. Alternatively, you can send us your guess, along with your name and daytime phone number on one of *The Poster* forms found on the front of *The Poster* stands in the lobbies of Buildings 426 and 549. All entries must be received by Friday, **October 27, 2006**, and the winner will be drawn from all correct answers received by that date.

Good luck and good hunting! ♦



The Poster Puzzler:

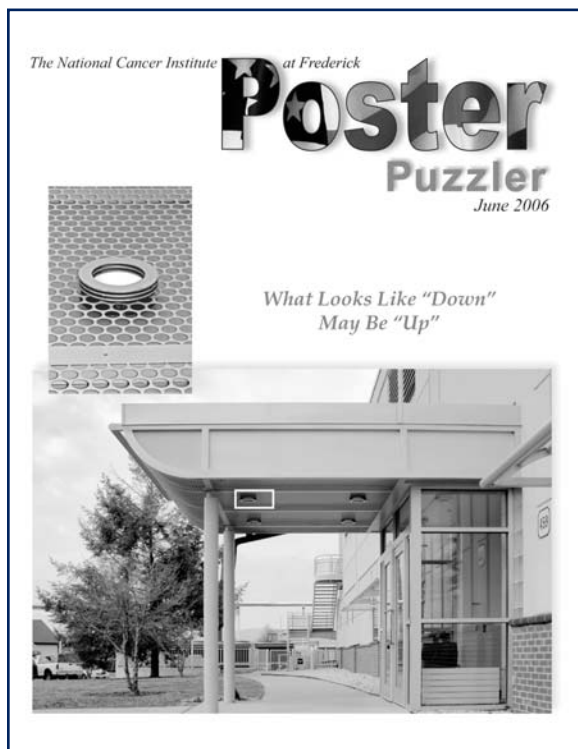
What Looks Like "Down" May Be "Up"

The June Puzzler is one of the lights in the overhang in front of Building 459. These lights are not nearly as old as the building, which was originally constructed in 1944 as a cold storage facility for the Biological Warfare Program. In the 1950s, it was renovated into an animal holding facility, which operated until 1974, when the Army modified it again to house chemistry and microbiological laboratories. In 1993, the building was turned over to the National Cancer Institute. Renovations completed in 1996 transformed a 50-year-old laboratory building into a state-of-the-art cGMP production facility for the Monoclonal Antibody Recombinant Protein Production program—and included the overhang with lights. Today the building is part of the Biopharmaceutical Development Program.

Did we mention the photo was upside down?

Editor's Note: June's Poster Puzzler was a test of everyone's powers of observation. Our designer shamelessly manipulated the photo by flipping it upside down, to increase the difficulty of finding it. Luckily, we have lots of keen observers in our community: we had more correct entries for this photo than for any other since our Puzzler feature began.

Thanks to all the participants in the June 2006 Poster Puzzler! And special thanks to Rocky Follin, FME, for the information in this article. ♦



Congratulations to our June 2006 Puzzler winner: Wade Schirmer, Contracting Officer's Technical Representative, Facilities Maintenance and Engineering. ♦

Poster People Profile: Peter Boving

Peter Boving, Fire Prevention Inspector at SAIC-Frederick, Inc., is no stranger to the scientific research environment. His grandfather came from Denmark to work at the Smithsonian Institute as an entomologist, and his father's career was in medical research. "Even if I didn't follow their footsteps to a career in science, a research campus feels like home," he commented.

NCI-Frederick has been Mr. Boving's "home" for the last 19 years. When he began in 1987 as Manager of Protective Services, he brought a commitment to helping others that stretched back to early adulthood. During his undergraduate years at Albion College in Michigan, he was a Campus Service Officer, volunteered with the Albion Ambulance Service, and trained as an Emergency Medical Technician.

After college, he worked as a mall Security Sergeant in Detroit; managed security departments at Trinity College, Washington, D.C., then at Mount Saint Mary's University, Emmitsburg, MD; and earned a master's degree in criminal justice, the first of two graduate degrees.

While managing the Protective Services Department here, he earned his second master's degree, this time in computer science. The scientific alarm call-in information used to be "hand-written on scrap paper," he said. "The name and phone number, if any, were often out of date." With call-in information collected in a database, he continued, "we were able to print updated call-in cards, and comprehensive reports before each weekend."

New Position Brings Him Full Circle

The events of September 11, 2001, profoundly affected Mr. Boving. "On that day," he said, "the weight of protecting 3,000 people became

a burden." It was then that he began "looking for a different way to serve the research community."

Accepting a position as Fire Prevention Inspector represented an exciting change in direction and a chance to return to his roots.



*Peter Boving
Fire Prevention Inspector
at SAIC-Frederick, Inc.*

Becoming a Certified Fire Protection Specialist "was not a chore for me," he recalled, "because I'd had a wide variety of training in firefighting techniques, SCBA [self-contained breathing apparatus], rescue, pumps, rappelling, aerial ladders, sprinkler systems, incident command, hazardous materials response, arson investigation, NFPA [National Fire Prevention Association] codes and, of course, fire prevention."

He has provided fire extinguisher training at a vocational high school, given fire prevention talks in elementary schools, and inspected hundreds of establishments and houses. Having seen first-hand the damage fire can do to both buildings

and lives, he said, "Fire prevention is something I understand and respect."

Active Participant in the NCI-Frederick Community

A former substitute teacher, Mr. Boving enjoys the Elementary Outreach Program because "teaching science to second graders is a wonderful way to contribute to the future." His favorite committee is the Employee Diversity Committee because, he said, "my main interest is the celebration of diversity through cultural events. I enjoy international cooking, and wish to bring interesting cultures, languages, music, and foods to NCI-Frederick."

"Our Roles Overlap"

What Mr. Boving likes best about working at NCI-Frederick is the variety: of work of experiences with the Employee Diversity Team, and of friendships he has made here. He commented, "Our roles overlap: family, work, friends, and volunteering," adding that NCI-Frederick "understands and supports the interaction."

Variety clearly extends into other aspects of his life. His natural curiosity has generated a diversity of interests, including cooking, camping, hiking, cross-country skiing, and traveling. When he can't travel, he said, he watches the world on satellite TV or listens to it via amateur radio. "I like to know what's going on," he said.

Mr. Boving draws inspiration from a statement made by Margaret Meade when she spoke at his college many years ago: "Never doubt that a small group of thoughtful, committed people can change the world. Indeed, it is the only thing that ever has." With his natural curiosity and willingness to embrace diversity, he can certainly be counted among this group. ♦

FME Machine Shop: One-of-a-Kind



Look around your office, your laboratory. Chances are, you have more than one indispensable item that was manufactured right here, whether it's a special hood, a repair or replacement for an item no longer made, or a unique product for a special research need.

