



## Russian Officials Rate NCI-Frederick Tour a Highlight of U.S. Visit

By Nancy Parrish, Staff Writer

A delegation of 10 Russian scientists and government officials visiting NCI-Frederick on February 25 “specifically singled out their trip to the NCI-Frederick as being particularly rewarding and one of the highlights” of their visit to the United States, according to Barry O’Keefe, Ph.D., Molecular Targets Laboratory, Center for Cancer Research (MTL, CCR), one of the hosts leading the tour. The other hosts were Dimiter Dimitrov, Ph.D., CCR Nanobiology Program, and Stuart Le Grice, Ph.D., HIV Drug Resistance Program (DRP), CCR.



Stuart Le Grice (left) listens as David Newman (third from right) speaks to members of the Russian delegation.

### Tour Part of Initiative to Develop U.S.–Russian Collaborations

The NCI-Frederick tour, said Le Grice, was the first of a two-part visit to NCI, which resulted from a workshop last October in Moscow attended by U.S. and Russian scientists to explore partnership opportunities in HIV/AIDS research. The second part was a meeting at the NIH Office of AIDS Research, which coordinated the visits, to discuss future actions, he said.

Members of the delegation included research institute directors; representatives from the Russian Academy of Medical Sciences and the Ministry of Health and Social Development; and the chairman of the Committee of Science and Innovations of the State Duma of the Russian Federation. Visitors toured the single-genome sequencing facilities

of the Host–Virus Interaction Unit of the DRP; the large-scale virus production facilities of the AIDS and Cancer Virus Program (ACVP); the screening and natural products chemistry groups of the MTL, CCR; and the Natural Products Support Group laboratories (SAIC-Frederick) and the Natural Products Repository of the NCI Developmental Therapeutics Program.

### Primary Goal to Highlight AIDS Research

“The primary goal of the tour and accompanying lectures,” Le Grice said, was “to highlight the strength and depth of the NCI AIDS research effort. A second goal was to discuss mechanisms

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## Russian Visit

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Nikolaitchik (center) gave portions of the tour in her native language. At left is Dr. Chereshev; Mary Kearney, Ph.D., HIV Drug Resistance Program, is at right.

to increase communication and collaboration between U.S. and Russian scientists.”

He noted that the delegates were particularly impressed by the participation of NCI-based Russian scientists Olga Nikolaitchik, Ph.D., (DRP), Elena Chertova, Ph.D., (ACVP), and Ekaterina Goncharova, Ph.D., (Data Management Services, MTL), who gave portions of the tour in their native language.

Also giving laboratory tours were Thomas McCloud (Manager, Natural Products Support Group); David Newman, D. Phil. (Chief, Natural Products Branch); Curtis Henrich, Ph.D. (SAIC-Frederick, Head, Assay Development and Screening Group,

MTL); and Kirk Gustafson, Ph.D. (Head, Natural Products Chemistry Group, MTL).

The tour hosts expressed a positive reaction to the visit. “I believe...this type of exchange will facilitate more interaction between Russian and U.S.

collaborators on a variety of important issues in human health, including cancer and infectious

disease,” said O’Keefe. Dimitrov was impressed by the Russian scientists’ interest in innovation and noted that “collaborations could be fruitful.”

### Reciprocal Visits Are Planned

While tours by officials at this level are “relatively rare,” according to Le Grice, initiatives to continue such exchanges are under consideration, including “sabbatical visits of Russian scientists to laboratories at NCI-

Frederick and reciprocal visits of U.S. scientists to Russia to provide logistical support to establish new collaborations.” Reciprocal visits to Russian institutions are in the planning stages, he said. ■

*All Photos courtesy of Stuart Le Grice.*



Thomas McCloud hosts Russian delegation in the extraction laboratory. L to R: Valery Chereshev, Chairman, Committee of Science and Innovations, State Duma of the Russian Federation; Ali Turgiev, research director, Laboratory Diagnostics Co., Moscow State University Science Park; McCloud; Valery Charushin, Director of the I.Y. Postovskiy Institute of Organic Synthesis and Chairman of the Ural Branch, Russian Academy of Sciences; Ilyia Drozdov, director general of the State Research Center of Virology and Biotechnology, VECTOR; and Galina Kornilaeva, and Tatiana Pavlova, senior researchers in the Ivanovsky Institute of Virology, Russian Academy of Medical Sciences.

## Obama Appoints Former NIH Director to Lead NCI

*By Maritta Perry Grau, Staff Writer*

President Barack Obama recently appointed Harold Varmus, M.D., as the new director of the National Cancer Institute. Currently, Dr. Varmus, a co-recipient of the 1989 Nobel Prize in Physiology or Medicine for studies of the genetic basis of cancer, is president of Memorial Sloan-Kettering Cancer Center. He served as the director of the National Institutes of Health from 1993

to 1999. Dr. Varmus is scheduled to take over NCI on July 12.

“He will bring not only his scientific expertise but his years of knowledge as NIH director” to the job, said current Director of the NCI, John E. Niederhuber, M.D., in a weekly D-Brief. “I am confident this will provide NCI with strong leadership across campus and beyond, and a greatly respected voice on

Capitol Hill, advocating for the much-needed resources to sustain the Institute’s mission,” Niederhuber added.

Francis Collins, M.D., Ph.D., director of the NIH, noted that Dr. Varmus “brings unmatched expertise at all levels—not only in cutting edge scientific research, but also as a leader in the development of strategies for improving patient care, in scientific education and training, and in the design of novel public-private partnerships.” ■

## NCI-Frederick Affirms Its Commitment to New IT Security Initiatives

By Dianna Conrad, NCI, Contributing Writer; Jim Racheff, Data Management Services, Guest Writer; and Osioke Ojior, SAIC-Frederick, Guest Writer

As information technology (IT) security becomes increasingly complicated, businesses and the federal government find it more difficult to keep up with the changes. Federal agencies have to secure an ever-increasing variety of computing devices, media, data, applications, and networks, since the threats against computing resources are rapidly changing. For NCI-Frederick, not only is there proprietary business information stored on our systems, but important laboratory data lives in that environment, where the information is vulnerable to theft and malicious damage.

Computer security has moved up on the agenda of NIH, and NCI-Frederick has been working with NCI Bethesda to implement security measures and stay in compliance with federal mandates. As part of that effort, SAIC-Frederick has created an Information Security and Compliance Office within the Information Systems Program. SAIC-Frederick staff members have been designated as information system security officers for NCI-Frederick. Monthly meetings with NCI Office and Division IT staff, and bi-monthly meetings with the NCI chief information officer are held. An IT Advisory and Coordinating Committee, co-chaired by Data Management System (DMS) and SAIC-Frederick staff, has also been created.

Often, these mandates and the resulting security controls cause anxiety within the user community. However, it's the goal of the IT staff at SAIC-Frederick, DMS, and NCI-Frederick government to alleviate this anxiety and to help users understand and fill out the paperwork that enables exemptions and waivers for many of the mandates (provided there is an adequate business case).

Some of the more recently implemented and ongoing IT initiatives include:

- **The “Federal Desktop Core Configuration” (FDCC)**—a regulation that requires all federal desktop computers to conform to a minimum set of security settings. The first required application of FDCC is for Windows (XP and newer) operating systems, although we anticipate that other operating systems will also be required to meet these configurations. While most of the required settings are transparent to end users, the requirement to remove “local admin” privileges is most noticeable. NCI-Frederick plans to use IT Asset Management software to restore this functionality to the users.
- **Encryption**—HHS requires that all laptops be encrypted, so that if a laptop containing sensitive data is lost, that data will be protected from unauthorized use. The requirement applies to all laptops, regardless of operating system. The biggest challenge NCI-Frederick faces is how to reset encryption passwords when a user is traveling. NCI-Frederick is evaluating new encryption software that may help address this drawback.
- **IT Asset Management (ITAM)**—This system will soon be deployed at NCI-Frederick. ITAM will provide IT staff with additional capabilities, such as the ability to remotely provide support, provide an inventory of computers, and meet NIH requirements to periodically check security settings.
- **Network Access Control (NAC)**—This system helps protect the network from unauthorized access. If an unknown computer system tries to gain access to the NCI-Frederick network, NAC will subjugate the system and only allow limited access, based on the evaluated security risk (much as the “NCIPUB” wireless network system works now). NCI-Frederick is evaluating how to implement NAC here.
- **Active Directory (AD) Migration**—All NIH institutes are under direction from NIH to consolidate existing active directories to utilize the NIH AD. NCI-Frederick has set up its own organizational unit within the NIH AD structure, and the goal is to use this organization unit as the primary means of registering and controlling access to NCI-Frederick IT assets and resources. A consolidated authentication model will improve monitoring of NCI-Frederick information systems for compliance with applicable laws, regulations, and policies. It will also improve end user experience by reducing the number of system accounts assigned per employee. The use of the NIH AD is also a requirement to support the NIH PIV card initiative.

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If you have questions or need further information on the following topics, please contact:

**Desktop security and waivers:** Ross Smith, Computer and SS, 301-846-1676, or [ross.smith@nih.gov](mailto:ross.smith@nih.gov)

**Network security:** Jim Cooperman, SAIC-Frederick, 301-846-5784, or [coopermanj@mail.nih.gov](mailto:coopermanj@mail.nih.gov); or David Cragg, SAIC-Frederick, 301-846-5196, or [craggda@mail.nih.gov](mailto:craggda@mail.nih.gov)

**General IT security questions or issues:** Dianna Conrad, NCI-Frederick, OSO, 301-846-5189, or [conraddi@mail.nih.gov](mailto:conraddi@mail.nih.gov)

## How Do You Reach 1,800 People in a Matter of Seconds?

By Nancy Parrish, Staff Writer

Activate “Send Word Now,” that’s how.

On the morning of February 26, most NCI-Frederick employees received a personal telephone message from Tom Gannon-Miller, Manager of Protective Services. He called to alert people (via recorded message) to the power outage and gate closing that occurred at Fort Detrick as a result of the unusually strong winds.

If you didn’t receive the telephone message at home, you might have received it on your cell phone, or you had a notice in your e-mail (or all of the above).



Tom Gannon-Miller activates Send Word Now with one phone call.

### New Emergency System in Place

This notification was part of the new Send Word Now system recently initiated at NCI-Frederick to automatically alert employees of power outages, base closings, inclement weather conditions, and other emergencies. According to Gannon-Miller, the system had been used only in a small segment of the NCI-Frederick population, but the nature and time of the emergency on February 26 gave Protective Services a perfect

opportunity to test it community-wide. “And it works well,” he said.

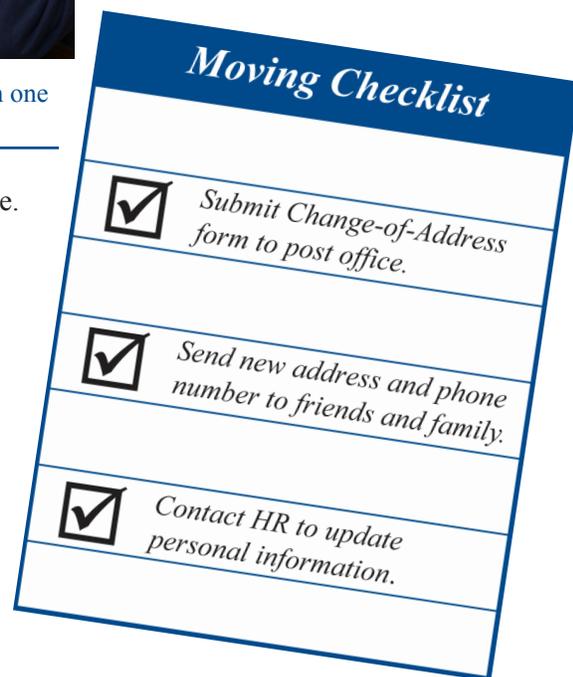
### Don’t Miss an Emergency Message

Send Word Now is only as good as the information in the database, so it is critical that everyone make sure their contact information is up-to-date, Gannon-Miller explained. If you have recently moved to a new home or office, you’ve changed your telephone number at home

or work, or changed your e-mail or cell phone number, be sure to update your information.

To update your personal information (such as home address or telephone number, cell phone number, or other contact information), contact your human resources office. To update work-related information, see the inside cover of the NCI-Frederick *Telephone & Services Directory* or the NCI-Frederick phonebook online (<http://www.ncifcrf.gov/campus/phonebook/>) for instructions.

For more information or questions, please contact Protective Services at 301-846-1091. ■



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- **NCI-Frederick Security Assessment**—The Security Assessment furthers NCI-Frederick’s statutory responsibilities under the Federal Information Security Management Act (FISMA), and for Office of Management and Budget (OMB) reporting requirements for information security of federal information and information systems. This assessment involves testing and evaluating the management, operational, and technical security controls in NCI-Frederick information systems to determine the extent to which NCI-Frederick has implemented the controls correctly, that the controls are operating as intended, and that they are producing the desired outcome with respect to meeting the U.S. government security requirements for the system. Phase I of this assessment will include the Advanced Biomedical Computing Center, Occupational Health Services, and Business Systems.

Lastly, NCI-Frederick Office of Scientific Operations, SAIC-Frederick, and DMS are committed to improving efforts to communicate these and future IT initiatives and to work with the user community to collect input before policy and implementation decisions are made. ■

# Advanced Technology Research Facility



## ATRF: Cold, Dark Shell Nears Completion

By Nancy Parrish, Staff Writer

By mid-March you could see it start to take shape as the walls were tilted up to vertical position and pieced together by a giant crane. By mid-April, you could actually see the shells of the three laboratory wings. As of the beginning of May, the glass-encased administration wing started construction. The National Cancer Institute's Advanced Technology Research Facility (ATRF) at Riverside Research Park is getting closer to reality each day.

