

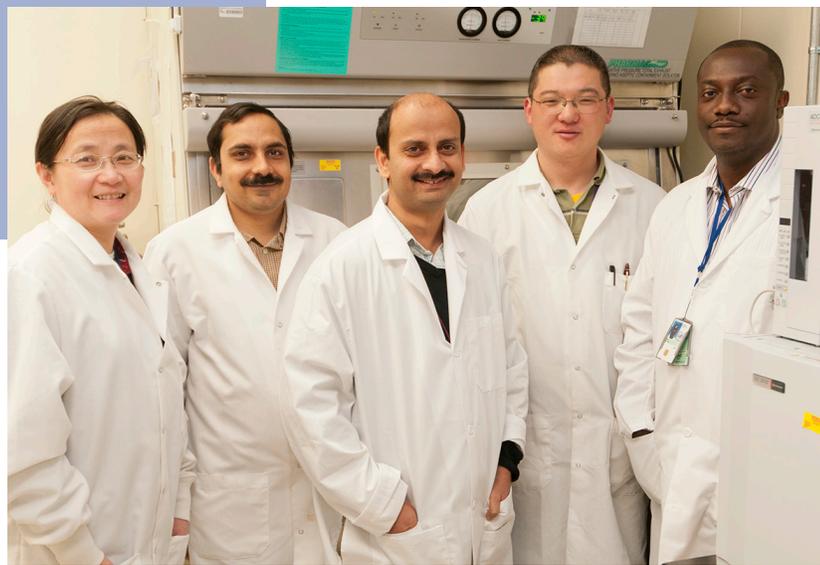


NCI-Frederick Produces Its First USP-Grade Radiopharmaceutical

By Maritta Perry Grau, Staff Writer

Imagine you're a patient in a major medical facility or in a clinical trial, and a noninvasive diagnosis—perhaps using a suitable radioactive drug—is urgently needed before your treatment can begin. How does that drug reach you from its birthplace?

The drug, let's say a small, target-specific molecule labeled with radioisotope ^{18}F (labeled fluoroestradiol, or [^{18}F] FES), may not have a very straightforward path from the cyclotron to your body. However, that circuitous path may have been traveled with great speed.



From left: Ling Wei Chen, Manish Dixit, Sibaprasad Bhattacharyya, Jianfeng Shi, and George Afari have produced NCI-Frederick's first radiopharmaceutical for a clinical trial in Bethesda.

Why Such a Rush?

This radioisotope's half-life is only 109 minutes (less than two hours), and scientists and doctors have a lot to do before the radioisotope can be given to you.

Early on the day you are scheduled for a pretreatment diagnosis, you may wake to the sounds of a busy hospital. While you manage to eat a little breakfast, 40 miles away a vendor is producing and delivering the isotope to an NCI-Frederick production laboratory.

In the laboratory, the countdown begins. The isotope undergoes a multistep synthesis, purification, quality control checks, and is prepped and packaged through the pharmacy—a three-hour procedure.

Immediately, the courier takes the drug to the hospital in Bethesda, where it's quickly prepared for administration to you and other patients in a clinical trial before its half-life loses its potency. In this case, the isotope is for a noninvasive diagnosis, only monitoring, through positron emission tomography

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What is it?
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First Radiopharmaceutical

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(PET) imaging techniques, the treatment of the cancer.

“Any disturbance (in terms of instrument failure or traffic problem on the highway) may cause the decaying of the radioactivity of the drug below the dose limit,” noted Sibaprasad Bhattacharyya, Ph.D., Applied and Developmental Research Directorate (ADRD), a senior scientist and lead radiochemist for the NCI-Frederick team that is producing the radiopharmaceuticals for an actual clinical trial in Bethesda.

“It is a real challenge for all the individuals to make sure that everything functions properly on the day of production to make this drug available in time, since we lose approximately three half-lives of ¹⁸F starting from synthesis to patient injection,” Bhattacharyya said.

For example, 200 mCi (millicuries; units of radioactivity) will be reduced to about 43 mCi after four hours.

With all of those half-lives making the dose less and less potent, the NCI-

Frederick team begins with a very high amount of radioactivity to ensure that the patient receives an adequate dose by the time it reaches the hospital (where it is tested once again before being given to the patient).

While the authorized courier does not need any special attire to transport the drug, he or she must be trained and certified to transport radioactive materials. The drug itself is shipped in a protective box that complies with the Nuclear Regulatory Commission’s packaging requirements—shielded, sealed, labeled, and accompanied by appropriate paperwork.

NCI-Frederick Teamwork

In 2010, the Division of Cancer Treatment and Diagnosis (DCTD) decided to create a radiopharmaceutical laboratory to “facilitate early-phase clinical trials of radiotracers in conjunction with therapeutic drugs,” according to Bhattacharyya. Along with Bhattacharyya, George Afari,

PharmD, ADRD; J.T. Moore, Radiation Safety Office, Environment, Health, and Safety Program; William Kopp, Ph.D., ADRD; and G. C. Hill, Ph.D., Clinical Monitoring Research Program, Clinical Research Directorate, worked to set up the laboratory so that it would be compliant with United States Pharmacopeia (USP) requirements for radiopharmaceuticals for human use.

Through their efforts, an NCI-Frederick Good Laboratory Practices (GLP)-rated laboratory was converted to a USP radiochemistry laboratory and radiopharmacy to produce and dispense radiopharmaceuticals. The first radiopharmaceutical developed was the [¹⁸F]FES mentioned earlier, an estrogen receptor-imaging PET tracer.

Paula Jacobs, Ph.D., the DCTD associate director responsible for the Cancer Imaging Program, congratulated this team effort, saying, “DCTD is looking for more tracers to come down to Bethesda in the coming days.” ■

NICBR: What Is It? How Does It Support Science?

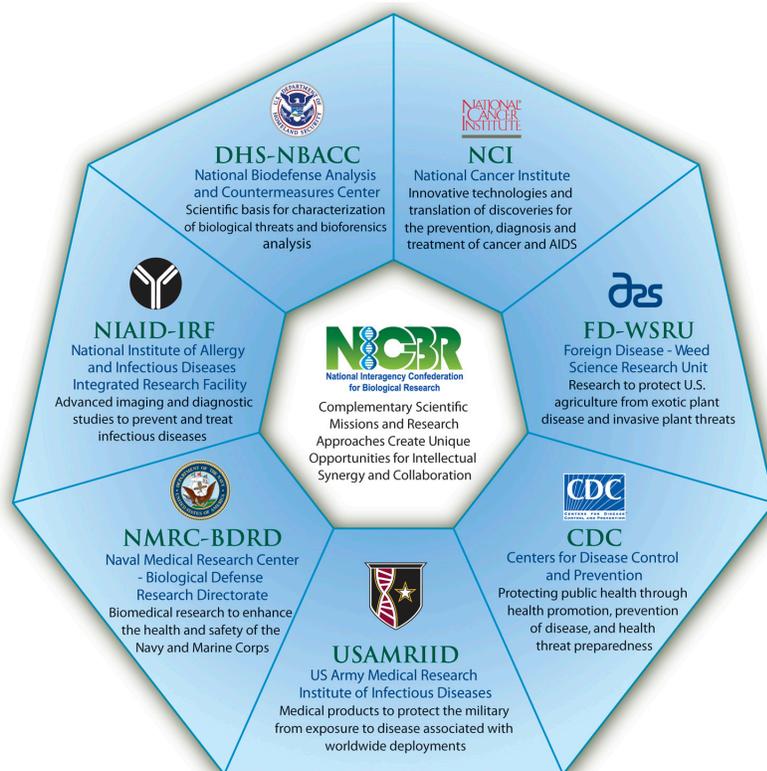
By Laura Geil, Guest Writer

Have you ever heard of the National Interagency Confederation for Biological Research (NICBR, pronounced “NICK-burr”)?

Well, if you work for NCI-Frederick, or any of the groups shown in the NICBR graphic on this page, you are an important part of this confederation. Congratulations, because NICBR is the only confederation of this type in the world!

NICBR is composed of seven research agencies with differing missions, from four different U.S. Cabinet-level departments, that are committed to working together and sharing complementary capabilities to enhance science. Its mission is to “develop unique knowledge, tools and products by leveraging advanced technologies and innovative discoveries to secure and defend the health of the American people.”

The NICBR concept developed as several agencies saw value in working cooperatively to facilitate their individual scientific missions. It can be expressed by the following statement from a November 2, 2011, NICBR strategic plan event: “When you, as a scientist, get a new idea and can walk



Graphic courtesy of Laura Geil.

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National Interagency Confederation for Biomedical Research

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across the street to your neighbor to begin work on it in real time—this is the ultimate scientific collaboration.”

In spring 2002, NICBR was launched. The following March, its constitution was signed by the director of the National Cancer Institute (NCI), the Army surgeon general, and equivalents from other member (partner) agencies, who form the NICBR board of directors.

Partners Working Together

Since its creation, NICBR has been maturing. Decisions and processes are consensus-driven, with one vote per partner. Representatives from the partner agencies meet regularly. Committees and working groups composed of subject matter experts discuss and work on a variety of issues that have an impact on the partners' scientific missions. (Perhaps you or one of your NCI-Frederick co-workers, government or contractor, is a member of one of these groups.)

Over time, new NICBR members have been added based on shared interest in biological research and complementary scientific capabilities. Currently NICBR includes seven member organizations:

- Centers for Disease Control and Prevention
- Department of Homeland Security, National Biodefense Analysis and Countermeasures Center
- National Cancer Institute
- National Institute of Allergy and Infectious Diseases, Integrated Research Facility
- Naval Medical Research Center, Biological Defense Research Directorate
- U.S. Army Medical Research Institute of Infectious Diseases
- U.S. Department of Agriculture, Foreign Disease-Weed Science Research Unit



The NICBR Executive Steering Committee signed the NICBR Strategic Plan on July 6, 2011. From left: James V. Johnson, H. Clifford Lane, James Gilman, Craig W. Reynolds, Stephen Morse, and Caird Rexroad, Jr. (Not pictured: Eleanor Valentin.) *Photo courtesy of Laura Geil.*

First NICBR Strategic Plan Adopted

NICBR had a milestone year in 2011—on July 6, the first NICBR Strategic Plan was signed. This plan is a five-year road map that supports the NICBR mission and is founded on the NICBR values of “trust and teamwork.” As noted at the NICBR strategic plan event on November 2, 2011, these values are “integral parts of how the NICBR partners understand and respect the differences in each organization.”

Therefore, please take a good look at the list of NICBR member agencies. When you run into individuals from these agencies, please remember they are your NICBR *partners*, dedicated to supporting biological research with you.

Learn About NICBR at the Spring Research Festival

To learn more about NICBR, come to the Spring Research Festival on May 9 and 10 (see page 23). A number of the NICBR agencies and committees will be represented. NICBR wants to share its accomplishments and its vision of “Federal research partners working in synergy to achieve a healthier and more secure nation.” ■

Laura Geil is a scientific program analyst, Office of Scientific Operations.