Aluminum, stainless steel, acrylic, nylon—Facilities Maintenance and Engineering's (FME's) master machinists—Tom Crone and Jimmy Notnagle—work with all kinds of materials on all sorts of projects.

For example, when Dr. Mi Li, Macromolecular Crystallography Laboratory, needed a transition table for his X-ray diffractometer, X-ray enclosures for his X-ray generators, and a stand for his optics, the two saved him time and money by careful planning, good craftsmanship, and quick delivery. "The devices work very well with the other parts of my data collection system. Tom and Jim did very good job for me and I really appreciate it," Dr. Li said.

Dr. Lidia Hernandez, Cancer and Developmental Biology Laboratory, had many trays and combs for her electrophoresis gel chambers, but they wouldn't fit the new, differently sized versions. The Machine Shop made

chambers sized like the old ones, so she could continue to use the trays and combs. Doing that saved lots of money for her laboratory—and by extension, for NCI-Frederick.

In a Hurry?

The Machine Shop fellows have also made items that would have taken weeks or months from commercial venues. For example, they made a fan shaft for Charles River Laboratories' Animal Facility and a steam coil for the Fermentation facility. The fan shaft alone would have taken about six weeks for delivery, while shop fabrication took only eight hours. The steam condensing coil was estimated at 12 weeks for delivery and to cost \$3,000. The machinists made it in eight hours for about \$100 in materials, according to Max Reed, Machine Shop supervisor.

When Glenn Hegamyer, Laboratory of Cancer Prevention, was preparing sucrose gradients for polysome fractionations, the gradient block broke. He would have had to discard his samples, if not for the quick in-house repair that Mr. Crone and Mr. Notnagle performed.

Inventiveness

Mr. Crone and Mr. Notnagle have created low-radiation and splash shields out of thick Plexiglas. They've made 96-hole test tube racks numbered across the top and lettered down the side so that it's easy to identify each test tube by position. And they crafted an aluminum box that could be plunged into ice to chill cells much more quickly than the commercially available plastic.

A few years ago, they experimented with several whale dart prototypes for a research scientist. "This was uncharted territory," Mr. Crone said, chuckling. Darts and scientist were featured in the July 1999 *National Geographic*.

Working closely with researchers and technical staff in the AIDS Vaccine Program and the Gene Expression Laboratory, Mr. Crone designed an acrylic box anchored with rubber feet to hold centrifuge tubes and dialysis chambers in place. A narrow vertical slit in the box, the length of the test tube, enables the researcher to insert a needle at any point to withdraw a sample. No worries about needle sticks or spills.

Rodman Smith, Biological Products Laboratory of the AIDS Vaccine Program, needed a specialized support tile for his robotic, computer-controlled Packard MultiProbe II to hold larger test tube racks. When the manufacturer was unable to provide one that suited his needs, the Machine Shop made one that lets Mr. Smith process more samples simultaneously,



thus saving him time in setup and money for materials.

Dr. Shizuko Sei, Viral Vector Toxicology Laboratory, faced a similar problem with the Tecan auto-robotic system in her former laboratory, the Laboratory of Antiviral Drug Mechanisms. She needed microplate

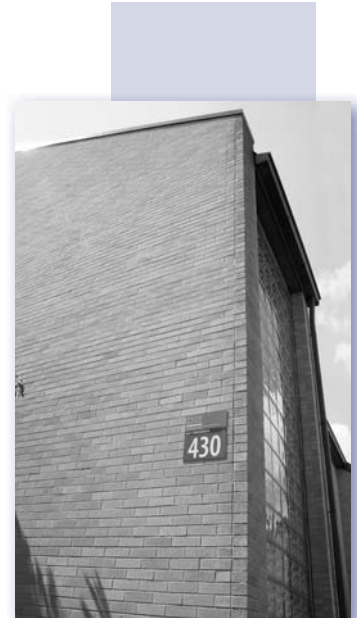
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Campus Improvement Committee

Campus Improvement: Identity Program Nears Completion

The Campus Improvement Committee continues to make progress on its goal of strengthening the identity of NCI-Frederick on the Ft. Detrick campus. Banners identifying the NCI-Frederick boundaries were installed in 2005, and installation of new building signs was completed earlier this year. The current phase of the identity program is the installation of new directional signs, which began in August and is expected to be complete this fall. Ken Michaels, Signage Committee Chair, is pleased with the way the project is turning out. “We’ve been happy with the outcome of this project,” he said, “because not only does it identify NCI-Frederick, but it also gives people here a boost to be reminded that they are part of a larger entity.”

Look for more projects from the Campus Improvement Committee in the coming months. If you would like to participate or have a suggestion for the committee, you may submit your comments or ideas through our Web site, <http://web.ncifcrf.gov/campus/committees/campus.asp>. ♦



continued from page 18

carriers properly set to hold tissue culture plates with infectious agents for the automation program. After consultation with Dr. Sei, Mr. Crone built a prototype carrier system, which greatly helped the automation project get started. The manufacturing company’s representative was impressed with Mr. Crone’s design and gave it high marks.

For several scientists, Mr. Crone and Mr. Notnagle have created probably their largest projects: biosafety level hoods. For example, last spring the machinists made a self-contained, 45-inch-high hood with a rolling door

attached to a pulley that opened and closed very smoothly and gently, for acoustic isolation and to minimize dust particulate. This was done for Dr. Anil Patri, Nanotechnology Characterization Laboratory, who studies nanomaterial using an atomic force microscope (AFM). The AFM is highly sensitive to particles, sound, and vibrations. The hood was placed on a marble bench with active vibration isolation to facilitate sensitive measurements at the nanometer level with greater accuracy and precision, Dr. Patri explained.

Some projects have been fun as

well as challenging. About two years ago, they made a kind of “swimming pool”—a 36” x 40” tank with Plexiglas stands at different levels—for behavioral research on mice. Another time, they made Plexiglas puzzles for monkeys who had to learn to use a rod to dig out a treat such as peanut butter and to tilt the puzzles a certain way for other treats to drop out.

“There’s something different to do all the time,” Mr. Notnagle commented. “It’s always challenging and interesting.” ♦

Outreach and Special Programs

Take Your Child to Work Day Even More Multicultural than Usual

Jerry Burge is a senior research technician in the AIDS Monitoring Laboratory, Clinical Services Program, Applied/Developmental Research Directorate. His main job is to process and store blood on HIV-positive patients that are on drug studies at NIH. He also runs whole-blood staining assays and ELISA assays, and stores blood products and samples for future testing. But for six weeks this summer he was a “father” to a Belarusian child, in addition to three of his own (his wife gave birth to their fourth three weeks after the Belarusian children returned home). Seven-year-old Lira was one of a group of five Belarusian children who visited the Frederick area.