The walls, floor supports, and roof, collectively known as the "cold, dark shell," for the laboratory wings and the administration wing are scheduled for completion at the end of August. The next step is the fit-out, according to Hoyt Matthai, director of operations for the ATRF. This step includes "fitting

out" the interior space to NCI's specifications on "location of all the interior walls, the wiring, the plumbing, casework, flooring, lighting, and all the details necessary in a research laboratory," he said.

The fit-out of the administration wing will be done by the Matan Companies, the same company that is developing Riverside Research Park and is responsible for the construction of the cold dark shell. Fit-out for the laboratory wings will be sent out to bid, Matthai said. The design specifications, which are 95 percent complete, have undergone a first review by the project team, consisting of representatives of Facilities Maintenance and Engineering, NCI, NCI-Frederick, and the laboratories that will occupy the new space. Once

### Watch the Construction

Follow the construction of the Advanced Technology Research Facility in real time on the Matan web cam, at the following link:

[http://camera.mataninc.com:45452/view/viewer\\_index.shtml?id=1028](http://camera.mataninc.com:45452/view/viewer_index.shtml?id=1028)

*Note: Please be patient when accessing the web cam. It is set up to handle 20 users at a time.*



approved, these documents will form the "bid set" for sending to potential general contractors.

The award for the general contractor is expected to be made by the end of the summer, with fit-out construction to begin in the early fall. The administration wing is expected to be ready for occupancy in December 2011, and the laboratory wings in May 2012. ■



Top photo: Front view of the Advanced Technology Research Facility. Above: Rear of the facility. Photos taken May 20, 2010.

## “Nearly Perfect” Collaboration Started on the Back of a Napkin

By Nancy Parrish, Staff Writer

It began when Xiaolin Wu, Ph.D., sat next to Dominic Esposito, Ph.D., at the Advanced Technology Program retreat in November 2007. As the speaker presented results from a genome-wide association study (GWAS), Wu pondered how his own laboratory could advance these findings. To test his hypothesis, he would need to make dozens to hundreds of reporter constructs. Then he realized he was sitting next to Esposito, whose laboratory specializes in cloning DNA sequences.

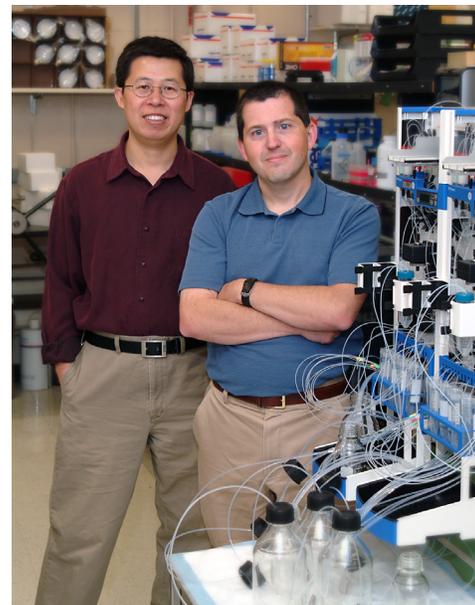
“He passed me a napkin on which he had sketched an idea for an enhancer-trap experiment to possibly explain the connection between SNPs [single nucleotide polymorphisms] on chromosome 8 and increased cancer risk,” Esposito recalled. As it happened, Esposito’s group had just developed new technology for cloning and testing the effects of enhancer DNA sequences. Thus began a “nearly perfect collaboration of two groups who could meld their

expertise in two very different areas of technology into a really solid piece of science,” said Esposito.

According to Wu, GWASs have identified many new regions or SNP markers in the human genome that are associated with different types of cancer. The challenge is to determine the biological mechanisms underlying this association since the markers are often located outside of the genes and do not directly affect protein function.

Esposito’s and Wu’s research revealed long-distance interactions between the DNA enhancer region of chromosome 8 and the Myc promoter, suggesting that the increased cancer risk in this region may be due to SNPs in regions that regulate the activity of this promoter. By using this approach to screen the functional elements in other cancer-associated regions and SNPs identified in GWASs, Esposito’s and Wu’s research may lead to the discovery of the mechanism that causes a higher risk of specific cancers, which could lead to earlier diagnosis and treatment.

Esposito, a principal scientist and group leader of the Clone Optimization Group in the Protein Expression Laboratory,



A collaboration between Xiaolin Wu (L) and Dominic Esposito resulted in a significant research project that neither could have accomplished alone.

received his doctorate in biochemistry at Johns Hopkins University. Wu received his doctorate in biochemistry and yeast genetics from Louisiana State University Medical Center, and is a senior scientist in the Laboratory of Molecular Technology. ■

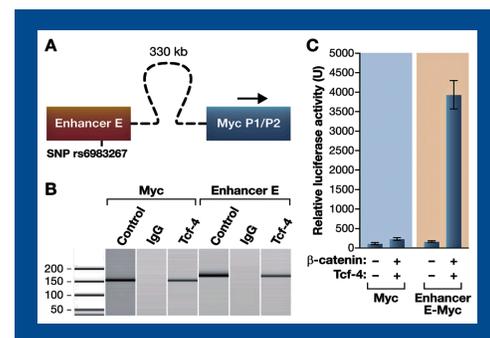
## Long-Range Enhancers on 8q24 Regulate C-Myc

Sotelo J, Esposito D, Duhagon MA, Banfield K, Mehalko J, Liao HL, Stephens RM, Harris TJR, Munroe DJ, Wu XL

*Proc Natl Acad Sci U S A* 107(7):3001–3005, 2010

Recent genomewide association studies have found multiple genetic variants on chromosome 8q24 that are significantly associated with an increased susceptibility to prostate, colorectal, and breast cancer. These risk loci are located in a “gene desert,” a few hundred kilobases telomeric to the Myc gene. To date, the biological mechanism(s) underlying these associations remain unclear. It has been speculated that these

8q24 genetic variant(s) might affect Myc expression by altering its regulation or amplification status. Here, we show that multiple enhancer elements are present within this region and that they can regulate transcription of Myc. We also demonstrate that one such enhancer element physically interacts with the Myc promoter via transcription factor Tcf-4 binding and acts in an allele specific manner to regulate Myc expression.



In this looping model (A), long-range enhancers in the 8q24 region can regulate the activity of the Myc promoter through close physical contact. The cancer-associated marker is located in one such enhancer element that is hundreds of kilobases away from the Myc promoter. A ChIP assay (B) reveals physical contact of enhancer E and Myc promoter. Strong enhancer activity is observed in reporter assay (C).

The following 19 articles have been selected from 12 of the most prestigious science journals published during the past quarter.

## Cell, Tumor, and Stem Cell Biology

**Tokar EJ, Qu W, Liu J, Liu W, Webber MM, Phang JM, Waalkes MP.** Arsenic-specific stem cell selection during malignant transformation. *J Natl Cancer Inst* 102(9):638–649, 2010.

## Cellular Immunology and Immune Regulation

**Park JH, Adoro S, Guintert T, Erman B, Alag AS, Catalfamo M, Kimura MY, Cui YZ, Lucas PJ, Gress RE, Kubo M, Henninghausen L, Feigenbaum L, Singer A.** Signaling by intrathymic cytokines, not T-cell antigen receptors, specifies CD8 lineage choice and promotes the differentiation of cytotoxic-lineage T cells. *Nat Immunol* 11(3):257–264, 2010.

**Rohrl J, Yang D, Oppenheim JJ, Hehlhans T.** Specific binding and chemotactic activity of mBD4 and its functional orthologue hBD2 to CCR6-expressing cells. *J Biol Chem* 285(10):7028–7034, 2010.

## Clinical Trials and Observations

**Vinh DC, Patel SY, Uzel G, Anderson VL, Freeman AF, Olivier KN, Spalding C, Hughes S, Pittaluga S, Raffeld M, Sorbara LR, Elloumi HZ, Kuhns DB, Turner ML, Cowen EW, Fink D, Long-Priel D, Hsu AP, Ding L, Paulson ML, Whitney AR, Sampao EP, Frucht DM, Deleo FR, Holland SM.** Autosomal dominant and sporadic monocytopenia with susceptibility to mycobacteria, fungi, papillomaviruses, and myelodysplasia. *Blood* 115(8):1519–1529, 2010.

## DNA Dynamics and Chromosome Structure

**Bender AM, Collier LS, Rodriguez FJ, Tieu C, Larson JD, Halder C, Mahlum E, Kollmeyer TM, Akagi K, Sarkar G, Largaespada DA, Jenkins RB.** Sleeping beauty-mediated somatic mutagenesis implicates CSF1 in the formation of high-grade astrocytomas. *Cancer Res* 70(9):3557–3565, 2010.

**Ferris AL, Wu XL, Hughes CM, Stewart C, Smith SJ, Milne TA, Wang GG, Shun MC, Allis CD, Engelman A, Hughes SH.** Lens epithelium-derived growth factor fusion proteins redirect HIV-1 DNA integration. *Proc Natl Acad Sci U S A* 107(7):3135–3140, 2010.

**Lee S, Shuman JD, Guszczynski T, Sakchaisri K, Sebastian T, Copeland TD, Miller M, Cohen MS, Taunton J, Smart RC, Xiao Z, Yu LR, Veenstra TD, Johnson**

**PF.** RSK-mediated phosphorylation in the C/EBP $\beta$  leucine zipper regulates DNA binding, dimerization, and growth arrest activity. *Mol Cell Biol* 30:2621–2635, 2010.

**Sotelo J, Esposito D, Duhagon MA, Banfield K, Mehalko J, Liao HL, Stephens RM, Harris TJR, Munroe DJ, Wu XL.** Long-range enhancers on 8q24 regulate c-Myc. *Proc Natl Acad Sci U S A* 107(7):3001–3005, 2010.

## Epidemiology and Prevention

**Petersen GM, Amundadottir L, Fuchs CS, Kraft P, Stolzenberg-Solomon RZ, Jacobs KB, Arslan AA, Bueno-de-Mesquita HB, Gallinger S, Gross M, Helzlsouer K, Holly EA, Jacobs EJ, Klein AP, LaCroix A, Li DH, Mandelson MT, Olson SH, Risch HA, Zheng W, Albanes D, Bamlet WR, Berg CD, Boutron-Ruault MC, Buring JE, Bracci PM, Canzian F, Clipp S, Cotterchio M, de Andrade M, Duell EJ, Gaziano JM, Giovannucci EL, Goggins M, Hallmans G, Hankinson SE, Hassan M, Howard B, Hunter DJ, Hutchinson A, Jenab M, Kaaks R, Kooperberg C, Krogh V, Kurtz RC, Lynch SM, McWilliams RR, Mendelsohn JB, Michaud DS, Parikh H, Patel AV, Peeters PHM, Rajkovic A, Riboli E, Rodriguez L, Seminara D, Shu XO, Thomas G, Tjonneland A, Tobias GS, Trichopoulos D, Van Den Eeden SK, Virtamo J, Wactawski-Wende J, Wang ZM, Wolpin BM, Yu H, Yu K, Zeleniuch-Jacquotte A, Fraumeni JF, Hoover RN, Hartge P, Chanock SJ.** A genome-wide association study identifies pancreatic cancer susceptibility loci on chromosomes 13q22.1, 1q32.1 and 5p15.33. *Nat Genet* 42(3):224–228, 2010.

## Genes Therapy

**Kang EM, Choi U, Theobald N, Linton G, Priel DAL, Kuhns D, Malech HL.** Retrovirus gene therapy for X-linked chronic granulomatous disease can achieve stable long-term correction of oxidase activity in peripheral blood neutrophils. *Blood* 115(4):783–791, 2010.

## Inflammation

**Chen K, Le Y, Liu Y, Gong W, Ying G, Huang J, Yoshimura T, Tessarollo L, Wang JM.** A critical role for the G protein-coupled receptor mFPR2 in airway inflammation and immune responses. *J Immunol* 184(7):3331–3335, 2010.

## Integrated Systems and Technology

**Reinhold WC, Mergny JL, Liu H, Ryan M, Pfister TD, Kinders R, Parchment R, Doroshow J, Weinstein JN, Pommier Y.** Exon array analyses across the NCI-60 reveal potential regulation of TOP1 by transcrip-

tion pausing at guanosine quartets in the first intron. *Cancer Res* 70(6):2191–2203, 2010.

## Molecular and Cellular Pathobiology

**Banerjee S, Byrd JN, Gianino SM, Harps-trite SE, Rodriguez FJ, Tuskan RG, Reilly KM, Piwnica-Worms DR, Gutmann DH.** The neurofibromatosis type 1 tumor suppressor controls cell growth by regulating signal transducer and activator of transcription-3 activity in vitro and in vivo. *Cancer Res* 70(4):1356–1366, 2010.

**Jang H, Arce FT, Ramachandran S, Capone R, Azimova R, Kagan BL, Nussinov R, Lal R.** Truncated  $\beta$ -amyloid peptide channels provide an alternative mechanism for Alzheimer's disease and Down syndrome. *Proc Natl Acad Sci U S A* 107(14):6538–6543, 2010.

**Rane NS, Chakrabarti O, Feigenbaum L, Hegde RS.** Signal sequence insufficiency contributes to neurodegeneration caused by transmembrane prion protein. *J Cell Biol* 188(4):515–526, 2010.