Signing of the NICBR Strategic Plan

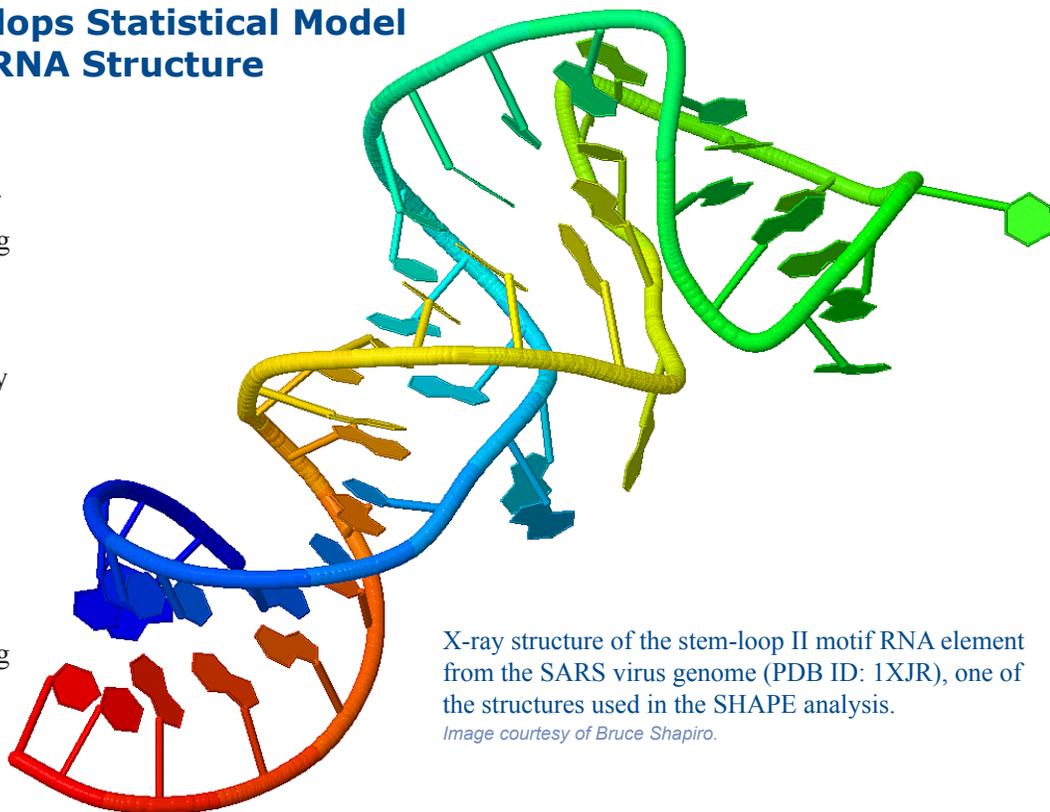
Members of the NICBR Executive Steering Committee who signed the Strategic Plan include James V. Johnson, director, Office of National Laboratories, Science and Technology Directorate, U.S. Department of Homeland Security; H. Clifford Lane, M.D., deputy director for Clinical Research and Special Projects, National Institute of Allergy and Infectious Diseases; MG James Gilman, commander, U.S. Army Medical Research and Materiel Command, U.S. Army Medical Command; Craig W. Reynolds, Ph.D., associate director, National Cancer Institute, and director, Office of Scientific Operations, NCI-Frederick; Stephen Morse, Ph.D., associate director for environmental microbiology, National Center for Emerging and Zoonotic Infectious Diseases, Centers for Disease Control and Prevention; Caird Rexroad, Jr., Ph.D., associate administrator, Agricultural Research Service, U.S. Department of Agriculture; and RDML Eleanor Valentin, commander, Navy Medicine Support Command, and director, Medical Service Corps.

Shapiro's Group Develops Statistical Model for Analyzing RNA Structure

By Nancy Parrish, Staff Writer

RNA is critical to gene regulation and gene expression, or the transformation of DNA into proteins, which are the building blocks of most life forms. It is the RNA that translates the codes from DNA into the codes for proteins, and thus it plays a critical role in the development of healthy organisms, and, conversely, of disease.

However, it has been difficult to determine the structure, or makeup, of RNA, according to Bruce Shapiro, Ph.D., head of the RNA Computational Structure Group, Center for Cancer Research Nanobiology Program (CCRNP). He believes that understanding more about RNA's structure will lead to a better understanding of its function, and, ultimately, to the development of therapeutics to treat diseases like cancer.



X-ray structure of the stem-loop II motif RNA element from the SARS virus genome (PDB ID: 1XJR), one of the structures used in the SHAPE analysis.

Image courtesy of Bruce Shapiro.

Taking Existing Technology a Step Further

In conjunction with Eckart Bindewald, Ph.D., Basic Science Program, SAIC-Frederick, and the CCR Retroviral Replication Laboratory's RT Biochemistry Section, headed by Stuart Le Grice, Ph.D., Shapiro recently used an existing technology to more accurately predict the structure of RNA. The technology, known as selective 2'-hydroxyl acylation analyzed by primer extension, or SHAPE, was developed several years ago to determine RNA structure.

SHAPE methodology identifies only the existence of base pairing, but to date has been unable to provide further structure details, such as the base-pairing partner or the type of base pair, according to Shapiro. His team selected seven RNAs from the Protein Data Bank, whose structure was already known. They prepared RNAs by in vitro transcription and then let the molecules fold into their native structure.

After chemically modifying the RNAs, the researchers subjected the sequences to primer extension. "We then obtained bands on gels that indicated the positions

of the stops in the primer extension caused by the chemically modified bases," Shapiro explained. By converting the intensities of the bands into SHAPE values, the group was able to reach several conclusions.

"First, the SHAPE values are impacted to a large extent by the base-pairing state of a residue. This means that the higher the SHAPE value for a given base, the less the likelihood that the base is involved in a base pair," Shapiro said. More importantly, he said, they found "significant correlations with base-pair stacking and a lack of correlations with other base interaction types. By comparing the known structures with the SHAPE data, we developed a method that converts the raw SHAPE values into probabilities of base pairing, potentially enabling RNA structure to be predicted with greater accuracy."

Understanding RNA May Lead to Better Treatments

Shapiro said his group plans to continue working on methods, both computational and experimental, that can help elucidate

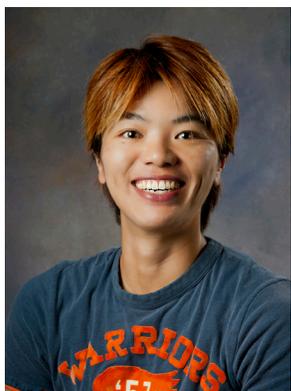
the structure and function of RNA.

Determining the characteristics of these molecules will further the understanding of disease processes and the development of agents (including nanoparticles), some of which may themselves be constructed from RNA, to combat these diseases.

You may read about Shapiro's research in *RNA* (Bindewald et al., Correlating SHAPE signatures with three-dimensional RNA structures, 17:1688-1696, 2011). It was also highlighted in *Genetic Engineering and Biotech News* (31:18, October 15, 2011). In addition, Shapiro's method is available online at <http://knetfold.abcc.ncifcrf.gov/rnashape>. ■

Scientists Solving Mysteries: Discovering a Role for an HIV Protein

By Yuko Tsutsui, Guest Writer



Scientists can manipulate molecules in many ways that may help solve molecular mysteries associated with infection and disease. For example, molecules

can be mutated to reproduce infection conditions in model organisms or cells, and sometimes these mutations may be protective against these infections. Robert J. Gorelick, Ph.D., head of the Retroviral Mutagenesis Section in the AIDS and Cancer Virus Program at NCI-Frederick, found the latter with mutations in one of the HIV proteins, called nucleocapsid protein (NC).

“Astounding” Observation

NC processes the ingredients needed by the viruses to make the viral genetic material, the vDNA, after viruses make their way into naïve host cells. Gorelick’s laboratory found that, when the viruses were carrying mutant NC, vDNA synthesis appeared to occur prior to their entry into host cells. “We were initially astounded by this observation because some of the substrates for the reaction, deoxynucleotide triphosphates (dNTPs), are only present in cells producing the viruses,” Gorelick explained. More importantly, this premature vDNA synthesis was also associated with an HIV replication defect.

Gorelick reasoned that since dNTPs are available only in producer cells, the viruses carrying mutant NC should not be able to make vDNA before they invade the host cells. Instead, abnormal NC somehow causes the vDNA synthesis to occur just before the viral departure from the producer cells.

Is this untimely vDNA synthesis causing the viral replication failure? Gorelick’s laboratory embarked on more studies to answer this question, and the results of their research were reported in a recent publication (Thomas J.A. et al., *Retrovirology* 8:46, 2011). In their study, the viruses carrying mutant NC were mixed with a combination of drugs that prevented them from engaging in the premature vDNA synthesis, and the viral infectivity of human cells was monitored after removal of the inhibitors. Under these experimental conditions, the viruses

roles of NC in molecular events that occur after vDNA synthesis, including vDNA integration into the host genome. Previous studies by his laboratory and others (Thomas J.A. and Gorelick R.J. *Virus Research* 134, 39–63, 2008) reported that the same mutant NC was associated with vDNA instability and defective vDNA integration. In light of results from these earlier studies, another role of NC may be to protect vDNA from being degraded by a group of host proteins called nucleases. “We think that kind of protective role is lost in the mutant NC,” Gorelick said.

Solving the molecular mysteries of disease requires a lot of detective work. While the mechanism of the premature



Researchers in the Retroviral Mutagenesis Section, ACVP, are searching for clues to unlock the mystery of mutant NC. From left: Donald G. Johnson, research associate; William J. Bosche, research associate; Robert J. Gorelick, Ph.D., head; and James A. Thomas, Ph.D., staff scientist. Photo courtesy of Yuko Tsutsui.

were still unable to restore the normal level of infectivity, whereas the wild-type virus remained infectious.

The researchers concluded that the premature vDNA synthesis was not the cause of the viral replication failure. Thus, the abnormal NC that was present still has a very important, but as yet unknown, role in the causes of the HIV replication defect.

Digging Deeper

These results have prompted Gorelick’s group to investigate more closely the

vDNA synthesis is still deep in mystery, Gorelick’s group now knows this: The untimely vDNA synthesis is not the direct cause of the viral replication failure. How, then, does mutant NC lead to viral replication failure? This question propels Gorelick’s research group to conduct more investigations to identify molecular partners in the act with mutant NC. This case is not yet closed. ■

Yuko Tsutsui, Ph.D., is a postdoctoral fellow in the Structural Glycobiology Section, CCR Nanobiology Program.

Novel Binding Site Targeting HIV-1 RNase H May Lead to Future Anti-HIV Drug Design

By Ashley DeVine, Staff Writer

Although a variety of drugs exists to treat HIV, a major concern is drug resistance, which requires researchers to constantly identify new drugs with enhanced potency and specificity.

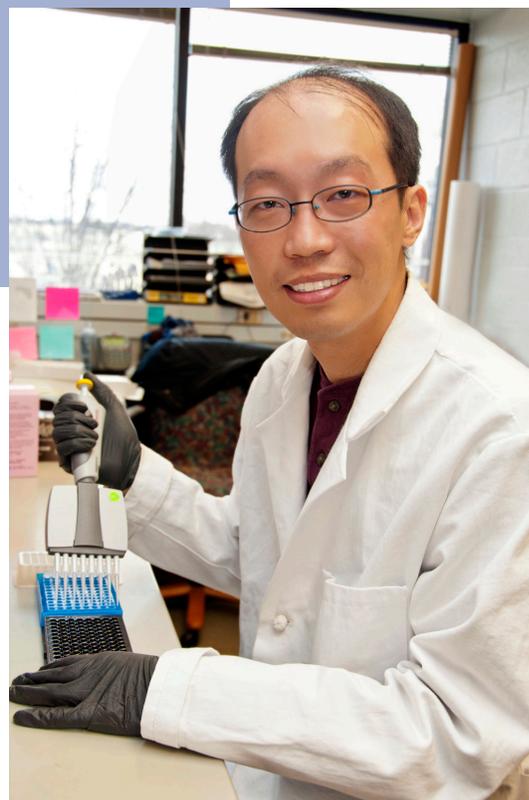
Research has demonstrated that the ribonuclease H (RNase H) activity associated with HIV-1 reverse transcriptase (RT) is essential for virus replication, yet no drugs inhibiting this function currently exist.

A study led by Suhman Chung, Ph.D., a postdoctoral CRTA in the Reverse Transcriptase Biochemistry Section, HIV Drug Resistance Program, investigated two relatively potent RNase H inhibitors, called vinylogous ureas, to better understand where they bind to HIV-1 RT to inhibit RNase H.

Previous research proposed that the vinylogous urea, NSC727447, allosterically inhibited the RNase H activity of HIV-1 RT by interacting with the thumb subdomain of its non-catalytic p51 subunit. HIV-1 RT is a heterodimer composed of two subunits, p66 and p51. The RNase H active domain is located in p66, and the thumb subdomain of p51 is in close proximity to p66. Chung and colleagues believe that the binding of these inhibitors may affect the architecture of the RNase H active site.

“Developing allosteric inhibitors of RNase H activity is particularly important since finding drugs like active-site inhibitors has been challenging,” Chung said. “This study is so far the only source of valuable information on residues involved in inhibitor binding and provides useful data for future drug design as well as important mechanistic insight of the inhibition.”

Chung, who began working at NCI-Frederick in September 2007, earned his Ph.D. in bioorganic chemistry from POSTECH in South Korea. ■



Suhman Chung, Ph.D., Reverse Transcriptase Biochemistry Section, HIV Drug Resistance Program, Center for Cancer Research, NCI-Frederick.

