



Shotgun Proteomics Used in Cancer Biomarker Discovery

By Maritta Perry Grau, Staff Writer

“Shotgun” may seem like an odd term to use when talking about proteomics, but for those who work in the field every day, it is certainly appropriate. A shotgun blast tends to hit a wide range of targets. In the same manner, “shotgun proteomics” is a method to identify and profile thousands of proteins from cultured cells, clinical tissue specimens, or body fluids. This technique employs multidimensional liquid chromatography coupled with high-accuracy and high-resolution mass spectrometry (MS).

Finding a Blood Test for RCC

One of the cancers for which we currently have no biomarkers is renal cell carcinoma (RCC). However, Josip Blonder, M.D., head of the Clinical Proteomics Group, Laboratory of Proteomics and Analytical Technologies (LPAT), NCI-Frederick, and his colleagues hope to develop a proteomic approach capable of identifying RCC biomarkers through patient blood tests. Such a test would help doctors

find RCC in its earliest stages and help them decide more clearly on the best course of treatment for an individual patient.

Known as a “silent cancer,” RCC is not often diagnosed in its early stages; in fact, at least 40 percent of RCCs have already metastasized when found. Treatment options generally include surgical resection; even so, the cancer often recurs, spreading throughout the body and leading to death.

Pilot Study Two Years in the Making

Blonder and his group have conducted a pilot study over the past two years, using RCC as a model disease, to develop an MS-based method for cancer biomarker discovery.

“Cancer biomarker research represents a major effort within the clinical proteomics group, and being an M.D., I would like to put my medical background to

good use,” Blonder said.

“In this study, tumor, normal adjacent tissue, and

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Josip Blonder, M.D., Laboratory of Proteomics and Analytical Technologies, prepares to insert a new ion transfer line into the mass spectrometer (MS) source for a hybrid (ion-trap/FTICR) state-of-the-art MS instrument.



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Cancer Biomarker

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peripheral blood were obtained from a single patient diagnosed with a non-metastatic RCC,” Blonder explained. “Our goal was to identify a reasonable biomarker panel in peripheral blood using tissue-directed, state-of-the-art shotgun proteomics.” Subsequently, an orthogonal immunoassay was used to cross-validate identified biomarker candidates.

Shotgun proteomics has previously been used to profile tumor tissue or body fluids. However, Blonder’s group was the first to develop a holistic approach that relies on tissue-directed subtractive proteomics to map tumor proteins in peripheral blood within a single study.

The project was a collaborative one with Donald Johann, M.D., assistant clinical investigator, Medical Oncology Branch. Johann is studying the cancer biology of solid tumors. “While this technology has been developed using RCC as a model disease, it can be easily applied to any set of specimens obtained from patients diagnosed with solid tumors,” Blonder said.

“This innovative proteomic platform is suitable for individualized medicine, since all analyzed specimens were obtained from a single patient diagnosed with cancer,” he said. Importantly, the applicability of results obtained in this study can be tested in a high-throughput manner using immunoassays (e.g., ELISA) on larger patient cohorts.

Toward a Cancer Proteome Atlas

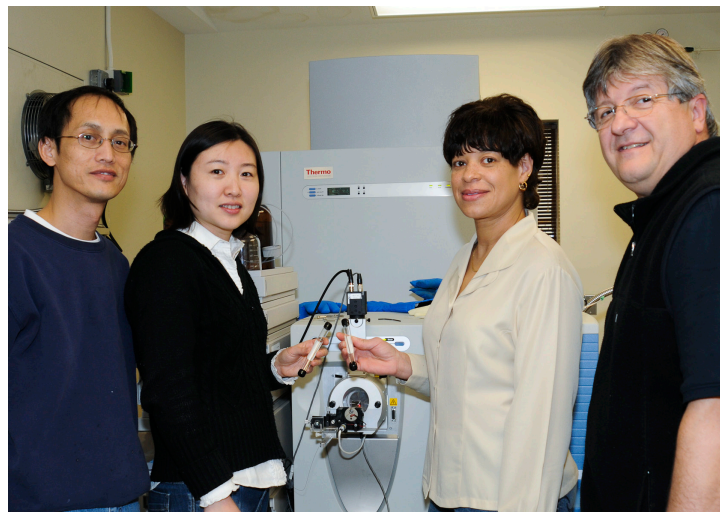
This approach may serve as a blueprint for the cancer proteome atlas (TCPA), in the same way the cancer genome

atlas (TCGA) is being currently formed—through individual genotyping of solid tumors. Dr. Blonder noted that “the idea of creating the TCPA stemmed from our recent findings showing that the majority of proteins reported in previously published proteomic studies focused on RCC were identified in our study.”

