



What is it?
Where is it?

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Poster

Riverside Research Park Breaks Ground

New Facility to Accelerate Cancer Treatments

By Frank Blanchard

NCI Director John E. Niederhuber, M.D., led the shovel team on November 12 in breaking ground for an advanced technology research facility to support the rapid translation of basic research into the next generation of targeted treatments for cancer patients.

The National Cancer Institute at Riverside Research Park in Frederick will be the anchor facility in a 177-acre research and development park that is

expected to attract other life-science, advanced-technology, and education organizations that will work with NCI toward a common goal.

“This site will be the center of an intensive new effort to bring together government, industry, academic, and nonprofit partners, working side-by-side, utilizing technological resources second to none, to more rapidly translate our latest genetic and molecular discoveries about cancer into effective new treatments that benefit patients,” Dr. Niederhuber said.

The initial phase of the project will provide up to 330,000 square feet of space for offices and state-of-the-art laboratories. The site will have expansion capacity for an additional



Left to right: Mark Matan, Principal, Matan Companies; Jan Gardner, President, Frederick Board of County Commissioners; Roscoe Bartlett, U.S. Congressman; Dr. John Niederhuber, Director, National Cancer Institute; David Edgerley, Secretary, Maryland Department of Business and Economic Development; Craig Reynolds, NCI Associate Director; Larry Arthur, President, SAIC-Frederick, Inc.; Jeff Holtzinger, Mayor, City of Frederick.

470,000 square feet, which may be occupied by life science and advanced technology partner organizations.

The new facility will consolidate the Advanced Technology Program and the Biopharmaceutical Development Program, which together are spread among more than 33 buildings on the NCI-Frederick campus. Some operations of the Center for Cancer Research also plan to occupy space at the new facility.

In all, about 370 employees will move to Riverside when the building opens in early 2011. An additional 200 are expected to be hired through 2016.

“The NCI has identified an urgent need to convert basic research findings

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Riverside Research Park Breaks Ground

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into effective cancer treatments that can be delivered to patients right away,” said Larry O. Arthur, Ph.D., chief executive officer of prime contractor SAIC-Frederick, which will lease the new facility. “The consolidation of our operations into modern facilities will enable us to do just that, with the specific goal of shortening timelines, reducing costs, and increasing productivity—all of which will benefit cancer patients and people at risk for cancer.”

Matan Companies of Frederick is developing a site for the new building and will work closely with NCI-Frederick to identify other potential lessees.

The project will support a new NCI initiative, the Advanced Technology

Partnerships Initiative (ATPI), which is designed to overcome major challenges in translational research by bringing together partners in government, industry, academia, and the nonprofit sector to focus on new, more effective approaches, pool resources, and avoid redundancies of infrastructure.

The ATPI has begun with two initial partnerships, one with GE Global Research to explore the use of GE’s proprietary nanoparticle diagnostic imaging agents, and a separate agreement with Silicon Kinetics of San Diego, CA, to apply a new technology for studying protein interactions in cancer and AIDS.

At the groundbreaking, Dr. Niederhuber said he had recently

heard from a leader of a prominent cancer advocacy group who was impressed by the exciting work supported by NCI and the individuals leading these various projects.

“He remarked how they clearly come to work each day committed to ‘owning the cure,’” Dr. Niederhuber said. “That’s just what the ATPI and the construction of this new facility are about: taking a proactive approach to accelerate progress against cancer, not just by funding and conducting the research, but also by establishing the platforms—in this case, state-of-the-art technology and drug development platforms—to turn that research into effective interventions as quickly and efficiently as possible.” ♦

NCI-Frederick Programs

NCI-Frederick/Ft. Detrick Fitness Challenge 2008

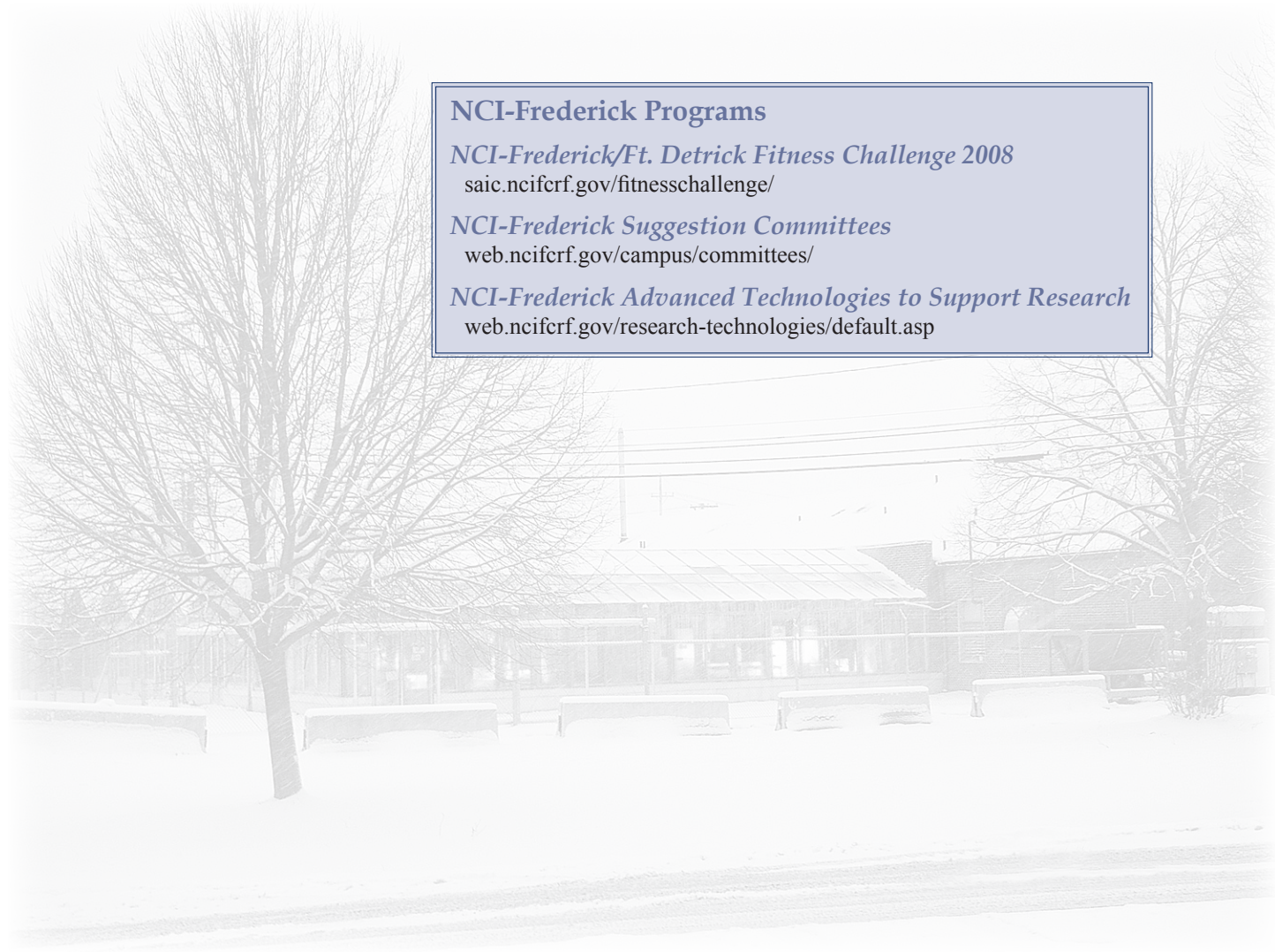
saic.ncifcrf.gov/fitnesschallenge/

NCI-Frederick Suggestion Committees

web.ncifcrf.gov/campus/committees/

NCI-Frederick Advanced Technologies to Support Research

web.ncifcrf.gov/research-technologies/default.asp



Awards and Recognition

NCI-Frederick Garners NIH Director's Awards

By Maritta Perry Grau

Four NCI-Frederick employees were recognized in the NIH Director's Awards ceremonies held in July.

Douglas Kuhns, Ph.D., was recognized in the Scientific/Medical



*Dr. Douglas Kuhns,
Director, Neutrophil
Monitoring Laboratory,
Applied and Developmental
Research Directorate*

category as part of a team at the National Institute of Arthritis and Musculoskeletal and Skin Diseases for research to identify a genetic defect in patients with Job's Syndrome. Dr. Kuhns said he "was very honored to receive this award" and noted that he shared that honor "with the very dedicated people in my lab: Debra Long-Priel, Dani Fink, Karen Lau, Laura Coffin, and Dara Riva." In addition, Dr. Kuhns noted, Alexandra Freeman, M.D., Pam Welch, R.N., and Christine Spalding, R.N., all part of the Clinical Monitoring Research Program on the NCI-Bethesda campus, were part of the team that was recognized.



*From left to right: NCI administrative personnel Emily Moler,
Administrative Program Assistant; Barbara Birnman, Public Affairs
Specialist; and Julie Hartman, Education Program Specialist.*

Administrative personnel Barbara Birnman, Julie Hartman, and Emily Moler were recognized for their "efforts to promote and facilitate community outreach, student training, interagency interactions/collaborations, and improve the quality of the workplace in the NCI-Frederick community."

Ms. Birnman commented, "I was touched and also shocked that I was nominated, but it was a nice feeling to know that all those involved with the approval process felt I deserved the recognition...Howard Young

nominated me without my knowledge; working with Howard is not only great but also a privilege."

Ms. Moler added she, too, was "honored and appreciative that a co-worker had recognized our efforts and taken their time to nominate us for the award."

The NIH awards focus on "superior performance or special efforts significantly beyond the regular duty requirements, and directly related to fulfilling the mission of the National Institutes of Health." ♦

NCI Designated as Cancer Gold Standard Organization

By Maritta Perry Grau

NCI has been named as a CEO Cancer Gold Standard organization, an accreditation granted by the CEO Roundtable on Cancer.

As such, NCI “is the first federal entity to obtain accreditation, and now joins almost 30 organizations, including two NCI-designated Cancer Centers, which share a commitment to enhancing the health of their employees and family members through exceptional standards of cancer prevention, screening, and care,” according to NCI Director John E. Niederhuber, M.D., who noted the recognition in one of his weekly D-Briefs.

What Are the Criteria for Achieving Gold Standard Status?

The CEO Gold Standard rates an organization’s ability to help its employees lead more healthy lives, to encourage them to be knowledgeable about cancer’s causes and preventions, and to offer programs that help provide cancer information and screenings.

Dr. Niederhuber said, “As our country’s premier cancer research institution, we have the obligation, I believe, to lead by example. Through adoption of the CEO Cancer Gold Standard—a series of cancer-related recommendations to reduce the risk of cancer through lifestyle change, detect cancer at the earliest possible stage, and ensure access to the best possible cancer treatment—NCI is making a commitment to our employees and their families, and demonstrating that, even within the confines of the federal government, we can make a difference.”

What Is the Roundtable on Cancer?

The CEO Roundtable on Cancer, a three-year-old nonprofit organization, comprises corporate executives from major American companies who share a desire to confront cancer. The group owes its origins to the vision of former President George Bush, who asked the leaders of major corporations to come together to fight cancer, to be “bold and venturesome” and to “do something more about cancer prevention, diagnosis, and treatment within your own family as well as within your corporate family.”

What Are the Roundtable’s Goals?

The CEO Cancer Gold Standard is a series of cancer-related recommendations, developed by the CEO Roundtable on Cancer, to fight cancer by meeting three goals:

- Risk reduction through lifestyle change: reducing the risk of cancer

- Early detection: detecting cancer at the earliest possible stage, when treatment has the best chance of improving outcomes
- Quality care: ensuring access to the best available cancer treatment

Dr. Niederhuber added, “The prestigious recognition of NCI as a CEO Cancer Gold Standard organization puts us in the company of corporations and nonprofit organizations—collectively covering more than 500,000 lives—that have accepted the challenge of continuously improving the health of their workforces. I am most proud the NCI has elected to do something bold and venturesome, putting our people first and challenging the government to do better.”