Mutagenesis of the Human Immunodeficiency Virus Reverse Transcriptase p51 Subunit Defines Residues Contributing to Vinylogous Urea Inhibition of Ribonuclease H Activity

Suhman Chung, Jennifer T. Miller, Barry C. Johnson, Stephen H. Hughes, and Stuart F. J. Le Grice
Journal of Biological Chemistry 287(6):4066–4075

The vinylogous urea, NSC727447, was proposed to allosterically inhibit ribonuclease H (RNase H) activity of human immunodeficiency virus Type 1 reverse transcriptase (HIV-1 RT) by interacting with the thumb subdomain of its non-catalytic p51 subunit. Proximity of the p51 thumb to the p66 RNase H domain implied that inhibitor binding altered active site geometry, while protein footprinting suggested a contribution from alpha-helix I residues Cys280 and Lys281. To more thoroughly characterize

the vinylogous urea binding site, horizontal alanine scanning mutagenesis between p51 residues Lys275 and Thr286, (comprising alpha-helix I and portions of the neighboring alphaH/alphaI and alphaI/alphaJ connecting loops) was combined with a limited vertical scan of Cys280. A contribution from Cys280 was strengthened by our observation that all substitutions at this position rendered selectively mutated, reconstituted p66/p51 heterodimers ~45-fold less sensitive to inhibition. An ~19-fold reduced IC50

for p51 mutant Thr286Ala, coupled with a 2- to 8-fold increased IC50 when intervening residues were substituted, supports our original proposal of p51 alpha-helix I as the vinylogous urea binding site. In contrast to these allosteric inhibitors, mutant enzymes retained equivalent sensitivity to the natural product alpha-hydroxytropolone inhibitor manicol, which x-ray crystallography has demonstrated functions by chelating divalent metal at the p66 RNase H active site. Finally, reduced DNA strand-transfer activity, together with increased vinylogous urea sensitivity of p66/p51 heterodimers containing short p51 C-terminal deletions, suggests an additional role for the p51 C-terminus in nucleic acid binding that is compromised by inhibitor binding. ■

The following 17 articles have been selected from 10 of the most prestigious science journals published during the past quarter.

Blood

Klatt NR, Vinton CL, Lynch RM, Canary LA, Ho J, Darrah PA, Estes JD, Seder RA, Moir SL, Brenchley JM. SIV infection of rhesus macaques results in dysfunctional T- and B-cell responses to neo and recall *Leishmania major* vaccination. *Blood* 118(22):5803–5812, 2011.

McDermott DH, Liu Q, Ulrick J, Kwatema N, Anaya-O'Brien S, Penzak SR, Oliveira J, Priel DAL, Kelly C, Garofalo M, Littel P, Marquesen MM, Hilligoss D, DeCastro R, Fleisher TA, Kuhns DB, Malech HL, Murphy PM. The CXCR4 antagonist perlixafar corrects panleukopenia in patients with WHIM syndrome. *Blood* 118(18):4957–4962, 2011.

Sisirak V, Vey N, Vanbervliet B, Duhon T, Puisieux I, Homey B, Bowman EP, Trinchieri G, Dubois B, Kaiserlian D, Lira SA, Puisieux A, Blay JY, Caux C, Bendriss-Vermare N. CCR6/CCR10-mediated plasmacytoid dendritic cell recruitment to inflamed epithelia after instruction in lymphoid tissues. *Blood* 118(19):5130–5140, 2011.

Sneller MC, Kopp WC, Engelke KJ, Yovandich JL, Creekmore SP, Waldmann TA, Lane HC. IL-15 administered by continuous infusion to rhesus macaques induces massive expansion of CD8(+) T effector memory population in peripheral blood. *Blood* 118(26):6845–6848, 2011.

Cancer Research

Fitzgerald DP, Subramanian P, Deshpande M, Graves C, Gordon I, Qian Y, Snitkovsky Y, Liewehr DJ, Steinberg SM, Paltan-Ortiz JD, Herman MM, Camphausen K, Palmieri D, Becerra SP, Steeg PS. Opposing effects of pigment epithelium-derived factor on breast cancer cell versus neuronal survival: implication for brain metastasis and metastasis-induced brain damage. *Cancer Res* 72(1):144–153, 2012.

Journal of Biological Chemistry

Liu J, Nussinov R. Flexible cullins in cullin-RING E3 ligases allosterically regulate ubiquitination. *J Biol Chem* 286(47):40934–40942, 2011.

Yang X, Guo ZY, Sun F, Li W, Alfano A, Shimelis H, Chen MY, Brodie AMH, Chen HG, Xiao Z, Veenstra TD, Qiu Y. Novel membrane-associated androgen receptor splice variant potentiates proliferative and survival responses in prostate cancer cells. *J Biol Chem* 286(41):36152–36160, 2011.

Journal of Clinical Investigation

Kerkar SP, Goldszmid RS, Muranski P, Chinnasamy D, Yu ZY, Reger RN, Leonard AJ, Morgan RA, Wang E, Marincola FM, Trinchieri G, Rosenberg SA, Restifo NP. IL-12 triggers a programmatic change in dysfunctional myeloid-derived cells within mouse tumors. *J Clin Invest* 121(12):4746–4757, 2011.

Ortiz AM, Klatt NR, Li B, Yi Y, Tabb B, Hao XP, Sternberg L, Lawson B, Carnathan PM, Cramer EM, Engram JC, Little DM, Ryzhova E, Gonzalez-Scarano F, Paiardini M, Ansari AA, Ratcliffe S, Else JG, Brenchley JM, Collman RG, Estes JD, Derdeyn CA, Silvestri G. Depletion of CD4(+) T cells abrogates post-peak decline of viremia in SIV-infected rhesus macaques. *J Clin Invest* 121(11):4433–4445, 2011.

Journal of Experimental Medicine

Yang D, Postnikov YV, Li Y, Tewary P, de la Rosa G, Wei F, Klinman D, Gioannini T, Weiss JP, Furusawa T, Bustin M, Oppenheim JJ. High-mobility group nucleosome-binding protein 1 acts as an alarmin and is critical for lipopolysaccharide-induced immune responses. *J Exp Med* 209(1):157–171, 2012.

Nature

Lorenzen ED, Nogues-Bravo D, Orlando L, Weinstock J, Binladen J, Marske KA, Ugan A, Borregaard MK, Gilbert MTP, Nielsen R, Ho SYW, Goebel T, Graf KE, Byers D, Stenderup JT, Rasmussen M, Campos PF, Leonard JA, Koepfli KP, Froese D, Zazula G, Stafford TW, Aaris-Sorensen K, Batra P, Hayward AM, Singarayer JS, Valdes PJ, Boeskorov G, Burns JA, Davydov SP, Haile J, Jenkins DL, Kosintsev P, Kuznetsova T, Lai XL, Martin LD, McDonald HG, Mol D, Meldgaard M, Munch K, Stephan E, Sablin M, Sommer RS, Sipko T, Scott E, Suchard MA, Tikhonov A, Willerslev R, Wayne RK, Cooper A, Hofreiter M, Sher A, Shapiro B, Rahbek C, Willerslev E. Species-specific responses of Late Quaternary megafauna to climate and humans. *Nature* 479(7373):359–364, 2011.

Vivian JP, Duncan RC, Berry R, O'Connor GM, Reid HH, Beddoe T, Gras S, Saunders PM, Olshina MA, Widjaja JML, Harpur CM, Lin J, Malveste SM, Price DA, Lafont BAG, McVicar DW, Clements CS, Brooks AG, Rossjohn J. Killer cell immunoglobulin-like receptor 3DL1-mediated recognition of human leukocyte antigen B. *Nature* 479(7373):401–405, 2011.

Nature Genetics

Wang Z, Jacobs KB, Yeager M, Hutchinson A, Sampson J, Chatterjee N, Albanes D, Berndt SI, Chung CC, Diver WR, Gapstur SM, Teras LR, Haiman CA, Henderson BE, Stram D, Deng X, Hsing AW, Virtamo J, Eberle MA, Stone JL, Purdue MP, Taylor P, Tucker M, Chanock SJ. Improved imputation of common and uncommon SNPs with a new reference set. *Nat Genet* 44(1):6–7, 2011.

Oncogene

Cherkasova E, Malinzak E, Rao S, Takahashi Y, Senchenko VN, Kudryavtseva AV, Nickerson ML, Merino M, Hong JA, Schrupp DS, Srinivasan R, Linehan WM, Tian X, Lerman MI, Childs RW. Inactivation of the von Hippel-Lindau tumor suppressor leads to selective expression of a human endogenous retrovirus in kidney cancer. *Oncogene* 30(47):4697–4706, 2011.

Min Y, Ghose S, Boelte K, Li J, Yang L, Lin PC. C/EBP-delta regulates VEGF-C autocrine signaling in lymphangiogenesis and metastasis of lung cancer through HIF-1 alpha. *Oncogene* 30(49):4901–4909, 2011.

PNAS

Wang W, Yang J, Liu H, Lu D, Chen XF, Zenonos Z, Campos LS, Rad R, Guo G, Zhang SJ, Bradley A, Liu PT. Rapid and efficient reprogramming of somatic cells to induced pluripotent stem cells by retinoic acid receptor gamma and liver receptor homolog 1. *Proc Natl Acad Sci USA* 108(45):18283–18288, 2011.

Science

Simmons G, Glynn SA, Komaroff AL, Mikovits JA, Tobler LH, Hackett J, Tang N, Switzer WM, Heneine W, Hewlett IK, Zhao JQ, Lo SC, Alter HJ, Linnen JM, Gao K, Coffin JM, Kearney MF, Ruscetti FW, Pfof MA, Bethel J, Kleinman S, Holmberg JA, Busch MP. Blood XMRV Scientific Research Working Group. Failure to confirm XMRV/MLVs in the blood of patients with chronic fatigue syndrome: a multi-laboratory study. *Science* 334(6057):814–817, 2011. ■



NCI-Frederick Advisory Committee

Inaugural Meeting of the NCI-Frederick Advisory Committee

By Office of the Associate Director staff

The NCI-Frederick Advisory Committee (NFAC), appointed and convened by NCI Director Harold Varmus, M.D., met for the first time on the Frederick campus on January 25.

The committee's charter states that it is responsible for reviewing major new projects proposed for NCI-Frederick and for advising the NCI director and NCI-Frederick associate director about the intrinsic merit of the projects and whether they should be performed at the Frederick facility. In addition, the committee is charged with periodically reviewing the existing portfolio of projects at NCI-Frederick, evaluating their productivity, and helping to determine which of these projects should be transitioned to more conventional mechanisms of support (i.e., grants, contracts, cooperative agreements)

and which should be considered for termination. The Committee will help ensure that the operations at NCI-Frederick are open, transparent, and in the best interests of the entire cancer research community.

Before the meeting, representatives from NCI-Frederick and SAIC-Frederick gave tours of the NCI-Frederick campus and the new Advanced Technology Research Facility (ATRF) at Riverside Research Park. NCI-Frederick hosts, which included the NCI Division of Extramural Sciences and Thomas Vollberg, Sr., Ph.D., deputy chief, Special Review and Logistics Branch, NCI, noted that committee members were particularly impressed with the Biopharmaceutical Development Program's manufacturing suite and the Data Center at the ATRF.

After the tours, key NCI-Frederick, NIAID, and SAIC-Frederick employees briefed committee members with an overview of NCI-Frederick's 40 years of research and the state of science

at NCI-Frederick today, conveying the complexities, challenges, and opportunities inherent in the day-to-day workings of a Federally Funded Research and Development Center.

Members of NFAC seemed interested, engaged, and, true to their mission, provided a number of ideas and perspectives for NCI-Frederick leadership to consider going forward. One key suggestion from the committee was the development of an overarching strategic plan for NCI-Frederick. SAIC-Frederick and NCI-Frederick colleagues are already engaged in this task.

The next scheduled NFAC meeting is in May. The membership roster of NFAC, the agenda for the recent meeting, and schedules for future meetings (all of which are public) can be found on the NCI website at <http://deainfo.nci.nih.gov/advisory/fac/fac.htm>. In addition, the video feed (The NCI-Frederick Advisory Committee - January 2012) of the meeting is available at <http://videocast.nih.gov/PastEvents.asp>. ■

Web Sites of Note

By Ashley DeVine, Staff Writer

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

March

National Colorectal Cancer Awareness Month: <http://www.cdc.gov/features/colorectalawareness/>
Kick Butts Day (Campaign for Tobacco-Free Kids), March 21: <http://www.tobaccofreekids.org>; <http://www.kickbuttsday.org/>
American Diabetes Alert Day, March 27: <http://www.diabetes.org/in-my-community/programs/alert-day/>

April

National Donate Life Month: <http://www.organdonor.gov/>
National Public Health Week, April 2–8: <http://www.nphw.org>
World Health Day, April 7: <http://www.who.int/world-health-day/en/>

May

Lupus Awareness Month: <http://www.lupus.org/newsite/pages/lupus-awareness-month.html>
National Melanoma/Skin Cancer Awareness Month: <http://www.cdc.gov/features/SkinCancer/>
HIV Vaccine Awareness Day, May 18: <http://www.niaid.nih.gov/news/events/hvad/Pages/default.aspx>

Recycling Program

NCI-Frederick Recycling Program at Six Months

By Paul Stokely, Guest Writer

NCI-Frederick revamped its recycling program last summer with the objective of making it more user-friendly. Although some issues still remain, overall the program has been successful.