## Molecular Basis of Cell and Developmental Biology

**Pawar SA, Sarkar TR, Balamurugan K, Sharan S, Wang J, Zhang Y, Dowdy SF, Huang AM, Sterneck E.** C/EBP $\delta$  targets cyclin D1 for proteasome-mediated degradation via induction of CDC27/APC3 expression. *Proc Natl Acad Sci U S A* 107(20):9210–9215, 2010.

**Pletnev S, Subach FV, Dauter Z, Wlodawer A, Verkhusa VV.** Understanding blue-to-red conversion in monomeric fluorescent timers and hydrolytic degradation of their chromophores. *J Am Chem Soc* 132(7):2243–2253, 2010.

## Protein Function, Structure, and Folding

**Ramakrishnan B, Qasba PK.** Crystal structure of the catalytic domain of Drosophila  $\beta$ 1,4-galactosyltransferase-7. *J Biol Chem* 285:15619–15626, 2010.

## Vaccines

**Santra S, Liao HX, Zhang RJ, Muldoon M, Watson S, Fischer W, Theiler J, Szinger J, Balachandran H, Buzby A, Quinn D, Parks RJ, Tsao CY, Carville A, Mansfield KG, Pavlakis GN, Felber BK, Haynes BF, Korber BT, Letvin NL.** Mosaic vaccines elicit CD8(+) T lymphocyte responses that confer enhanced immune coverage of diverse HIV strains in monkeys. *Nat Med* 16(3):324–328, 2010. ■

## Student Intern Program

### NCI-Frederick Interns Win at Intel Science Fair in California

By Nancy Parrish, Staff Writer

Werner H. Kirsten student interns Stephen Lavanier, a Governor Thomas Johnson High School graduate, and Joanna Yeh, an Urbana High School graduate, won awards at the Intel International Science and Engineering Fair (Intel ISEF) in San Jose, CA, in May.

Lavanier placed third in the category of Cellular and Molecular Biology, competing against 55 other entries. Yeh received three specialty awards: a first award from the American Association of Pharmaceutical Scientists; second award from Ashtavadhani Vidwan Ambati Subbaraya Chetty Foundation; and fourth award from the American Association for Clinical Chemistry.

The Intel ISEF is the world's largest pre-college competition, with research presented by more than 1,600 high school students from more than 50 countries, regions, and territories, according to its web site (<http://www.societyforscience.org/isef/>).

Lavanier worked in the Retroviral Pathogenesis Section of the Laboratory of Cancer Prevention with mentor Monika Kaczmarek, Ph.D. Yeh worked with mentor Nadya Tarasova, Ph.D., in the Laboratory of Experimental Immunology.

#### Winning Research Projects

Lavanier's research focused on the mechanism of action of JS-K, a promising anti-leukemia compound. "My research has proven that the arylating ring of JS-K contributes to the biological effects...observed in its anti-cancer potency," he said. He anticipates that this research will lead to the design of "more potent anti-cancer agents in the future."

Yeh explored different approaches of inhibiting cytokine signaling, focusing on interferon gamma (IFNg) and interleukin 10 (IL-10). When elevated, IFNg promotes the growth of specific cancer



Winners Joanna Yeh and Stephen Lavanier pause for a photo in front of Lavanier's display at Intel ISEF in San Jose, California, in May.

cells, and IL-10 suppresses the immune system. Yeh's research identified several lead dominant negative inhibitors of IL-10 and IFNg.

This method "has proven to be a productive approach in identifying inhibitors of cytokines signaling, and is likely to be applicable to other cytokines," she said. Ultimately, she added, her research may lead to new therapeutic agents for the treatment of cancer and inflammatory diseases.

#### Internship Influenced Academic Path

Lavanier was attracted to the Werner H. Kirsten Student Intern Program (SIP) because some of his friends were SIP students, and he was interested in their

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### Student Interns Sweep a Single Category at Science Fair

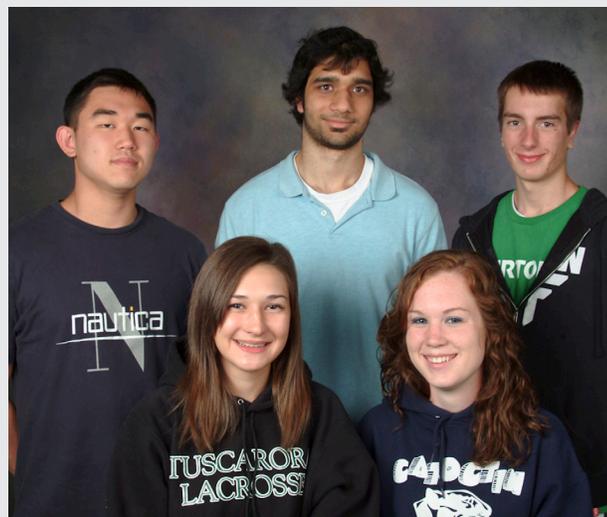
By Nancy Parrish, Staff Writer

Four Werner H. Kirsten student interns swept the Cellular and Molecular Biology category at the Frederick County Science and Engineering Fair in March. Stephen Lavanier (Governor Thomas Johnson High School), and Tuscarora's Shaan Ahmed, Nathan Kadan, and Christina DiFabio took home first, second, and third place, and honorable mention, respectively.

Winners in other categories were Joanne Yeh (Urbana), first place, Biochemistry; Amanda Athey (Catoctin), third place, Earth and Planetary Sciences; and John Lee

(Governor Thomas Johnson), second place, Medicine and Health Sciences. Athey also won a gift certificate in the category of "Selected Non-mentored Projects."

They will take their talents to top universities in the fall. Ahmed and DiFabio will go to Brown University; Athey heads to Virginia Tech; Kadan to New York University; Lavanier to Pennsylvania State University; Lee to University of Virginia; and Yeh to Massachusetts Institute of Technology.



NCI-Frederick student interns earned recognition at the Frederick County Science and Engineering Fair. Back row, L to R: John Lee, Shaan Ahmed, Nathan Kadan; front row: Christina DiFabio, Amanda Athey. Not pictured: Stephen Lavanier and Joanna Yeh.

### Dauter Receives Highest Science Award from the Polish Academy of Sciences

By Alexander Wlodawer, Macromolecular Crystallography Laboratory, Guest Writer

Zbigniew Dauter, Ph.D., Macromolecular Crystallography Laboratory (MCL), recently received the Polish Academy of Sciences' highest honor, the Nicolaus Copernicus Medal. Professor Michal Kleiber, the academy's president, presented Dauter with the award in recognition of his contribution to the development of protein crystallographic methodology, particularly in the areas of phasing methods and macromolecular structure at ultimate resolution.

Dauter's name is already permanently associated with the technique of quick halide soaks ("dauterization" of protein crystals), with the exploitation of weak anomalous signal (for example, of phosphorus in nucleic acid structures), and with the use of single-wavelength anomalous diffraction phasing. Dauter is an expert experimenter, widely known for his skills in getting the best possible diffraction data from macromolecular crystals.

A graduate of the Gdansk University of Technology in Poland, Dauter obtained his Ph.D. for crystallographic work on small-molecule drugs done

with Professor Zofia Kosturkiewicz (Poznan, Poland). His postdoctoral posts included work with Professor Michael Woolfson (University of York, UK). Later, he spent a number of years at several synchrotron centers (European Molecular Biology Laboratory, DESY, Hamburg, Germany; National Synchrotron Light Source, Brookhaven National Laboratory, Upton, New York; Advanced Photon Source [APS], Argonne National Laboratory, Argonne, Illinois), conducting structural biological research and helping external users of macromolecular crystallography beamlines.

The stations that he has supervised are among the most successful beamlines in protein crystallography. He has had a stunning number of collaborations, mostly because of his expertise in synchrotron data collection and structure determination.



Michal Kleiber, left, president of the Polish Academy of Sciences, presents Dr. Zbigniew Dauter, Macromolecular Crystallography Laboratory, with the academy's highest honor, the Nicolaus Copernicus Medal, recognizing Dauter's contributions to the development of protein crystallographic methodology. (Photo courtesy of M. Mlekicki)

Currently, Dauter is the principal investigator (PI) in MCL, although permanently stationed at Argonne. In addition to his role as a PI, he provides a point of contact for the NIH users of the SER-CAT beamline operating at the APS synchrotron at Argonne. ■

*continued from page 8*

research. "I knew I wanted to be part of this program when I became a senior," he said.

His internship influenced his decision to remain in scientific research at Pennsylvania State University, where he plans to study biochemistry. He chose Penn State, he said, because it has "a large amount of funding for scientific research [and] offers a lot of opportunities for research."

Yeh will attend Massachusetts Institute of Technology (MIT), primarily because of her mentor's encouragement. "MIT was always a dream but never really a reality. I wanted to go there, but didn't believe that I would ever in a million years get in," she said. "Dr. Tarasova gave me the confidence to apply." She plans to study chemical engineering. ■



# Spring Research Festival

## Joint 14<sup>th</sup> Spring Research Festival Draws Nearly 200 Posters

By Maritta Perry Grau, Staff Writer

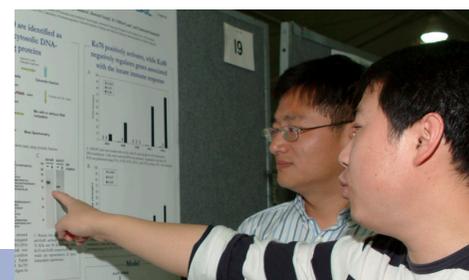
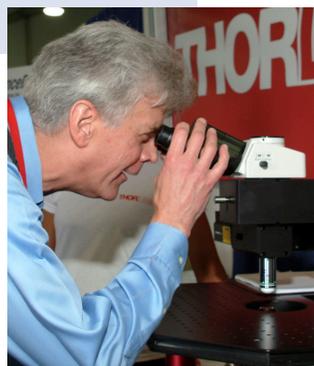
The fourteenth annual Spring Research Festival kicked off on May 3 with a keynote address by Dr. Drew Pardoll, Johns Hopkins University School of Medicine, speaking on the “Th17-Treg Balance in the Regulation of Carcinogenesis” at a daylong postdoctoral symposium, “Cancer, Inflammation, and Infectious Disease: Models and Mechanisms.”

On Wednesday and Thursday, scientists presented nearly 200 posters on current research discoveries. The posters were peer-reviewed, and prizes were awarded. Watch for announcements of winners in the July *News & Views* and the September *Poster*.

This year’s “mascot” was the bacterium *Streptomyces peuceitii*, isolated from soil samples taken at Castel del Monte, a thirteenth-century castle in Italy. *S. peuceitii* “is the source of the anticancer drug daunorubicin (also known as daunomycin or daunomycin cerubidine),” according to Cheryl Parrott, NCI-Frederick director of public relations. Both doxorubicin, a biosynthetic version of daunomycin, and daunomycin help to eliminate a patient’s cancerous cells by interacting with the patient’s DNA. The drugs may be used to treat various leukemias.

In addition, “liposomal formulations of the drug may allow a more targeted approach, affecting only the tumor cells and not a patient’s healthy, noncancerous tissue. This targeted approach has the possibility of greatly reducing the debilitating side effects associated with cancer chemotherapy, thus giving patients a more comfortable and better quality of life,” Parrott explained.

The Spring Research Festival is jointly produced by the National Cancer Institute at Frederick and Fort Detrick, and underwritten by the Technical Sales Association. Other collaborators in the



event include the National Biodefense Analysis and Countermeasures Center, Department of Homeland Security; the United States Department of Agriculture-Foreign Disease Weed Science Research Unit; the Centers for Disease Control and Prevention; the U.S. Army Medical Research Institute of Infectious Disease; the Navy Medical Biodefense Research Laboratory; and the National Institute of Allergy and Infectious Diseases Integrated Research Facility.

According to one of the organizers, “Our goals are to share information among scientific disciplines and to acquaint our neighbors in the NCI-Frederick and Fort Detrick communities with the research we conduct, the discoveries we have made, and the challenges that lie ahead.” ■

## Managing NCI-Frederick's Radiation Safety Program

By JT Moore, Radiation Safety Office, Guest Writer; and Ashley DeVine, Staff Writer

NCI-Frederick's Radiation Safety Program had no violations when it was inspected this year by the U.S. Nuclear Regulatory Commission (NRC) for compliance with regulatory requirements and license-specific conditions.

Using radioactive material (RAM) and devices that produce radiation is necessary to the research performed at NCI-Frederick. The Radiation Safety Program, managed by SAIC-Frederick, oversees more than 70 programs and more than 700 workers.

The program operates under the policies set by the 10-member Radiation Safety Committee. These policies ensure that the program meets NRC regulations.

Typical license conditions might include:

- Physical location(s) where RAM may be used or stored
- Description of RAM possession limits
- Use restrictions (research and development only, if use in humans is allowed, etc.)
- Sealed-source possession and use parameters
- Information about RAM physical inventories
- Radioactive waste storage/disposal conditions
- Information about packaging and transporting RAM

Radiation programs fall under the categories of open source, sealed source, and radiation-producing machines. The majority of radiation programs at NCI-Frederick are open source, meaning these programs use open-source vials of RAM. Sealed-source programs use RAM that is encapsulated. Most of the sealed-source RAM at NCI-Frederick is used as a reference source or to calibrate certain types of equipment. Radiation-producing machine programs use equipment that



An electron microscope is one type of radiation-producing equipment managed by the Radiation Safety Program.

produces radiation when energized. Types of radiation-producing equipment include X-ray irradiators, electron microscopes, SPECT/CT units, and X-ray diffraction units.