Belarus is a small, Eastern European country which gained its independence after the dissolution of the Soviet Union in 1991. Belarus, whose capital is Minsk, has a population of a little over 10 million in an approximate 80,200 square mile area, according to the *Encarta Encyclopedia* at http://encarta.msn.com/encyclopedia_761553191_2/Belarus.html#s10.

One of the highlights of the children’s visit was participating in Take Your Child to Work Day. This special program is always a bit wild and crazy at NCI-Frederick. For one thing, it happens in July, rather than April, as is done nationally. Having a July date allows us to have numerous activities outside, to get participation from children whose parents are understandably reluctant to take them out of school at other times of the year, and to enjoy the more relaxed summer atmosphere.

The children “really enjoyed it,” Mr. Burge said, “because of the multicultural aspects of being on base.

It was neat for the kids to speak their own language with Russian scientists, and to have this experience.”

He said that the program organizer, Barbara Birnman, was “very gracious in allowing us to add the kids to the programs. It was such a nice thing for her to include the kids. She didn’t hesitate a moment,” he said. Even the chaperone “had a great time; just hearing what was going on and getting



to speak with other Russians.” He said that the chaperone was herself a doctor—a pediatrician—in Belarus.

The children participated in “Unlocking the Mysteries of the Brain” and “Fish and Frogs.” The kids got to make slime in one of the sessions, and Lira kept her slime until she returned to Belarus.

Mr. Burge had high praise for the program’s organization and those who hosted the sessions. “People were very kind and patient with the interpreter having to speak. They [the Russians] really appreciated that.”

This was the first time that Mr. Burge and his wife had hosted a foreign guest. He counted it as a “wonderful experience.” He and his wife had been most nervous about the language barrier; however, both the American families and their Russian “children” had English/Russian dictionaries, and the chaperone was always available by phone.

More than language barriers, scheduling events for the five Russian

children and their host families turned out to be the most time-consuming problem. Even for the Take Your Child to Work Day events, a couple of the children were unable to attend, due to other commitments with their families.

This group was a little different from the usual summer exchange program, in that these are needy children.

Belarus is in the heart of where the radiation was the strongest after the Chernobyl nuclear plant accident; medical reports say that if children in their developmental years can be brought out of that area for at least six weeks at a time, they can gain a year to their lives for each 6-week period.

Thus, the American-Belarusian Relief Organization (ABRO) requires host families to set up appointments with local dentists, optometrists, and family doctors for basic exams. “We were

expecting a sickly child, and we were blessed because Lira never got sick while she was here,” Mr. Burge said. When Lira arrived, she weighed 48 pounds, only eight pounds more than Mr. Burge’s four-year-old daughter. She weighed 63 pounds when she left.

Host families pay for everything for the children, including air fare. However, the doctors involved did all their work pro bono, even to giving Lira \$400 glasses, and another child, braces (also arranging for follow-up orthodontia to take with her to Belarus).

“ABRO tries to match kids with families that have similar cultural backgrounds—city kids with city families, country kids with country families, so that it won’t be quite so much of a cultural shock when they come here,” Mr. Burge explained. He and his wife hope to host Lira again next year, if her mother will allow her to return. “That would just be phenomenal.” And Mr. Burge hopes to visit Belarus next year. ♦

Librarians Prove New Orleans IS Ready for Visitors

--Debby McCalpin, Library Director,
Scientific Library

Editor's note: Debby McCalpin, Library Director, was one of more than 17,000 librarians who attended June's annual American Library Association (ALA) meeting in New Orleans, where librarians not only attended the first major conference held in New Orleans since the 2005 hurricanes, but also helped renovate and restore several libraries in the region.

The American Library Association's (ALA) June 22–28 Annual Conference in New Orleans, with an estimated 17,000 attendees, was the largest convention in the city since Hurricanes Katrina and Rita had devastated the region in August and September 2005. As noted in the June 22, 2006, issue of *Library Journal*, more than 100 libraries in Louisiana were destroyed or damaged, and 40 remain closed.

Conference speakers said that ALA attendance had truly made a difference for New Orleans, not only because of the economic relief we were providing to the city, but also because over 1,000 volunteers, including vendors from the exhibit hall as well as conference participants, helped renovate and restore local libraries, some of which still contained over a foot of water just three months before the conference. Major library vendors donated electronic resources to academic libraries at Tulane, LSU, Loyola, and many other institutions, and thousands of new books.

"You are pioneers, and you are sending a signal to the world that says New Orleans is okay to visit," Mayor Ray Nagin told us at the opening session. Keynote speaker Anderson Cooper thanked librarians for "once again leading the way, as librarians

do." He was visibly moved by being in the Convention Center, which he noted had "few markers of what transpired," since he had last been there in the midst of the crisis.

I have always loved being a librarian, but I have never before experienced such an outpouring of gratitude from people who were so appreciative of our contributions. It was not unusual to be greeted on the street with comments such as "Are you with the librarians? Thanks for coming," or to see t-shirts in stores with a "Librarians Rule!" imprint. We heard from many residents who fear they may lose their unique and vibrant culture if the economy can't support it. We learned that many former residents have been unable to return, either because their homes have been destroyed, or because they cannot afford the housing that does exist, due to skyrocketing rents. In fact, many employers, in order to re-start and maintain their businesses, were housing their own employees.

We learned about some of the complex issues facing the rebuilding of New Orleans. Universities in the area, such as Tulane, University of New Orleans, and Loyola, are concerned about attracting students to New Orleans again. Will students and faculty return? Will developers and opportunists rebuild without concern for architectural integrity? Will New Orleans culture be lost in the transition the city is undergoing?

My hotel, and others in the French Quarter, did not appear to be shorthanded, and it was clear that the hospitality industry's effort to create an area for visitors that was separate from the destruction was successful. The French Quarter businesses and restaurants were busy and the area beautiful and so full of fascinating history. But many of us also felt compelled to see some of the more devastated areas. The sight of National

Guard troops standing watch over flattened and severely damaged homes was a sobering experience.

In one unique, delightful speaker session, author/musician Tom Sancton read from his book, *Song for My Fathers: A New Orleans Story in Black and White*. He alternated anecdotes about growing up around jazz with performances of 1950s New Orleans-style jazz with his ensemble. The session, in just 90 minutes, beautifully portrayed the rich cultural traditions and artistic talent that live on in New Orleans despite the damage from Katrina.