From July through December 2011, NCI-Frederick shops, offices, and laboratories recycled approximately 170 tons of paper, scrap metal, plastic, and cardboard. In that same period, employees disposed of approximately 360 tons of trash, giving the facility an overall recycling rate of 32 percent. This average changes from month to month, depending on the number of construction and renovation projects. Scrap metal is the largest contributor to the recycling rate.



FME Service Worker Diane Briggs empties recyclables into the dumpster beside Building 244.

Single-Stream Collection Points

NCI-Frederick employees can place almost all recyclable items in any of the green recycling bins located in hallways, near copiers, and in mail rooms. This includes office paper, aluminum cans, cardboard, plastic bottles and clean food containers, and any other items labeled with numbers 1–7. Some laboratories and offices use the outdoor recycling dumpsters for the same materials.

If you cannot locate any bins near your location, please contact the Facilities Maintenance and Engineering (FME) service worker on your floor.

Recycling from Laboratories

Please place clean, empty glass and plastic containers from laboratories in the recycling bins, but be mindful. If any residues are left in these containers, please call Environment, Health, and Safety (EHS) Waste Management at 301-846-5718

for pick-up. If the containers can be safely recycled, EHS will take care of it. Even if you know the residue is harmless, others handling these materials may not know that.

Pyrex, Kimax, and other high-heat glassware, usually referred to as borosilicate glass, cannot be recycled. Please dispose of beakers, flasks, and other borosilicate glass in your laboratory's biohazardous waste box.

Empty pipette tip boxes may be placed in the bins for recycling.

Other Recyclable Materials

Batteries, Tyvek suits, ultraviolet and fluorescent lights, photo paper or film, and ink and toner cartridges can be recycled—but not in the single-stream bins. SAIC-Frederick has found companies that will recycle these products, but they must be handled separately. Contact EHS Waste Management for pick-up of these items.

If you have any questions about what can and cannot be recycled, contact EHS Waste Management 301-846-5718 or go to NCI-Frederick's recycling page: <http://home.ncifcrf.gov/ehs/recycling/procedures.asp>.

Are you a green leader in the community? If so, you can become a Green Team building representative. Please contact Howard Young, NCI Green Team member, at younghow@mail.nih.gov or 301-846-5743 if you are interested. ■

Paul Stokely is an environmental safety officer in the Environment, Health, and Safety Program.



Make It Fresh and They Will Come

By Maritta Perry Grau, Staff Writer

To paraphrase Kevin Costner in the movie *Field of Dreams*, build it and they will come.

In a way, Anastasios “Taso” Kolitsopoulos is doing the same thing: For the past year, along with his six colleagues, he has been building a better menu at the NCI-Frederick Café. And the customers are coming.

Kolitsopoulos builds the café offerings fresh and from scratch. “I get everything fresh. We cook pretty much everything from scratch—from soups to all the cooked food that we do,” Kolitsopoulos said in a recent interview. He does all the shopping, personally selecting the produce and meats at a wholesale market in Baltimore each week. And of course, he oversees the cooking—his true passion.

“I don’t like the premade, frozen stuff,” he said. “I don’t get ready-made things, not knowing who made it, how they made it. I like to make it my way, and know it’s fresh. The next day it’s done, that’s it. Whatever is left over, I would never give it to a customer.”

Simplicity—a Virtue in Cooking

Kolitsopoulos builds recipes and menus around simplicity. “Pretty much, everything I do, I try to do as simple, because I grew up with a Mediterranean cuisine background; we cook pretty healthy food, wholesome. We don’t eat meat every day. We take string beans, with potatoes, with tomato puree—that’s a meal for us. But that’s the Greek cuisine, the Mediterranean cuisine, like beans, vegetables, and stuff like that. When I was growing up, we were eating meat once a week. To me, the food, the simpler you keep it, the better it is. Simplicity is a virtue in cooking, believe it or not. The cooking part—less is more. Olive oil, salt, pepper, and garlic—those are key ingredients,” Kolitsopoulos explained.



Anastasios “Taso” Kolitsopoulos, manager of the NCI-Frederick Discovery Café

Even before training in the family restaurant, he cooked. With 10 children and other family members at the table each day, someone always needed to help in the kitchen. And Kolitsopoulos loved the cooking.

“Something I breathe and live”

“It’s something I breathe and live. This is what I love to do—not for the money, I do it because I love what I do. The cooking and the operation [of the café]—if it’s in your blood, it’s not difficult; it’s pleasant. To me, everything is pleasant,” Kolitsopoulos said.

Kolitsopoulos has built a strong, versatile staff. His six colleagues have been with him for several years. Kolitsopoulos trained each to handle every aspect of the café, from all food stations to the cash register. “They’re very well-rounded and very versatile in what they do. It’s not important how much you know [when you start],” he said. “The most important thing is, are you willing to work? And everything comes along after. They’re willing to learn.”

And Kolitsopoulos is well equipped to teach his staff. Besides growing up as a

“sous chef” for his mother, during high school he worked first as a dishwasher, and later in every capacity in his family’s restaurants in New York, eventually taking on management responsibilities. From 1980 through 1997, he had his own restaurant in Manhattan, until he decided to sell it and take on the challenge of developing cafeteria services.

Making It Work

Now, along with his brothers, Kolitsopoulos runs 10 cafeterias in New York, plus two others in Maryland. But he concentrates his efforts on the NCI-Frederick Café. “I’m determined to make it work,” he said.

This is a man with a strong work ethic, to put it mildly—dividing his time between New York and Frederick, Kolitsopoulos spends Monday, Tuesday, and Friday here; on Tuesday nights, he drives to Long Island, returning to Frederick and Baltimore on Thursday and back to New York on Friday nights, spending Wednesdays and weekends in New York with his wife, an artist whom he met in college, and their three children (ages 20, 23, and 26). Some weeks he puts in 90 hours. “I spend about 1,500 miles a week driving,” he estimated.

The People Are Coming

The café had been closed for eight months before Kolitsopoulos took it over last year. And the people are coming back.

Why? Kolitsopoulos had a theory: “You have to please the people, give the people good quality, good service, and be consistent. And if you do that, slowly, people keep coming,” he said of the NCI-Frederick Café.

“Whoever comes here keeps coming back because they say, ‘We never had food like this,’” he said with justifiable pride. “Every customer that comes in and gives us positive remarks and is happy, that’s more rewarding than anything else.” ■

Looking for the Real Thing

By Nancy Parrish, Staff Writer

Even when she was in high school, Renee (Domergue) Mundy was searching for “real-life” experiences.

This 1998 graduate of Middletown High School applied for the Werner H. Kirsten Student Internship Program because she had a lifelong interest in science and “wanted to get the experience [of] working in a ‘real lab’ outside of the school setting.” Her student internship gave her just such an opportunity, by working with mentor David Vistica, Ph.D. (now retired), in the Screening Technologies Branch of the Developmental Therapeutics Program during her senior year in high school and again during winter breaks her freshman year of college.

Mundy still remembers the confidence her laboratory colleagues placed in her. “The lab trusted me to do all of the cell culture work, which I knew was both significant and sensitive,” she recalled. “The lab trusted me to get the cell lines ready for their experiments.” In recognition of her efforts, she said, “they added me as an author on a paper, my very first publishing experience.”

Following Middletown, Mundy went on to the University of Maryland, where she graduated with honors, with a degree in microbiology. She earned her Ph.D. in cellular and molecular medicine at the Johns Hopkins School of Medicine. While a graduate student, she focused on discovering the gene expression profiles of infectious yeast species during the course of infection, and published papers as first author in such journals as *Science* and the *Journal of Infectious Diseases*.



Above: Mundy’s work as a consultant has taken her all over the world. Here she pauses for a photo in Barcelona, while at a conference in 2010 for the European Respiratory Society.

Photos courtesy of Renee Mundy.



Left: Mundy has played soccer since she was 6 years old, and still does. Shown here while at Middletown, she played all four years as a stopper and was team captain her senior year.

Bringing Science to Real Life

After graduate school, she took her knowledge of science and research directly to the real world. She joined Boston Consulting Group (BCG) in Washington, DC, where she traveled across the globe to work with top 50 pharmaceutical and retail companies on such projects as organizing a merger of candy companies, designing new ways for patients to get prescriptions, and evaluating clinical trial drugs. At BCG she gained substantial business experience to add to her scientific expertise.

Today, Mundy said, she combines her business and scientific background as an associate director, Emerging Brands, at MedImmune, where she helps develop compounds for clinical trials related to treatment of inflammatory and

respiratory diseases, such as lupus and severe asthma. “I help the clinical physicians design their trials to get the best, most competitive drugs they can bring to market,” she said.

She says she owes her career path to her student internship. “Showing my dedication to science opened the door to getting a Ph.D., which led to a career in consulting,” she said. “Now I have a job that lets me combine the best parts of scientific research and business experience, and I love it.” Mundy is married to her former college sweetheart, and they just had their first child last November.

Science Is “Oddly Creative”

Noting that “science is an oddly creative field,” Mundy advises student interns to “be imaginative and be open to exploring all the possibilities” in their research. She also emphasized that students should take advantage of their time as an intern. “Work hard, but enjoy everything the scientific community has to offer.” ■

Do You Know Any Former Student Interns?

If you still maintain contact with any former Werner H. Kirsten student interns who are now pursuing a career, please let us know! We would love to profile them in future issues of the *Poster*. Please send their names and current contact information to poster@mail.nih.gov.

NCI Director's Awards

Employees Recognized with NCI Director's Awards

By Ashley DeVine, Staff Writer

Several NCI-Frederick employees were recognized for their contributions to cancer research at last November's NCI Director's Awards.

Group Awards

The **ch14.18 Working Group** was recognized for "essential contributions in the development of ch14.18 as an effective new agent for children with high-risk neuroblastoma," according to the NCI Director's Awards program booklet. The group included NCI-Frederick employees **Donna Bialozor**, AACP, Technology Transfer Center; **Stephen Creekmore**, M.D., Ph.D., Biological Resources Branch (BRB); and **Karen Muszynski**, Ph.D., BRB; and SAIC-Frederick employees **Beverly Keseling**, **Sheryl Ruppel**, and **Samir Shaban**, all of the Biopharmaceutical Development Program (BDP), and former BDP employee **Steven Giardina**, Ph.D.



The ch14.18 Working Group; from left: Jan Casadei, Sherry Ansher, Gurpreet Gill-Sangha, Toby Hecht, Beverly Keseling, Steven Giardina, Karen Muszynski, Donna Bialozor, Malcolm Smith, Sheryl Ruppel, Samir Shaban, and Harold Varmus. (Not pictured: Matt Boron, Helen Chen, Stephen Creekmore, and Rita Misra).

The **Division of Cancer Treatment and Diagnosis (DCTD) Pharmacodynamic (PD)-Biomarkers Group** was recognized "for the development and implementation of the DCTD PD-Biomarkers Program." NCI-Frederick employees recognized were **Melinda Hollingshead**, Ph.D., Biological Testing Branch (BTB) and **Gurmeet Kaur**, BTB; SAIC-Frederick employees recognized were **Ralph Parchment**, Ph.D., **Robert Kinders**, Ph.D., and **Sonny Khin**, all of the Laboratory of Human Toxicology and Pharmacology (LHTP); and **Tiziano DiPaolo**, project manager, DCTD Project Management Office.



The DCTD PD-Biomarkers Group; from left: Tiziano DiPaolo, Joseph Tomaszewski, Anthony Murgio, Lawrence Rubinstein, Sonny Khin, Robert Kinders, Ralph Parchment, Melinda Hollingshead, Gurmeet Kaur, Shivaani Kummar, James Doroshov, and Harold Varmus.

Photos courtesy of Bill Branson, NIH Medical Arts.

NCI-Frederick employee **Michael Dean**, Ph.D., Laboratory of Experimental Immunology, and SAIC-Frederick employee **Celene Chua**, R.N., Clinical Monitoring Research Program (CMRP), providing support to the Urologic Oncology Branch, were

recognized as part of the Prostate Cancer Group "for making enormous strides in the treatment of several different stages of prostate cancer."