He explained that “the tumor proteome atlas will focus on molecular profiling of human tumors on an individual basis and should greatly facilitate our understanding of the molecular biology of cancers based on their protein signatures, revealing major pathways activated in certain types of cancers revealing novel drug target discovery and prognostic biomarkers, as well.”

Article in *Analytical Chemistry*

An article titled “Combined Blood/Tissue Analysis for Cancer Biomarker Discovery: Application to Renal Cell Carcinoma,” summarizing the group’s findings, was recently published in *Analytical Chemistry* (*Anal. Chem.*, 82:1584–1588, 2010). The article was received favorably by researchers in the cancer biomarker research and clinical proteomics fields. Consequently, Blonder was invited to give a talk entitled “Towards the Cancer Proteome



From left, Dr. King Chan, Dr. Xiaoying Ye, DaRue Prieto, and Dr. Josp Blonder with the state-of-the-art, high-accuracy, high-resolution mass spectrometer instrument used in cancer biomarker research for shotgun quantitative proteomics.

Atlas: Lessons Learned from Proteomic Profiling of Renal Cell Carcinoma Clinical Specimens,” at the U.S. Human Proteome Organization (HUPO) conference, taking place in Raleigh, NC, March 20–23, 2011. This conference represents one of the largest gatherings of scientists in the field of clinical proteomics and proteomics in general.

“I am glad that SAIC-Frederick receives favorable publicity and hope that other labs will adopt our approach. However, this is not a ‘one man show.’ Besides our collaborators’ contributions, I would like to acknowledge efforts by DaRue Prieto, King Chan, and Xiaoying Ye from LPAT, without whom this study could not have been effectively accomplished.” Blonder said. ■



CADP Supports Development of High-Quality Clinical Assays

By P. Mickey Williams, Patient Characterization and Clinical Assay Development Centers, Guest Writer

Recent advances in our knowledge of molecular defects within cancer cells have led to a new generation of targeted therapies. Two early examples of success of a targeted treatment approach are Herceptin (trastuzumab), which targets the amplified Her2 tyrosine kinase receptor on breast cancer cells, and Tarceva (erlotinib), which targets an epidermal growth factor receptor (EGFR), a tyrosine kinase receptor in non-small cell lung cancer.

Not all patients have such mutations. To guide the targeted therapy, diagnostic assays are used to identify patients with these particular defects.

Since the approval of Herceptin and Tarceva, additional targeted therapies have been developed, increasing the need for fully developed and validated clinical assays. The added cost of the new targeted drugs makes it all the more imperative to find the right drug(s) for the patient by employing validated assays that have been demonstrated to perform in patient selection and therapy response.

Clinical Studies Need “Integral” Markers

NCI sponsors many clinical studies through extramural funding, as well as through intramural clinics. Many of these studies rely on an “integral” marker to stratify patients or even to assign a particular treatment (thus, the assay must be performed on the subject’s tissue for the subject to be eligible for the trial). Using marker assays as integral tools for clinical studies requires well-developed, optimized, analytically validated assays. Although the assays should be performed by competent staff in an accredited clinical laboratory, too frequently the quality of assays is not adequate.

The extreme result can be the failure to demonstrate utility of a promising biomarker or therapy.

CADP to Help Develop Integral Assays

It is with this backdrop that the Cancer Diagnosis Program of NCI’s Division of Cancer Treatment and Diagnosis (DCTD) initiated a new program, the Clinical Assay Development Program (CADP). CADP’s mission is to provide services to assist the development, optimization, and standardization of, as well as the development of appropriate controls for integral assays intended to be used as part of clinical studies (<http://cadp.cancer.gov/>).

CADP will also provide clinical samples through the Specimen Retrieval System (SRS), assistance in finding appropriate samples outside the SRS, and statistical support. Appropriate clinical samples can be very difficult to obtain but are essential to demonstrate acceptable clinical assay performance before implementation in studies.

An application process has been established to request assay development services. Submissions will be selected based on scientific merit, feasibility of success, clinical need, and a path to clinical implementation.

Work on an accepted assay will include a project team comprised of the assay submitter, NCI personnel, SAIC-Frederick staff, and a sub-contracted, clinically accredited laboratory. Through the SAIC-Frederick contract, eight CLIA-accredited laboratories have been sub-contracted under a Basic Ordering Agreement to provide services.