More information about the CEO Cancer Gold Standard can be found at: http://67.15.211.2/~cancergo/index.php?option=com_frontpage&Itemid=1 or <http://www.cancergoldstandard.org>. ♦



NCI Making Progress in HIV Vaccines

For nearly 30 years, the NCI, and particularly, NCI-Frederick, has set a challenge to its researchers: to understand and to conquer the AIDS virus. In the early 1980s, according to the NCI web site (<http://web.ncifcrf.gov/events/hivaidsresearch2007/>), “NCI intramural researchers on both the Frederick and Bethesda campuses had expertise in several key areas to rapidly tackle [the AIDS] public health crisis: retrovirology, structural biology, tumor virology, immunology, epidemiology, drug development (nucleosides in particular), and clinical trial methodology for chronic, fatal diseases. This expertise enabled NCI scientists to make a number of important early advances in the diagnosis and treatment of HIV/AIDS. This productivity continues to the present.”

Although we have not yet developed vaccines to prevent or treat HIV, researchers are developing and testing potential preventive and therapeutic HIV vaccines.

Our *Poster Profile* for this issue focuses on Dr. Jacob Estes, Scientist II in Dr. Jeff Lifson’s AIDS and Cancer Virus Program, Basic Science Program Directorate (see page 12). Dr. Estes, Dr. Victor Garcia (University of Texas Southwestern Medical Center), and NCI-Frederick colleagues have developed a humanized mouse model as a preclinical preventative screening model for those at high risk for acquiring HIV.

Preventive HIV Vaccines

Researchers study three main types of preventive vaccines:

Subunit vaccines, also known as “component” or “protein” vaccines, contain individual parts of HIV, rather than the whole virus. Made in the lab,

these man-made subunits prompt the body to produce an anti-HIV immune response, although that response may be too weak to actually protect against future HIV infection.

Recombinant vector vaccines take advantage of non-HIV viruses that either don’t cause disease in humans or have been deliberately weakened so that they can’t cause disease. These weakened viruses deliver copies of HIV genes into the cells. The body then uses the instructions carried in the copies of the HIV genes to produce HIV proteins. As with subunit vaccines, these HIV proteins can stimulate an anti-HIV immune response. Most of the recombinant vector (or carrier) vaccines for HIV deliver several HIV genes (but not the complete set) and may therefore create a stronger immune response.

DNA vaccines also introduce HIV genes into the body, but unlike recombinant vector vaccines, they do not rely on a virus vector. Instead, “naked” DNA containing HIV genes is injected directly into the body. Cells take up this DNA and use it to produce HIV proteins. As with subunit and recombinant vector vaccines, the HIV proteins trigger the body to produce an immune response against HIV.

Note: None of these vaccines contains real HIV or anything else that could cause HIV infections or AIDS.

Therapeutic HIV Vaccines

Therapeutic HIV vaccines designed to boost the body’s immune response to HIV are being tested in clinical trials. Antiretroviral drugs must be taken for life, and some cause serious side effects. Researchers hope that if therapeutic vaccines can strengthen the body’s natural anti-HIV immune response, people with HIV will not have to rely exclusively on the antiretroviral drugs now used to treat HIV infection.

All experimental therapeutic HIV vaccines are in very early stages of research and are not likely to be available to the general public for many years, if ever. If therapeutic vaccines are found to be effective, most researchers do not think therapeutic HIV vaccines will be able to completely eliminate HIV infection, because the virus can hide for decades in certain cells. However, therapeutic vaccines may help control HIV infection and keep people healthy, while minimizing the need for antiretroviral drugs.

While there’s much to be concerned about, the years since AIDS research began have seen much to be encouraged about, too. A United Nations report in 2006 (http://data.unaids.org/pub/GlobalReport/2006/2006_GR-ExecutiveSummary_en.pdf) stated that “In most countries, a strong foundation now exists on which to build an effective HIV response, with increasing political commitment and partner coordination at country level.”

The U.N. report pointed out that funding for HIV resources, including in low-income countries, has increased significantly; treatment access has expanded; and the number of people using HIV testing and counseling services has quadrupled. About 74 percent of primary schools and 81 percent of secondary schools now provide HIV and AIDS education.

Editor’s note: Our thanks to Dianna Conrad, who gathered this information from the following sources:

Preventive HIV Vaccines:
http://aidsinfo.nih.gov/ContentFiles/HIVPreventionVaccines_FS_en.pdf
Therapeutic HIV Vaccines:
http://aidsinfo.nih.gov/ContentFiles/Therapeutic_HIV_Vaccines_FS_en.pdf ♦

Study May Create New Avenues for Tumor Immunotherapy

By Ashley Hartman



*Xin Chen, M.D., Ph.D.,
Laboratory of Molecular
Immunoregulation*

Recent research by Xin Chen, Ph.D., Laboratory of Molecular Immunoregulation, and his colleagues has revealed for the first time that only a minority of CD4⁺CD25⁺FoxP3⁺ T cells (30–40%) from normal C57BL/6

mice are potent immunosuppressor cells and that these cells express TNFR2 (tumor necrosis factor receptor 2), one of the receptors that mediates the signaling of TNF- α and lymphotoxin alpha.

This research indicates that highly potent suppressive TNFR2-expressing T regulatory cells (Tregs) accumulate in the tumor microenvironment, presumably hampering antitumor immune responses. Thus, this study suggests that targeting these Tregs may open up new avenues for effective tumor immunotherapy.

“Targeting tumor-infiltrating TNFR2⁺ Tregs, for example, by blocking TNF-TNFR2 interaction, may eliminate tumor-associated Treg activity. This approach may prove useful to improve natural as well as tumor vaccine-induced antitumor immunity,” Dr. Chen said.

Dr. Chen said his previous studies led to this current discovery. After determining that the pertussis toxin (PTx) reduces splenic Tregs in EAE mice (*European Journal of*

Immunology, 36:671), Dr. Chen’s subsequent study found that, while PTx reduced Tregs in normal mice, it expanded the cells in IL-6 KO mice (*Journal of Immunology*, 178:6123), suggesting that other proinflammatory cytokines may promote Tregs. His further study found that TNF activates Tregs, presumably by interacting with TNFR2, which is primarily expressed in Tregs (*Journal of Immunology* 180:6467). “Based on this observation, we hypothesized that TNFR2⁻-expressing Tregs may represent functionally activated Tregs, and our subsequent observation proved this hypothesis,” Dr. Chen said.

“Over the last decade, there is compelling evidence that Tregs are a central regulator of immune responses and are exploited by tumors for immune evasion. Thus, we decided to study immunobiology and pharmacological manipulation of Tregs, aiming to devise an effective immunotherapy for cancer patients,” Dr. Chen explained. ♦

Xin Chen, Jeffrey J. Subleski, Heather Kopf, O. M. Zack Howard, Daniela N. Männel, Joost J. Oppenheim

Cutting Edge: Expression of TNFR2 Defines a Maximally Suppressive Subset of Mouse CD4⁺CD25⁺FoxP3⁺ T Regulatory Cells: Applicability to Tumor-Infiltrating T Regulatory Cells

J Immunol 180(10):6467–6471, 2008.

TNFR2 is predominantly expressed by a subset of human and mouse CD4⁺CD25⁺FoxP3⁺ T regulatory cells (Tregs). In this study, we characterized the phenotype and function of TNFR2⁺ Tregs in peripheral lymphoid tissues of normal and tumor-bearing C57BL/6 mice. We found that TNFR2 was expressed on 30–40% of the Tregs of the peripheral activated/memory subset that were most highly suppressive. In contrast, TNFR2⁻ Tregs exhibited

the phenotype of naive cells and only had minimal suppressive activity. Although not typically considered to be Tregs, CD4⁺CD25⁻TNFR2⁺ cells nevertheless possessed moderate suppressive activity. Strikingly, the suppressive activity of TNFR2⁺ Tregs was considerably more potent than that of reportedly highly suppressive CD103⁺ Tregs. In the Lewis lung carcinoma model, more highly suppressive TNFR2⁺ Tregs accumulated intratumorally than in

the periphery. Thus, TNFR2 identifies a unique subset of mouse Tregs with an activated/memory phenotype and maximal suppressive activity that may account for tumor-infiltrating lymphocyte-mediated immune evasion by tumors.

The following 44 articles have been selected from 10 of the most prestigious science journals during the past quarter.

Apoptosis

Trisciuglio D, Uranchimeg B, Cardellina JH, Meragelman TL, Matsunaga S, Fusetani N, Del Bufalo D, Shoemaker RH, Melillo G. Induction of apoptosis in human cancer cells by candidaspongolide, a novel sponge polyketide. *J Natl Cancer Inst* 100(17):1233–1246, 2008.

Biochemistry and Biophysics

Fernandez AP, Serrano J, Tessarollo L, Cuttitta F, Martinez A. Lack of adrenomedullin in the mouse brain results in behavioral changes, anxiety, and lower survival under stress conditions. *Proc Natl Acad Sci USA* 105(34):12581–12586, 2008.

Cellular Immunology and Immune Regulation

Chen X, Subleski JJ, Kopf H, Howard OMZ, Mannel DN, Oppenheim JJ. Expression of TNFR2 defines a maximally suppressive subset of mouse CD4(+) CD25(+)FoxP3(+) T regulatory cells: Applicability to tumor-infiltrating T regulatory cells. *J Immunol* 180(10):6467–6471, 2008.

Williams JA, Lumsden JM, Yu X, Feigenbamm L, Zhang JJ, Steinberg SM, Hodes RJ. Regulation of thymic NKT cell development by the B7-CD28 costimulatory pathway. *J Immunol* 181(2):907–917, 2008.

Cell, Tumor, and Stem Cell Biology

Ding W, Li CX, Hu TH, Graves-Deal R, Fotia AB, Weissman AM, Coffey RJ. EGF receptor-independent action of TGF- α protects Naked2 from A07-mediated ubiquitylation and proteasomal degradation. *Proc Natl Acad Sci USA* 105(36):13433–13438, 2008.

Kwon M, Hanna E, Lorang D, He M, Quick JS, Adem A, Stevenson C, Chung JY, Hewitt SM, Zudaire E, Esposito D, Cuttitta F, Libutti SK. Functional characterization of filamin A interacting protein 1-like, a novel candidate for antivascular cancer therapy. *Cancer Res* 68(18):7332–7341, 2008.

Clinical Immunology

Tross D, Klinman DM. Effect of CpG oligonucleotides on vaccine-induced B cell memory. *J Immunol* 181(8):5785–5790, 2008.

Clinical Trials and Observations

Zonios DI, Falloon J, Bennett JE, Shaw PA, Chaitt D, Baseler MW, Adelsberger JW, Metcalf JA, Polis MA, Kovacs SJ, Kovacs JA, Davey RT, Lane HC, Masur H, Sereti I. Idiopathic CD4⁺ lymphocytopenia: Natural history and prognostic factors. *Blood* 112(2):287–294, 2008.

Developmental Biology

Wang L, Wildt KF, Zhu JF, Zhang XY, Feigenbaum L, Tessarollo L, Paul WE, Fowlkes BJ, Bosselut R. Distinct functions for the transcription factors GATA-3 and ThPOK during intrathymic differentiation of CD4(+) T cells. *Nat Immunol* 9(10):1122–1130, 2008.