ALA leaders said the Katrina tragedy demonstrated nationwide the critical role public libraries can play in a disaster. Libraries across the country have offered Internet access to displaced residents desperate for information. As residents returned home, local libraries gave people a place to find housing, look for jobs, and share information. While FEMA's (Federal Emergency Management Agency's) policy manual neglects to list libraries among essential services after a disaster, an ALA administrator in charge of coordinating volunteers noted, "Libraries are kind of the heart of the communities. They're a cornerstone, a building block to community service, to democracy."

Madeleine Albright, the keynote speaker at the opening general session, congratulated librarians for keeping the faith with the people of New Orleans. She called libraries "the laboratory of freedom" and "the biggest bargain on the face of the earth." Incoming ALA President-elect Leslie Burger commented that she envisioned a world in which no one will ask, "Do we still need a library?" and called upon colleagues to join her "in a world in which libraries transform their communities." Well said, indeed. ✦

Farmers' Market

Who's Behind the Counter?

Each Tuesday, June through October, you probably visit the Fort Detrick Farmers' Market in front of Building 549, selecting from the array of vegetables, fruits, pastries, muffins and breads, honey, flowers and herbs, lotions and emu meat, milk, yogurt and cheeses. You exchange pleasantries with the friendly faces behind the counters—but have you ever wondered what's involved in getting these products to you? Recently, when we talked with these vendors, we discovered that most are either certified organic or follow organic practices—so you can be sure you are getting very wholesome food here.

Rudy and Judy Medicus run **Cats' Paw**, a certified organic farm near Union Bridge. At their Farmers' Market tent, you'll often find Morning Glory bread, muffins, and cookies; and fresh produce, such as lettuces, squashes, and tomatoes, and potatoes. With a PhD in biochemistry, Dr. Medicus was a "natural" to become certified as an organic farmer. Dr. Medicus is so rigorous in his organic practice that he doesn't even use the Neem bark extract (*Azadirachtica indica*), a weed killer that many other organic farms employ. "It's also a very powerful liver toxin," he said. Nor does he use even approved pesticides; instead, he handpicks "potato beetles off the plants each day, 50 or more each day," he said. The Medicuses can be reached at 410-775-2819.

At the **Frugalbee**, you'll see several varieties of honey, as well as beeswax candles, photo notecards, and vegetables—okra, shallots, leeks, beets, onion, soybeans, potatoes, and heirloom beans such as Dragon Tongue. Although not certified organic, these beekeepers don't use any sprays or chemicals on their crops. The beekeepers, who prefer to be known simply as Bruce and Kathy,

have been raising bees for 10 years and are very knowledgeable about what makes one honey distinct from another, and, of course, about the bees—mostly Italian—they raise on their farm near Creagerstown, MD. To extract the honey, they lift the frames of honeycomb out of the hive and cut off the wax cappings, centrifuge the frame, removing the honey; strain the resulting honey through a fine screen; and finally, bottle the raw, unprocessed and unpasteurized honey. The beekeepers can be reached at 301-898-7823; or through their Web site at Frugalbee.com.

At the **Lewis Orchards** truck and tent, you can find both white and yellow peaches, Shiro and Methly plums, blueberries, cherries, numerous varieties of apples, and sweet corn. The farm near Cavetown in neighboring Washington County has been in the family for six generations, with teens of the latest generation now helping to sell their sweet fruits and vegetables. For information, call Mrs. Shirley Lewis at the family-run fruit stand, 301-824-2811.

Janet Madsen, of **Janet's Cut Flowers**, is a master gardener. She's been literally growing her business for the past five years on a 10-acre farm—including annuals, perennials, herbs, and native plants. During a recent market day, she was selling annuals such as sunflowers, white lialtria, gladiolas, snapdragons, cosmos, forget-me-nots, zinnias, and feathery coxcomb; the biennial sweet William; perennials, including grasses, gooseneck loosestrife, blue salvia, dahlias, and lisianthus; and herbs, including catnip, rosemary, lemon verbena, lavender, hyssop, parsley, and basil. Ms. Madsen sells her plants at various farmers' markets and arts and crafts shows, especially in the spring when, she said, people are particularly anxious to buy garden materials.



Stone Hearth Bakery has been selling at the NCI-Frederick Farmers' Market since the market started in 1998. "The only time we missed was 9/11, and that was only because the gates were closed when we arrived and we couldn't get in," Elizabeth Oluich said. She said they started the bakery on East Street in 1993 because her husband was a chef and wanted his own bakery. "Eventually, all chefs want their own bakery," she said, smiling. Immediately, they were asked to join the Baughman's Lane farmers' market, also in its first year. Their wares include many kinds of breads and rolls, croissants, scones, and

Farmers' Market

buchtels (a pastry filled with apricots and nuts). Mrs. Oluich said that she likes the NCI-Frederick location and the loyal customers—"We see a lot of the same people every week," she said.

Jim and Peggy Royer have about 50 emus on their farm, **Old Orchard Emu**. Members of the ostrich family, emus stand about four feet tall at their backs and about six feet tall at their heads. Like prized cattle and horses, the breeders have become



pets; however, the younger ones are raised for meat. Each bird provides only about two pounds of filet and a little more ground meat. Mr. Royer sells both patties and filets in frozen packages, all USDA-inspected. Nearly every part of the emu is useful. Mr. Royer explained that a layer of fat on the birds' backs is rendered into emu oils, lotions, soaps, and lip balms. The feathers are popular for fishermen's fly ties and for crafts. The eggs are nearly as large as ostrich eggs and are a beautiful, intensely dark green. Each egg is the equivalent of 6 chicken eggs, according to Mr. Royer. The emus lay their eggs in Australia's summer, which unfortunately for them is our winter. They're unable to adjust their biological clocks to the different hemisphere, Mr. Royer said, so he incubates those eggs that will become hatchlings. "Emus make great pets," he added. He takes two young ones to a petting zoo at Westminster Orchards each summer; by fall, they are very tame. Mr. Royer can be reached at 301-241-3996 or by e-mail at oldorchardemu1@juno.com.

In business since 2001, **South Mountain Creamery**, owned by Randy and Karen Sowers, focuses on milk and dairy products. As Maryland's only on-the-farm processing plant, the creamery makes most of its own cheeses but also carries some from area farmers. The company says proudly that its herd is grass-fed and is not treated with growth hormones. While South Mountain Creamery is not certified organic, the farm considers itself "all-natural" and follows organic certification because, the Sowerses say, "It does not make sense for us to spend the money, maintain all of the paperwork, and deal with the inspectors, to basically do what we already are doing." If you can't get to the Tuesday Farmers' Markets or if you still want their delicious

products after October 31, when our market closes for the 2006 season, check their Web site for information on home delivery at www.southmountaincreamery.com.