Once the assay is optimized and fit for clinical use, it will be returned to the submitter’s CLIA site to support clinical studies.

CADC Established to Verify Markers

CADP also has established the Patient Characterization and Clinical Assay Development Center (PCC-CADC).

PCC-CADC will take on projects in much the same way that assays are selected for entrance into the CADP assay services program. The goal is to verify markers from research efforts, such as The Cancer Genome Atlas, using standardized assay platforms.

Once verified, assays can be analytically validated and performed in support of clinical studies. The laboratory’s initial focus will be on two genomic-scale assay technologies: gene expression profiling and next-generation sequencing.

The first projects aim to verify and develop validated assays for molecular classification of clinically actionable subgroups of aggressive B-cell lymphomas and a retrospective analysis of ovarian clinical study specimens in hopes of verifying therapeutic response markers. The group will work with regulatory agencies, major cancer centers, and community cancer centers to share knowledge and synergize activities.

The establishment of CADP is an acknowledgement that diagnostic assays are a critical component of cancer patient management. The quality of assays is as important as the quality of the drug and study design. As we move closer to understanding the complex biology of cancer and finding better ways to therapeutically attack the disease, we have the opportunity to guide therapy selection and hopefully improve the treatment of cancer with high-quality, reproducible assays. ■

[Editor’s note: P. Mickey Williams, Ph.D., is director of the Patient Characterization and Clinical Assay Development Centers, Building 320. He can be reached at 301-228-4654; or mickey.williams@nih.gov.]

NCI-Frederick Surpasses Goal in January Blood Donations

By Carolyn Cable, Occupational Health Services, Guest Writer

The quarterly Red Cross blood donation drive surpassed its goal of 38 pints in January. As an incentive, donors' names were pooled to award one donor a reserved parking spot. **Catherine Hixson**, AIDS and Cancer Virus Program, won a coveted spot close to her building.

Of the 47 employees who signed up to donate, seven were first-time donors, and **Keith Zimmerman**, Facilities Maintenance and Engineering, joined the 20-Gallon Club with this donation.

The next blood drives will be Tuesday, April 19, and Thursday, July 28; parking space winners will be drawn on those dates. Mark your calendar! And read Hixson's and Zimmerman's comments in "Why We Donate," below. ■



Why We Donate

By Maritta Perry Grau, Staff Writer

Winning a drawing for a 90-day parking space nestled right next to your building could be quite an incentive to donate blood during the Occupational Health Services' (OHS') quarterly blood drive (see "NCI-Frederick Surpasses Goal," above).

However, that's not why Cathy Hixson, Protein Chemistry Core, AIDS and Cancer Vaccine Program, and Keith Zimmerman, Facilities Maintenance and Engineering, donate every three months.

Hixson says, "I am one of the fortunate people that have never needed a blood transfusion, but I have family members and friends whose lives have been saved by a stranger who had taken a few minutes to bleed into a bag." She does

admit that she "very much appreciates the convenience [of her new parking space] on those cold winter days."



Cathy Hixson

Zimmerman's donation in January made him a member of the "20-Gallon Club." He noted that he started giving blood in 1983. Originally, he began donating because he and family members would be eligible for free donations if needed in an emergency. He has continued to donate throughout his career at NCI-Frederick.

Hixson first donated during a Veterans Day drive in 2006. "I was an 'old' person before I started donating blood. I had always been uncertain what it would be like, and was fearful of fainting, or making a

fool of myself in some way... After that first time of giving blood, I realized that there was nothing hard or scary about doing it."

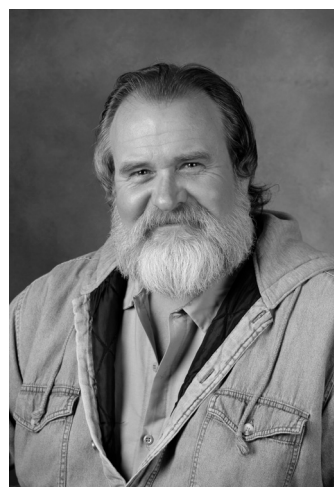
The following year, she donated through Fort Detrick's Odom Fitness Center, until civilian employees were barred from the center. "I enjoyed the feeling that I was supporting our soldiers," she said.

It wasn't long before she learned that OHS was sponsoring quarterly blood drives, and she began donating again. "I have been faithful about donating since 2008. Being able to schedule my work so that I can pop over to the blood collecting venue, bleed, and come back to finish my work makes it the most convenient way for me to donate."