Epidemiology

Hsing AW, Sakoda LC, Rashid A, Andreotti G, Chen JB, Wang BS, Shen MC, Chen BE, Rosenberg PS, Zhang MD, Niwa S, Chu L, Welch R, Yeager M, Fraumeni JF, Gao YT, Chanock SJ. Variants in inflammation genes and the risk of biliary tract cancers and stones: A population-based study in China. *Cancer Res* 68(15):6442–6452, 2008.

Experimental Therapeutics, Molecular Targets, and Chemical Biology

Gril B, Palmieri D, Bronder JL, Herring JM, Vega-Valle E, Feigenbaum L, Liewehr DJ, Steinberg SM, Merino MJ, Rubin SD, Steeg PS. Effect of lapatinib on the outgrowth of metastatic breast cancer cells to the brain. *J Natl Cancer Inst* 100(15):1092–1103, 2008.

Kuznetsov SG, Liu PT, Sharan SK. Mouse embryonic stem cell-based functional assay to evaluate mutations in BRCA2. *Nat Med* 14(8):875–881, 2008.

Genes Structure and Regulation

Amb S, Prueitt RL, Yi M, Hudson RS, Howe TM, Petrocca F, Wallace TA, Liu CG, Volinia S, Calin GA, Yfantis HG, Stephens RM, Croce CM. Genomic profiling of microRNA and messenger

RNA reveals deregulated microRNA expression in prostate cancer. *Cancer Res* 68(15):6162–6170, 2008.

Hematopoiesis and Stem Cells

Ji M, Li HJ, Suh HC, Klarmann KD, Yokota Y, Keller JR. Id2 intrinsically regulates lymphoid and erythroid development via interaction with different target proteins. *Blood* 112(4):1068–1077, 2008.

HIV

Delviks-Frankenberry KA, Nikolenko GN, Boyer PL, Hughes SH, Coffin JM, Jere A, Pathak VK. HIV-1 reverse transcriptase connection subdomain mutations reduce template RNA degradation and enhance AZT excision. *Proc Natl Acad Sci USA* 105(31):10943–10948, 2008.

Legiewicz M, Badorrek CS, Turner KB, Fabris D, Hamm TE, Rekosh D, Hammarskjöld ML, Le Grice SF. Resistance to RevM10 inhibition reflects a conformational switch in the HIV-1 Rev response element. *Proc Natl Acad Sci USA* 105(38):14365–70, 2008.

Manches O, Munn D, Fallahi A, Lifson J, Chaperot L, Plumas J, Bhardwaj N. HIV-activated human plasmacytoid DCs induce Tregs through an indoleamine 2,3-dioxygenase-dependent mechanism. *J Clin Invest* 118(10):3431–3439, 2008.

Host Defense

De la Rosa G, Yang D, Tewary P, Varadhachary A, Oppenheim JJ. Lactoferrin acts as an alarmin to promote the recruitment and activation of APCs and antigen-specific immune responses. *J Immunol* 180(10):6868–6876, 2008.

Londono D, Marques A, Hornung RL, Cadavid D. IL-10 helps control pathogen load during high-level bacteremia. *J Immunol* 181(3):2076–2083, 2008.

Immunobiology

Laffont S, Seillet C, Ortaldo J, Coudert JD, Guery JC. Natural killer cells recruited into lymph nodes inhibit alloreactive T-cell activation through perforin-mediated killing of donor allogeneic dendritic cells. *Blood* 112(3):661–671, 2008.

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Mazzucchelli R, Hixon JA, Spolski R, Chen X, Li WQ, Hall VL, Willette-Brown J, Hurwitz AA, Leonard WJ, Durum SK. Development of regulatory T cells requires IL-7/Ralpha stimulation by IL-7 or TSLP. *Blood* 112(8):3283-3292, 2008.

Muranski P, Boni A, Antony PA, Cassard L, Irvine KR, Kaiser A, Paulos CM, Palmer DC, Touloukian CE, Ptak K, Gattinoni L, Wrzesinski C, Hinrichs CS, Kerstann KW, Feigenbaum L, Chan CC, Restifo NP. Tumor-specific Th17-polarized cells eradicate large established melanoma. *Blood* 112(2):362-373, 2008.

Whittaker GC, Burshtyn DN, Orr SJ, Quigley L, Hodge DL, Pascal R, Zhang WG, McVicar DW. Analysis of the linker for activation of T cells and the linker for activation of B cells in natural killer cells reveals a novel signaling cassette, dual usage in ITAM signaling, and influence on development of the Ly49 repertoire. *Blood* 112(7):2869-2877, 2008.

Inflammation

Wolf R, Howard OMZ, Dong HF, Voscopoulos C, Boeshans K, Winston J, Divi R, Gunsior M, Goldsmith P, Ahvazi B, Chavakis T, Oppenheim JJ, Yuspa SH. Chemotactic activity of S100A7 (psoriasin) is mediated by the receptor for advanced glycation end products and potentiates inflammation with highly homologous but functionally distinct S100A15. *J Immunol* 181(2):1499-1506, 2008.

Mechanisms of Signal Transduction

Chakrabarti A, Sadler AJ, Kar N, Young HA, Silverman RH, Williams BRG. Protein kinase R-dependent regulation of interleukin-10 in response to double-stranded RNA. *J Biol Chem* 283(37):25132-25139, 2008.

Qin HR, Kim HJ, Kim JY, Hurt EM, Klarmann GJ, Kawasaki BT, Duhagon Serrat MA, Farrar WL. Activation of signal transducer and activator of transcription 3 through a phosphomimetic serine 727 promotes prostate tumorigenesis independent of tyrosine 705 phosphorylation. *Cancer Res* 68(19):7736-7741, 2008.

Shenoy SK, Xiao KH, Venkataramanan V, Snyder PM, Freedman NJ, Weissman AM. Nedd4 mediates agonist-dependent ubiquitination, lysosomal targeting, and

degradation of the beta(2)-adrenergic receptor. *J Biol Chem* 283(32):22166-22176, 2008.

Microbiology, Biology, Pathology, and Genetics

Hussain SP, He P, Subleski J, Hofseth LJ, Trivers GE, Mechanic L, Hofseth AB, Bernard M, Schwank J, Nguyen G, Mathe E, Djurickovic D, Haines D, Weiss J, Back T, Gruys E, Laubach VE, Wiltrout RH, Harris CC. Nitric oxide is a key component in inflammation-accelerated tumorigenesis. *Cancer Res* 68(17):7130-7136, 2008.

Molecular and Structural Immunology

Hofer T, Thomas JD, Burke TR, Rader C. An engineered selenocysteine defines a unique class of antibody derivatives. *Proc Natl Acad Sci USA* 105(34):12451-12456, 2008.

Molecular Basis of Cell and Developmental Biology

Mi LX, Xiao Z, Hood BL, Dakshana-murthy S, Wang XT, Govind S, Conrads TP, Veenstra TD, Chung FL. Covalent binding to tubulin by isothiocyanates: A mechanism of cell growth arrest and apoptosis. *J Biol Chem* 283(32):22136-22146, 2008.

Neoplasia

Segarra M, Williams CK, Sierra MD, Bernardo M, McCormick PJ, Maric D, Regino C, Choyke P, Tosato G. Dll4 activation of Notch signaling reduces tumor vascularity and inhibits tumor growth. *Blood* 112(5):1904-1911, 2008.

Oncogenes

Calvo A, Catena R, Noble MS, Carbott D, Gil-Bazo I, Gonzalez-Moreno O, Huh JI, Sharp R, Qiu TH, Anver MR, Merlino G, Dickson RB, Johnson MD, Green JE. Identification of VEGF-regulated genes associated with increased lung metastatic potential: functional involvement of tenascin-C in tumor growth and lung metastasis. *Oncogene* 27(40):5373-5384, 2008.

Liu Y, Borchert GL, Surazynski A, Phang JM. Proline oxidase, a p53-induced gene, targets COX-2/PGE(2) signaling to induce apoptosis and inhibit tumor growth in colorectal cancers. *Oncogene* 27(53):6729-6737, 2008.

Lu Z, Liu M, Stribinskis V, Klinge CM, Ramos KS, Colburn NH, Li Y. MicroRNA-21 promotes cell transformation by targeting the programmed cell death 4 gene. *Oncogene* 27(31):4373-4379, 2008.

Suh HC, Leraanansaksiri W, Ji M, Klarmann KD, Renn K, Gooya J, Smith D, McNiece I, Lugthart S, Valk PJM, Delwel R, Keller JR. Id1 immortalizes hematopoietic progenitors in vitro and promotes a myeloproliferative disease in vivo. *Oncogene* 27(42):5612-5623, 2008.

Wei JS, Song YK, Durinck S, Chen QR, Cheuk ATC, Tsang P, Zhang Q, Thiele CJ, Slack A, Shohet J, Khan J. The MYCN oncogene is a direct target of miR-34a. *Oncogene* 27(39):5204-5213, 2008.

Protein Function, Structure, and Folding

Li M, Gustchina A, Alexandratos J, Wlodawer A, Wunschmann S, Kepley CL, Chapman MD, Pomes A. Crystal structure of a dimerized cockroach allergen Bla g 2 complexed with a monoclonal antibody. *J Biol Chem* 283(33):22806-22814, 2008.

Pletnev S, Shcherbo D, Chudakov D, Pletneva N, Merzlyak E, Wlodawer A, Dauter Z, Pletnev V. A crystallographic study of bright far-red fluorescent protein mKate reveals pH-induced cis-trans isomerization of the chromophore. *J Biol Chem* 283(43): 28980-28987, 2008.

Protein Synthesis Post-Translation Modification and Degradation

Li Y, Bevilacqua E, Chiribau CB, Majumder M, Wang CP, Croniger CM, Snider MD, Johnson PF, Hatzoglou M. Differential control of the CCAAT/enhancer-binding protein beta (C/EBP beta) products liver-enriched transcriptional activating protein (LAP) and liver-enriched transcriptional inhibitory protein (LIP) and the regulation of gene expression during the response to endoplasmic reticulum stress. *J Biol Chem* 283(33):22443-22456, 2008.

Rajabi M, de Leeuw E, Pazgier M, Li J, Lubkowski J, Lu W. The conserved salt bridge in human alpha-defensin 5 is required for its precursor processing and proteolytic stability. *J Biol Chem* 283(31):21509-21518, 2008.

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Transcription, Chromatin, and Epigenetics

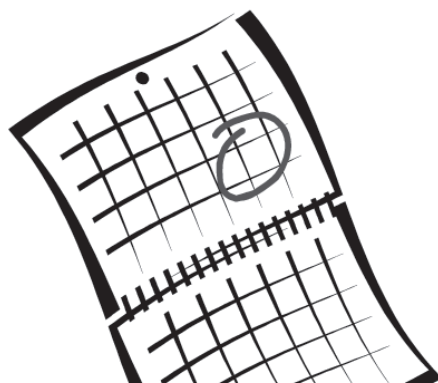
Tomita T, Kido T, Kurotani R, Iemura SI, Sterneck E, Natsume T, Vinson C, Kimura S. CAATT/enhancer-binding proteins alpha and delta interact with NKX2-1 to synergistically activate mouse secretoglobin 3A2 gene expression. *J Biol Chem* 283(37):25617–25627, 2008.

Transplantation

Sun K, Li MH, Sayers TJ, Welniak LA, Murphy WJ. Differential effects of donor T-cell cytokines on outcome with continuous bortezomib administration after allogeneic bone marrow transplantation. *Blood* 112(4):1522–1529, 2008.

Tumor Microenvironment

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Get a Jump on Spring – the Spring Research Festival, That Is!

By Maritta Perry Grau

You may want to mark your calendars with a big red star for this year's Spring Research Festival. Our festival has been moved to **April 29 and 30** to make it easier for college students to attend. The festival will again take place at the corner of Ditto Avenue and Sultan Street. ♦

Telephone Directory Update

By Ashley Hartman



Scientific Publications, Graphics & Media is updating the NCI-Frederick Telephone and Services Directory for 2009.