New to NCI-Frederick this year is the **Truffle King (Imperial Chocolate Company)**. However, Tim Miller isn't new to chocolate. A self-confessed chocoholic, Mr. Miller likes to cook; and after seeing a show on making chocolates, he spent two years studying and experimenting with techniques and flavors until he perfected his method. For the past three years, Mr. Miller has been making melt-in-your-mouth truffles at the Clustered Spires, a licensed bakery on Montevue Lane. Each month, he produces a special flavor; other flavors must be ordered, in increments of at least 3 dozen. The chocolates, which keep 6-8 weeks in the refrigerator or 2-3 weeks at room temperature, contain no preservatives. The secret of Mr. Miller's chocolate truffles is the gnache, which he forms by hand and dips into a very high-quality, rich Venezuelan chocolate. "Venezuelan chocolate has subtle undertones," he said. Despite this being his first year, he said he has found an enthusiastic reception and a number of return buyers. Like many of the vendors here, he also sells at other area markets.

Besides all these vendors, nearly every week the market features a local crafter. Also, representatives from the Master Gardeners of Frederick County area there to share gardening tips during the season.

Check out the vendors at the next Farmers' Market; you can be assured that the foods you are buying are wholesome and will make much appreciated gifts for family and co-workers or a terrific lunch just for you. The Farmers' Market 2006 season continues on Tuesdays through October 31, 11:00 a.m.—1:30 p.m. (or sell-out) in front of Building 549. ♦

Frederick Employee Diversity Team

Diversity Team Wins Recognition from NCI



The 2006 Diversity team gathers in front of the world map and display case in the NCI-Frederick Café. Front, L to R: Debra Dixon, Maritta Grau, Sukanya Bora, and Ethel Armstrong. Back, L to R: Paul Miller, chairman; Peter Boving; Dr. Scott Keimig.

The Diversity Team recently received notice that it has been selected by Dr. John Niederhuber, Director of NCI, for its 2006 "Leading Diversity Award."

Paul Miller, chairman of the NCI-Frederick Diversity Team, said that "this is truly an honor and we appreciate the recognition."

The current team includes Debra Dixon, Paul Miller, Ethel Armstrong, Peter Boving, Maritta Grau, Scott Keimig, and Sukanya Bora. Diversity meets the first Thursday of each month at 9:00 a.m. in the Building 538 conference room. If you are interested in joining the team, call chairman Paul Miller at 301-846-5660, or come to any upcoming meeting.

Perfect Fall Visit--NMAI

Pop-Quiz Time:

1. How many museums comprise the Smithsonian Institution?
2. What is the name of the newest museum?
3. Have you visited this museum?

Answers:

1. Sixteen museums comprise the Smithsonian Institution (making it particularly difficult to meet your out-of-town guests' requests to visit the Smithsonian during their weekend visits to Frederick!).

2. *The National Museum of the American Indian (NMAI) is the newest component.*
3. *We hope you didn't say "No." NMAI is so close to home (only an hour away) and is a veritable treasure not to be missed. Fortunately, you can still get an "A" on this quiz by visiting NMAI during November, National American Indian Heritage Month.*

Care to do a little research before your visit? A rich trove of pictures and information is available at the NMAI Web site, <http://www.nmai.si.edu/index.cfm>.

Here are some study points:

- The first "American Indian Day" was declared by the state of New York in 1916, but it wasn't until 1990 that President George H. W. Bush declared the first National American Indian Heritage Month. His action was based on legislation presented by Senator Daniel Inouye (D-Hawaii) and Congressional Delegate Eni Faleomavaega (D-American Samoa). National American Indian Heritage Month honors and recognizes the original peoples of this land.
- NMAI, established by an act of Congress in 1989, is the first national museum dedicated to the preservation, study, and exhibition

of the cultures and history of Native Americans. Its mission is to collaborate "with the Native peoples of the Western Hemisphere to protect and foster their cultures by reaffirming traditions and beliefs, encouraging contemporary artistic expression, and empowering the Indian voice," according to its Web site, <http://www.nmai.si.edu/subpage.cfm?subpage=visitor&second=about&third=about>.

- The museum's permanent exhibitions include: Our Universes, a fascinating representation of traditional native cosmology, philosophy and spirituality; Our Peoples, events that shaped the lives and outlook of native peoples from 1491 to the present; Our Lives, insights on the contemporary identities of native peoples in the 21st century.
- Over 3,500 items in the Window on Collections Gallery illustrate the remarkable breadth and diversity of historical Native American objects.

The National Museum of the American Indian, Washington, D.C., is located on the National Mall between the National Air & Space Museum and the U.S. Capitol Building at the intersection of 4th St. and Independence Ave., S.W. Its hours are 10:00 a.m. to 5:30 p.m. daily.

EDT MOVIES Have Circulated 1,592 Times!

According to Ethel Armstrong and Martha Summers, Scientific Library, 13 of the 46 EDT movies have been checked out 50 or more times this past year. And that doesn't include all the renewals of these great CDs and DVDs! Visit the Scientific Library to view the whole collection and make your picks for a cozy, free weekend entertainment. You bring the popcorn! ♦

New Faces at NCI-Frederick

NCI-Frederick Welcomes New Staff

Seventy-five people joined our Facility in April, May, and June 2006.

NCI-Frederick welcomes...

Rieko Ajima
Imla Hassen
Ravi Kalathur
Shuhei Kotoshiba
Hehua Liu
George Lountos
Frederica Polato ♦

Sarah Aherne



Charles Rivers Laboratories welcomes...

Kenneth Kline
Erika Marion
Crystal Osborne ♦

SAIC-Frederick, Inc., welcomes...

Alexander Adelsberger
Sarah Aherne
Anuli Ajene
Mia Alilin
Naing Aung
Babak Behbahani
Sarah Bowie
Christina Burks
Victor Carr III
Juan Ceballos
Onekoko Chaw
Anthony Clark
Timothy Cole
Heather Cooley
Stephen Darnell
Tiziano Dipaolo
Anne Dudley
Scott Emerick
Mirtis Fonseca
Lakeisha Galloway
Melaku Gedil
Thomas Gollery
Colin Gray
Abrar Hashmi

William Jacob
Ryan Jenkins
Cassandra Jennings
Patti Labbe
Hongchuan Li
Ling Li
Fung Lian
Ping Liao
Van Ling
Sylvan Mcdowell
Andrew Mckay
Olivia Mejia
Danielle Miller
Kevin Miller
Jacob Minang
Jacinto Noriega
Carmen Ortiz
Kristi Pearson
Thomas Pfister
Richard Pilch
William Ryan
Michael Schuit
Tamika Segura
Cindy Selby
Wei Shao
Melanie Simpson
Christina Sinchak
Christine Spalding
Reyna Strohecker
Tony Tejera
Rasmi Thomas
Ismahan Ugas
Elizabeth Webb
Preston Weedon
Xinyu Wen
Sarah Wilcoxon
Wenze Xi
Yiping Zhang ♦

Kristi Pearson



Octavio Quinones



Data Management Services welcomes...