To avoid becoming faint, Hixson makes sure that she has eaten and taken in plenty of fluids before donating.

"Now I schedule my appointment time for after lunch so that I have had two meals and plenty of fluids, and I don't notice any after-effects from giving away my blood."

Zimmerman's reasons for donating have evolved over time. It took him "28 years and 160 pints of blood" to make that 20-Gallon Club. Now, he says, "I think it is very important for everyone to consider donating, in order to help those in need, especially young children and babies." ■



Keith Zimmerman

Marrow Donor Program

Be the Match

By Alberta Peugeot, Occupational Health Services, Contributing Writer

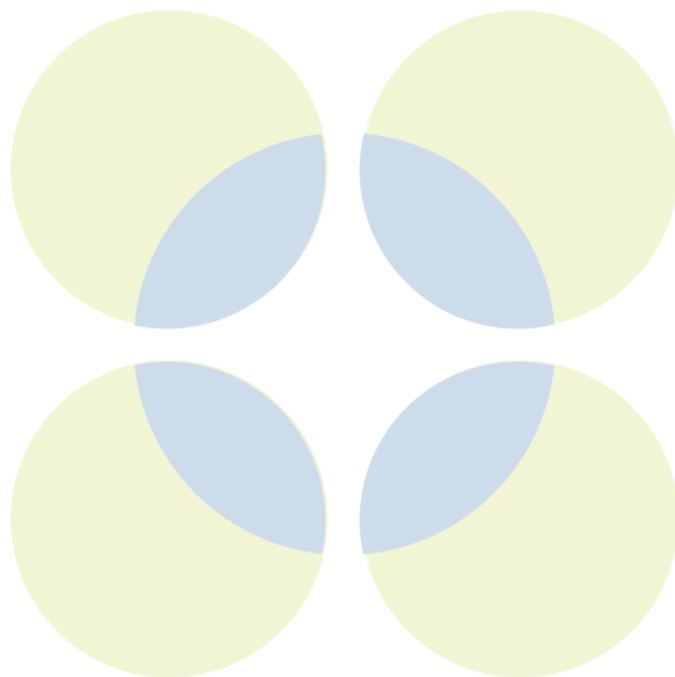
Occupational Health Services (OHS) has recently received approval to sponsor bone marrow donations year-round, instead of once annually.

“Be the Match,” a National Marrow Donor Program, offers you a unique opportunity to help a patient with leukemia or another life-threatening disease. When you join the registry, the “Be the Match” Donor Program tissue-types the sample you provide (at no cost to you) and uses the results to match you to one of the thousands of patients who need bone marrow.

In the October 2010 issue of *News & Views*, Sarah Pogue, senior coordinator of the NIH Marrow Donor Program, said that joining the registry “does not guarantee that you will be asked to donate. Enrolling means if identified as a perfect match for a patient in need of a transplant, you agree to consider donating marrow or stem cells. A donor must match on a number of markers. While some patients can turn to a family member for a match, 70 percent must depend on someone unrelated” (http://web.ncifcrf.gov/campus/publications/online_newsletter/pdf_download/NV_October_2010.pdf).

Please call OHS at 301-846-1096 for further information or to pick up a donor kit.

For more information, go to: http://www.marrow.org/JOIN/FAQs_about_Joining_the_Registry/index.html#how or <http://www.marrow.org/HELP/index.html?src=tabinvolved>. ■



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.preventcancer.org/colorectal>

National Kidney Month: <http://www.kidney.org/kidneydisease/kidneymonth/index.cfm>

National Multiple Sclerosis Education and Awareness Month:

<http://www.msfocus.org/national-ms-awareness-month.aspx>

April

National Donate Life Month: http://www.organdonor.gov/get_involved/donatelifemonth.htm

Cancer Control Month: <http://www.cancer.gov/global/features/2009/cancercontrol2009>, <http://www.medicinenet.com/script/main/art.asp?articlekey=16746>

National Public Health Week, April 4–10: <http://www.nphw.org/nphw11/default.htm>

May

HIV Vaccine Awareness Day, May 18: <http://www.niaid.nih.gov/news/events/HVAD/Pages/default.aspx>

Healthy Vision Month: <http://www.aoa.org/x5086.xml>

World No Tobacco Day, May 31: <http://www.who.int/tobacco/wntd/2010/en/index.html>

Granulysin Discovered to Have Immunogenic Role

By Nancy Parrish, Staff Writer

The immune system regulates infection through a complex relationship between the body's innate, or naturally occurring, immunity and adaptive, or acquired, immunity. The conventional thinking about the immune response, according to Poonam Tewary, Ph.D., Laboratory of Molecular Immunoregulation (LMI), Cancer and Inflammation Program, suggests a linear progression from innate to adaptive immunity, with the innate immune cells activating the adaptive cells by specifying when and how to respond.