During an inspection by NRC, the commission begins by inspecting records associated with the major program areas of the Radiation Safety Program. Next, NRC visits several laboratories using RAM and interviews radiation workers to confirm they understand what is necessary to ensure compliance. NRC also asks workers to demonstrate how to perform tasks such as securing RAM from unauthorized removal, using radiation-measuring devices, and conducting contamination surveys.

NRC uses Geiger counters to make sure RAM exposures are as low as reasonably achievable. At the end of the inspection, NRC lets the Radiation Safety Program know the outcome of the inspection (no findings or discussion of any findings).

The major program areas of the Radiation Safety Program include: **Processing of Incoming RAM.** All incoming RAM must be in-processed within three hours of arrival. NCI-Frederick has received 15,813 shipments of RAM since January 2000. As of April 21, 15,770 (99.73%) of these shipments were in-processed within the three-hour regulatory timeframe.

**RAM Inventory Control.** Every six months, Radiation Safety conducts facility-wide RAM inventories to ensure/document that licensed RAM is accounted for and kept appropriately secure from unauthorized removal.

**Radiation Surveys.** Radiation Safety makes monthly visits to each NCI-Frederick open-source radiation program and conducts a contamination survey to look for residual radioactivity. Contaminated areas must be appropriately decontaminated.

**Dosimetry Program.** Many radiation workers wear external dosimetry devices to capture occupational exposures to RAM. In addition, bioassays (urine and thyroid scans) can be used to measure internally deposited RAM.

**Radiation Safety Training.** Individuals must complete initial radiation safety training prior to manipulating RAM. Refresher training must be completed every two years.

**Survey Meter Calibration Program.** Facility radiation survey meters are calibrated annually. Radiation Safety is approved by NRC to perform these calibrations in-house, which eliminates the need and cost of sending meters out to be calibrated.

**Program Audits.** Programs are audited every two years for compliance with NRC regulations. Audits are performed by the certified health physicist that is under contract to SAIC-Frederick. ■

Contact the Radiation Safety Office:  
Telephone: 301-846-5730  
E-mail: [ncifredrso@mail.nih.gov](mailto:ncifredrso@mail.nih.gov)

# Outreach and Special Programs

## Farmers' Market: "Go Green" in Every Way

By Maritta Grau, Staff Writer

You can certainly "go green" at the NCI-Frederick Farmers' Market: lots of salad foods and other produce; reasonable prices; and environmentally friendly products. Nearly all of our seasonal vendors have returned; most have been with us since the market began in 1998.

Michele Gula, the "Green Tips" columnist, noted that if environmental choices are important to you, you'll want to make the Fort Detrick Farmers' Market a regular part of your weekly shopping.

"When you buy local produce, the costs of transporting are drastically reduced, saving both gas and energy. Organic is even better because this farming promotes sustainable agriculture and does not use pesticides and genetically modified organisms," she explained.

The vendors have special items not just for your palate, but also for your eyes and nose: flavored olive oils that are especially great for dipping bread; fresh produce with everything from early tomatoes and lettuces to fruits; handmade chocolate truffles; baked



**Farmers' Market  
at NCI-Frederick  
on Fort Detrick**

*Local Producers*

Fruits • Vegetables • Herbs •  
Baked Goods • Jellies • Dip Mixes •  
Sweets • Honey • Emu Products •  
Cut Flowers • Crafts • & Much More!

**Tuesdays**  
**11:00 AM until 1:30 PM**  
June 8 – October 26, 2010

**2010 Special Market Days**  
May 4 – Spring Market & Plant Sale  
November 23 and December 21 are  
Special Holiday Markets

In front of Building 549 (Library/Conference Center/Café)

goods—cookies, breads, scones, and more; tender black angus beef; flowers and herbs; and emu products.

Each market usually includes one or more artists, too, with beautiful scarves and wraps, polymer clay jewelry, pottery, photography of scenes from around the world, and even Frederick posters, mugs, tee shirts, aprons, and tote bags.

Mark your calendars for each Tuesday, from 11:00 a.m. until 1:30 p.m. in front of Building 549 (the location of the Scientific Library and Discovery Café). The outdoor market ends on Tuesday, October 26; two special markets will be held November 23 and December 21. Watch for weekly e-mail announcements to see what's featured at each week's Farmers' Market. ■



## Outreach and Special Programs

June 15 • June 22 • June 29 • July 6 • July 13 • July 20 • July 27 • August 3

# 2010



## SUMMER STUDENT SEMINAR SERIES

NCI-FREDERICK • USAMRIID • NIAID •  
DHS-NBACC • USDA FDWSRU • USAG  
• USAMRMC • NMBDRL • CDC

All seminars are at 12 noon in the main  
auditorium of Building 549

This seminar series is open to all  
students and employees at NCI-Frederick and Fort Detrick.  
Students from outside the NCI-Frederick and Ft. Detrick community are also welcome.  
Refreshments are for students only.

<http://web.ncifcrf.gov/campus/outreach/seminar/>

## Student Seminar Series Begins June 15

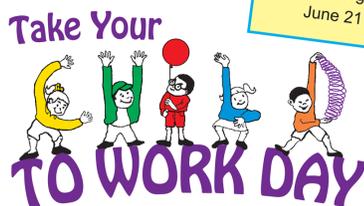
By Ashley DeVine, Staff Writer

The 2010 Summer Student Seminar Series begins June 15 and runs each Tuesday through August 3. The eight-part series features weekly seminars presented by speakers from the agencies of the National Interagency Confederation for Biological Research. Seminars are held from 12:00 to 1:00 p.m., in the Conference Center auditorium of Building 549. Free pizza will be available (for students only) at every seminar.

Speakers from the following agencies are presenting: the National Institute of Allergy and Infectious Diseases; the U.S. Army Medical Research Institute of Infectious Diseases; the U.S. Department of Agriculture; the U.S. Army Medical Research and Materiel Command; NCI-Frederick; and the

Department of Homeland Security's National Biodefense Analysis and Countermeasures Center.

For more information, go to <http://web.ncifcrf.gov/campus/outreach/seminar/>. ■



Wednesday, July 21, 2010  
Pre-registration  
June 21 – July 7

National Cancer Institute at Frederick  
and Fort Detrick

<http://kidsday.ncifcrf.gov>  
E-mail address: [tyctwd@mail.nih.gov](mailto:tyctwd@mail.nih.gov)  
301-846-7338

### ACTIVITY SPONSORS AND VOLUNTEERS ARE NEEDED!

If you are interested in sponsoring a program or a Hub activity  
or in volunteering to help on the event day,  
please visit the Web site to sign up: <http://kidsday.ncifcrf.gov>.

## Attention Student Interns: Share Your Research at Student Poster Day

Student interns are invited to present their research to local researchers and their peers during Summer Student Poster Day at NCI-Frederick and Fort Detrick on Thursday, July 29. The event will be held in the lobby of Building 549. Registration closes July 21.

For more information or to register, go to <http://web.ncifcrf.gov/campus/outreach/poster/>. ■

## TYCTWD Registration for Children Opens June 21

By Ashley DeVine, Staff Writer

Show your children the important work you do each day during Take Your Child to Work Day (TYCTWD) on Wednesday, July 21.

The goals of TYCTWD are to teach children ages 6 to 13 about “the vital public services that their parents provide” in supporting the missions of NCI-Frederick and Fort Detrick, and “to encourage future careers in science,” according to <http://kidsday.ncifcrf.gov/info/default.asp>.

Registration for children begins June 21. You may register your children online at <http://kidsday.ncifcrf.gov/default.asp>. For more information, e-mail [tyctwd@mail.nih.gov](mailto:tyctwd@mail.nih.gov). ■

NCI-Frederick and Fort Detrick

## Summer Student Poster Day



Thursday  
July 29, 2010  
Bldg. 549 Lobby

Organized by the Office of Outreach and Special Programs at NCI-Frederick  
Contact: Julie Hartman, [hartmanjb@mail.nih.gov](mailto:hartmanjb@mail.nih.gov)

Scientific Information/Questions - Please contact:

Howard A. Young, Ph.D.

Laboratory of Experimental Immunology  
NCI-Frederick, NIH  
[youngh@ncifcrf.gov](mailto:youngh@ncifcrf.gov)

Anu Puri, Ph.D.

CCR Nanobiology Program  
NCI-Frederick, NIH  
[apuri@helix.nih.gov](mailto:apuri@helix.nih.gov)

Purpose: The Summer Student Poster Day is designed to provide an opportunity for our summer interns to present their research to the NCI-Frederick and Fort Detrick scientific community. We hope that the poster day will also provide a platform for students to interact with their peers and learn about interdisciplinary research programs being conducted at NCI-Frederick and Fort Detrick.

Please visit <http://web.ncifcrf.gov/campus/outreach/poster/> to register

Registration closes on July 21, 2010

Poster size: 4' X 6' maximum

### Two Long-Time Employees Retire

By Ashley DeVine, Staff Writer

With a combined total of nearly 72 years of service, Jeannie Gonzalez and Emily Moler will say goodbye to NCI-Frederick this year.

Gonzalez, administrative assistant, Contract Planning and Administration Directorate, SAIC-Frederick, and Moler, administrative program assistant, Office of Scientific Operations, NCI-Frederick, began working at NCI-Frederick in 1974.

“I transferred from the National Institute of Dental Research, NIH, Bethesda, to NCI-Frederick to be closer to home,” Moler said.

“In 1974, the opportunities for employment were limited in the Frederick area and I knew some previous State Farm Insurance Company co-workers were working here and liked the facility, so I applied,” Gonzalez said.

#### Changing Duties over the Years

Moler was originally hired as a secretary (stenographer). “Over the years, my position became more diverse with duties related to the NCI-Frederick contract budget, the Werner H. Kirsten Student Intern Program, and general secretarial work,” she said. Moler remembers when the Student Intern Program was established in 1989, and how her supervisor at the time was in charge of overseeing its development. “I became the coordinator of this unique program for local high school seniors. I have watched it mature and grow into the successful program that it is today,” she said.

For most of her career, Moler has transferred NIH funding to the NCI-Frederick contract funding system. “The end of the fiscal year has always been a hectic time,” she said. “It’s critical to NIH that this funding is obligated by midnight September 30 or the funds will be sent back to the Treasury.”

Working in the Scientific Library was Gonzalez’s first job at NCI-Frederick. After six months, she began working as



Emily Moler, Administrative Program Assistant, Office of Scientific Operations, NCI-Frederick

a secretary for a group of laboratories in Building 560. Since 1985, she’s worked as an administrative assistant. Gonzalez also worked part-time in the Scientific Library collectively for 15 years.

One of her most notable projects was coordinating the first Shared Services review with Dr. Jeffery Derge, the head of the Office of Research Administration at the time. “It was quite an undertaking and was the first of its kind for core services,” she said. “This whole process took months of preparation before the final review.” Gonzalez also worked with Dr. Derge to coordinate and edit the annual and self-evaluation reports for the Office of the President. This was before Scientific Publications, Graphics & Media took over the process.

Both women said technological advances impacted their jobs over the years. They remember the switch from typewriters to the MagCard system, to the Lexitype, and then to computers.

“Computers and programming have influenced my position and changed/enhanced the quality of work life,” Moler said. “When the computer came

Jeannie Gonzalez, Administrative Assistant, Contract Planning and Administration Directorate, SAIC-Frederick.



to my desk, it was scary, but I quickly appreciated its capability/influence.”

#### In Retirement

In retirement, Moler hopes to work on home projects, take cooking lessons, garden, volunteer, and travel. “Most of all, I hope to spend quality time with my family and friends,” she said.

Gonzalez is also interested in spending more time with family and friends and traveling. She would like to travel to Australia, Egypt, and Machu Picchu in Peru.

What will they miss the most at NCI-Frederick? “I will miss all my co-workers, past and present. I’ve made, hopefully, life-long friends along the way,” Gonzalez said. “I’ve seen many changes throughout the years, but the goal has always been the same—to improve the lives of cancer [and AIDS] patients.”

“I have been associated with some wonderful people at NCI-Frederick over the years. As I enter this new phase of my life, I will certainly miss my co-workers,” Moler said. ■

## Just in Time for Father's Day

By Nancy Parrish, Staff Writer

With Father's Day right around the corner, it's only fitting to hear a son's expression of appreciation for his father. That was the case recently when Jeff Muschik, D.C., reminisced about his experience as a Werner H. Kirsten student intern.

"Probably the most precious part of the entire internship experience," Muschik said in a recent e-mail, "was that I got to spend considerable amounts of time...with my father (Gary Muschik, Ph.D., Chemical Synthesis and Analysis Laboratory), discussing science over lunch or at his office. This really meant a lot to me and, I believe, him as well. It's not very often that a father gets to mentor his son while teaching him about the things he knows and loves."

### Rewarding Experiences, Valuable Friendships

A 1995 graduate of Linganore High School, Muschik was a Werner H. Kirsten student intern in the Virus Biology Section with Peter Nara, Ph.D., whom he found to be a "passionate and positive mentor." During his college years, Muschik returned to NCI-

Frederick to work as a summer intern in the Drug Discovery Laboratory under the direction of Michael Boyd, as well as in the laboratory of the late David Derse, HIV Drug Resistance Program. While he found that getting up to speed on current scientific knowledge was challenging, he also found the intellectual experience rewarding and the friendships valuable, he said.

Significant accomplishments he achieved during his internship include earning second place in the Medicine and Health category at the 1995 Intel Science and Engineering Fair in Hamilton, Ontario, and having his work published in peer-reviewed journals, including *Biochemistry* and *Molecular Pharmacology*. He also fondly recalls birthday lunches, harmless laboratory pranks, and laboratory softball games, which "really made the internship less stressful and more enjoyable."