Christopher DeVaughn.
Octavio Quinones
Jean Roayaei ♦

Frederica Polato

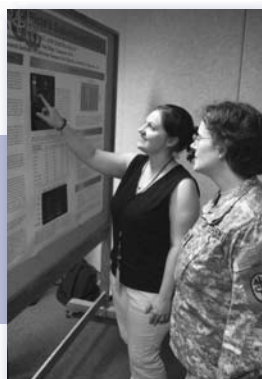
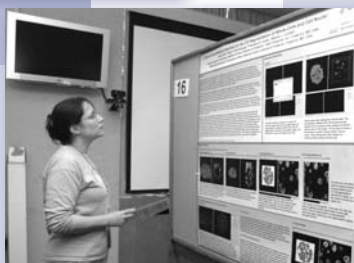
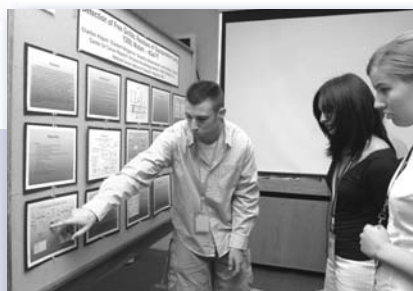


Stephen Darnell



Special Events

Summer Student Poster Day



Take Your Child To Work Day



Write When You Get Work

“Write When You Get Work”

Editor’s Note: This is the first in a series of articles on former interns from the Werner H. Kirsten Student Intern Program (SIP). We’ve entitled it “Write When You Get Work” to echo a the commonly heard “send-off” for young adults leaving home.

Yooson Eugina Kim, DDS

Dr. Yooson Eugina Kim was a Werner H. Kirsten student intern in the early years of the program, which began in 1989. From 1990 to 1991, she was an intern in the Laboratory of Comparative Carcinogenesis under the mentorship of Dr. Lucy Anderson, and she continued working in the lab during the summers throughout her college years. Dr. Kim believes her lifelong friendship with Dr. Anderson represents her most significant achievement while working here. She also was proud to earn a number of awards while at NCI-Frederick: in addition to winning grand prizes at local and state science fairs, she was a semi-finalist in the 1990 Westinghouse Science Talent Search, Washington, DC; third place winner in the 1990 Intel International Science and Engineering Fair, Orlando, FL; and vice-president of the Maryland Junior Scientists, 1990–91.

After graduating from Frederick High School in 1991, she continued earning awards, first at Franklin and Marshall College, Lancaster, PA, where she majored in chemistry. Space does not permit listing them all, but highlights include first place at the 1992 National Junior



Science and Humanities Symposium competition, and a second place in the 1995 Intercollegiate Chemistry Conference at Muhlenberg College. As a graduate student at the University of Pennsylvania School of Dental Medicine, her research with Dr. Hyun Duck Nah-Cederquist in craniofacial bone development earned third place in the Caulk/Dentsply Research Competition at the 1996 meeting of the International Association of Dental Research.

Following dental school, she completed a two-year residency in oral medicine at the Hospital of the University of Pennsylvania, where, she said, she “switched gears” and moved into clinical service. Working with Dr. Michael Glick, she studied the efficacy of different treatment modules, the incidence and prevalence of HIV/AIDS-related oral conditions and treatments, and a clinical trial of a new treatment for temporomandibular disorder.

Time to Be Her Own Boss

After her residency, she began practicing general dentistry, spending two years in associateships before deciding it was time to be her own boss. In 2003, she bought a practice in Morgantown, PA, and, she said, “within two years, I bought land, built a new office building, and am now continuing to expand with the help of an energetic and loyal staff.”

Today she is most proud of her recent accomplishments, and who can blame her: she earned a degree in dental medicine, owns and operates a successful dental practice, is married

to “a wonderful husband,” and has two children, ages 4 and 6—all in a little more than 10 years after leaving NCI-Frederick.

Influence of the NCI-Frederick Internship

Dr. Kim appreciates the impact the student internship had on her life decisions. She explained, “My experience as an intern opened doors for me and gave me invaluable experience. At the University of Pennsylvania, my research work helped me establish professional respect from faculty and gave me career opportunities as soon as I walked on campus.” In addition, she said the internship prepared her for “writing scholarly papers, presenting papers and posters, and critical thinking. I was able to gain the respect of my colleagues and instructors for the skilled, careful analysis of each situation.”

Advice for Interns: “Listen”

One word sums up Dr. Kim’s advice for student interns at NCI-Frederick: Listen. She went on to say, “The advice you receive is invaluable; do not ignore it. Hear what people tell you and put it into action. Often the work can be tedious, repetitive, and frustrating. Plug on through and keep improving yourself as your mentor guides. Utilize every opportunity, [and] if you don’t see any you like, then make a path for yourself.”

Clearly, Dr. Kim has not been afraid to make her own path. Please join the staff at *The Poster* in wishing her continued success. ♦



Data Management Services (DMS)

Three Receive Longevity Awards

Three DMS employees recently received Longevity awards for their years of dedicated service. Combined, they have provided their expertise to NCI-Frederick for 45 years! The recipients include Ed Green, 30 years; Sophia Bedard, 10 years; and Tim Siford, 5 years. ♦

Data Management Services: Computers and Statistical Support

Although perhaps most widely known for our Microcomputer Support and Web Development services, C&SS also offers many other services to the NCI-Frederick community. In this issue of *The Poster* we highlight some of these other services.

Statistical Consultation

The Statistical Consultation group provides a wide array of mathematical and statistical consulting services to the NCI-Frederick scientific community. The director and consulting statisticians work in collaboration with principal investigators through all facets of the scientific process: from development and formulation of research and statistical hypotheses through design of experiments and statistical analyses, preparation of technical reports and modern graphics, to preparation of formal scientific documents and publications in peer-reviewed journals.

Custom Software Development

Our team of analysts and developers employs the most modern methods and tools to create custom software solutions to meet the unique needs and requirements of NCI-Frederick. Our staff can assist you with both administrative and scientific programming needs, as well as Web design and development services.

Visit the C&SS Web site at <http://css.ncifcrf.gov> or call 301-846-1060 for information about custom development services available from C&SS.

Technology Advocacy and Consultation

As NCI-Frederick's information technology experts, C&SS continually explores and evaluates new technologies that could benefit the user community and further NCI-Frederick's mission. C&SS staff would be happy to meet with you to discuss your specific technology needs.