SAIC-Frederick employee **April Oh**, Ph.D., CMRP, providing support to the Health Behaviors Research Branch, was recognized as part of the Transdisciplinary Research on Energetics and Cancer Center Initiative for "providing extraordinary scientific and program leadership in creating the first transdisciplinary research initiative in diet, physical activity, energy balance, obesity and cancer."

Individual Merit Awards

Giorgio Trinchieri, M.D., Cancer and Inflammation Program, received an individual merit award "for discovering the role of IL-1 related inflammation pathways in carcinogenesis, and for the establishment of the Cancer [and] Inflammation Program."

David Vistica, Ph.D., Screening Technologies Branch (now retired), received an individual merit award "in recognition of outstanding leadership and accomplishments in research on alveolar soft part sarcoma."

NCI-Frederick Employees Recognized for Years of Service

40 Years – Robert Blumenthal • Pradman Qasba
30 Years – Cheryl Parrott • Craig Reynolds • Robert Wiltrout
20 Years – R. Andrew Byrd • Ave Cline • Michael Dean • Jennifer Edwards • Janet Fields • Vanessa Guyton • Christine Hayter • Ding Jun Jin • Gurmeet Kaur • Michael Kuehn • Shu Yun Le • Carl McIntosh • Tawnya McKee • Kristen Mistichelli • David Newman • Donna Siegle • Lisa Virts • Jami Willette-Brown • Teizo Yoshimura
10 Years – Caterina Bianco • Valerie Boltz • Joan Cmarik • Mary Kearney • Sudhir Kondapaka • Jess Li • Shawn Palmer • Nirmala Sharma • Karen Stefanisko • James Tricoli • Anna Trivett • Ann Wiegand • Sherry Yang • Zhongyu Zhu ■

SAIC-Frederick Creates STEM Scholarship Named in Honor of Michelle Shearer

By Ashley DeVine, Staff Writer

National Teacher of the Year Michelle Shearer says student interest in science starts with reaching out to young people and offering opportunities, such as those promised by a new STEM scholarship SAIC-Frederick has created in her name.



Michelle Shearer noted that bringing the real world to the classroom through an internship or a visit from a scientist is an invaluable tool for encouraging students to pursue STEM careers.



“I’m tremendously grateful for this scholarship; it is an honor that the scholarship is in my name. But, more importantly, the scholarship is for the students,” Shearer said.

During her visit, Shearer spoke about her 15-year journey as a teacher and the challenges she has faced in her efforts to encourage students to pursue careers in science and technology.

Even if students do not become scientists, STEM courses like Shearer’s AP chemistry class will teach them skills that can be used in any career and can help the U.S. compete in the global economy, Shearer said. Some of these skills include problem solving,

“I think for so long, science has been for the elite—for those who deserve to be there, for those who earn their way in,” said Shearer, an advanced placement (AP) chemistry teacher on leave from Urbana High School to fulfill her duties as 2011 National Teacher of the Year. “And I’ve never believed that. I think half the battle is just opening the doors and letting the students come in.”

She was on campus in January to stand alongside SAIC-Frederick Chief Executive Officer David Heimbrook, Ph.D., as he announced the creation of The Michelle Shearer STEM (science, technology, engineering, and mathematics) Fund, managed through the Community Foundation of Frederick County.

collaboration, communication, self-directed learning, and critical thinking.

Shearer’s biggest challenge as a science teacher has been encouraging students to stick with the subject.

“[The *New York Times* recently] did a big study on why students were not continuing with the sciences once they got in to college, and the bottom line was because science is hard,” she said. Shearer often asks parents not to allow their children to drop her science class. “Help me teach these qualities—perseverance, confidence, resilience, adaptability,” she will say to parents. “All these things that your student is going to need whether they become a scientist or not.”

When Shearer was recognized as

National Teacher of the Year by President Obama in the Rose Garden on May 3, she was pleased to hear him say he wanted 100,000 STEM teachers in the next 10 years. “It just makes sense that if we’re going to build the pipeline of scientists ... then [we] have to have great teachers,” she said. However, she noted that the reality of achieving this goal will be challenging. “There is a real social pressure not to pursue teaching if you have a science degree because I’ve been hearing it for the past 20 years,” she said. “[If] we want great scientists and we want students to pursue science, we need great teachers...and we have to honor that as well.”

In concluding her presentation, Shearer thanked SAIC-Frederick again for forming the STEM scholarship. “Thank you for not only honoring my personal commitment to teaching—I do call it my life’s work,” she said. “I appreciate even more that you’re going to make a STEM career pathway possible for a well-deserving student.”

The scholarship will go to a Frederick County Public High School senior who plans a career in science, technology, engineering, or mathematics. The first scholarship will be awarded in June 2012, according to the Community Foundation of Frederick County’s website. The application for the scholarship can be found at <http://cffredco.org/receive/scholarships>. ■

Two Ways You Can Contribute to The Michelle Shearer STEM Fund

SAIC-Frederick will match dollar-for-dollar (to a limit) all contributions.

1. Visit the Community Foundation of Frederick County’s website to make a donation: <http://www.cffredco.org/shearer-stem>.
2. If you are an SAIC-Frederick employee, you can contribute via payroll deduction using the updated Double Our Reach form: http://saicpr.abcc.ncifcrf.gov/files/doubleourreachform_02212_103020.pdf.



Congratulations to the March 2012 Poster Puzzler winner!

Ricki Putman, secretary, Small Animal Imaging Program, Laboratory Animal Sciences Program, SAIC-Frederick, is pictured (right) with Cheryl Parrott, interim executive editor of the *Poster*. ■

The Poster Puzzler:

Behind the Attic Door

By Ashley DeVine, Staff Writer, and Travis Gaydos, Contributing Writer

The December Poster Puzzler is the access ladder leading to the attic door on the west side of Building 538. The metal beam sticking straight out is called a trolley, which is part of a jib crane. The crane rolls along the trolley and is lowered by a hand-held remote to the ground to pick up heavy tools or pieces of equipment that are needed in the attic. The equipment in the attic includes air handling units, exhaust fans, building automated system controls, the motor control center, and piping for water, air, and gas. ■



Puzzler



Behind the Attic Door



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@mail.nih.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, April 20, 2012**, 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* Goes to Sanibel Island

By Nancy Parrish, Staff Writer

Corina May, administrative coordinator, Clinical Monitoring Research Program, and her husband, Bryan, maintenance mechanic, Vaccine Pilot Plant, couldn't leave home without their *Poster* last June, when they traveled to Sanibel Island, Florida. Not only was the swimming wonderful, but the shelling was spectacular, according to Corina. "We found some of the most beautiful shells I have ever seen," she said.

Sanibel is known as one of the richest shelling spots in the world, and Corina couldn't agree more. "There never seems to be a shortage of shells," she said. "Sanibel Island is a beautiful place to vacation and I know Bryan and I will be taking many vacations there in the future."

Where Will the *Poster* Go Next?

Afghanistan, Australia, Canada, France, Greece, Israel, Italy, South Africa, the U.S.A... The *Poster*, your NCI-Frederick newsletter, is making its way around the world, as readers grab the latest issue to 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 at poster@mail.nih.gov. You just might be featured in *your* newsletter. ■



Photos courtesy of Corina May.

Some Like It **HOT**

By Nancy Parrish, Staff Writer

After nine consecutive years, NCI-Frederick employees are becoming experts at judging chili, and they know what they like. And at the ninth annual Chili Cook-off on January 10, nearly 100 serious chili tasters, with furrowed (and sometimes sweaty) brows and hushed conversations, were sizing up the 19 entries.



Tom Gannon-Miller, left, organizer of the Chili Cook-off, with winners Barbara Birnman, Jim Stull, and Bruce Roberson.

Some people were looking for the right combination of beans and meat; some liked it hot and others definitely did not; some liked cubed beef, others liked it ground; some judged the chilis by how much sweat they generated (which could make it a winner or an instant reject); and many favored the combination of flavors—smoke, spice, even chocolate. Regardless of their preferences, everyone seemed to enjoy this mid-winter event sponsored by Protective Services.

After all 99 ballots were tallied, Jim Stull, technical operations manager, Laboratory Animal Sciences Program (LASP), was declared the winner, with

Chili #7. It was his first time entering the contest, he said.

Pressured into It

Stull confesses that he entered the contest only because his wife (Terri Stull, a research associate in LASP) and her co-workers, who have enjoyed his chili in the past, pressured him into it. “I really wasn’t planning to enter, but they just would not give up!” he said.

In searching for a chili that would “stand out and be different,” he said, he chose a recipe he found in the local

newspaper. He then asked his personal taste testers (Terri and their son) to evaluate the recipe and offer suggestions for improvement. “Evidently they are pretty good at it!” Stull noted.

Second place winner was Bruce Roberson, shuttle bus driver, Protective Services; Barbara Birnman, public affairs specialist, NCI-Frederick, won third place.

Tom Gannon-Miller, manager of Protective Services, thanked all the contestants in his e-mail announcement. “Each and every contestant contributed to the success of this event. Your efforts are truly appreciated,” he said. He also thanked Dave Butfer, SAIC-

Frederick chief administrative officer, and Randall Morin, Dr.P.H., director of Environment, Health, and Safety, for their continued support. ■

Jim Stull's Black Bean and Chicken Chili

- 1 Tbsp. canola oil
- $\frac{3}{4}$ cup chopped onion
- 2 cloves minced garlic
- 3 Tbsp. chili powder
- 1 Tbsp. dried oregano
- 2 tsp. cumin
- $\frac{1}{4}$ tsp. salt
- 3 cups shredded, cooked chicken
- 1 28-ounce can diced, fire-roasted tomatoes
- 2 cups fat-free chicken broth
- 1 10-ounce package frozen corn, thawed
- 2 15-ounce cans black beans
- 2 Tbsp. sugar
- Shredded 50-percent-reduced-fat sharp cheese
- Sour cream

Heat oil in a large, nonstick skillet or Dutch oven on medium heat. Add onion, garlic, chili powder, oregano, cumin and salt. Cook 4 minutes or until vegetables are softened. Stir in sugar, chicken, tomatoes (with liquid), and broth. Simmer, uncovered, 15 minutes. Stir in corn and beans; cook 5 to 10 minutes or until slightly thickened. Add cheese and sour cream to individual servings if desired. Serves 8.



Using the NIH Listserv

By Andi Gnuschke, Guest Writer, and
Ashley DeVine, Staff Writer

The NIH Listserv, <https://list.nih.gov/>, allows users to create, manage, and control electronic mailing lists on a network. The eight major distribution lists for the NCI-Frederick campus that are on the NIH Listserv are as follows:

INFO (INFO@LIST.NIH.GOV)

General information; Scientific Library, Environment, Health, and Safety (EHS), Occupational Health Services (OHS), and Discovery Café announcements; government leave donations; government benefit plan announcements

NOTICE (NOTICE@LIST.NIH.GOV)

Road closures; outages (power, network, phone, computer system, steam, water, fax, etc.); post closings; non-emergency weather-related announcements

CLASSES (CLASSES@LIST.NIH.GOV)

Announcements for classes sponsored by NCI-Frederick internal organizations such as Data Management Services, Inc. (DMS), Advanced Biomedical Computing Center (ABCC), and the Scientific Library

SEMINARS (SEMINARS@LIST.NIH.GOV)

NCI-Frederick and NIH seminar announcements; internal and external symposiums; OHS and Scientific Library seminars

AVAILABLE (AVAILABLE@LIST.NIH.GOV)

Notification of available surplus equipment and supplies

NEEDED (NEEDED@LIST.NIH.GOV)

Requests for anything required to support the work of NCI-Frederick (cell lines, agents, help, information, use of equipment, etc.)

NCI-EVENTS (NCI-EVENTS@LIST.NIH.GOV)

Announcements pertaining to Spring Research Festival, Take Your Child to Work Day, Farmers' Markets, Diversity Team events, Scientific Library events, and NIH events of interest to NCI-Frederick

USAG-EVENTS (USAG-EVENTS@LIST.NIH.GOV)

U.S. Army Garrison (USAG) events that are open to government and government contractor employees

FAQs

Frequently Asked Questions about the NIH Listserv

How do I subscribe to a Listserv list?

Send an e-mail to listserv@list.nih.gov with the following text in the message body: Subscribe
listname your name

(*Listname* is the name of the list you wish to subscribe to, and *your name* is your individual name. Listserv will get your e-mail address from the "From:" address of your e-mail message).