Please remember to update your contact information, such as e-mail addresses, on the NCI-Frederick online phonebook. To make changes to your individual listing, log on to the on-line phonebook at <http://web.ncifcrf.gov/campus/phonebook/>. Use the Quick Search to retrieve your record, click on your name, and then the Change Details button.

Changes will be automatically forwarded to your Human Resources/Organizational representative. Updating your individual listing through the web site can be done only on an NCI-Frederick computer. ♦

Web Sites of Note

By Ashley Hartman

Throughout our newsletter, you'll find web sites listed that provide you with more information than we can put in our articles. You're probably aware that there are many days, weeks, and months devoted to the recognition of particular health care issues. While we can't list them all, we've selected a few that seem most pertinent to NCI-Frederick.

January:

Cervical Health Awareness Month: www.nccc-online.org/awareness.html

Cervical Cancer Screening Month: www.cervicalcancercampaign.org/

February:

National Wear Red Day, February 6: www.nhlbi.nih.gov/health/hearttruth

National Donor Day, February 14: www.americasblood.org/go.cfm

Age-related Macular Degeneration/Low Vision Awareness Month: www.preventblindness.org

March:

National Colorectal Cancer Awareness Month: www.preventcancer.org/colorectal

National Multiple Sclerosis Education and Awareness Month: www.msfocus.org

Army Restricts Parking Just Outside NCI-Frederick

By Ashley Hartman

Fort Detrick began restricting parking in lots just outside the NCI-Frederick campus to only vehicles with Department of Defense (DoD) decals in October, according to an e-mail sent to the NCI-Frederick community.

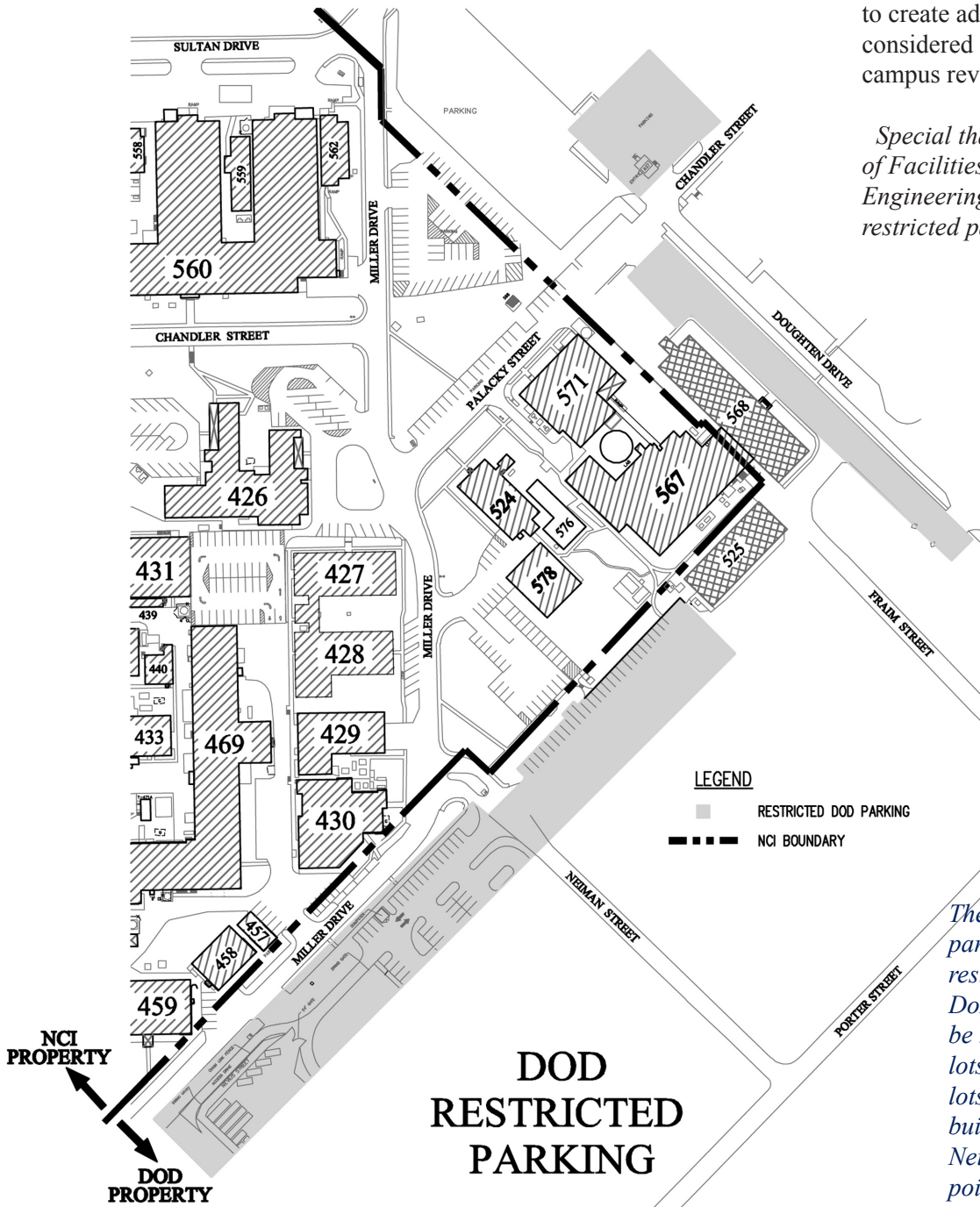
These lots have been restricted because of the expected increase in vehicles when the new DoD Logistics Building (off Porter Street) opens, according to Randall Morin, Dr. PH, Director of Environment, Health, and Safety. About 600 employees are expected to work in the new building.

DoD decals must be displayed on all vehicles that are parked in any of the restricted lots. Each restricted

lot is clearly marked at the entrances with a sign noting that only vehicles with DoD decals are permitted to use the lot. The restricted lots are all on DoD property and are patrolled by the DoD police.

“We estimate that approximately 50 employees were using the Army lots that are now off limits. All have seemed to find a place to park, but it is tight,” Dr. Morin said. Alternatives to create additional parking are being considered as part of an overall campus revitalization effort.

Special thanks to Travis Gaydos of Facilities Maintenance and Engineering for providing the map of restricted parking lots. ♦



The gray area shows where parking was recently restricted to only those with DoD decals. DoD decals will be needed to enter parking lots for Building 568, parking lots around the new DoD building, parking lots off Neiman Street, and at entry points to Fraim Street.

In Memoriam

In Memoriam:

Barbara Shankle

On September 11, 2008, NCI-Frederick employee Barbara Shankle lost her battle with cervical cancer. Barb, as she was known to her many friends, co-workers, and family members, had worked at NCI-Frederick for 15 years.

Ms. Shankle began working as an SAIC-Frederick animal caretaker and then advanced to animal technician,

supporting mouse studies for several NCI investigators. She later became an NCI-Frederick technician for Dr. Peter Johnson, specializing in mouse genotyping and managing his animal colony.

Dr. Esta Sterneck noted, "She excelled at loyalty and dedication to her responsibilities, going above and



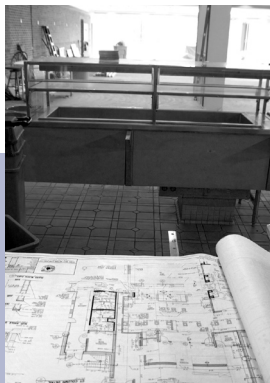
beyond at all times. For those of us who were fortunate to know and work with Barb, she was truly a person full of life who would brighten up a room just by her presence. She is greatly missed by one and all."

Ms. Shankle leaves behind her husband, Gary; her children, Karen and Kim, and their spouses; and her granddaughter, Kami. ♦

Café Renovations

New Café Taking Shape

Renovations to the NCI-Frederick Café are well underway. Plans include redesigning the serving area for better traffic flow as well as creating an express line for "grab 'n' go" items. The dining area is being completely redesigned with all new furniture, flooring, and lighting, to create a pleasant eating experience as well as a comfortable place for informal meetings. A new food services company will offer all-new menus for breakfast and lunch. ♦



Grand opening expected in early February 2009.

Lunch Service Is Available during the Renovation

While construction is underway, lunch service is available in the lobby of Building 549. You'll find a variety of take-out items, including sandwiches and wraps, salads, fresh fruit, soda, coffee, and homemade cookies.

**Hours of operation:
11:00 AM–2:00 PM,
Monday–Friday**

Closed December 22, 24, 25, and 26.



Poster People Profile

Life in Science = Travel

By Maritta Perry Grau

[Editor's note: In our "Science Today" column, page 5, we've focused on AIDS research. Here is a profile of an NCI-Frederick AIDS researcher.]

How many people have lived in three places, both in and out of the United States, during the first four years of their lives?

Jacob Estes, Ph.D., has done just that: the U.S. Air Force transferred his parents from Alaska to the Philippines shortly before he was born; then to Edwards Air Force Base; and back to Alaska when he was only four years old. And there, finally, the family stayed.

As an adult, he was roaming again, from the University of Alaska Anchorage to Brigham Young University (undergraduate and graduate degrees in Microbiology and Immunology, respectively), and to the University of Minnesota and postdoctoral work with Dr. Ashley Haase, head of the Department of Microbiology. "It's a given," Dr. Estes said, "that in doing postdoctoral work, you'll move around a lot. But, ultimately I want to establish an independent laboratory of my own and stay put."

Collaborations Begin on Humanized Mouse Models

While in Dr. Haase's lab, Dr. Estes began a long-distance collaboration with Dr. J. Victor Garcia, University of Texas Southwestern Medical Center, to develop a novel humanized mouse model to understand HIV transmission and disease. The collaboration continues today through weekly conference calls to discuss the research, from experimental design to experimental end points and analysis.

Developing and refining their humanized mouse model, they were able to systemically reconstitute these mice with human immune

cells throughout the body—spleen, liver, lymph nodes, intestinal tract, reproductive organs, thymus, even in the brain, with up to 60 percent of human immune cells contained in the blood. The human immune cells were sustained through the animal's life and provided "immune responses to human diseases, such as Epstein-Barr virus, Cytomegalovirus, and to various bacterial toxins," he



Jacob Estes, Ph.D., Scientist II, AIDS and Cancer Virus Program, Basic Science Directorate

said. "Most importantly, we found that these animals were remarkably susceptible to all forms of HIV transmission: intravenous, intrarectal, and intravaginal transmission."

Work on Humanized Mouse Models Continues at ACVP

In pursuit of knowledge about HIV, Dr. Estes joined NCI-Frederick in 2007 as a Scientist II in the AIDS and Cancer Virus Program (ACVP; formerly, the AIDS Vaccine Program), directed by Jeffrey Lifson, M.D. Dr. Estes is also on the staff of the Center

for Cancer Research.

Dr. Estes, Dr. Garcia, and NCI-Frederick colleagues have focused on developing the humanized mouse model as a preclinical preventative screening model for those at high risk for acquiring HIV.

Wealth of Collaborative Opportunities

"NCI provides an incredible density of remarkable scientists and scientific tools—an intellectual and scientific smorgasbord," Dr. Estes said. "It's amazing that you could have a conversation at lunch, and in a matter of weeks, be progressing into a large animal study, because somebody saw something very exciting in what you're doing, it had some synergy with what they're doing, and now you're both amplifying your programs by linking up with each other."

A Love of the Outdoors

Having grown up in Alaska, Dr. Estes admits to a love of the outdoors and to being a bit spoiled by nature's wealth in Alaska—when he was only 10, he caught his first fish: "a 45-pound king salmon; almost dragged me right into the river," he said.

Dr. Estes plans to teach his children (ages 14 and 8) to ski "on something small like the slopes at Ski Liberty. The challenge is trying to find the time to do that," he said.