Computer Software Training

The summer 2006 training session is now closed. Watch for postings and e-mail notifications for the fall/winter schedule.

Please see the Computer Software Training Web site at <http://css.ncifcrf.gov/training> for more information or to register for classes.

Computer Services Helpdesk

The Computer Services Helpdesk provides the NCI-Frederick community with a single point of contact for computer assistance, information, service, and support. The Helpdesk is staffed from 8:00 a.m. to 5:00 p.m., Monday through Friday, excluding NCI-Frederick holidays.

Requests for service can also be placed via the C&SS Web site (<http://css.ncifcrf.gov/helpdesk>) at any time.

Site-Licensed Software Available from the Helpdesk!

C&SS, in conjunction with NCI, has worked to secure site licenses for many of the programs in broad use at NCI-Frederick. To view the growing list of software available from the Helpdesk, visit the C&SS Web site at: <http://css.ncifcrf.gov/helpdesk/software.asp> or contact the Computer Services Helpdesk to borrow the software or request installation assistance. ♦

Contacting C&SS

Computer Services Helpdesk

Web: <http://css.ncifcrf.gov/helpdesk>

E-mail: helpdesk@css.ncifcrf.gov

Phone: 301-846-5115

Hours of Operation:

8:00 a.m.–5:00 p.m.,

Monday through Friday

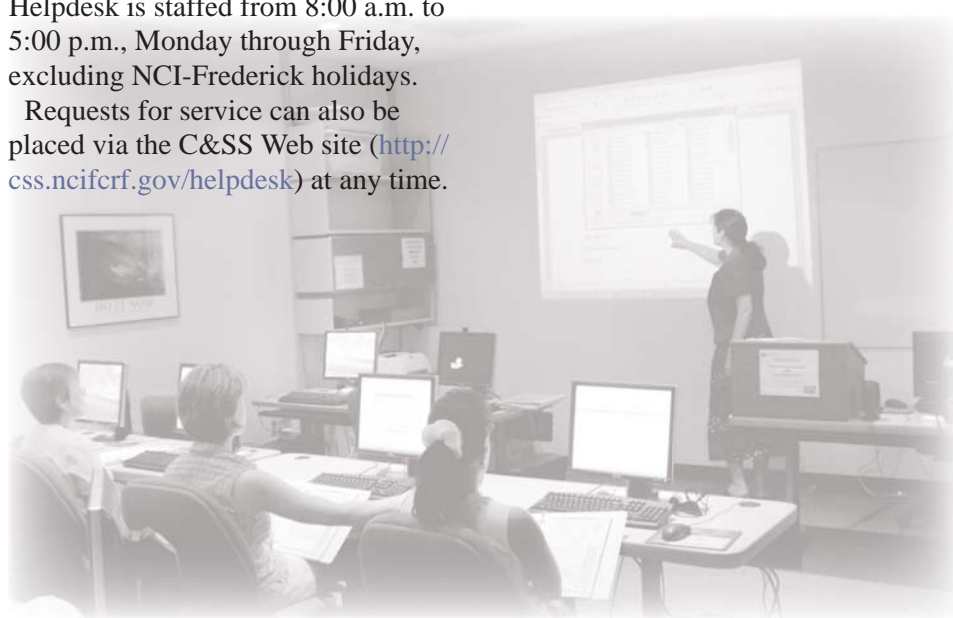
NCI-Frederick Webmasters

Phone: 301-846-6700

E-mail: webmaster@css.ncifcrf.gov
govwebmaster@css.ncifcrf.gov

Other Inquiries

Phone: 301-846-1060 ♦



Frank Blanchard: New Public Affairs Director



Frank Blanchard,
Director, Public Affairs

Among the more recent “new hires” at SAIC-Frederick, Inc., is Frank Blanchard, Director of Public Affairs. David Bufter, Director of Contracts and Administration, said, “Frank brings a wide range of communication and public affairs experience to NCI-Frederick. His initial focus will be on developing key messages about NCI-Frederick’s mission and value as a Federally Funded Research and Development Center. He will work with NCI communications staff to develop an integrated outreach program that will raise the visibility of NCI-Frederick among important constituencies and respond to inquiries regarding NCI-Frederick. These include intramural and extramural researchers, residents and leaders of the Frederick community, and key policy-makers.”

As public affairs director, Mr. Blanchard will focus on making both internal and external audiences aware of the breadth and depth of the research done at NCI-Frederick to support the health of the nation. He’ll do this through newspaper articles and press releases, as well as speeches to local organizations and national congressional offices. Mr. Blanchard said that he wants to build on NCI-

Frederick’s partnerships with extramural investigators, as well as the local community. “Both benefit greatly from the work we do here,” he explained.

A graduate of the University of Florida, Mr. Blanchard began his career as a news reporter in Alabama. He moved to the Associated Press and covered the U.S. Centers for Disease Control at the start of the AIDS crisis. He later joined the University of Michigan as a senior science writer, covering basic sciences, engineering, and medicine. After a stint at the Howard Hughes Medical Institute, he worked for the past 12 years as communications director for the Whitaker Foundation.

FME Management Awards

The Facilities Maintenance and Engineering (FME) Directorate believes that all injuries are preventable. Each calendar year FME recognizes safety accomplishments which fall into one of the following categories: (1) Zero Recordable Injuries—Shop operations that have executed their daily activities without incurring an OSHA-recordable injury for the calendar year. (2) Most Improved—The shop operation that has achieved significant improvement in reducing OSHA-recordable injuries compared to the previous year. (3) Safety Leadership—A group



Representatives of several of the Facilities Maintenance and Engineering shops gathered for a photo recently, showing the plaques their groups were awarded. Left to right: Gene Gruden, Telecommunications Shop, for Zero Recordable Injuries; Walt Smith, Millwright Shop, for Zero Recordable Injuries; Bill Lonergan, Director, FME; Tim Lenhart, FME Safety Committee Chairperson; Tom Zimmerman, Pipe Shop, Zero Recordable Injuries; Jay Walsh, Electric Shop, Zero Recordable Injuries; Dave Davis, Support Shop, Most Improved and Safety Leadership.