### Combining Science and Soccer

After graduating from high school, Muschik attended Winthrop University, in Rock Hill, SC, where he majored in biology and chemistry and was also a four-year starter for the Eagles, the men's Division I soccer team. During his junior year he was selected for the Big South Conference All-Academic Team.

During his undergraduate years, Muschik began to explore career opportunities and was drawn to chiropractic because of its direct effect on patients. "Biomedical research is

fascinating and mentally rewarding," he said, "but I wanted to have an immediate impact on peoples' lives."

Following graduation, he spent the next four years studying chiropractic at the National University of Health Sciences in Chicago. He returned to the familiar surroundings of Rock Hill six years ago to be close to family, where he now has a successful chiropractic practice in which, he says, he enjoys "helping patients reach their full health potential."

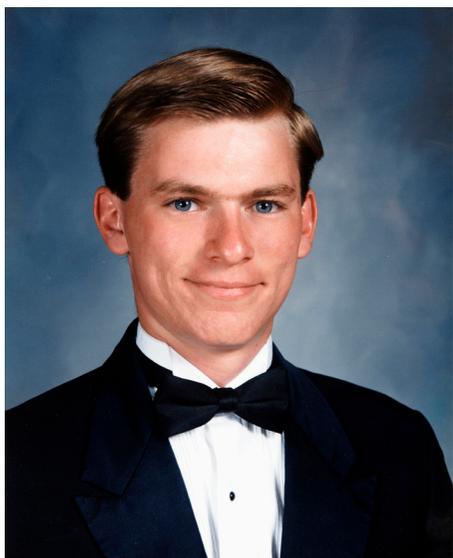
Just as important, he said, his career has afforded him the flexibility to stay involved in soccer the game he loves. Only now he's on the other side of the competition: he has been a soccer referee for more than 18 years, and for the last 3 years, he has been officiating in Major League Soccer.

### "Get Involved"

To current interns, Muschik offers sound advice. "Get involved and interact with your mentor and the other members of the labs," he said. Reviewing articles from current journals on the laboratory's specialty helps get you up to speed in the work you are doing, he added. He also believes in networking with other interns the same way scientists do with other scientists. "Get to know the other interns and the work that they do," he advised. "Science and scientists are a cohesive community, and interns should be the same way." Finally, he said, "experience as much as possible," and take everything in, so you can determine whether you want to pursue a career in biomedical research. ■



Now the owner of a successful chiropractic practice in Rock Hill, SC, Jeff Muschik says he "enjoys helping patients reach their full health potential." (Photo courtesy of Jeff Muschik.)



Jeff Muschik, as a senior at Linganore High School. (Photo courtesy of Gary Muschik.)

# Poster Puzzler



**Congratulations to the March 2010 Poster Puzzler Winner!** Douglas Leggett, Telecommunications/Labor Support, Facilities Maintenance and Engineering, SAIC-Frederick, is pictured, left, with Paul Miller, Executive Editor of the *Poster*. ■

## *The Poster Puzzler:*

### Looking Up

*By Ashley DeVine, Staff Writer, and Rocky Follin, Facilities Maintenance and Engineering, Contributing Writer*

From the angle of the March Puzzler photo, you might think you're looking at a skyscraper. What you're really seeing is what's above the main entrance (off Sultan Street) of Building 535. The glass panels bring daylight into the entrance lobby, and they add aesthetic value to the building's exterior. Building 535 was designed to provide modern research laboratories for the AIDS Vaccine Program (now the AIDS and Cancer Virus Program). The five-story, steel-frame building was constructed between 1992 and 1996. Although the building's exterior appears to be brick, it is actually an insulated stucco-like system, called an exterior insulated finish system (EIFS), with a brick pattern. ■



### Puzzler



*Looking up!*



## Poster Puzzler

### What is it?

### Where is it?

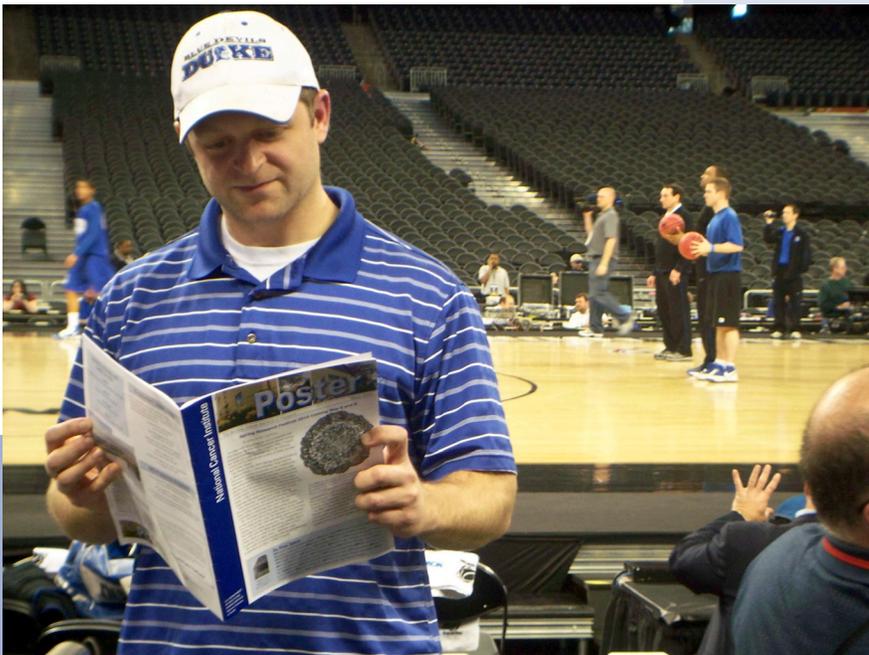
Your challenge, should you decide to accept it, is to correctly identify the item and its location from the picture to the right. Clue: It's somewhere at Fort Detrick/NCI-Frederick. Win a framed photograph of the Poster Puzzler and an NCI-Frederick tee shirt by e-mailing your guess, along with your name, e-mail address, and daytime phone number, to Poster Puzzler at [poster@ncifcrf.gov](mailto: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, July 16, 2010**, and the winner will be drawn from all correct answers received by that date.

Good luck and good hunting! ■



## Have Poster, Will Travel

The *Poster*, NCI-Frederick's newsletter, is making its way around the world, as readers grab the latest issue to take with them and read on the plane or train. Next time you're at a conference, have someone snap a digital of you with a copy of the *Poster*, and send it to us. You might just be featured in the next newsletter. ■



Last March, Andrew Waters, manufacturing associate in the Protein Expression Laboratory and self-proclaimed “die-hard” Duke fan, was visiting a friend and fellow Duke fan (and Duke alumnus) in Houston. They attended the NCAA basketball regional finals in which Duke played Purdue and Baylor. Evidently, Waters thought watching Duke practice before the game was not nearly as riveting as the March issue of the NCI-Frederick *Poster*. Waters noted that Duke's head coach Mike Krzyzewski, seen in the background, “has been an honorary and charter member of the CEO Roundtable on Cancer since its founding in 2001.” Duke went on to win the South Regional and eventually the national championship.

## Occupational Health Services Lives up to the Name: Many Programs to Help You Stay Healthy

By Alberta Peugeot, Occupational Health Services, Guest Writer

Do you work with hazardous materials? Have you ever been injured on the job? Did you experience, while at work, a sore throat, ear infection, allergy, or other minor illness? Did you get a flu shot last fall?

If you said “Yes” to any of these questions, then you probably have visited Occupational Health Services (OHS) in Building 426. But are you aware of OHS’s many programs to help you maintain your health?

### Occupational Health Surveillance

In conjunction with the Environment, Health, and Safety (EHS) Program, OHS offers testing and training for surveillance programs and will gladly make copies of your records for you. Just ask.

Depending on your potential for occupational exposure, OHS provides you with an initial baseline examination, periodic physical and medical surveillance exams, and lab work. OHS strictly follows privacy and confidentiality regulations in its record-keeping.

### Work-related Injury and Illness

If you are injured or contract an illness on the job, you or someone helping you should start first aid measures immediately, notify your supervisor, and report to OHS. After hours, contact Protective Services (301-846-1091). An OHS nurse practitioner will respond.

If you are absent because of a work-related injury or illness, you must obtain OHS approval to return to work.

### Accident and Emergency 911

To alert emergency medical services for immediate ambulance response, call 911, Frederick County Emergency Services.

During normal business hours, OHS responds to 911 calls. Your OHS staff is trained in CPR, first aid, and the use of an automated external defibrillator (AED), and can provide preliminary care until emergency medical personnel arrive.

Outside of normal business hours, you will still call 911. Then, as soon as you can, call Protective Services at 301-846-1091 to access the OHS on-call nurse practitioner.

### Personal Health Care

If you feel ill, but don’t think it’s work-related, you may still receive a preliminary diagnosis and treatment at OHS (301-846-1096) with subsequent referral to your physician. This care is limited to short-term, urgent care for non-complex medical conditions that can be treated within one or two visits. OHS will identify qualified physicians to whom you may be referred for additional medical care, if required.



### Travel Medicine

OHS supplies immunizations, medications, travel kits, and up-to-date information on foreign destinations to those traveling on work-related business. If you are planning personal international travel, we encourage you to check with

OHS for a list of potential hazards, recommended prescriptions, and a travel kit. Contact OHS as soon as possible, up to six weeks before you travel, so any necessary vaccinations can be initiated.

### Pregnancy Consultations

Free pregnancy testing is available to employees. When you find you are pregnant, you should inform OHS as soon as possible; we’ll assess your health and work exposures and make recommendations to ensure your safety and that of your unborn child.

### Fitness Challenge

NCI-Frederick and Fort Detrick have joined together in the pursuit of wellness. If you have not yet registered for the Fitness Challenge, and would like to create an account, please register at <http://saic.ncifcrf.gov/fitnesschallenge/>

### Business Health Services Employee Assistance Program

The Business Health Services (BHS) Care Coordinator provides a safe, confidential environment in which you may seek assistance for personal, family, work-related, or drug and alcohol problems. BHS also provides assessment, short-term counseling, and referral to community resources, as well as financial and legal counseling for you and your family members.

Are you a supervisor trying to help a troubled employee? BHS can work with you, counseling you in managing that employee. BHS offers educational programs on various topics, such as stress reduction, communication skills, meditation, and family life. Programs are announced throughout the year.

All telephone calls and visits are confidential and free of charge. This service is available 24 hours a day, 7 days a week. For an appointment, contact Selden Cooper at 301-846-1308, or the BHS Care Coordinator, at 1-800-765-3277.

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## Occupational Health Services

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In conjunction with the Scientific Library, the following services are also available:

### Center for Health Information

The Center for Health Information (CHI) is located in the Scientific Library, Building 549. In CHI, you'll find books, audiovisual materials, and free pamphlets about consumer health issues and topics to help you improve your health and to understand your health problems. CHI is a collaborative project sponsored by the Scientific Library, Occupational Health Services, and the Employee Assistance Program.

### Relaxation Room

Need to get away from the stress of projects piled on your desk or in your lab? You might want to try the Relaxation Room in the Scientific Library. You can use a comfortable chair with a massage/heat pad, a TV/VCR/DVD unit, headphones, some relaxation DVDs and CDs, and a sound machine. Call 301-846-1682 to reserve the room for a 30-minute period.

*Note:* You should have supervisory approval for this activity, and should use your own time during the work day.

So, for everything from treatment

of work-related illness and injuries to emergencies, a wellness program, or personal health care, you can count on OHS. After all, you are NCI-Frederick's most valued and enduring resource. ■

### Contact information

Occupational Health Services

Building 426

Monday through Friday,

8:15 a.m. to 5:00 p.m.

301-846-1096

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

## Fitness Challenge 2010

### March and April Winners; Rock-Climbing Wall Coming in June

*By Will Sheffield, Occupational Health Services, Guest Writer; and Ashley DeVine, Staff Writer*

The 2010 Fitness Challenge would like to congratulate the March and April monthly winners in the five fitness categories for their efforts, determination, and resolve. It's never too late to join the Fitness Challenge—you could be a monthly winner! Remember, you can only win once in 12-month period.

#### March Winners

**Miles Walked:** Wayne Helm, Facilities Maintenance and Engineering Directorate

**Miles Run:** Beth Buckheit, Financial Management Directorate

**Miles Biked:** Kim Peifley, Advanced Technology Program Directorate

#### Hours Performing Other Fitness

**Activities:** Autry Humphrey, Applied and Developmental Research Directorate

**Pounds Lost:** Timothy Geisinger, Laboratory Animal Sciences Program

#### April Winners

**Miles Walked:** Steven Stull, Basic Science Program Directorate (BSP)

**Miles Run:** Joseph Saavedra, BSP

**Miles Biked:** Courtney Silverthorn, Contract Planning and Administration Directorate

#### Hours Performing Other Fitness

**Activities:** Will Sheffield, Environment, Health, and Safety Directorate

**Pounds Lost:** Cynthia Farling, Contracts and Acquisitions Directorate

### Upcoming Event: Rock-Climbing Wall



Bring some comfortable shoes and clothes to work Wednesday, June 16, because a four-person rock-climbing wall will be set up in the parking lot of Occupational Health Services, Building 426, from 10:00 a.m.

to 2:00 p.m., rain or shine.