And perhaps while in the Maryland research corridor, Dr. Estes will find the place for his independent laboratory, and that long hike out of Alaska will culminate in reaching the pinnacle that finally resolves some of the most pressing questions in HIV research. ♦

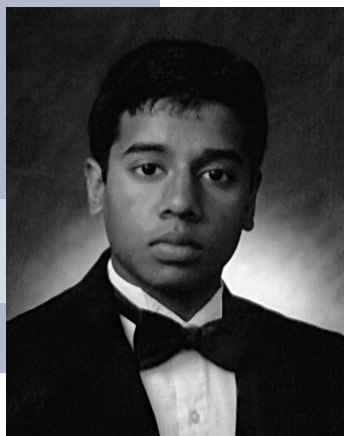
Prakash Arumugam: “Absolutely Passionate” about Research

By Nancy Parrish

For Prakash Arumugam, the Werner H. Kirsten Student Intern Program at NCI-Frederick was life-changing. His experience solidified his interest in science, and he has never looked back. “These [NCI-Frederick] laboratories encouraged my development as a scientist,” he said recently. “I’m absolutely passionate about research now. I want to make a significant impact in the scientific community that can potentially lead to saving lives.”

“Overwhelmed” at Support

A 2002 graduate of North Hagerstown High School, Mr. Arumugam was an intern in the Laboratory of Comparative Carcinogenesis with mentors Dr. Lucy Anderson and Dr. Yih-Horng Shiao. One of his proudest moments

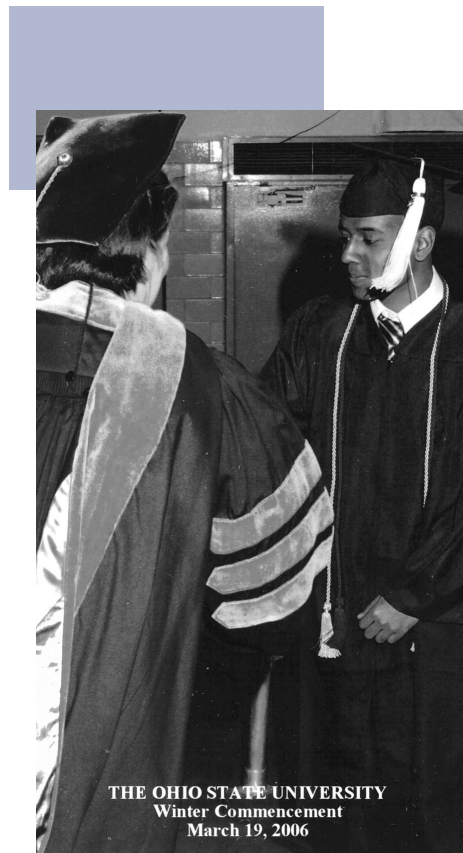


A 2002 graduate of North Hagerstown High School, Prakash Arumugam attributes his decision to enter a career in science to his experience as a Werner H. Kirsten intern.

as an intern, he said, was giving a presentation to his department on the work he had been doing for three months. “I was nervous, but after my presentation, I received praise and encouragement from everyone,” he remembers. Even today, he adds, he is “overwhelmed when I recall the level of support I received from such distinguished members of science as a high school student, and I am truly honored and grateful.”

He believes his internship “played a monumental role” in his choice of college and career. While studying the sciences at Ohio State University (OSU), he worked during the summers in the Laboratory of Cancer Prevention with Drs. Douglas Ferris and Rebecca Fisher. He says he majored in molecular genetics “without a question because of my experience at NCI.” Drs. Anderson and Shiao nurtured his proclivity for science and introduced him to genetics, and Dr. Ferris taught him protein biology. “They spent countless hours not only training me in cutting-edge protocols in molecular biology, but also teaching me the science behind them,” he recalls.

Graduating with honors and with distinction in 2006, Mr. Arumugam is now a research assistant with Lawrence Mathes, Ph.D., Director of the Center for Retrovirus Research, Director of the Viral Oncogenesis Program of the OSU Comprehensive Cancer Center/James Cancer Hospital Research Institute, and Professor of Veterinary Bioscience in the College of Veterinary Medicine. His work with Dr. Mathes involves investigating genetic and phenotypic drug resistance studies and the role of the thymus in CTL response to HIV, and characterizing novel T-regulatory cell markers. He plans to go to medical school next year.



THE OHIO STATE UNIVERSITY
Winter Commencement
March 19, 2006

Graduating from Ohio State University in 2006 with honors and with distinction, Mr. Arumugam is now a master's student and hopes to enter medical school next year.

Ask Questions, Take Notes, and Read

Mr. Arumugam advises current interns to “take advantage of this incredible opportunity. Always ask questions, take plenty of notes, and make sure to plan and record your projects in detail.” He encourages students to “do a lot of reading on your own, since your mentor will not have time to explain everything,” and he says he found the Scientific Library a great resource. Finally, he says, “Work hard and learn as much as you can.” Judging by Mr. Arumugam’s career path so far, this work ethic has clearly served him well. ♦

Poster Puzzler Winner



Congratulations to the September 2008 Poster Puzzler winner! Richard Calvert, a collaborating scientist from the FDA in the Laboratory of Comparative Carcinogenesis, Center for Cancer Research (left), with Paul Miller, Executive Editor of the *Poster*. ♦

The Poster Puzzler:

Air Supply

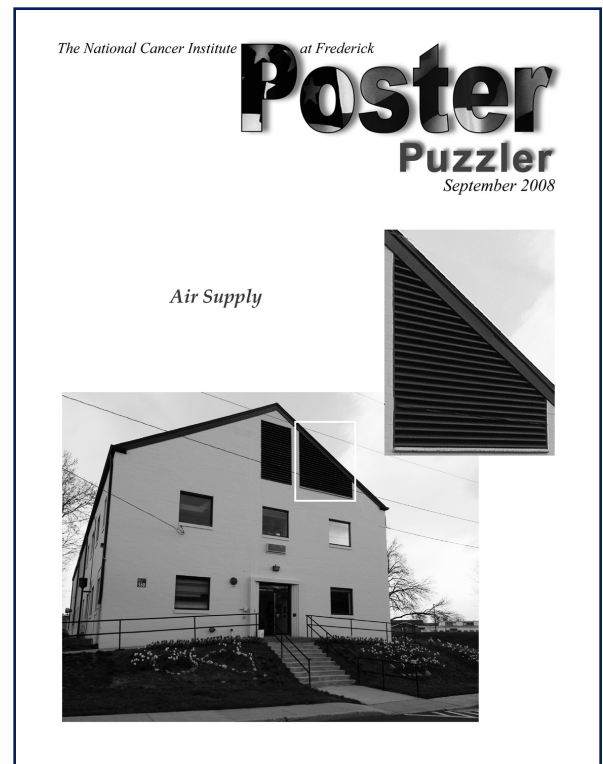
By Ashley Hartman

The September Puzzler is a photo of one of the intake louvers near the roofline of Building 550. This louver, made of aluminum and galvanized steel, is on one of the gable ends of the building in the attic area. The louvers take in outside air for the air handlers to use to heat or cool the building as needed. More than 29,000 cubic feet of air passes through these louvers every minute.

Building 550, originally known as an “Agent Control Laboratory,” was built in 1954 as part of the Biological Warfare Program at Fort Detrick.

Thanks to all the participants in the September 2008 Poster Puzzler! ♦

Special thanks to Rocky Follin of FME for providing the information for this article.



Poster Puzzler

What is it?

Where is it?

Your challenge, should you decide to accept it, is to correctly identify the item and its location from the picture to the right. Clue: It's somewhere at Fort Detrick/NCI-Frederick. Win a framed photograph of the *Poster* Puzzler and an NCI-Frederick tee shirt by e-mailing your guess, along with your name, e-mail address, and daytime phone number, to Poster Puzzler at poster@ncifcrf.gov. 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, January 16, 2008**, and the winner will be drawn from all correct answers received by that date.



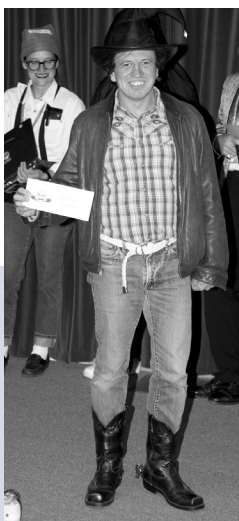
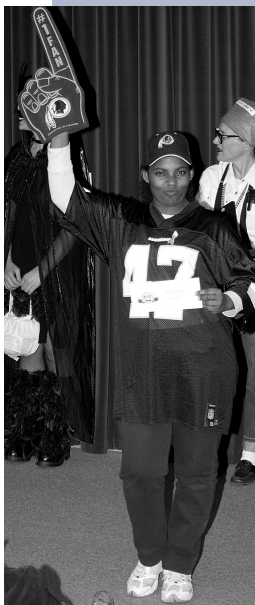
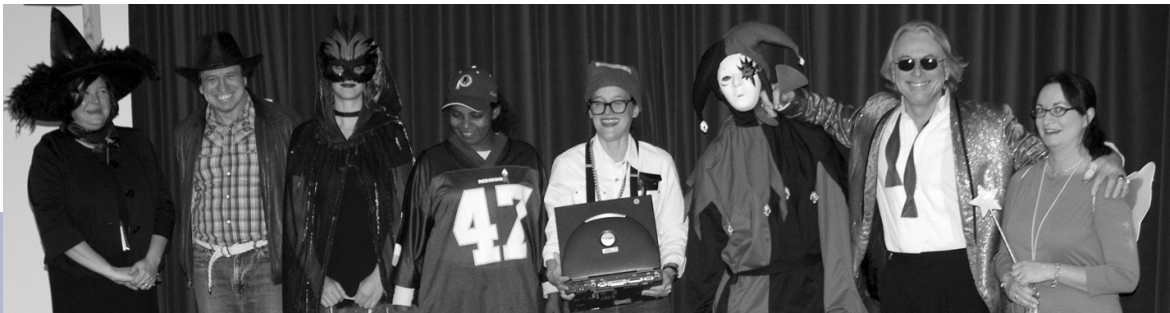
Good luck and good hunting! ♦

Memorial Garden



Earlier this fall, staff of Building 571 gathered to plant flowers in the memorial garden they've established outside their entrance. The garden originated as a tribute to Ruth McCrossin, a colleague who died last year. ♦

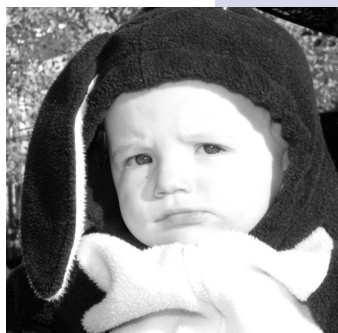
Halloween Costume Contest



The Employee Recreation Council sponsored its 10th Annual Halloween Costume Contest on October 31. Prizes were awarded for the Most Bootiful, Most Spooktacular, and Most Creative.



PALS Halloween Parade



Treats were plentiful when the Play and Learning Station tots, parents, and teachers had their annual Halloween parade on October 31.

Halloween Photo Contest Winners



Pet category: "Marilyn Monroe" is a 16-year-old cat belonging to Shawn Brown, Research Associate II, AIDS Monitoring Laboratory. Shawn says she designed Marilyn's costume to honor her future sister-in-law, Army 2nd Lieutenant Amanda Herman, who is stationed in Texas and "always in our thoughts as she proudly serves her country."



Children's category: Anna Trivett's 15-month-old son dressed as a frog, which, she says, is his favorite stuffed animal. Anna is a biologist in the Epigenetics Group, NCI.