How do I unsubscribe from a Listserv list?

Send an e-mail to listserv@list.nih.gov with the following text in the message body: Unsubscribe
listname

(*Listname* is the name of the list you wish to unsubscribe from).

How do I send an e-mail to a list?

To send an e-mail or post to a list, address your e-mail message to listname@list.nih.gov (*Listname* is the name of the list to which you wish to post).

How do I stop my e-mail while I'm away from my office?

Send an e-mail to listserv@list.nih.gov with the following text in the message body: Set *listname*
nomail.

To restart your e-mail, send the following message: Set *listname* mail.

My e-mail address has changed. How do I update it?

Send an e-mail to the list owner at listname-request@list.nih.gov and ask for assistance. To change your address on all NIH lists, go to the NIH Listserv homepage, <https://list.nih.gov/>, and click "Change My Subscription Email Account" and fill out the online form.

The Contract Planning and Administration Directorate coordinates the NCI-Frederick distribution lists on the NIH Listserv. If you have any questions, please contact Andi Gnuschke at gnuschkea@mail.nih.gov or 301-846-6952, or visit https://list.nih.gov/LISTSERV_WEB/USERSGDE/appendix_c.htm#faq. ■

Andi Gnuschke is project manager, Quality Management Office, Contract Planning and Administration.

Occupational Health Services

OHS Staff Celebrates American Heart Month

By Nancy Parrish, Staff Writer

If you had walked into Occupational Health Services (OHS) on February 3, you would have seen an office decorated with red hearts everywhere and staff members decked out in red—red clothing, red scarves, red earrings, even red shoes.

They dressed this way to support National Wear Red Day, which is part of The Heart Truth, a campaign established by the National Heart, Lung, and Blood

Celebrate Your Wellness All Year Long

Women—and men—now have an opportunity to improve not just their heart health, but also their total well-being. OHS has launched an all-new Wellness Program that provides you with exciting opportunities to take charge of your health, from head to toe.

When you enroll in the program, you'll receive individual counseling from an OHS professional to help you establish personal wellness goals. You'll have an opportunity to discuss issues that are important to you—nutrition,

stick, with immediate results, thanks to new technology OHS is acquiring. OHS staff will maintain a record of your blood pressure, and cholesterol and glucose levels, which you can bring to your regular appointments with your personal health care provider.

Ready to Take Charge of Your Wellness?

The Wellness Program is offered at the NCI-Frederick main campus and Industry Lane location, as well as at the Vaccine Pilot Plant. To get started, call OHS for an appointment, which takes about



Occupational Health Services staff got the red out on February 3, to recognize National Wear Red Day, part of a national campaign to highlight the prevalence of heart disease among women. From left: Sarah Hooper, Coleen Tabler, Paula Mathis, Kandy Rahochik, Rose Saad, Kitty Nalewaik, Carolyn Cable, Marla Mullen, Margaret Slaughter, and Will Sheffield.

Institute to raise awareness of heart disease as the #1 killer of women in the United States (American Heart Association, <http://www.heart.org/HEARTORG/>).

Every year, February is designated as American Heart Month by Presidential Proclamation, and the first Friday of February is National Wear Red Day, to encourage women to assess their own risks and take steps to improve their heart health.

weight management, smoking cessation, diabetes risks and management, heart health, or anything else. Once your goals are established, your counselor will provide you with information to help you achieve them.

“We don’t dictate your wellness,” said Margaret Slaughter, R.N., who manages the program. “We give you the tools to direct your own wellness.”

Cholesterol and Glucose Screens Available

By the end of May, OHS staff will be able to check your cholesterol, HDL, LDL, and glucose levels with just a finger

30 to 45 minutes, according to Slaughter. Your OHS counselor will take baseline measurements (height, weight, blood pressure, waist and hip girth, waist-to-hip ratio) and calculate your body mass index, to help you identify areas or issues you may want to focus on.

Your counselor will provide you with information related to your specific concerns, including useful websites, brochures, and reference resources. You may schedule follow-up visits at your discretion.

For information or to schedule an appointment, call OHS, 301-846-1096. ■

Fitness Challenge Kicks Off with High Energy

By Ashley DeVine, Staff Writer

Energy was high at the 2012 Fitness Challenge Kickoff, with tips and interactive exercises for the audience from Seymour Davis, owner of Blueprint 2 Fitness, and demonstrations from metal bender, E.J. Livesey, a guard at the Fort Detrick gates.

SAIC-Frederick Chief Executive Officer David Heimbrook, Ph.D., started the kickoff event by reminding attendees that lack of exercise is the second leading cause of death (behind smoking) in the U.S.

Since the Fitness Challenge program began in 2006, SAIC-Frederick employees have collectively lost 1,953 pounds; walked, run, or biked 226,000 miles (equivalent to nine times around the earth); and performed 38,000 hours of other physical activities (equivalent to



Above: Annie Rogers displayed her hula-hooping skills on stage. Right: E.J. Livesey demonstrated his ability to bend a piece of metal across his forehead. Bottom: Members of the audience (along with David Heimbrook) were challenged to come on stage and participate in exercises.



four years). Former CEO Larry Arthur, Ph.D., challenged employees in 2006 to lose one ton of weight; walk, run, or bike around the earth; and perform one year of other physical activities.

Will Sheffield, Fitness Challenge coordinator, announced the names of the 2011 Fitness Challenge yearly winners and Heimbrook presented them with certificates.

Winners and Statistics

Walking

1. Wayne Helm – 3,498.93 miles
2. Steven Stull – 1,574.33 miles
3. Angela Spaniol – 932.98 miles

Running

1. Stephan Dobson – 2,166.75 miles
2. Beth Buckheit – 1,837 miles
3. Andrew Watson – 928.01 miles

Biking

1. Tom Gannon-Miller – 12,805 miles
2. Mark Whitmore – 11,546 miles
3. Tim Stevenson – 2,170 miles

Other Fitness Activities

1. Will Sheffield – 669.50 hours
2. Terri McClellan – 402.75 hours
3. Greg Warth – 354 hours

Weight Loss

1. Barbara Kending
2. Cammi Bittner
3. Jennifer Jurell



Tips for Getting Healthy

Davis, a former SAIC-Frederick employee, who owns Blueprint 2 Fitness, a mobile fitness and health company, offered some tips for getting healthy in 2012.

- Have a good support system in place to help you reach your goals and hold yourself accountable.
- Make a lifestyle change, rather than dieting.
- Eat breakfast; it will rev up your metabolism and prevent you from overeating later.
- Drink plenty of water; it not only rehydrates you, but also transports waste from your body.
- Get a physical every year, even if you are feeling healthy.
- Find out what motivates you and focus on it; it could be listening to music or working out with a friend.
- Avoid stress; stress increases cortisol levels in the body, which leads to more fat around the mid-section.
- Get more rest; it allows your muscles to recuperate and repair themselves.

New Additions to the Fitness Challenge

There are two additions to the 2012 Fitness Challenge. For new participants, there will be a “new enrollee” year-end winner in each of the five fitness categories. Whether you are a first-time exerciser or a seasoned athlete, you will now have the same chance of receiving a year-end fitness award. New 2012 Fitness Challenge participants should contact Will Sheffield at sheffieldwg@mail.nih.gov or call 301-846-5109 to register as a new enrollee participant for 2012.

The other addition to the program is a hall of fame on the Fitness Challenge website. Work on the hall of fame was still in progress as the newsletter went to press. It will include the names of the five Fitness Challenge participants who have logged the highest numbers in the five fitness categories since the Fitness Challenge began, as well as the names and statistics of the top five winners of the yearly fitness awards. ■

BHS Offers Tax Season Tips

By Staff of the Business Health Services' Employee Assistance Office, Guest Writers

We all tend to focus a lot of time, energy, and worry on taxes between January 1 and April 15. However, you can avoid last-minute headaches, missed deductions, and possible penalties and interest—all potential tax time hazards—by making your tax planning a year-long event: Planning early will significantly reduce the stress associated with paying your taxes on time and can help prevent costly errors and omissions. Decisions you make throughout the year on borrowing, spending, and investment will shape your tax bill well before the filing deadline.

You probably know that Business Health Services (BHS) counselors are available for face-to-face sessions through the Employee Assistance Program (EAP), but did you know that EAP care coordinators can also connect you with certified financial professionals for a free telephonic financial consultation? Once connected with that expert, you can discuss any personal financial concern, such as managing debt, planning for a child's college education, coping with monthly budgeting, or dealing with various home ownership options.

And with the April 15 tax deadline just weeks away, you might want to take special note of the tax-oriented suggestions and resources below.

Where to Start?

- The IRS website, <http://www.irs.gov>, provides much information and resources, including downloadable tax forms, free electronic filing, and even smart-phone apps.
- Visit <http://www.irs.ustreas.gov> to read the *Digital Daily*, the IRS's online newsletter, which offers daily tax advice and record-keeping tips.
- Look for free tax seminars and assistance offered through your local library or bookstore.



- Don't procrastinate; if you do, you may overlook potential sources of tax savings or make errors.

Receiving a Refund?

Many people are planning for good news when it comes to tax time: a refund! But spending that refund money wisely can be a challenge. If you are getting a refund this year, consider the following:

- Paying down debt. Big balances on credit lines and charge cards seriously affect your credit rating. If you have high-interest rate charge cards, paying them down or paying off the card completely is a smart financial move.
- Setting up an emergency fund. In these precarious times, preparing a nest egg to fall back on in case of job loss, a sudden illness, or other family emergency can be wise. It may be a good idea to consult with a financial planner to discuss strategies for reducing your tax burden, maximizing your 401(k), and planning for retirement.

Taking Care of Yourself during Tax Time

Doing taxes accurately and on time adds to our already stressful lives. During times of increased stress, it's important to care for yourself and use some proven strategies for managing your stress.

- Get regular exercise;
- Manage your time;
- Take time for yourself;
- Learn to set limits and say "no";
- Remember that drugs and alcohol lower your resistance and increase "out of control" feelings;

- Learn how to unwind;
- Eat balanced meals; limit your intake of coffee, soda, sugar, and fast foods; and
- Talk to friends, family members, or a professional about your feelings.

Check Your Tax Knowledge

1. If you receive an IRS notice that you owe money, should you:
 - a. Pay it immediately to save on penalties and interest?
 - b. Ensure the notice is correct before sending money?
 - c. Return to sender marked "no longer at this address"?
2. Which of the following is normally not deductible?
 - a. Fair market value of old clothes donated to a charity
 - b. Mortgage payment interest
 - c. Personal credit card interest

Did you answer B for #1 and C for #2?

BHS is a free and confidential program offered to all employees of SAIC-Frederick and NCI-Frederick, and their household members. BHS offers counseling, legal consultation, and financial consultation as part of EAP services. Care coordinators are available 24 hours a day, seven days a week, to speak with you about any issues you may be experiencing; just call 1-800-765-3277. ■

Business Health Services provides the Employee Assistance Program, a part of Occupational Health Services, that SAIC-Frederick offers to all NCI-Frederick employees.



NCI-Frederick Employees Part of Several Award-Winning Groups

By Charles Salahuddin, Contributing Writer, and John Hewes, Guest Writer

Working groups provide an excellent opportunity to bring together individuals representing a broad range of perspectives to accomplish a common goal. Several NCI Technology Transfer Center (TTC) employees were part of groups that were recently recognized for their role in furthering NIH's mission through various technology transfer-related initiatives.

The 2010 pilot program awarded funding in fiscal year 2011 to a company to develop the imaging technology invented by Sankaran Subramanian, Ph.D., and Murali Cherukuri, Ph.D., of the NCI Radiation Biology Branch. The award enables commercial development of a device that can noninvasively measure oxygen uptake in tumors inside live study animals. The underlying

NIH Office of Technology Transfer; Ali Andalibi, Greg Evans, Ph.D., and Michael Weingarten, all of the NCI Small Business Innovation Research Program; and Murali Cherukuri, Ph.D., Eric Hale, J.D., Dimiter Dimitrov, Ph.D., Sankaran Subramanian, Ph.D., and Grace Yeh, Ph.D., all of the NCI Center for Cancer Research.

FLC Mid-Atlantic Region Planning Team

The Federal Laboratory Consortium (FLC) for Technology Transfer is the nationwide network of federal laboratories that provides a forum for developing strategies to link laboratory technologies and expertise with the marketplace.