The Fitness Challenge reminds you to eat wise and exercise, and stay fit for life. If you have any questions or would like additional information about the Fitness Challenge, contact Will Sheffield, Fitness Challenge coordinator, at 301-846-1096, or [sheffieldwg@mail.nih.gov](mailto:sheffieldwg@mail.nih.gov). ■

## What Is This Thing We Call Counseling or Psychotherapy?

By Selden Cooper, Business Health Solutions, Guest Writer

Myths and misconceptions about counseling and psychotherapy, two words describing the same process, abound. That word—“process”—is important, as it captures the interactional, dynamic, emergent phenomena that are co-constructed by a client with a professional, both of whom contribute unique and invaluable assets. The client is the acknowledged expert on his or her life and goals, while the counselor or therapist has expertise in assisting the client to identify those values and goals, to overcome obstacles, and to achieve those values and goals.

The misconceptions surrounding counseling and psychotherapy often derive from mass media, such as the 1970s sit-com, *The Bob Newhart Show*, depicting a Chicago clinical psychologist and his patients; and more recently, the HBO shows *In Treatment*, about a “taciturn, but effective psychotherapist,” and *The Sopranos*, with its protagonist, Tony, a sociopath being treated by a psychologist for panic attacks.

We can safely say what counseling and psychotherapy are not: not a sage atop a peak handing down wisdom; not a client lying on a couch; not a 1960s-style “touchy-feely” encounter group.

### Counseling and Psychotherapy: Unique Healing Relationships

So, if counseling and psychotherapy are not the above, what are they? Each is a uniquely human form of relationship that is both task-oriented (the ultimate well-being of the client), and profoundly emotional. The objective is to facilitate changes in the client’s life that will render that existence more effective, rewarding, meaningful, vital, and consistent with the client’s deeply held values. It is an unequal relationship, in that the counselor or therapist expects nothing from the client (other than being paid), but rather, has a duty to

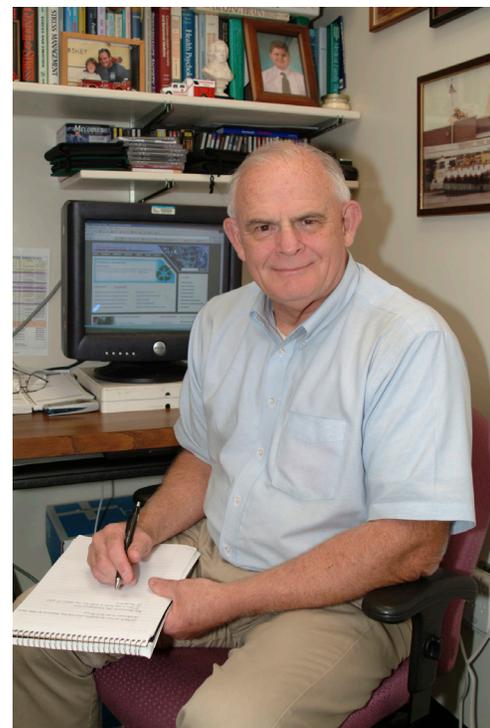
subordinate his/her “self” in the service of the client.

Counseling and psychotherapy are based upon the healing power of human relationships and language; the emerging field of social neurobiology has opened scientific vistas of how our connections with others, from our earliest days—and throughout our lifespan because of neuroplasticity—literally sculpt our brains. It has been recognized for decades that interpersonal trauma or deprivation can damage the brain, and believed for millennia that healing relationships can repair such damage. Social neurobiology is now providing empirical evidence, validating that relationships literally can rewire the brain.

### Aspects of the Healing Relationship

What does such a healing relationship look like? Almost 60 years ago, Carl Rogers described it in terms still popular today. According to Rogers, for a healing relationship to occur between the therapist and client, the counselor or therapist should demonstrate the following: 1) “Non-Possessive Warmth/Unconditional Positive Regard,” which includes a posture of absolute acceptance, predicated on non-judging; 2) “Accurate Empathy”—the ability to resonate with the client at a deeply personal and emotional level—and the capacity to convey that understanding to the client; and 3) “Therapist Authenticity/Genuineness.” These attributes provide a respectful and safe environment—a “holding” space—within which clients can take the risks that self-examination and change require (Rogers, CR. *Client-Centered Therapy*. New York: Houghton Mifflin, 1951).

The single-most influential variable in outcome is what is termed client/extra-therapeutic factors, not the



Selden Cooper, LCSW-C, has more than 25 years of experience in employee assistance and has provided services to NCI-Frederick for nine years.

professional: 40 percent of outcome variance is attributable to what the client brings to the table. Another 30 percent is assignable to the therapeutic relationship, while 15 percent can be attributed to placebo effects, hope, and expectancy, and the final 15 percent to the theoretical orientation to which the counselor or therapist holds allegiance (Lambert MJ, “Implications of outcome research for psychotherapy integration.” In JC Norcross and MR Goldfried, eds., *Handbook of Psychotherapy Integration*. New York: Wiley, pp. 94–129, 1992). These findings point to the importance of the elusive concept of “goodness-of-fit” between the professional and the client: their ability to resonate at a deep level in co-creating a healing environment—one in which possibility is expanded and limitations dissolved—in which the client is the expert on his/her life, experience, and goals, and the professional acts as an expert consultant to the client in terms of change facilitation and management.

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# NIH Recreation and Welfare Club

## Branch of NIH Recreation and Welfare Club Coming to Frederick

By Ashley DeVine, Staff Writer



You may have heard of the NIH Recreation and Welfare (R&W) Association, the employee service and health promotion organization that has been active at NIH for 65 years. What you probably haven't heard is that a branch

will start at NCI-Frederick later this year.

The NCI-Frederick branch of the association, named the R&W Club Frederick, is in the planning stages and is expected to begin September 1.

"The R&W Club Frederick will give all NCI-Frederick employees the opportunity to benefit from the great organization of the R&W and to have the option for local Frederick events," said Amy Huter-Imming, who has volunteered to help establish the club. "It has a variety of programs that provide members with opportunities to meet people with similar interests, pursue a favorite hobby, participate in athletic events, and enjoy many other social activities."

Club members will receive the same benefits as the parent R&W organization, in addition to having local NCI-Frederick-specific events. Members will have access to discounts on everything from event tickets, movie rentals, and recreational clubs, to apartments, vacations, insurance, and more, according to the NIH R&W Association web site.

For more information about the NIH R&W Association, go to <http://www.recgov.org/r&w/>. ■

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### Seeking Counseling: A Courageous Decision

The decision to seek counseling or psychotherapy is a courageous one; yet, selecting a therapist can be intimidating. How do you make an informed decision? What are the criteria to use?

The Employee Assistance Program (EAP) can help you select a counselor or psychotherapist. Assume you are hiring an expert to provide a service; and, remember, just as you do not necessarily purchase the first car that you take for

a test drive, you don't have to commit to the first therapist you interview (yes, the assessment process should be bi-directional).

The NCI-Frederick EAP, provided by Business Health Services, maintains a nationwide roster of licensed mental health and addiction affiliates, which can be accessed through the on-site provider (Selden Cooper) or through the BHS toll-free number (1-800-765-3277). Cooper has extensive familiarity with the local human services and private practitioner community, can assist in

identifying potential good matches for clients, and can coach you in how to select a provider. ■

### Employee Assistance Program

**Selden Cooper, LCSW-C**  
Building 372  
Tuesday, Wednesday  
7:00 a.m.–6:00 p.m.  
Friday  
7:00–11:00 a.m.  
301-846-1308

# Campus Improvement Committee

**1.** A volunteer examines the tiny seeds.



**5.** Volunteers select colorful flowers to fill beds at their buildings.

## Volunteers Help Beautify the Campus

Spring came a little early for NCI-Frederick Campus Improvement Committee (CIC) volunteers, who got to play in the dirt at the USDA greenhouse on April 23. The volunteers gathered at the greenhouse to plant new seeds and repot plants from previously planted seeds. The young plants were nurtured in the greenhouse until the last week of May. Then they were distributed to NCI-Frederick gardeners for planting in local flower beds that the community can enjoy all summer.

This annual event is organized by the CIC. If you have an idea for how to improve the campus or would like to join the CIC, contact Paul Miller at [millep@ncifcrf.gov](mailto:millep@ncifcrf.gov). ■

**2.** Paul Miller and Martha Summers carefully tuck seeds into planting soil at the USDA greenhouse.



**3.** Volunteers repot the flourishing plants.



**4.** Paul Miller spreads out flats of marigolds, cosmos, zinnias, salvia, and alyssum for give-away on May 25 and 26.



### NCI-Frederick Expands Effort in Recycling

By Michele Gula Atha, Biopharmaceutical Development Program, and Lori Smith, Contracts and Acquisitions, Guest Writers

NCI-Frederick observed April's Earth Day by donating more than 350 pounds of materials for recycling. The midday celebration and collection, held in Building 549, were both sponsored by the NCI-Frederick Green Teams. The group collected the following: 11 cell phones; batteries, 219 pounds; pipette tip trays, 65 pounds; toner cartridges, 46 pounds; CDs, 12 pounds; and sneakers, 17 pounds.

SAIC-Frederick is still running its "Green Thinker" t-shirt giveaways. Submit a "green" tip to Lori Smith, Contracts and Acquisitions, [smithlori@mail.nih.gov](mailto:smithlori@mail.nih.gov). You don't have to be an SAIC-Frederick employee to win. Kathy Burke won in March for her tip on receiving electronic results via e-mail or vendor web sites. Eileen Downey won in April for her tip to promote electronic signatures whenever possible.

The following tips have been culled from the spring "Green Tips" e-mail columns.

#### Recycle Household and Leftover Renovation Materials

ReStore will take your leftover building/construction supplies (1109 East Patrick Street, near the Fairgrounds, 301-662-2988, or [restore@frederickhabitat.org](mailto:restore@frederickhabitat.org)); you can also buy materials there. Profits from materials sold goes to a very worthy cause, Habitat for Humanity.

Did you know that textiles and clothing are recyclable? Denim is now being used as insulation in building material. The yellow Planet Aide receptacles accept items such as purses, belts, and jeans for textile recycle. If you are a Frederick County resident, simply collect these items and drop them off at the Frederick County landfill on Reich's Ford Road.

Compact fluorescent light bulbs (CFLs) contain mercury and must be disposed of responsibly. Follow directions on the CFL container and take the bulb to your

local hazardous waste disposal site. You can also bring the used bulbs to Home Depot; the stores have recycling boxes near the entrance—simply place the used bulb in the plastic bag provided, drop it in the receptacle, and Home Depot will dispose of it for you. Light-emission diode bulbs (LEDs) are now considered the most efficient light bulbs, and they don't have hazardous waste issues. While more expensive than standard bulbs or CFLs, a small investment now will save money in the future.

Many recyclable batteries are available today; however, while alkaline and lithium-primary batteries are not directly recycled, neither should they be thrown in the trash. Instead, they should be collected for reclamation. At NCI-Frederick, Waste Management collects lead-acid, nickel-cadmium, lithium-ion, and nickel/metal hydride batteries and sends them to a smelter for reclamation. If you don't already do so, keep dead batteries in a central location in your office or work area, and periodically call Waste Management at 301-846-5718 to collect them.

#### Recycle Junk Mail

It is estimated that each of us will use 8 months of our lives dealing with junk mail. Go to <http://www.ecocycle.org/junkmail/index.cfm#step1> and read about how you can put a stop to your own junk mail. Remember that junk mail can now be recycled in the paper recycling bins present in NCI-Frederick buildings. When recycling shredded papers at home, be sure to collect the shredded papers in a paper bag or cardboard box.

According to a "Green Lantern" column in a March *Washington Post*, the recycling process removes non-paper



The NCI Green Team sponsored a showing of the video *Kilowatt Ours*, followed by dessert, in conjunction with the May 25 NIH Paperfree Day.

items, such as staples and cellophane. However, the "Green Lantern" stressed that pizza boxes should not be recycled, because oils and grease can interfere with the recycling machines.

#### Recycle Your Plants

As you thin out flowerbeds and plants, share extras with others. Bring bagged (recycle those shopping bags!) and labeled flowers and bulbs to work, or put them by the sidewalk/jogging path with a big sign saying "free plants." Don't be surprised if they all disappear fast.

Know what makes your plants happy. While some flowers and shrubs are susceptible to mildew if watered at dawn or dusk, others are fine with that time. For those that are sensitive to mildew, water in the morning or late in the afternoon, avoiding the intense heat between 11:00 a.m. and 3:00 p.m.

We will have another event in November to celebrate America Recycles Day. If you have any recycling concerns, or for more information, call 301-846-5718, or check out the NCI-Frederick Recycling web page: <http://home.ncifcrf.gov/ehs/recycling/details.asp?id=10>.

Send your suggestions for **Green Tip** ideas to the NCI-Frederick Green Team representatives: Howard Young, Ph.D., [younghow@mail.nih.gov](mailto:younghow@mail.nih.gov); Michele Gula Atha, [gulam@mail.nih.gov](mailto:gulam@mail.nih.gov); or to the SAIC-Frederick Green web site, <http://web.ncifcrf.gov/campus/als/green/default.asp>. ■

## Women Make History at NCI-Frederick

By Maritta Perry Grau, Staff Writer

Earlier this spring, in recognition of Women's History Month, the Diversity team asked you to nominate women of NCI-Frederick who are making history right now, right here.