NCI-Frederick Blood Drive Saves Lives

By Carolyn Cable

The NCI-Frederick community donated 172 units of blood between July 2007 and July 2008, which translates to 516 lives saved, according to the

American Red Cross.



American Red Cross

A unit of blood is about 500 ml, according to Occupational Health Services (OHS).

NCI-Frederick began having American Red Cross blood drives in April 2007. The first few blood drives had their challenges, such as long waits and insufficient staff, but the American Red Cross has been wonderful about listening to our

concerns and finding solutions to problems. They understand that asking employees to take time out of their busy workdays to give blood can be an inconvenience and that the entire process needed to be quicker. We now have more staff and repeat staff. Knowing how important schedules are for our staff has made appointment times much more accurate. The American Red Cross now strives for a one-hour turnaround from sign-in.

The last blood drive, held in July 2008, had minimal waits. Donors seemed pleased that the process was more streamlined. OHS has been successful in recruiting first-time donors, averaging four new donors with each blood drive. The average blood drive has two donors every 15 minutes from 11:00 a.m. to 4:45 p.m.

What You Should Know about Donating Blood

The first step in donating is to read the eligibility guidelines, after which you are then taken to a private booth to review your medical history with an American Red Cross employee. Then you have a quick finger stick of blood taken to verify that you are not anemic. If you pass everything up to this point, you are taken to a comfortable chair, where you lie down while a needle is placed in your arm. After you have relaxed for about twenty minutes, the needle is withdrawn. While you enjoy snacks such as soda, juice, cookies, and candy, and receive a FREE t-shirt, your donation is packed up to be tested and used to save lives. ♦

The Who of Flu

By Alberta Peugeot

Who needs a flu shot? Who are most at risk if they don't get a flu shot? According to the Centers for Disease Control and Prevention (CDC), the following people are encouraged to get a flu shot because they are members of the "high-risk" group: persons aged 50 and older; persons under age 50 at risk for influenza-related complications (bacterial pneumonia, ear or sinus infections, dehydration, or worsening of chronic medical conditions, such as congestive heart failure, asthma, or diabetes); persons who are household contacts of children aged 59 months (4 years and 11 months) and younger; pregnant women; and children aged 6 months to 59 months.

The flu vaccine is designed to protect against the three main flu strains that research indicates will cause the most illness during the flu season. Even if you contract a different virus, the vaccine can make your illness milder. For more information, check



It's not too late to get a flu shot. According to the Centers for Disease Control, flu activity usually reaches a peak in January or February in the United States, and can last as late as May.

out CDC's web site: www.cdc.gov/flu/2008-09_flu_qa.htm

What You Can Do Every Day

To stop the spread of germs that make you and others sick, consider the following actions:

- Cover your mouth and nose with a tissue when you cough or sneeze.
- If you don't have a tissue, cough or sneeze into the upper sleeve, not your hands.
- Put your used tissue in the waste basket.
- After coughing or sneezing, wash your hands with soap and water, or clean your hands with an alcohol-based hand cleaner.
- If you are coughing or sneezing regularly, consider wearing a surgical mask to protect others.

Flu season usually peaks in January and February, so it is not too late to get your flu shot. Last year more than 1,100 people at NCI-Frederick took advantage of the FREE flu shots offered by Occupational Health Services (OHS). Call OHS for an appointment, or if you have questions, at (301) 846-1096. ♦

If Not a White Christmas, Maybe a Green One?

By Paul Stokely

The holiday season is a time for excess and waste, followed by guilt, right?

Of course not—the best memories of the season should be of spending time with friends and family, relaxing after meals, or exchanging gifts. Many people enjoy brightly lit houses during the holidays and even make an event of it, such as Baltimore's 34th Street where every house is lit. Still, the amount of household garbage produced in the United States increases by about 25% between Thanksgiving and New Year's Day (<http://www.epa.gov/region1/communities/ecocool>).

Buy Gifts with Less Packaging

This holiday season, buy gifts with less packaging and wrap them creatively. Few people have time to make presents for everyone on their list, but gifts from local orchards, craft shops, galleries, and restaurants almost always use less packaging. When wrapping gifts, think about re-using ribbons or bows, if not the wrapping paper itself. Old maps or magazines, cellophane, and raffia have all been used as wrapping.

In 2006, the EPA estimated that 30% of landfill trash was packaging from food and other packaged products. Reusing paper or bows may be a small part of that, but every bit helps (<http://www.epa.gov/osw/nonhaz/municipal/pubs/msw06.pdf>).

Recycle Your Tree

When you are finished with your Christmas tree this year, recycle it. Tree farms are common in Maryland and are a big boost to local agriculture and service organizations. Frederick County, like most local governments, discourages throwing away old trees and annually sets up recycling

centers for the trees. Sites are listed on the county web page: <http://md-frederickcounty.civicplus.com/index.asp?NID=1721>.

Trees are usually converted to mulch, but one program uses old trees to help stave off erosion to islands in the Chesapeake Bay (<http://www.bayjournal.com/article.cfm?article=3037>).

For Holiday Lighting, Try LED Lights

To conserve electricity during the holidays, use newer LED lights. The older style of string lighting, which used incandescent bulbs, was often run "in series," so if one bulb burned out, the whole string went dark. The U.S. Department of Energy (DOE) estimates that the newer mini-bulb lights that run "in parallel" use 1/10 the electricity of the large bulbs, and LED lights use 1/10 of the electricity of mini-bulbs. Bonus: when one bulb burns out, the other bulbs remain lit (<http://www.eia.doe.gov/kids/classactivities/energyarticles.html#XmasTrees>). Incidentally, the National Fire Protection Association estimates that of all home Christmas tree fires, 22% were caused by faulty wiring in higher wattage lighting—another reason to consider LED lights (<http://www.nfpa.org/categoryList.asp?categoryID=296&URL=Research%20and%20Reports/Fact%20sheets/Seasonal%20safety/Christmas%20tree%20fires&cookie%5Ftest=1>). Also according to the DOE, if everyone replaced older string lights with LEDs, it would save an estimated two billion kilowatt hours of electricity in a month, which is enough to power 200,000 homes for a year (<http://www.holidaycreations.com/usdept.html>). Using a timer to shut off lights later at night will also help save energy.

Above all, treat the holidays as an opportunity to connect with friends and relax. I don't know—I hear that some people are able to do it! ♦

Chili Cook-off Coming in January

By Ashley Hartman

The seventh Annual Protective Services Chili Cook-off will be Wednesday, January 7, 2009, from 11:00 a.m. to 1:00 p.m. in the Building 426 conference room.



For the first time, the cook-off will also include a cornbread-baking contest.

Just like the top three finalists in the chili contest, the top three finalists in the cornbread-baking contest will receive reserved parking spaces, explained Tom Gannon-Miller, Protective Services Manager.

First place chili cook-off and cornbread winners will receive 30-day reserved parking spaces, second place will receive 10-day reserved parking spaces, and third place will receive five-day reserved parking spaces.

Winners are based on a point system. Those who attend the cook-off will vote for their top three favorite chili and cornbread recipes. Three points will go to each taster's first-favorite chili or cornbread recipe. Two points will go to the second-favorite recipes, and one point will go to the third-favorite recipes.

The deadline for entering the contest is January 6, 2009. Participants should bring in a crock pot portion for the chili contest and a 9" x 13" pan portion for the cornbread contest. For additional information or to enter, please call 301-846-1380.

Fitness Challenge

Congratulations to the Fitness Challenge Winners for August, September, and October

By Ashley Hartman

Fitness Challenge winners for August were:

Terri McLellan (left)
Laboratory Animal Sciences Program,
SAIC-Frederick, Inc., for miles walked

Derek Mills (right)
Environment, Health, and Safety (EHS),
SAIC-Frederick, for miles run

Tammie Ford (not pictured)
EHS, SAIC-Frederick, for miles biked



Fitness Challenge winners for September were:

Deena Wisner (right)
Biopharmaceutical Development Program,
SAIC-Frederick, for pounds lost

Ann Heller (not pictured)
Payroll Department,
SAIC-Frederick, for miles walked

Manjistha Sengupta (left)
Visiting fellow with the National Cancer Institute, for
hours performing other fitness activities



Fitness Challenge winners for October were:

Carolyn Keilholtz (right center)
Facilities Maintenance and Engineering (FME),
SAIC-Frederick, for pounds lost

Linda Brandenburg (left center)
FME, SAIC-Frederick, for miles walked

Liam Harmon (left)
Clinical Research Program Directorate,
SAIC-Frederick, for miles run

Eckart Bindewald (right)
Basic Science Program Directorate,
SAIC-Frederick, for miles biked

Yunden Badralmaa (not pictured)
NIAID, for hours performing other fitness activities ♦



Outreach and Special Programs

Help Wanted: Elementary Outreach Volunteers

By Nancy Parrish

Do you have eight hours a year to make science come alive for an elementary school child? The Elementary Outreach Program (EOP) is seeking people of all skills and talents to work with children in local elementary schools. This program “engages the students in hands-on science and gets them excited about possibly pursuing a career in science,” said Julie Hartman, EOP manager.

You do not have to be a scientist to join the program. In fact, non-science personnel are encouraged to volunteer so children may see that progress in science depends on a wide variety of administrative and support skills, in addition to scientific expertise.

Ms. Hartman said 65 volunteers are active this year, but, “I would like to see at least 80 because if we had more, we could go to more schools.”

As a volunteer, you help present a 60-minute lesson that is directly related to the schools’ science curriculum. Lessons are preplanned, so you may review them before going to a school. You may also meet with Ms. Hartman any time or receive quick training before class. All supplies are provided by the Office of the Director, Office of Scientific Operations.

You may join the program any time during the year; the minimum commitment is two days. “Most schools have four classes, so we teach two classes on one day, and two the next day,” Ms. Hartman said. Total time away from work is less than four hours for each day you volunteer.

Since 2000, NCI-Frederick volunteers have donated more than 11,000 hours in the EOP, benefitting more than 18,000 students throughout Frederick and neighboring counties. For more information on the program, or if you would like to volunteer, go to <http://web.ncifcrf.gov/campus/outreach/eop/default.asp>, or contact Julie Hartman, 301-846-7338 or hartmanjb@mail.nih.gov. ♦



NCI-Frederick Elementary Outreach volunteers teach third graders how microscopic observation adds to general observation, and how algae can be used as a thickening agent in foods.

What Do the Volunteers Think?

It is wonderful to show a child a microscope for the first time and watch the wonder and excitement on her face. Oftentimes, we are in a position to show these children something that they have never seen before.

– Jennifer Farrell, Clinical Research Associate II, Support to the Regulatory Compliance and Human Subjects Protection Branch/NIAID

You feel like you’re doing something worthwhile and something that’s making a lasting and positive impression on the kids....This is the generation that will take the scientific accomplishments of today and extend them into unimaginable realms of creativity and discovery.

– Frank Blanchard, Director of Public Affairs, SAIC-Frederick

One of the great things is for students to see the wide range of careers that are possible with some background in science....I have had kids stop me in the park, or [in] stores and say how much they want us to come back.

– Michael Dean, Ph.D., Head of the Human Genetics Section, Laboratory of Experimental Immunology

Editor’s note: Dr. Dean started the Elementary Outreach Program in 1994, when his son was in third grade. Still an active volunteer, Dr. Dean says that, with the support of the NCI-Frederick administration and community, this program “has made a dream of mine come true!”

Then and Now

Then & Now: Building 426

By Ashley Hartman

The photos from 1988 show the renovation of Building 426. (1988 bottom) shows how the center part of the building and the interior walls of the remaining portions of the building were demolished during the renovation. The renovation also included a new exterior façade of brick and insulated stucco. (1988 top) is a view of the front door of the building before the lobby beside Protective Services was built. A second-floor mechanical room in the center of the building was added, as were updated offices for Protective Services, the credit union, Occupational Health Services (OHS), and Environment, Health, and Safety (EHS).