With such an extensive journalistic background, it’s perhaps no surprise that Mr. Blanchard has contributed a chapter to a book: “Communicating Science from Institutions: Nonprofits,” *A Field Guide for Science Writers, the Official Guide of the National Association of Science Writers, Second Edition* (eds. Deborah Blum, Mary Knudson, and Robin Marantz Henig; Oxford University Press, 2005). He also writes occasional articles for various magazines and newspapers, and creates 15-grid crossword puzzles for friends. ♦

or individual award for educating, promoting and otherwise leading safety in the workplace by example. ♦

Changes in Management

Dante Tedaldi recently was named Acting Manager of Operations, while continuing as Deputy Director of FME. His new responsibilities include overseeing project managers, Contracting Officer’s technical representatives, and building coordinators. In addition, some other

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Wilson Information Services Corporation (WISCO)

Employee Recognition

Two WISCO employees celebrated milestone anniversaries recently. Pamela Noble has been with the Scientific Library for 15 years, while



Hungyune Chao recently completed her fifth year with the Library. ♦

News from the Center for Health Information (CHI)

Stop by the Scientific Library to look at some of the items recently added to the CHI collection. It's never too late to improve your physical fitness, and we have 10 exercise DVDs to help you get started. They cover Pilates, yoga, tai chi, walking programs, and even the "Biggest Loser" workout sessions. Why not take a walk at lunch time and see the collection? You'll be glad you did! ♦

Protecting the Privacy of Library Users

If you have ever visited the Scientific Library, you know that we ask you to sign in, for several good reasons: Keeping a record of the people who enter helps us identify anyone who has received a telephone call through our offices or who is waiting to meet someone. Because we are open to the public during weekdays, asking visitors to sign in provides us with valuable statistics to show which agencies use the facility and how often. Being able

to track the number of customers we have also helps us to predict staffing levels, set convenient service hours, and forecast facility improvements. Finally, maintaining a safe and secure environment is made easier by knowing who is in the building.

Although we have always kept the sign-in logs confidential, removing each signature sheet as it was completed, there has always been some concern that anyone who entered could see the names of others who had signed in earlier on the same sheet. Now there is no need to worry. We recently installed an electronic sign-in system with a touch-screen which goes blank after you have entered your name and company affiliation.

We have implemented new procedures to protect your privacy in another way. Now whenever you use our public computer workstations, just scan your library barcode, activating the color copier and printers. This data is automatically tracked by computer. Printing and copying are free to NCI-Frederick employees, and available for a nominal fee to the public. Don't have a barcode? Just register at the Circulation Desk.

Library circulation and registration records that contain personal names are protected by most state laws, including Maryland's. Librarians have an ethical responsibility to protect the privacy of all library users, so that everyone has the right to open inquiry without having the subject content or frequency of inquiry identifiable by others. Our data on library visits and copying/printing is tabulated for statistical purposes and then destroyed.

To learn more about intellectual freedom, please visit the American Library Association's Web site at <http://www.ala.org/Template.cfm?Section=otherpolicies&Template=/ContentManagement/ContentDisplay.cfm&ContentID=13087>. ♦

Scientific Library Orientation Sessions

October 11, November 8, and December 13 at 2:30 p.m.

For details about upcoming fall training and R.E.W.A.R.D.S. programming, link to <http://www-library.ncifcrf.gov:8086/newlab2005> and <http://www-library.ncifcrf.gov/rewards.aspx>. ♦

Poster Puzzler Winner



The June Poster Puzzler winner:

Wade Schirmer, Contracting Officer's Technical Representative, Facilities Maintenance and Engineering pictured here with Paul Miller, Executive Editor of *The Poster*, in front of Building 459. ♦

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managers' responsibilities have been realigned to better use the new computerized maintenance system that Data Management Services is installing. These managers include Tim Lenhart, Debbie Dobbe, and Len Wrona.

Mr. William Lonergan, Director of FME, stated in a memorandum that Mr. Tedaldi "is well known for his energy, enthusiasm, and dedication, and brings more than 15 years of project management and engineering experience to his new role in FME. His strong management skills, Six Sigma training, drive for excellence, and unique perspective will add considerable value to FME's continuing efforts to provide world-class services to the NCI-Frederick campus." ♦

SCIENTIFIC
Publications
GRAPHICS & MEDIA

SPGM Wins Silver and Bronze in Magnum Opus Awards

Scientific Publications, Graphics & Management (SPGM), Research Technology Program, was recently notified that two articles have received silver and bronze awards from Magnum Opus, an annual competition sponsored by Publications Management and held in conjunction with the well-known Missouri School of Journalism.

"SIP Student Winners at International Science Fair" (*The Poster*, June 2005) by Nancy Parrish, senior technical editor, won a Silver Award in the "Best

Interview/Profile" editorial category. "Postgraduate Researcher: Biotech Student Has Aimed for Science Career Since Age 4" (*The Poster*, September 2005), by Maritta Perry Grau, senior technical editor, won a Bronze Award, also in the "Best Interview/Profile" editorial category.

"This is our best showing to date; in previous competitions, we've won Honorable Mentions and one Bronze Award. This is our first Silver," said Ken Michaels, SPGM manager.

The Magnum Opus competition received nearly 700 entries in 53 categories, "which honor excellence of editorial, design and strategy of custom publications," according to Publications Management. For more information on the awards, visit mcmurry.com/award/magnumopusawards.asp. ♦

The Poster Staff

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Associate Editor

Ken Michaels

Managing Editor

Maritta Grau

Co-Editor

Nancy Parrish

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Lead Designer

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Patricia Hindes

SAIC-Frederick, Inc.

Dave Bufter

Science Today

Paul Nisson

Wilson Information Services Corporation

Sue Wilson

Robin Meckley

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<http://web.ncifcrf.gov/ThePoster>

Employment Opportunities

Please contact the individual contractor's human resources representatives or go to the contractor's Web site for up-to-date, detailed information about jobs or research and training opportunities and requirements.

Charles River Laboratories

<http://www.criver.com>

Data Management Services

<http://css.ncifcrf.gov/about/dms.htm>

National Cancer Institute at Frederick

<http://www.training.nih.gov/postdoctoral>

SAIC-Frederick, Inc.

<http://saic.ncifcrf.gov>

www.saic.com

Wilson Information Services Corporation

<http://www-library.ncifcrf.gov>

Look for the Following Events Around Campus:

Poster Puzzler—Entry Deadline: October 27, 2006

Fitness Challenge Learning Lunches—second Thursday of each month.

Check the Web site for details: <http://saic.ncifcrf.gov/fitnesschallenge/>

Farmers' Market—Every Tuesday through October 31, 11:30 a.m.–1:30 p.m. (or sellout)

Reminder: When you have a change in staff, such as new staff, a promotion, retirement, loss of staff, be sure to change the information on the NCI-Frederick database. You can do this online by logging on to <http://web.ncifcrf.gov/campus/phonebook/>, or by contacting your human resources representative. For more information, you may refer to the inside front cover of the *NCI-Frederick Telephone & Services Directory*.

Comments or suggestions for *The Poster* may be directed to <http://web.ncifcrf.gov/ThePoster>

The National Cancer Institute at Frederick

Poster

Frederick, MD 21702-1201