Four women were selected from among the nominees. They include Kathy Easterday, administrative assistant for the Information Systems Program (ISP) at SAIC-Frederick, Inc.; Krista Delviks Frankenberg, Ph.D., a research fellow in the HIV Drug Resistance Program, Viral Mutation Section, NCI; Amy Huter-Imming, administrative director for the Basic Science Program, Advanced Technology Program Directorate, SAIC-Frederick; and Jeanne Warfield, associate scientist, MPH, MT (ASCP) in the AIDS Monitoring Laboratory, Applied/Developmental Research Directorate, SAIC-Frederick.

Krista Frankenberg studies viruses isolated from HIV-1-positive patients that carry drug-resistant mutations to determine how well these viruses replicate in tissue cultures and how

administrative support, from coordinating budgets and staffing issues and resolving intellectual property, procurement, or communication challenges to mentoring researchers in compliance and operational issues.

For seven years, Warfield has participated in a NIAID-funded project to research the interactions between HIV and tuberculosis in Bamako, Mali, West Africa, helping to set up a sophisticated laboratory and training Malian personnel. Currently, she is working with Malian management and laboratory personnel toward ISO 15189 accreditation, which stipulates requirements for competence and quality for medical laboratories. SEREFO will be the first laboratory in West Africa to earn this accreditation. "I do much of the work for Mali long-distance (thank goodness for the Internet and e-mail!), but I also regularly travel to and work in Mali," she says.

### How Are They Making a Difference in Our Lives?

Easterday participates in many areas of NCI-Frederick life, such as the Employee Activities Committee, the Spring Research Festival, Take Your Child to Work Day, the Advanced Biomedical

Computing Center Activities Committee, and the Combined Frederick Biomedical Computing Center and Structural Biochemistry Program Activities Committee. "These activities foster the relationships between the government

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Clockwise, from upper left: Kathy Easterday, Jeanne Warfield, Amy Huter-Imming, Krista Delviks Frankenberg.

resistant they are to the FDA-approved panel of HIV-1 antiviral drugs. Her group also evaluates the biochemical mechanisms of the mutations to help scientists develop new anti-HIV-1 drugs.

Amy Huter-Imming and her cohorts provide researchers with myriad forms of

As the administrative coordinator to the director of ISP, 31-year veteran Kathy Easterday provides support for all the groups and their directors, managers, and supervisors. Besides the usual day-to-day administrative duties, she also reviews, monitors, prepares, and coordinates various executive functions.

### How Are They Making History?

## NCI-Frederick Employee Diversity Team

*continued from page 24*

and contractors, improving morale and giving employees and their families a chance to share their work and lives,” she explains.

And it’s not just work; she gains inspiration from “the people...and the joy of supporting and helping others... [and] the desire to make a difference in the fight against cancer and AIDS.”

Frankenberry is perhaps proudest so far of research done with colleague Galina Nikolenko, showing that “the C-terminal domain of the reverse transcriptase (RT) enzyme also plays a critical role in drug resistance....Interestingly, these mutations affect another active site in the RT enzyme (RNase H active site), and this has led to the discovery of a new novel mechanism of HIV-1 drug resistance. Understanding how the enzyme develops resistance to antiviral drugs is important for developing better

antiretroviral agents against HIV-1.”

Frankenberry says that she is often motivated by “the positive work environment and my enthusiastic co-workers...and the collaborative atmosphere and the availability of resources and funding that enable me to carry out my projects.”

Huter-Imming takes pride in the research expertise of the collaborative commitment of the NCI-Frederick government and contractor laboratories to explore the causes of infectious diseases, to search for genetic anomalies, to understand or find cures for cancer, and to curb the spread of HIV-AIDS.

“My goal—to provide a level of transparency from administration to the scientific staff and to translate the contract requirements—has hopefully played a small part in helping these researchers with the great advances they

have made,” she says.

Warfield began her work with the AIDS Monitoring Laboratory in 1985, charged with managing the clinical flow cytometry and hematology for the laboratory. These days, she’s the “go to” Quality Assurance person for questions about Clinical Laboratory Improvement Amendments (CLIA), helping the CLIA-certified laboratories keep up with regulations and meet the CLIA standard.

She is a member of the Quality Board, which strives to improve SAIC-Frederick customer service by promoting the quality and efficiency of all operations within our scope of work.

“I think that this is important because if we do a good job, it supports our mission and makes our customer happy,” Warfield says. ■

*While the Women of Frederick are making a difference in our lives, these are the people, places, and activities that make a difference in their lives.*



# Communication Awards

## SPGM Garners Hermes Awards

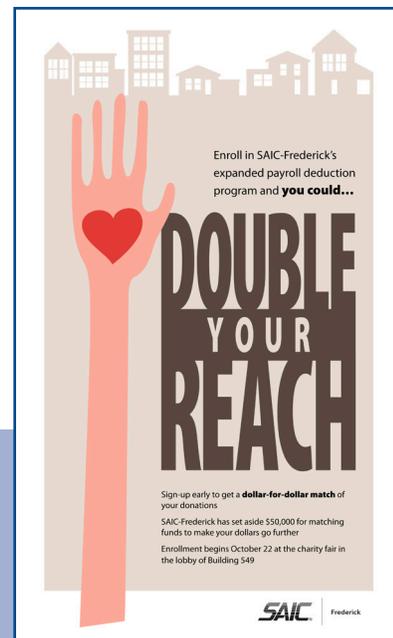
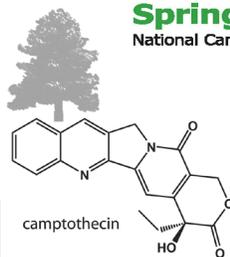
By Ken Michaels, Staff Writer

The Hermes Creative Awards program is administered and judged by the Association of Marketing and Communication Professionals. AMCP judges are industry professionals looking for companies and individuals whose talent sets or exceeds a high standard of excellence and whose work serves as a benchmark for the communications industry. The awards recognize outstanding work in the concept, writing, and design of traditional and emerging media. The awards are named for the Greek messenger god Hermes, in symbolism of the role of professional communicators as messengers and creators of marketing and communication materials and programs.

Scientific Publications, Graphics & Media entered three pieces in the 2010 competition, and has learned that two have been recognized:

“**Double Your Reach**” materials for a campaign to expand SAIC-Frederick’s charitable giving, won an Honorable Mention in the Design/Poster category. Allen Kane, senior graphic designer, was the lead designer on all materials.

“**2008 and 2009 Spring Research Festival T-shirts**” won a Gold Award of Excellence in the Marketing Collateral/Branding/T-shirt category. The designs were created by Jennifer Brown, senior illustrator. ■



## Web Sites of Note

By Ashley DeVine, Staff Writer

Throughout our newsletter, you’ll find web sites that provide you with more information than we can put in our articles. In addition, many days, weeks, and months are devoted to the recognition of particular health care issues. We’ve selected a few dates that seem most pertinent to NCI-Frederick.

### June

National HIV Testing Day, June 27: <http://www.hhs.gov/aidsawarenessdays/days/testing/>

### Fireworks Safety Month, June 1–July 4

National Fire Protection Association:

<http://www.nfpa.org/categoryList.asp?categoryID=297&URL=Safety%20Information/For%20consumers/Holidays/Fireworks>

The National Council on Fireworks Safety: <http://www.fireworksafety.com/>

Prevent Blindness America: <http://www.preventblindness.org/safety/fireworksafety.html>

### July

UV Safety Month: <http://www.preventblindness.org/uv/>

### August

National Immunization Awareness Month: <http://www.cdc.gov/vaccines/events/niam/default.htm>

Cataract Awareness Month: <http://www.aao.org/aaosite/eyemd/cataract.cfm> and

<http://www.eyecareamerica.org/eyecare/news/August-is-National-Cataract-Awareness-Month.cfm>

## Speak Out!

By Maritta Perry Grau, Staff Writer

Does your heart jump into your mouth when you have to speak in front of a group? Do you dread public speaking almost as much as going to the dentist? Some statistical studies indicate that public speaking is most people's greatest fear, even outranking fear of death (<http://www.speech-topics-help.com/fear-of-public-speaking-statistics.html>).

Whether you're a scientist or work in an administrative capacity, you've probably been asked to make an oral presentation, either here or in your home community. If the thought of public speaking gives you those traditional butterflies, you have help available at NCI-Frederick, both during and after the workday.

First, several times a year, Scientific Publications, Graphics & Media offers a two-day, two-hours-per-session workshop on oral presentations.

A second help to overcome your fear of public speaking is the Toastmasters Club.

### Toastmasters Do More Than Raise a Glass

While you may think of "Toastmasters" as people who are learning how to give a toast, meetings are much different. In fact, on the night we attended, the only toast made was for the camera.

Generally, the meeting is run like any other, loosely following Robert's Rules of Order, with new business, voting, and other details. Afterward, two or more members volunteer to give either five- to seven-minute prepared speeches or two-minute impromptu "table topic" speeches.

The group adheres strictly to its one-hour format. "The number of speeches is generally three, and then the Table Topics are two to three, depending on the time," said Patricia Jenkins (Center for Advanced Preclinical Research, Laboratory Animal Sciences Program Directorate) president of the Toastmasters Club.

Critiques are "Dagwood sandwiches" of lots of positive reinforcement with a



Dr. Bernard Thompson, Clinical Support Laboratory, Applied and Developmental Research Directorate, gives a brief talk at a recent Toastmasters' Club meeting. Meetings are held in Building 426 the second and fourth Thursdays of the month, 5:30-6:30 p.m.

tiny bit of "ways to improve" tucked into the middle. The speeches are revisited several times, as members in the roles of grammarian, "linker counter" (how many times did you use "uh," "er," "ummm," or some other word or phrase as you moved from subject to subject?), and evaluator present their own comments.

### Volunteers Present Speeches

In a recent program, Catherine Hixson, Protein Chemistry Section, AIDS and Cancer Virus Program, addressed letter writing in a prepared speech. Pointing out that even penning a note to a commercially produced card is a form of letter writing and makes the card much more personalized, she used vivid examples, such as describing how she sent a friend's toddler a card "just because." Delighted, the child hugged card tightly to herself and carried it around for several days.

Another speaker, Alice Anderson, the Area 43 governor for Toastmasters, was especially well received, because she described in a prepared speech how to give that "table topic" speech.

Anderson defined five sections for a table topic speech: listen to the questioner; pause to give yourself time to process the question; confirm the topic by restating it to the questioner in

your own words; respond by giving your two-minute speech; and end by thanking everyone.

### Volunteers Take on the Challenge of a "Table Topic"

In a subsequent "table topic" speech, Frank Briggs (see [http://www.ncifcrf.gov/ThePoster/archive/Sep09\\_POSTER.pdf](http://www.ncifcrf.gov/ThePoster/archive/Sep09_POSTER.pdf), page 14, where Briggs discusses how Toastmasters helped him gain confidence in public speaking), Facilities Maintenance and Engineering, addressed how people help large groups of people even when a disaster has not occurred. As evidence, he cited the work his church and other churches do to reach out to people in need.

At the end of the program, Dr. Anil Shanker (Laboratory of Experimental Immunology, Cancer and Inflammation Program, Center for Cancer Research), vice president of the club, commented, "Many of us who are scared to speak extemporaneously will not be afraid by following the strategies" that Anderson presented.

Toastmasters Club meetings are held from 5:30 to 6:30 p.m. the second and fourth Thursdays in the Building 426 conference room. More information is available at: <http://saicfrederick.freetoasthost.cc>. ■

# New Faces at NCI-Frederick

Ninety-three people joined our facility in January, February, and March 2010.

## The National Cancer Institute welcomes...

Allison Bierly ■ Christian Bode ■ Krzysztof Brzezinski ■ Ozanna Burnicka-Turek ■ Chhavi Chauhan  
■ Alyson Freeman ■ Hiroyasu Ito ■ Georgette Jones ■ Ling-Chyi Liao ■ Juhee Lim ■ Olaf Ludek ■  
Melissa McKay ■ Shalini Oberdoerffer ■ Shanshan Qin ■ Koreen Ramessar ■ Luisel Ricks-Santi ■  
Jacqueline Salotti ■ Luana Scheffer ■ Joel Schneider ■ Manjitha Sengupta ■ Sondra Sheriff ■ Sanjeev  
Shukla ■ Yanni Wang ■ Kangsun Yun



*Jerell Thompson*

## Data Management Services welcomes...

Mei Chen ■ Philip Kearney ■ Kyle Miller ■ Christopher Rippeon



*Christopher Rippeon*



*Mark Spurrier*



*Kathleen Igo*

## SAIC-Frederick welcomes...

Aegina Atkins ■ John Beigel ■ Lisa Boris ■ Denise Bovenzi ■ Brian Brashears ■ Jean-Marc Brisson ■ Tierra Brown ■ Larry Brown  
Jr. ■ Kevin Bruce ■ Jacqueline Bryson ■ Timothy Casey ■ Kevin Colon ■ Gemma Corley ■ Biswajit Das ■ Maureen Dyer ■ Amanda  
Frew ■ Jessica Gardner ■ Krisana Gesuwan ■ Robbin Gosa ■ Erin Gover ■ Anjali Gupta ■ Richard Hamil ■ John Hochstrasser  
■ Matthew Hull ■ Kathleen Igo ■ Kevin Jacobs ■ Harold Kensinger III ■ Insook Kim ■ Alan Kulaga ■ William Lander ■ Yelena  
Levin ■ Xiuyun Lu ■ Mary Ellen McManus ■ Krista Morman ■ Ronnie Mossburg Jr. ■ Kristine Nagales ■ Sreenath Nampally ■  
Temisan Otubu ■ Karen Parness ■ Dawn Pelletier ■ Atasi Poddar ■ Steve Robert ■ Erin Rudzinski ■ Rose Saad ■ Alison Scott ■  
Teh-Wei Shiao ■ Courtney Silverthorn ■ Maria Singarayan ■ Clint Smith ■ Angela Spaniol ■ Mark Spurrier ■ Jenny Starliper ■  
Hongyan Sui ■ Jerell Thompson ■ Hemant Undale ■ S Vijayakumar ■ Gabriel White ■ Steven Williams ■ Tricia Wolff ■ Hank Wu  
■ Kai Yan ■ Qi Yang ■ Xijun Zhang ■ Weiyin Zhou ■ Karina Zuck ■



*Aegina Atkins*



*Kyle Miller*



*Jessica Gardner*



*Olaf Ludek*

## Workplace Excellence Seal of Approval Awarded to SAIC-Frederick

By Ashley DeVine, Staff Writer

SAIC-Frederick is now an eight-time winner of the Workplace Excellence Seal of Approval from the Alliance for Workplace Excellence (AWE).