Building 426 was built in 1944 as part of the Biological Warfare Program at Fort Detrick. The building was originally a one-story, T-shaped design with exterior walls made of structural glazed tile. It was used for administrative office space. The conference room inside the main entrance, which is still used today, has extremely thick walls with lead shielding to prevent outside listening by means of electronic devices.

In the mid-seventies, during the early years of NCI-Frederick, the building was occupied by the Scientific Library, OHS, Protective Services, and Human Resources.

Today, Building 426 houses Protective Services, EHS, OHS, and NIH Police.

Special thanks to Rocky Follin of FME for providing information for this article. ♦

1988



2008



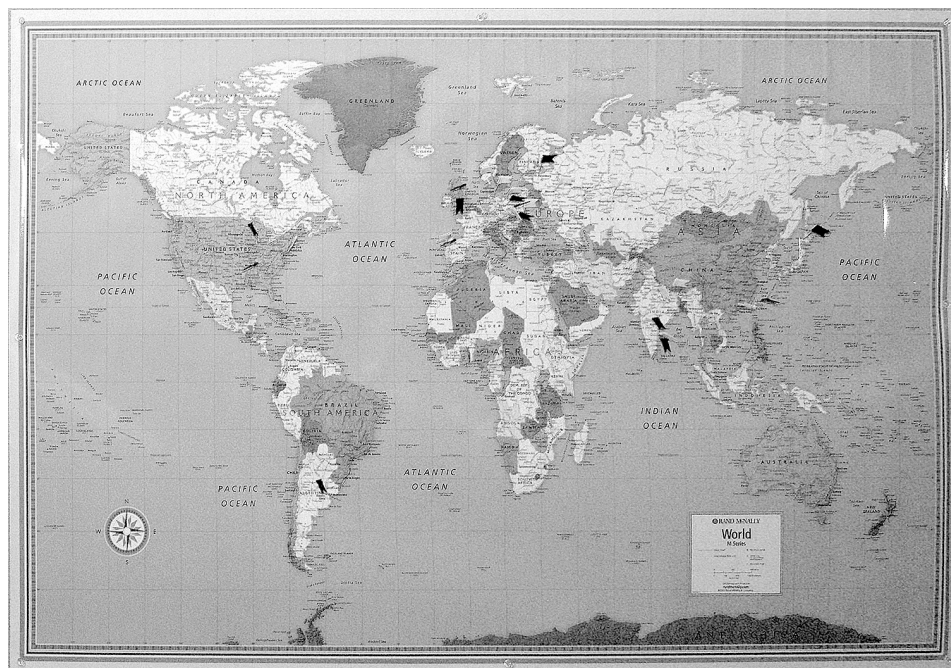
NCI-Frederick Employee Diversity Team

Diversity Display Case and World Map Find New Home

By Maritta Perry Grau

With the NCI-Frederick Café's renovations slated for completion by the end of February, the Diversity Display Case and the world map have found a new home in the lobby of Building 549. The case displays exhibits that reflect the diversity of the NCI-Frederick community, while the map helps illustrate the diversity of the NCI-Frederick work force.

Some of the more memorable displays have ranged from Black History Month with an emphasis on African-American scientists and inventors; Holocaust information; Asian-Native American month; celebrations of various international holidays; and "Women of NCI-



Frederick"; to displays of local dress and jewelry from India and the Philippines; dolls from around the world; and photographs, souvenirs, and other items from travels that NCI-Frederick employees have taken throughout the United States and abroad.

Ethel Armstrong, Manager, Interlibrary Loans for the Scientific Library, and keeper of the case, said that people sometimes comment that "some of the facts we have presented were new to them. This was especially true of the Holocaust display."

New employees can place colored pins on the map to designate their place of origin. The resulting mosaic serves as a reminder that while we all are members of the NCI-Frederick community, we all come from different backgrounds and bring different experiences to the workplace.

The Diversity Team purchased the world map in October 2002. Originally, the map area also featured a sign-up book, which provided a great place for people interested in the team or in contributing items to the Diversity Team case to leave their contact information. Unfortunately, the book was taken, and the team elected not to replace it with a new one until they could ensure that the new book could be secured. Now with the new location in the Building 549 lobby, the team is considering options that would allow them to replace the sign-up book.

If you have ideas for the display case or some artifacts you'd like to share, please contact Ms. Armstrong at 301-846-5843, armstroe@mail.nih.gov; or Paul Miller, Program Analyst and chair of the Diversity Committee, at 301-846-5660, millerpau@mail.nih.gov. ♦

New Faces at NCI-Frederick

NCI-Frederick Welcomes New Staff

One-hundred and eight people joined our facility in July, August, and September 2008.

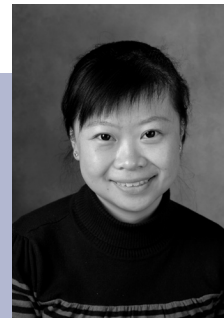
NCI-Frederick welcomes...

Matthew Anderson
 Matilde Arroyo
 Ryan Burdick
 Inbar Cohen-Gihon
 Francesca Cossarini
 Peter Galle
 Grant Hansman
 Christopher Hwang
 Hidekazu Ikeuchi
 Evrim Itir Karac
 Shadi Khalil
 Elif Nihal Korkmaz
 Warren Kretzschmar
 Jae-Ho Lee
 Renan Bohrer Lengruber
 Lesley Mathews
 Adelle McFarland
 Vladimir Pak
 Jia Qi
 Rachid Rahmouni
 Catherine Razzook
 Tapasree Roy-Sarkar
 Folkert Steinhagen
 Miia Suuriniemi
 Nurcan Tuncbag
 Suresh Volate
 Leah Wilcox
 Helmae Wubneh
 Lihong Xu
 Sloane Yu

Ryan Burdick



Jia Qi



Mary Neville



Allison Meade



Shadi Khalil



Data Management Services welcomes...

Jason R. Evans ♦

SAIC-Frederick, Inc., welcomes...

Pavan Adisheshaiah	Jan Kaczmarczyk	Timothy Pelc
John Aldis	Megan Karwan	Antonella Pepe
Rebecca Anhang Price	Talal Khalil	Demetra Perlegas
Jennifer Bacior	Kimberley Kieffer	Lal Puii
Victoria Barron	David Kimmel	Arati Raziuddin
Jennifer Bonass	Tammy Knight	Ryan Richards
William Boyd	Smita Kulkarni	Alma Ritz
Lawrence Brem	Gideon Kwarteng	Karen Schwab
Aurelie Buckelew	Eileen Lam	Christina Sealander
Joon Chung	Kerrie Lashley	Rallie Self Jr.
Maggie Czarnogorski	Yanling Liu	Liming Shen
Sudipto Das	Victor Lonsberry	Lihong Song
Joseph Dauner	Michael Loss	Howard Souder Jr.
Kia Davis	Marianne Lynch	Kathryn Spates
Simone Difilippantonio	Sonny Man	Kelly Spore
Kalpana Dommaraju	Charles McCoy	Charity Stever
Joseph Donkor	Kenneth McGee	Amy Stotler
Joubert Dupalis	John McWilliams	Hua Su
Xuemei Feng	Allison Meade	Dante Tedaldi
Chantelle Gastinger	Danielle Mesa	Marc Teitelbaum
Michael Griffith Jr.	Ricardo Montano	Bernard Thompson
John Hamre III	Mary Neville	Sherri Tyeryar
Matthew Hansen	Zoe Ohler	Revia Wade
Regina Hayman	Ghislaine Ouedraogo	Linyi Wei
Kimberly Hough	Yuan-Ji Pan	David Westcott
Ami Hurd	Bawi Par	

SAIC-Frederick Honors Employees at Annual Awards Ceremony

By Maritta Perry Grau

SAIC-Frederick, Inc., employees gathered in November for the company's annual awards ceremony at the Lynfield Complex near Frederick. The company honored 57 employees with Achievement Awards and 220 with Service Awards.

A new award was added this year: Cost Savings. The first recipient of this award was the Environment, Health, and Safety Waste Management Team of Paul Stokely, Bryan Malseed, William Osman, and Victor Carr.

Other prestigious awards included the Norman P. Salzman Mentoring Award honoring Dr. Haleem Issaq; and the Distinguished Career Service Awards, given to Elizabeth Baseler and Julian Bess.

Teams and individuals garnered seven Outstanding Achievement Awards, four Special Achievement Awards, and five Customer Relations Awards.

In addition, those who have served with the company for 5, 10, 15, 20, 25, 30, and 35 years were recognized. The 220 employees totaled 3,215 years of work.

Relationship with NCI Very Important

SAIC Corporate's Chief Operating Officer, Lawrence B. Prior III, and Charles F. Koontz, head of the Information Technology and Network Solutions Group, attended.

Noting that SAIC Corporate has 45,000 employees in 400 locations in 40 countries, Mr. Prior said that SAIC-Frederick's "work is important to the world, to the U.S., to families everywhere. Everyone is touched by cancer." He thanked SAIC-Frederick employees for their "work and commitment to advancing science and research."



Larry Prior (top), Chief Executive Officer, and Charles Koontz, head of Information Technology and Networking Solutions Group, the SAIC Corporate business unit to which SAIC-Frederick, Inc., belongs, are shown remarking on the work that SAIC does for NCI.

Mr. Koontz commented that he was "very proud of SAIC-Frederick" and noted that "SAIC-Frederick is the most referenced contract in the company." He stated that the Corporate offices consider the relationship between Corporate, SAIC-Frederick, and NCI a very important one.

SAIC Evolves New Organizational Structure to Meet NCI's Needs

Dr. Larry Arthur, SAIC-Frederick CEO, noted that when SAIC-Frederick's first contract with NCI began in 1995, SAIC-Frederick had 1,323 employees; that number has grown to 1,791 employees. "Our relationships with NCI are important," Dr. Arthur said, describing how the company first evolved into 10 directorates that work with the customer (NCI) at all levels of employees and now has developed a new organizational structure to handle the increased workload and projects.

ATP Retreat Focuses on Scientific Exchange

By Timothy Veenstra, Ph.D.

The Advanced Technology Program (ATP) held its second annual retreat on October 23 at the Clarion Hotel in Shepherdstown, West Virginia. The day kicked off with an introduction by ATP Director Dr. Tim Harris, followed by the keynote address from Dr. Patricia Steeg, Center for Cancer Research, NCI. Dr. Steeg provided an insightful treatise on how primary tumors evolve into metastatic lesions, while highlighting many of the challenges that scientists face in detecting these lesions.

Other invited NCI speakers included Dr. Olga Aprelikova, Cell and Cancer Biology Branch, who spoke about the analysis of gene expression, microRNA, and proteins in endometrial tumors; and Dr. Eric Freed, HIV Drug Resistance Program, who shared recent findings on HIV-1 assembly, release, and maturation. All three presentations highlighted the synergy between NCI and ATP laboratories.

The objective of the retreat was to provide a forum for information exchange, with ATP scientists focusing on current technologies and research directions.

The retreat drew 120 attendees, including seven people from programs outside the ATP. Dr. Tim Veenstra, Director of the Laboratory of Proteomics and Analytical Technologies (LPAT), organized the event, with assistance from ATP Program Coordinator Barbara McElroy and LPAT secretary Sandi Walker.

For next year's retreat, planners will focus on increasing participation by NCI scientists, whose presence will strengthen the scientific exchange, since the ATP supports their research.

[reprinted from the November 15, 2008, ATP Update] ♦

The Laptop Librarians Are Here!