Tom Stackhouse, Charles Salahuddin, and Mojdeh Bahar were part of a planning team that received a State and Local Economic Development Award at the FLC Mid-Atlantic Regional Meeting in Cambridge, Maryland, held October 4–6, 2011. The team also included individuals from federal laboratories, universities, and economic development agencies throughout the region.

These individuals were recognized for their efforts in planning several technology forums, including the 2010 Nanotechnology Partnership Forum, the 2011 Energy Partnership Forum, and the 2011 Commercializing Innovation Forum. These forums were created to encourage broad involvement of all sectors of the local community, including state and local governments, federal technology-based agencies, universities, industry, and economic development agencies, and to showcase the various partnering opportunities, technologies, and services available from each sector. ■

John Hewes, Ph.D., is a technology transfer specialist at the NCI Technology Transfer Center.



From left: Mojdeh Bahar, Charles Salahuddin, and Tom Stackhouse attended the Federal Laboratory Consortium (FLC) Mid-Atlantic Regional Meeting in October and were recognized as part of the FCL Mid-Atlantic Region Planning Team. Also pictured are John Emond, NASA, and Paul Fritz, regional coordinator, FLC Mid-Atlantic Region.

Photo courtesy of FLC Mid-Atlantic Region.

SBIR-TT Working Group

On October 19, 2011, the Small Business Innovation Research–Technology Transfer (SBIR-TT) Working Group received an NIH Office of the Director Honor Award for successfully implementing this program. The NCI SBIR-TT funding program grew out of the recognition that incentivizing small companies to overcome the risks of taking on translational research overlaps with the need of NCI to push its research discoveries into commercial development.

technology, called electron paramagnetic resonance imaging, will have important and direct implications for the development of anticancer therapeutics.

The SBIR-TT Working Group included the following staff: Tom Stackhouse, Ph.D., and John Hewes, Ph.D., both of NCI TTC; Susan Ano, Ph.D., Mojdeh Bahar, J.D., Elicia Rothschild, Bonny Harbinger, Ph.D., J.D., Sally Hu, Ph.D., Jeffrey Klein, Ph.D., Patrick McCue, Ph.D., Richard Rodriguez, Mark Rohrbaugh, Ph.D., J.D., and Michael Shmilovich, Ph.D., all of the

NCI-Frederick Employee Diversity Team

Join the Team!

By Maritta Perry Grau, Staff Writer

Your Employee Diversity Team has undergone some changes in the past few months.

Chairperson Paul Miller retired in December, and Laura Geil, scientific program analyst, Office of the Director, now leads the team. Other team members include Ethel Armstrong, manager, Interlibrary Loans, Scientific Library; Peter Boving, fire prevention inspector, Environment, Health, and Safety, SAIC-Frederick; Deepti Dave, programmer/analyst, Data Management Services; Codi Miller, ARC assistant, NCI-Frederick; and Maritta Perry Grau, editorial supervisor, Scientific Publications, Graphics & Media, SAIC-Frederick. Join the team! Contact any of the team members, or come to our monthly first Thursday meetings in Building 549 at 9:00 a.m.

Black History Month

In February, you may have noticed the billboards in Building 549's lobby. Each year, we display posters that honor a few of the many black scientists, past and present, who have contributed to America's scientific success.

Women Who Make a Difference

Each year, the Diversity Team asks you to nominate someone for the annual "Women of NCI-Frederick Who Make a Difference." Watch your e-mail for announcements of the 2012 selectees. Past winners include:

2011: Karen Hite, Courtney Kennedy, Siobhan Tierney, and Dr. Terry van Dyke

2010: Kathy Easterday, Dr. Krista Delviks Frankenberry, Amy Huter-Imming, and Jeanne Warfield

2009: Kathy Green, Kim Iman, Kathleen Noer, and Dr. Sandra Ruscetti

2003 and earlier: Ranee Baker, Christine Beard, Dr. Nancy Colburn, Demetria Harvin, Debby McCalpin, Della Reynolds, Jami Willette-Brown, and Sue Wilson.

Diversity Cookbook Archives

Here's a great weekend recipe to celebrate the spring, adapted from the Diversity Team cookbook archives. Visit <http://diversity.ncifcrf.gov/> for more recipes.

Our thanks to J.A. Poiley-Nelson for sharing her traditional family recipe.

Passover Brisket

Prep time: 30 minutes; total time: 3 hours



Flat-cut brisket (to serve 6)
2 TBS olive or other oil or butter
1 large sweet onion, sliced thin
1 bottle of barbecue sauce

Remove as much fat as possible from the brisket. In a large frying pan, saute sliced onion in oil or butter until soft. Remove onions from the pan and braise the meat. Return the onions to the pan with the meat; add one bottle of barbecue sauce (I usually use Hickory or Thick and Zesty Kraft). Bring just to a bubbling boil; reduce to simmer and cook, covered, about 2–3 hours. Stir periodically until tender (test with fork for tenderness). Allow to cool (the meat is easier to cut when cold). Take meat out and slice it; return sliced meat to the sauce. Reheat to serve. Serve with potatoes or rice.

This dish may be made ahead and frozen. Marinating in the sauce just makes it more flavorful.

Share your recipe, too! Submit your recipe to our EDT website (<http://diversity.ncifcrf.gov/>).

NCI Diversity Café

Each month, you can watch a free movie, courtesy of the Diversity Team, while you eat your lunch. After the showing, you can check the movie out of the Scientific Library to share with your family at home.

Recent movies have included *The Color of Paradise* (January), *Something New* (February), and *Super-Size Me* (March). The March movie was chosen as part of a Diversity Team collaboration with the Scientific Library and Occupational Health Services to observe National Nutrition Month.

The movies are shown over a two-day period in Building 549, usually in Conference Room B, beginning at 12:00 p.m. Check your e-mail for specific dates and places.

Thought for the Quarter

"Waking up this morning, I smile. Twenty-four brand new hours are before me. I vow to live fully in each moment and to look at all beings with eyes of compassion."

Thich Nhat Hanh

Source:

Zen 2011 Daily Calendar, Perfect Timing, Inc., Waukesha, Wisconsin

Win Tickets to Local Movie Theaters

Congratulations to Martha Summers, Scientific Library, and Timothy Tewalt, Construction Subcontracts, SAIC-Frederick, the winners of free movie tickets from the Diversity Team. The tickets, with no expiration date, are good for movies at local Regal theaters.

You, too, could win a free movie ticket! To be eligible for the drawing, just answer the questions on the quiz about our display case in the front lobby of Building 549 (directly across from the Scientific Library); submit your answers to Ethel Armstrong, manager, Interlibrary Loans, armstroe@mail.nih.gov.

Please note that the correct answers are determined by what is in the display case and not by other information you might find on the Internet. ■

New Series of Talks at Spring Research Festival

By Nancy Parrish, Staff Writer

For the first time, researchers at NCI-Frederick will have a chance to present their research in a new series of talks describing collaborative projects with other government agencies in Frederick: Centers for Disease Control and Prevention; Department of Homeland Security, National Biodefense Analysis and Countermeasures Center; National Institute of Allergy and Infectious Diseases Integrated Research Facility; Naval Medical Research Center, Biological Defense Research Directorate; U.S. Army Medical Research Institute of Infectious Diseases; and U.S. Department of Agriculture Foreign Disease-Weed Science Research Unit.

Sponsored by the National Interagency Confederation for Biological Research (see article on page 2), these talks will be held on May 8, just before the Spring Research Festival on May 9 and 10.

Fellows and postgraduate students will also have a chance to present their research on May 7, at the fifth annual Postdoctoral and Postbaccalaureate Symposium on animal and plant models of disease. Presentations will be judged, and winners will receive an award and certificate of achievement.



Beewolf Digger Wasp Chosen as Theme

The theme for the festival is the beewolf digger wasp, which takes advantage of symbiotic relationships to ensure the survival of its offspring. Female digger wasps grow bacteria on their antennae, which they then smear over the cocoon containing the larva. These bacteria generate a “cocktail” of antibiotic substances that specifically target pathogens that can be deadly to the larvae.

According to David Newman, D. Phil., chief, Natural Products Branch of the Developmental Therapeutics Program, this process is a good example of the “vast numbers of interactions

National Cancer Institute at Frederick and Fort Detrick

16th Spring Research Festival

May 9–10, 2012
10:00 am–2:30 pm

Health Education and Community Services Exposition
Meet NIH, CDC, USDA-ARS, NBACC, and DOD Scientists
Science and Technology Exposition

The beewolf larva stays cocooned for several months before the adult insect hatches. Antibiotics on the surface of the cocoon, produced by symbionts, guarantee the larva's protection from microbial pests during a lengthy developmental stage. At right, the antibiotics are visualized by mass spectrometry techniques (LDI imaging) and shown as pseudocolors on the cocoon surface.



<http://ncifrederick.cancer.gov/events/springfest>

Photo courtesy of Johannes Kroiss and Martin Kaltenpoth, Max Planck Institute for Chemical Ecology, Jena

between biological kingdoms that can be ‘mined’ for useful leads to treatment of human diseases.”

Early Registration Open through April 20

Register online to participate as an exhibitor, speaker, or poster presenter. Poster presenters who register by April 20 will be listed in the festival program. Registration closes May 4.

The Spring Research Festival includes poster presentations, exhibits, and a health, education, and safety expo. In addition, vendors will display the latest in biomedical equipment at the Biomedical Research Equipment and Supplies exhibit sponsored by the Technical Sales Association.

Watch your e-mail for more information, or contact Julie Hartman, 301-846-7338, or hartmanjb@mail.nih.gov. ■

Welcoming Newcomers to NCI-Frederick

Seventy-three people joined our facility in October, November, and December 2011.

The National Cancer Institute welcomes...

Luis Alvarez ■ Agostinho Antunes ■ Souvik Biswas ■ Myriem Boufraquech ■ Andrew Burke ■ Susanna Chan ■ John Czajkowski ■ Robert Garriock ■ Lesley-Ann Giddings ■ Mesfin Gonit ■ Monica Gonzales ■ Maria Gorrasi ■ Nazmul Haque ■ Chelsey Jahn ■ Prashant Kancherla ■ Hideaki Karasawa ■ Simran Khurana ■ Jessie Kiu ■ Alexander Komin ■ Jason Kuhn ■ Darrell Laroche ■ Melissa Leyva ■ Huajie Li ■ Anthony Lualdi ■ William Martin ■ Priyanka Maskikar ■ Wen Nellis ■ Maria Rangel ■ Andrew Rosado ■ Mandana Shahbazi ■ Yih-Horng Shiao ■ Caesar Smith ■ Emily Smith ■ Prashanth Sompalli ■ Karen Surabian

SAIC-Frederick welcomes...

Natalie Abrams ■ Melanie Baker ■ Anne Book ■ Evan Caporaso ■ Girija Chaubey ■ Gabriella Diaz ■ Mary Dixon ■ Jonathon Dunn ■ Michael Eichelberger ■ Madeline Gayowski ■ Latrina Goosby ■ Susana Haywood ■ Kristine Hubble ■ Sameer Issaq ■ Dun Liang ■ Md Abdullah Mahmud ■ Amy Malowski ■ Patricia Martinez ■ Heidi McMillen ■ Bill Moore ■ Jason Myers ■ Mario Navas III ■ Svetlana Nazarenko ■ Jens Poschet ■ Ju Qiu ■ Sydney Schaub ■ Alison Scott ■ Rallie Self ■ Prashant Sharma ■ Jennifer Shoe ■ Margaret Slaughter ■ Sanjay Swaminathan ■ Biak Thluai ■ Francis Todd ■ Kathleen Tokar ■ Sadie Wenzlick ■ Bradley Wiley ■ Xueyuan Zhou ■

Data Management Services (DMS)

Spring 2012

NCI-Frederick Computer Software Training

APRIL	
April 2	Transition Office 2003 to 2010
April 3	Excel 2010 Level 1
April 6	Creating 508 Compliant Word 2010 Docs
April 9	Access 2010 Level 1
April 13	Word 2010 Level 1
April 16	SharePoint Basic End User
April 20	Adobe Acrobat X Pro Level 1
April 23	Word 2010 Level 2
April 26	PowerPoint 2010 Complete
MAY	
May 3	Outlook 2010 Level 1
May 7 & 8	MS Project 2010 Level 1 (2-Days)
May 14	Access 2010 Level 2
May 21	Adobe Acrobat X Pro Level 2
May 22	Outlook 2010 Level 2
May 31	Word 2010 Level 3
JUNE	
June 1	Excel Level 2
June 4	Adobe Acrobat X Pro Forms & Advanced Tools
June 8	Word 2010 Templates, Styles & Forms
June 11	Excel 2010 Level 3

Computer & Statistical Services (C&SS) provides on-site computer software training exclusively for NCI-Frederick employees. Two sessions are held annually—spring and fall. All classes are held in the Training Room in Building 362 located on the NCI-Frederick campus at Fort Detrick.