The award highlights “businesses that promote professional fulfillment and personal wellness at work, at home, and in the community,” according to a press release from AWE.

All award applicants are assessed by an independent review panel in the following categories: corporate culture and management practices, family and employee-friendly policies/practices, health and wellness programs, growth and learning opportunities, diversity, safety and security, flexible work environment (supportive of employee work/life choices), and social responsibility.

As we go to press, SAIC-Frederick will be one of 67 Washington, DC–area businesses honored at AWE’s Annual Awards Luncheon on June 1. Jill Sugden, director of Human Resources, is slated to accept the award on behalf of SAIC-Frederick.

AWE is a nonprofit organization dedicated to helping employers in the greater Washington, DC, area become excellent places to work through training and education, recognition awards, and community awareness, according to the AWE web site. For more information about AWE, go to <http://www.excellentworkplace.org/index.html>. ■

## SAIC-Frederick among the Top Five Family Friendly Businesses in Frederick County

By Ashley DeVine, Staff Writer

SAIC-Frederick has been named one of the 2010 Top Five Family Friendly Businesses – Best Places to Work in Frederick County.

The winners of this award were selected by the Frederick County Office of Economic Development, the City of Frederick Department of Economic Development, Frederick County Workforce Services, and the Frederick County Chamber of Commerce, based on responses to a Family Friendly Practices Survey that was e-mailed to more than 900 Frederick County employers.

Any business in Frederick County is eligible for this award, and the criteria include healthy living, professional development, community responsibility, workplace culture, and work/life balance.

“I believe that this award demonstrates the commitment that SAIC-Frederick has to ensuring opportunities for work/life balance,” said Jill Sugden, director of Human Resources.

SAIC-Frederick will be honored at an awards ceremony in early June and will be featured in *270inc* magazine.

The Family Friendly Business – Best Places to Work campaign is part of a Frederick County partnership between business, government, and the community, and aims to increase quality of life opportunities for employees in the county. ■

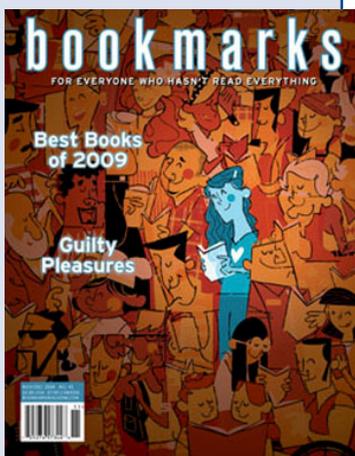


## Reading Diversions

By Robin Meckley, WISCO,  
Contributing Writer

The March *Poster* carried a brief announcement (page 30) about the Reading Diversions Book Club's inclusion in the March/April issue of *Bookmarks*, "a bimonthly American literary magazine dedicated to general readers, book groups, and librarians... 'For everyone who hasn't read everything.'" The magazine, begun in 2002, covers the gamut from previously published book reviews to its own articles profiling "classic and contemporary authors, 'best-of' genre reading lists, reader recommendations, and book group profiles. It was named a 'Best New Magazine' shortly after its debut by *Library Journal*," according to the Wikipedia web site about the magazine.

We thought you might enjoy reading the article in its entirety. Stay alert for the next e-mail notice of our Reading Diversions lunchtime book discussions. ■



## book group

A unique profile of readers together.

### THE READING DIVERSIONS BOOK GROUP

BY ROBIN MECKLEY  
FREDERICK, MARYLAND

#### How did your group get started?

The Reading Diversions Book Group was formed in January 2008. The club is sponsored by the Scientific Library at the National Cancer Institute at Frederick (NCI-Frederick) in Frederick, Maryland. The club was formed to help promote the library's special collection of nonfiction books known as Reading Diversions, books written in an informative and entertaining way. People read them (most of which are purchased at the suggestions of our scientists) for scientific interest rather than for research purposes. Club members meet every five weeks over lunch in one of the meeting rooms of the conference center; we average 10-15 people per meeting.

#### How did the group evolve?

About halfway through our first year, a member suggested that we combine a fiction book with a nonfiction book, both on the same subject. The club agreed to try this arrangement in the hope of attracting new members who prefer fiction. We select one nonfiction book from the Reading Diversions collection and a fiction book on a similar theme.

#### How do you manage the group?

The three librarians who facilitate the club rotate duties monthly. Each week we send out a "Reading Diversions Book Club Weekly E-mail" to remind members to read the books. The e-mails contain comments on the books and additional material about the topics. There are more than 50 people receiving our weekly e-mails.

We also have a comprehensive Web page that lists all the past and



future book titles, dates, and locations of meetings. We post the discussion questions after the meetings, in case people wish to use these books in other book clubs. The Web page is available at <http://www-library.ncifcrf.gov/bookclub.aspx>.

#### What have been some of the more popular topics and activities?

Book selections are wide-ranging. The most popular topic so far has been Charles Darwin. February 12, 2009, which happened to be our meeting date, was Darwin's 200th birthday. We read the nonfiction book *The Reluctant Mr. Darwin* by David Quammen and the fictional *The Darwin Conspiracy* by John Darn-ton. Other popular topics were polio (nonfiction: *Polio: An American Story* by David Oshinsky and fiction: *An American Summer* by Frank Deford) and the 1918 influenza pandemic (nonfiction: *Flu: The Story of the Great Influenza Pandemic of 1918 and the Search for the Virus That Caused It* by Gina Kolata and fiction: *The Last Town on Earth* by Thomas Mullen).

A few months after reading two books on fraudulent science (nonfiction: *Voodoo Science: The Road from Foolishness to Fraud* by Robert Park and fiction: *Intuition* by Allegra Goodman), we invited Dr. Robert Park to visit NCI-Frederick to discuss his work on fake science. It was wonderful to hear the author explain his work with enthusiasm and knowledge. Recently, we used the fictional *My Sister's Keeper* by Jodi Picoult, along with the nonfictional *The Proteus Effect: Stem Cells and Their Promise for*

*Medicine* by Ann Parson, in a discussion on the use of stem cells.

#### Which selections were least successful?

Club members didn't particularly enjoy a few book selections. For the topic of nanotechnology we chose one nonfiction book (*The Dance of Molecules: How Nanotechnology Is Changing Our Lives* by Ted Sargent) and two fiction books (*The Diamond Age: Or a Young Lady's Illustrated Primer* by Neal Stephenson and *Prey* by Michael Crichton). The nonfiction selection sparked heated discussion; almost everyone agreed that it was not one of their favorites. Most members didn't finish the very science-fiction-themed *The Diamond Age*. A few members found our very first selection, the nonfiction book *Happy Accidents: Serendipity in Modern Medical Breakthroughs* by Morton Meyers, too much of an eye-opener, and a separate fiction selection *Never Let Me Go* by Kazuo Ishiguro, the story of cloned children attending a special boarding school, they found somewhat disquieting. The variance of opinion and dialogue during our discussions is almost as much fun as the reading itself. ■

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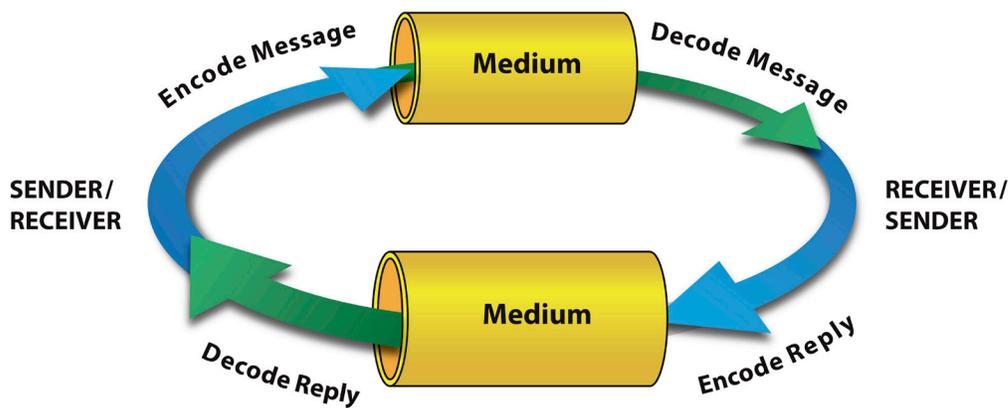
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## How to Avoid a “Failure to Communicate”

By Ken Michaels, Staff Writer

During Oscar season in 2010, the American Film Institute published its list of 50 greatest quotes from the silver screen. One of my favorites is #11, delivered by the late Strother Martin in the 1967 release, *Cool Hand Luke*. In his role as prison camp warden, he famously declared from his front porch to the assembled prisoners, “What we’ve got here is failure to communicate!”

What causes communication failures, anyway? Consider the following classic continuous loop communication model:



Starting on the left, a sender encodes a message, sends it through some medium (e-mail, telephone line, radio transmitter, etc.) to a receiver, who decodes the message, and (ideally) understands what the sender wanted to communicate. The receiver then becomes the sender and encodes a reply, sends it back through some medium (the same one or a different one) to the original sender, who is now the receiver, who decodes the reply and (ideally) understands the message. Communication has occurred. Simple, eh?

But if it’s really all that simple, what was Strother Martin talking about? Let’s take a little harder look at the model.

### Communication Must Go Both Ways

For starters, notice that a reply is required. And for communication to occur, the reply must be in context with the original message. If a colleague asks me whether I saw the recent *Majordomo* about a street closing and I reply “I prefer decaf,” did communication occur? I don’t think so.

An unanswered or improperly answered message doesn’t constitute communication. The very nature of the continuous *loop* is a reminder that communication is a two-way, not a one-way process. Even if the reply is simply verification that the message was heard, or better yet, understood, that reply completes the loop. No reply, a vague reply, or an outright odd reply, are all pretty good indicators of a communication failure in the making.

### Quality of Medium Is Key

And then there’s the medium of transmittal. All messages get from one place to another somehow, from simple speech directed to a person in the same room, to radio transmissions beamed up to satellites and bounced back to earth. Radio messages

can be sent with speech, or with Morse code, and can be listened to. In twentieth century wartime, radio silence was maintained in combat conditions by the use of semaphore, a system of holding flags in certain positions to depict letters of the alphabet; only a line of sight between sender and receiver was required, and the message could get through in spite of the horrendous noise of battle.

The medium through which a message travels always has the potential to compromise its fidelity, and hence its understandability. When you are talking with someone in the same room and simultaneously, a radio or TV is playing or another conversation is taking place, or perhaps a power lawnmower is running just outside the window, even the quality of simple face-to-face speech communication is challenged by imperfections in the medium. In this case, the voice is unable to rise above the external noise, and the message may be compromised. Radio messages grow weaker the farther they are transmitted and are subject to interference in bad weather conditions. Even simple semaphore can be challenged by smoke or fog between sender and receiver.

### Be Sure You Get Your Message Across

So we can do at least two things to reduce the prospect of communication failure: (1) stay alert to the need for an in-context reply to the messages we send; and (2) choose a medium that is likely to hasten the message along clearly, rather than hinder or muddy it. ■

*Next time:  
Encoding and Decoding Messages*

## Upcoming Events and Dates to Note

Farmers' Market  
Every Tuesday through October 26  
11 a.m.–1:30 p.m., in front of Building 549

### July 5

Independence Day Holiday; NCI-Frederick closed

### July 16

Poster Puzzler Entries Due

### July 21

Take Your Child to Work Day

### July 29

Student Poster Day

### September 6

Labor Day; NCI-Frederick closed

## 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  
[www.criver.com](http://www.criver.com)

Data Management Services  
[css.ncifcrf.gov/services](http://css.ncifcrf.gov/services)

National Cancer Institute at Frederick  
[www.training.nih.gov/postdoctoral](http://www.training.nih.gov/postdoctoral)

SAIC-Frederick, Inc.  
[www.saic-frederick.com](http://www.saic-frederick.com)

Wilson Information Services Corporation  
[www-library.ncifcrf.gov](http://www-library.ncifcrf.gov)

## NCI-Frederick Programs

NCI-Frederick/Ft. Detrick Fitness Challenge 2010  
[saic.ncifcrf.gov/fitnesschallenge/](http://saic.ncifcrf.gov/fitnesschallenge/)

NCI-Frederick Suggestion Committees  
[web.ncifcrf.gov/campus/committees/](http://web.ncifcrf.gov/campus/committees/)

NCI-Frederick Advanced Technologies to Support Research  
[web.ncifcrf.gov/research-technologies/default.asp](http://web.ncifcrf.gov/research-technologies/default.asp)

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Comments or suggestions for *The Poster* may be directed to [poster@ncifcrf.gov](mailto:poster@ncifcrf.gov).

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