By Robin Meckley

The Scientific Library recently began offering a new service called The Laptop Librarian. This service brings librarians to locations that are more accessible and convenient to the NCI-Frederick community. A pilot program was conducted in Building 560 in September. Armed with a laptop computer and lots of knowledge, a librarian went to Building 560 twice a week and spent two-hour time periods in the couch area immediately inside the main entrance. This pilot program proved to be successful, as many people stopped by to ask questions about library services and resources, and to get help troubleshooting software programs such as Reference Manager.

The pilot program was such a success that the Laptop Librarians are adding more locations. They will continue to be in Building 560 once a week, but they will also begin to hold sessions in Building 539 and at several off-site locations.

The Laptop Librarian can help you with a variety of tasks, such as:

- Searching the many bibliographic databases and other resources available to you
- Accessing electronic journals and books
- Setting up automatic search or citation alerts
- Finding whatever information you need.

The Laptop Librarians are two of the newest staff members of the Scientific Library. Tracie Frederick began working at the library in January 2007.

Before coming to NCI-Frederick, she worked at Dahlgren Memorial Library at Georgetown University Medical Center. As our Technology Informationist, Ms. Frederick performs a variety of duties, which include maintaining the library's integrated library system, helping to develop the library's book and journal collections, teaching training classes, creating and maintaining web pages,



From left: Tracie Frederick, Technology Informationist, and Marci Brandenburg, Biosciences Informationist, serve as the Scientific Library's laptop librarians.

and assisting people in finding and using the library's resources. As a Laptop Librarian, Ms. Frederick is available to come to your lab to talk about library services and resources, or for individual consultations.

Before coming to the Scientific Library in May of this year, Marci Brandenburg worked in a variety of venues. While a student at the University of Michigan's School of Information, she worked for the University of Michigan Health Sciences Libraries and the National Center for Integrative Biomedical Informatics, in addition to spending a summer as a research assistant for a School of Information faculty member. Prior to earning her Master of Science in Information degree, Ms. Brandenburg earned

a Master of Science in Biology. She was a Research Technician Associate for a laboratory at the University of Michigan Medical School, and a Biological Sciences Technician (Wildlife) for the USDA Wildlife Services. In addition, Ms. Brandenburg worked for the National Wildlife Federation and the Public Affairs Department of the National Zoo. As the Library's Biosciences Informationist, Ms. Brandenburg is well-qualified to help scientists find the precise scientific information they require, which she can do in the library as well as "on the road" as a Laptop Librarian.

If you are interested in having a Laptop Librarian come to a location near you, please contact the library at NCIFredLibrary@mail.nih.gov or 301-846-1093.

A Walk Down Memory Lane

By Robin Meckley

In September, the Scientific Library launched a new and improved web site that we hope users are finding to be comprehensive and easy to use. As we prepared this new web site, we reminisced about the history of the library's electronic access.

We began the conceptual design of our first "Homepage" in 1995. Our library was one of the few in the country whose staff developed and posted its own web site without outside assistance. The second version of the web site debuted in August 1997, with new graphics and updated content. This work was again completed entirely in-house.

A new server with more storage capacity and improved response time was installed in the summer of 1999, and a separate intranet server was installed in 2000 to be used to test applications and troubleshoot new databases before they were made

continued on page 27

continued from page 26

available to end users, an approach we still use today. In January 2001, we began collecting daily statistics from the web server to monitor electronic journal use, which was well ahead of the industry.

July 20, 2002, marked the conversion to a third, completely overhauled web site, which was the result of 10 months of planning, design, testing, and implementation. The highest priority was to ensure high quality while simultaneously complying with Section 508 accessibility standards, which we did six years before compliance became mandatory.

By 2006, with almost 7,000 online

journal titles requiring daily edits and adjustments, Serials Solutions was incorporated into our computer system to provide a more effective way to manage the list. Serials Solutions provides usage reports, permitting us to build a much more reliable information base upon which to make future collection development decisions.

During 2006–2007, the layout, content, graphics, integration, help functions, and usability of our online catalog were updated and redesigned. The new and improved online catalog officially launched on February 22, 2007, and offers the ability to place

holds or renew materials from any Internet connection; search more conveniently with fewer “clicks”; view pop-up search tips; save searches; receive e-mail alerts about new materials; easily locate forms; and quickly access the catalogs of other libraries.

Originally, the maintenance of the library’s web site involved two people. As its size and content have grown, all of the librarians now play a role in maintaining the site and the servers. We invite you to view the newest version of the Scientific Library’s web site at <http://www-library.ncifcrf.gov>. ♦

On Effective Communication

Less Is More

By Ken Michaels

Years ago, when I made 35mm slides for the faculty of an academic medical center, one client in particular often began his request with the phrase “Now I know, Mr. Michaels, that you would advise against this, but ...” and would proceed to tell me that he desired to put an entire page from *Grant’s Anatomy* on a single slide. He was right. I would advise against it, given the opportunity. In fact, I had already advised against it often enough that he decided to save us both time by giving my advice a nod, then proceeding on to his instructions all the same. Naturally, he got what he wanted, my advice notwithstanding.

He “taught” the medical students with a series of such slides, many with a hundred or more structures labeled, as he lectured on a small fraction of what the illustration showed. Aside from the annoyance factor of illegibility, it was certainly a case of “too much information.”

The ultimate goal in virtually all forms of communication is for the

audience to understand the message. And any nonessential or distracting element, be it gratuitous graphics, poor grammar, excessive or barely relevant data, creates a “speed bump” along the road to understanding.

In his 2001 book *The Visual Display of Quantitative Information*, Edward Tufte wrote: “The interior decoration of graphics generates a lot of ink that does not tell the viewer anything new. The purpose of decoration varies—to make the graphic appear more scientific and precise, to enliven the display, to give the designer an opportunity to exercise artistic skills. Regardless of its cause, it is all non-data-ink or redundant data-ink, and it is often chartjunk.”

Tufte’s coined word “chartjunk” has since been picked up by many to refer to all visual elements in an illustration that are unnecessary for comprehending the information. I would suggest that we should police not only our chartjunk, but our “wordjunk” as well, if I may coin a term of my own, especially when making PowerPoint slides. One particular category of chartjunk

that Tufte defines is “redundant representations of the simplest data.” I can imagine no more “redundant representation of data” than that of the presenter who builds PPT slides in complete sentences, puts them on the screen ... and then reads them verbatim to the audience.

Complete sentences are for print, not projection, media. Words on PowerPoint slides should be thoughts and concepts—fragments or prompts to be fleshed out by the spoken words of the presenter. Visual simplicity. That is, unless you are displaying a direct quote from someone (in which case you’ll, of course, simply be silent for a moment and let the audience read it for themselves).

Complex concepts can be explained by a careful buildup of points in an orderly fashion—anatomical landmarks from *Grant’s* added to the display one at a time as each is discussed, for example. The less new information presented at any given time, the more easily the point is understood. Less really is more. ♦

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Published four times a year by Scientific Publications, Graphics & Media for the National Cancer Institute at Frederick, Frederick, MD 21702.

web.ncifcrf.gov/ThePoster

42884

Employment Opportunities

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

Charles River Laboratories

www.criver.com

Data Management Services

css.ncifcrf.gov/services

National Cancer Institute at Frederick

www.training.nih.gov/postdoctoral

SAIC-Frederick, Inc.

saic.ncifcrf.gov
www.saic.com

Wilson Information Services Corporation

www-library.ncifcrf.gov

Upcoming Events and Dates to Note

December 25: Christmas Day; NCI-Frederick closed

January 1: New Year's Day; NCI-Frederick closed

January 8: The 2009 NCI Intramural Scientific Investigators Retreat

January 16: Poster Puzzler entries due

January 19: Martin Luther King, Jr. Day; NCI-Frederick closed

February 16: President's Day; NCI-Frederick closed

April 29 and 30: Spring Research Festival 2009

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

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 web.ncifcrf.gov/campus/phonebook/, or by contacting your human resources representative. For more information, you may refer to the inside front cover of the NCI-Frederick Telephone & Services Directory.

Comments or suggestions for The Poster may be directed to poster@ncifcrf.gov.

The National Cancer Institute at Frederick

Poster

Frederick, MD 21702-1201

Weather Advisory

You peer out the bedroom window and see softly falling snow or the gleam of ice. Is the base closed? Here's how to find out. Call the Fort Detrick Telenews (301-619-7611) or listen to local radio/television stations for information.

Closed or Delayed Opening

Remember: When Fort Detrick is closed, NCI-Frederick is also closed; when Fort Detrick has a delayed opening, NCI-Frederick has a delayed opening. NCI-Frederick does not follow weather closing or delayed opening advisories for the NIH-Bethesda campus or the Washington metropolitan area.

Early Dismissal

For early dismissal, NCI-Frederick operates independently of Fort Detrick; therefore, your supervisor will notify you if NCI-Frederick closes during working hours.

Telephone Numbers

Recorded weather line 301-619-7611
Fort Detrick toll-free number 1-800-256-7621, *8, 37611#
TDD 301-619-2293

Internet (This will only be used if there is a change in operating hours)

Fort Detrick's home page: <http://www.detrick.army.mil/>
Weather information pops up automatically.

Radio/TV

Frederick, MD

WTOP AM 820
WFMD AM 930
WFRE FM 99.9
WAFY FM 103.1

Hagerstown, MD

WARK AM 1490
WJEJ AM 1240
WQCM FM 96.7
WWEG FM 106.9
WHAG NBC 25 (TV)

Baltimore, MD

WCAO AM 600
WBAL AM 1090
WPOC FM 93.1
WIYY FM 97.9

Thurmont, MD

WTHU AM 1450

Williamsport, MD

WCRH FM 90.5

Chambersburg, PA

WHGT AM 1590

Gettysburg, PA

WGET AM 1320
WGTY FM 107.7

Greencastle, PA

WWMD FM 101.5
WAYZ FM 104.7

Mercersburg, PA

WSRT FM 92.1

Waynesboro, PA

WCBG AM 1380
WFYN FM 101.5

Charles Town, WV

WMRE AM 1050

Martinsburg, WV

WEPM AM 1340
WICL FM 95.9
WLTF FM 97.5

Washington, D.C.

WTWP AM 1500
WMZQ FM 98.7
WTOP FM 103.5
WGMS FM 104.1
WRXQ FM 107.3
WTWP FM 107.7
WUSA NBC 9 (TV) ♦



Weather Advisory

Winter Driving Safety Tips

Driving in cold weather presents special weather-related driving hazards. As you enter your vehicle this winter, here are some winter driving tips to keep in mind:

- Stopping distance on a snowy/icy surface can be up to 10 times that of a dry road, so drive with extra caution on slick or snowy surfaces.
- Turn your headlights on during periods of low visibility.
- Wear your safety belt. Secure children under age four in a child safety seat.
- Allow extra time for winter trips. If you are running late, do not rush.
- It is a Maryland law that all windows and mirrors on vehicles be cleared of snow and ice. Do not go down the road with only a peephole to see through. Fort Detrick police will cite this infraction.
- Clear all snow off the hood and roof of a vehicle so snow does not blow onto the windshield or rear window and obscure your vision.
- Carry an emergency kit that includes an ice scraper and brush, jumper cables, a shovel, a tow chain, tire chains, a blanket, gloves, a flashlight, and rock salt or kitty litter for traction.



Make sure that your vehicle is mechanically sound. The following checklist will help to ensure a safe trip each day this winter:

- Cold weather is especially demanding on batteries. Check and replace your battery if needed.
- Install all-weather tires or snow tires and check to see that tire pressure meets the recommendations of your owner's manual.
- Test your antifreeze against the recommendations of your owner's manual.
- Check the integrity of your exhaust system for leaks into the passenger area.
- Be sure your wiper blades are in good condition.

These tips have been provided by Environment, Health, and Safety (EHS). If you have any questions or would like more information, contact EHS at 301-846-1451.