NCI-Frederick employees can arrange an exclusive class for their group with a minimum of four students. If you are interested in scheduling a class, contact Cathy McClintock (301-846-5776) for more information.

NOTE: Schedule updates are e-mailed monthly during each session via the NIH ListServ. If you are not receiving Computer Software Training e-mails, contact the C&SS Help Desk for assistance.

For more information, visit the C&SS training website at <http://css.ncifcrf.gov/training>. ■

New Chemistry Resources Available until September

By Alan Doss, Guest Writer

The Scientific Library recently acquired the rights to some very powerful chemistry information resources, which we will have guaranteed access to until September 2012. We recommend that scientists use them to the fullest extent possible while we have them.

MetaDrug™ and ToxHunter™ are produced by GeneGo and extend the capabilities of the MetaCore™ program, which is currently available to NCI-Frederick through NCI in Bethesda. These resources allow researchers to predict possible modes of action, ADMET, metabolites, and off-target effects of novel drug candidates.

MetaDrug and ToxHunter may also be used for repurposing known drugs or gaining greater understanding of their modes of action. Network maps can be generated to visualize how and where a compound may interact and exert its effect, and these maps can be overlaid with experimental data to confirm predictions.

ACD/Labs' I-Lab 2.0 is a resource that draws on its vast databases of nuclear magnetic resonance (NMR) spectra to allow researchers to predict the NMR spectra of novel compounds or find a known NMR spectrum. It can also be used to predict basic physiochemical properties and obtain compound names from the International Union of Pure and Applied Chemistry (IUPAC).

If you are interested in learning more about these chemistry resources or would like to access them, visit the Scientific Library's Chemistry|MSDS page: <http://www-library.ncifcrf.gov/chemistry.aspx#MSDS>. For information on training opportunities, contact Alan Doss at 301-846-6249 or dossal@mail.nih.gov.

Alan Doss is a chemical informationist in the Scientific Library.



The Reading Diversions Book Club met in February to discuss two books on locked-in syndrome—*The Diving Bell and the Butterfly: A Memoir of Life in Death* by Jean Dominique Bauby and *Locked In* by Marcia Muller. From left: Robin Meckley, Pamela Noble, Ethel Armstrong, Paul Stokely, Jane Mirro, and Tracie Frederick.

Book Discussions on Interesting Topics

By Robin Meckley, Contributing Writer

The Scientific Library's Reading Diversions Book Club continues its regular meetings in 2012. We meet every five weeks to discuss one or two books about a pre-selected scientific or medical topic. So far this year we have discussed the *Best American Science and Nature Writing 2010*, and two books on locked-in syndrome. In March, we are discussing two books about the plague: *Plague: The Mysterious Past and Terrifying Future of the World's Most Dangerous Disease* by Wendy Orent (nonfiction), and *Year of Wonders* by Geraldine Brooks (fiction). At April's meeting, we will talk about science in the movies by reading two nonfiction selections: *The Real Science Behind the X-Files: Microbes, Meteorites, and Mutants* by Anne Simon, and *Lab Coats in Hollywood: Science, Scientists, and Cinema* by David A. Kirby. We will observe National Cancer Research Month in May by discussing the very popular nonfiction book *The Emperor of All Maladies: A Biography of Cancer* by Siddhartha Mukherjee, and the fiction selection *The Honest Look* by Jennifer L. Rohn.

The Scientific Library always provides copies of these books to our readers, so you do not need to purchase anything. We even have many of our titles on Kindles. We invite you to join us for these lively, lunch-time discussions. Please check the Reading Diversions Book Club webpage for specific dates, times, and locations: <http://www-library.ncifcrf.gov/bookclub.aspx>.

Spring Events

By Robin Meckley, Contributing Writer

Every year the Scientific Library observes National Library Week in April. Activities for this year's observance, running April 9–13, are still in the planning stages, so please watch for e-mail announcements, flyers, and updates on the Scientific Library's website: <http://www-library.ncifcrf.gov>.

The Scientific Library will host a table at the NCI-Frederick Spring Research Festival on Wednesday, May 9, and Thursday, May 10. We invite you to stop by and let us show you what we can do for you. ■

Finish a Presentation without Erasing Yourself

By Ken Michaels, Staff Writer

Garrison Keillor once defined the “self-erasing speech” on an episode of *A Prairie Home Companion*. During his “News from Lake Wobegon” monologue, he described the commencement speaker’s presentation at the high school graduation ceremonies. “He spoke for about 20 minutes about the importance of communication as he was demonstrating how not to do it. It was one of those self-erasing speeches. You come to the end of it and you clap and can’t remember what it was about.”*

In virtually all of the literature on making effective presentations, three distinct parts of the presentation are identified: the introduction, the body, and the conclusion. The reason for the conclusion is essentially to prevent your presentation from being of the self-erasing variety.

The conclusion of a presentation, when effectively used, performs a vital task. A typical scientific presentation includes data, hypothesis, supposition, interpretation, postulation, etc.; it is virtually jam-packed with information. The presentation’s conclusion is the speaker’s opportunity to extract the key items and most important concepts from everything said over the last half-hour or so.



Garrison Keillor defined the self-erasing speech.

“If you remember nothing else...”

More than once I’ve heard a presenter, partway through a talk, pause, and say something along the lines of “... If you remember nothing else from this talk, please remember this ...” Personally, I appreciate this. This simple technique makes it abundantly clear to the listeners what the speaker considers the most significant message to be. It’s not always easy to tell, because typically there’s so much information there.

And of course, the point being referred to should certainly be repeated in the conclusion of the talk.

End with the “Money Slide”

Many times I have seen the final slide in a scientific presentation to be a listing of acknowledgements, contributions, collaborations, and such. I would suggest that, important though it is to acknowledge the contributions of others, it’s not the ideal final image to leave with the audience, especially if it stays on the screen during question-and-answer time.

My preference would be to move acknowledgements to the introduction, as a part of setting the stage for the topic.

The final slide in your presentation—the one that you can leave on the screen during the question-and-answer time—may be the one visual that stays in front of your audience longer than any other. Does it not make sense for that final visual to be the “if-you-only-remember-one-thing” visual? And it also reminds you to avoid what seems to be a common wrap-up: “Uh ... so that’s about it!” Not exactly a powerful conclusion.

It may be that when the audience starts clapping, this money slide on the screen will remind them what the talk was about, and help prevent auto-erase. ■

* Keillor, G. “News from Lake Wobegon,” in *A Prairie Home Companion*, produced by American Public Media, aired June 6, 2009.

NCI-Frederick Poster Welcomes Interim Executive Editor

By Ken Michaels, Staff Writer



Cheryl Parrott, NCI-Frederick’s director of Public Affairs, has been named interim executive editor of the NCI-Frederick *Poster*. She replaces the recently retired Paul Miller in this capacity, the original executive editor, who served as such since the newsletter’s launch in January 2003.

Parrott praised Miller for his work over the years to establish the *Poster* as a popular and well-respected newsletter, and noted her commitment to maintaining the high standards of journalism that the *Poster* has come to exemplify.

“I always enjoy working with my colleagues in SPGM,” Parrott added, “yet, I’m simply a placeholder here. We are conducting a search for a new executive editor and expect to name one this summer.” ■

Upcoming Events and Dates to Note

January 10–May 29

Winter Farmers' Market, every other Tuesday, 11 a.m.–1 p.m., inside and outside of the Building 549 Café Conference Room

April 20

Poster Puzzler guesses due

May 9 and 10

Spring Research Festival

May 28

Memorial Day: NCI-Frederick closed

July 18

Take Your Child To Work Day

Employment Opportunities

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

Charles River Laboratories
<http://www.criver.com>

Data Management Services
<http://css.ncifcrf.gov/services>

National Cancer Institute at Frederick
<http://www.training.nih.gov>

SAIC-Frederick, Inc.
<http://www.saic-frederick.com/>

Wilson Information Services Corporation
<http://www-library.ncifcrf.gov>

Do You Work with Potential Hazards?

If you have been identified by Environment, Health, and Safety as having a risk for potential hazards in your workplace, you are eligible for annual screenings through Occupational Health Services (OHS). This type of work-related surveillance may include vaccinations, X-rays, blood work, pulmonary function tests, hearing tests, and physical examinations.

Work-related exams are available only to eligible employees and are voluntary unless the monitoring is mandated by the Occupational Safety and Health Administration. Please call OHS, 301-846-1096, for additional information, scheduling, and any questions. ■

NCI-Frederick Programs

NCI-Frederick/Ft. Detrick Fitness Challenge 2011
<http://saic.ncifcrf.gov/fitnesschallenge/>

NCI-Frederick Suggestion Committees
<http://ncifrederick.cancer.gov/campus/committees/>

NCI-Frederick Advanced Technologies to Support Research
web.ncifcrf.gov/research-technologies/default.asp



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

Comments or suggestions for the *Poster* may be directed to poster@mail.nih.gov.

Need a large-print format of the *Poster*? Call 301-846-1055.

<http://ncifrederick.cancer.gov/ThePoster>

203265

Advanced Technology Research Facility

ATRF: Coming Alive

By Hoyt Matthai, Guest Writer

The building that has been, for the last four years, like a sleeping giant, is starting to come alive. The Advanced Technology Research Facility (ATRF) is now bustling with activity.

The laboratory wings, which are being fitted out from the top down, are nearly complete on the third floors, where casework is in place and the office areas have been carpeted. Fit-out of the second and first floors is rapidly following suit.

In addition, all five laboratory wings are now fully powered with heating, ventilation, and air conditioning.

Preparing for Move

In preparation for occupancy, furniture will be ordered in March, and installation is expected to begin in April. Selection of the moving contractor, who will relocate all offices and laboratories, is also expected to occur in April.

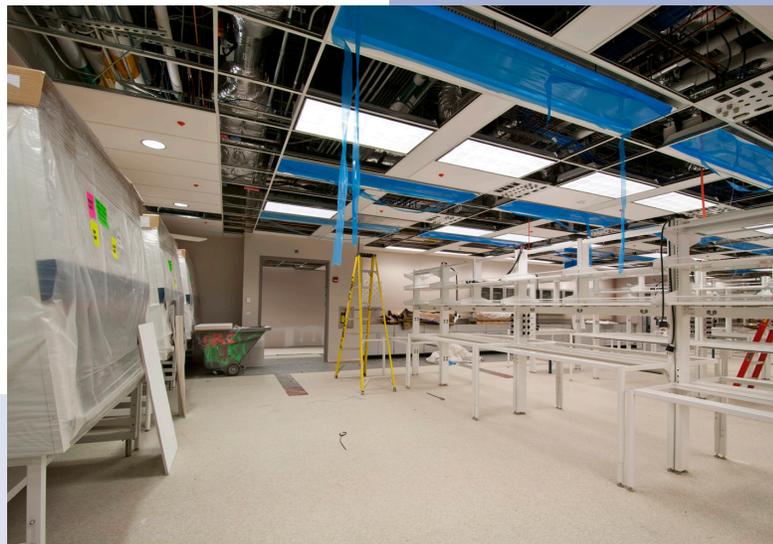
In the administration wing, the data center is moving toward completion, with the server racks now in place. The VoIP (Voice-over-Internet Protocol) system, which allows voice calls to be made over the Internet rather than over traditional telephone lines, is expected to be installed in April.

Unlike the laboratory wings, the administration wing is being finished from the first floor up, rather than third floor down, and is currently scheduled for completion by the end of May.

Administration Wing First to Be Occupied

Once the occupancy permits are issued, the administration wing will be the first area occupied, followed by the laboratory wings. The administrative wing occupants will use the data center and VoIP system as a final validation of the systems' functionality before the additional, significant, load is added from the laboratory personnel and equipment. ■

Hoyt Matthai is director of operations, Advanced Technology Research Facility.



Interior fit-out in progress. Top: Laboratory on third floor; Bottom: Data center nearing completion, with server racks in place.

ATRF Ribbon Cutting May 21

The Frederick County Chamber of Commerce—the first chamber to be chartered in the United States—will celebrate its centennial May 21 at the National Cancer Institute's Advanced Technology Research Facility at Riverside Research Park. A ribbon-cutting for the new building will be held as part of the event. The chamber has invited a number of distinguished guests.