Tewary and colleagues have recently discovered that an antimicrobial protein known as granulysin, which is present in cytotoxic T-lymphocytes and natural killer cells, plays a significant role "at the interface of the innate and adaptive immune systems." By bridging the body's two defense systems, this host defense peptide was found to act as an alarmin, or first responder to infection or



Poonam Tewary, Ph.D., senior postdoctoral fellow, Laboratory of Molecular Immunoregulation, Cancer and Inflammation Program, Center for Cancer Research.

tissue damage. Alarmins, according to Tewary, are rapidly released during the course of infection or inflammation and recruit and activate antigen-presenting cells (APCs) at the site of damage.

This unique feature of granulysin, Tewary said, "may improve the efficacy of vaccines and enable the development of simpler and safer immunotherapeutics for cancer and other clinically relevant diseases." Further, she noted that "alarmins like granulysin may act as chemoattractant carriers for tumor antigens to desired subsets of APCs and efficiently break tolerance or render otherwise non-immunogenic self-tumor antigens immunogenic and elicit protective and therapeutic antitumor immunity."

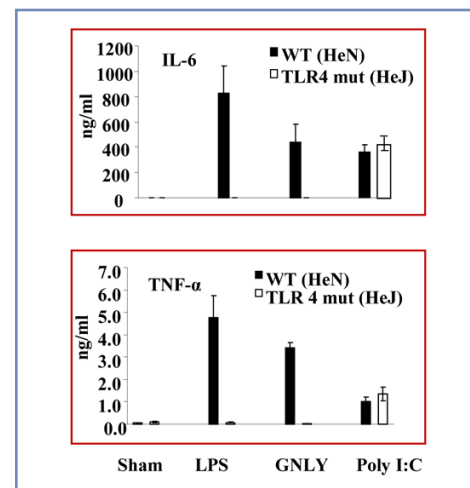
Tewary completed her doctoral training in 2005 from the School of Life Sciences, Jawaharlal Nehru University, New Delhi, India, where she first began studying innate immune activation and vaccine development. She joined LMI in 2006, and today, her work focuses on identifying and characterizing the effect of various endogenous host defense peptides (alarmins) and utilizing the most potent alarmin to design vaccine adjuvants for effective tumor therapy. ■

Granulysin Activates Antigen-Presenting Cells through TLR4 and Acts as an Immune Alarmin

Poonam Tewary, De Yang, Gonzalo de la Rosa, Yana Li, Michael W. Finn, Alan M. Krensky, Carol Clayberger, and Joost J. Oppenheim
Blood 116 (18):3465–3474, 2010

Granulysin (GNLY), an antimicrobial protein present in the granules of human cytotoxic T-lymphocytes and natural killer (NK) cells, is produced as an intact 15-kDa form that is cleaved to yield a 9-kDa form. Alarmins are endogenous mediators that can induce recruitment and activation of antigen-presenting cells (APCs) and consequently promote the generation of immune response. We hypothesized that GNLY might function as an alarmin. Here, we report that both 9- and 15-kDa forms of recombinant GNLY-induced in vitro chemotaxis and activation of both human and mouse dendritic cells (DCs), recruited inflammatory leucocytes, including APCs in mice, and promoted antigen-specific immune responses upon coadministration

with an antigen. GNLY-induced APC recruitment and activation required the presence of Toll-like receptor 4. The observed activity of recombinant GNLY was not due to endotoxin contamination. The capability of the supernatant of GNLY-expressing HuT78 cells to activate DC was blocked by anti-GNLY antibodies. Finally we present evidence that supernatants of degranulated human NK92 or primary NK cells also activated DCs in a GNLY- and Toll-like receptor 4-dependent manner, indicating the physiologic relevance of our findings. Thus, GNLY is the first identified lymphocyte-derived alarmin capable of promoting APC recruitment, activation, and antigen-specific immune response.



Granulysin-mediated DC activation requires TLR4. Bone marrow-derived DCs from WT (HeN) or TLR4 mutant (HeJ) mice were treated with GNLY, LPS, or Poly I:C for 48 hours. Supernatants were measured for IL-6 and TNF-alpha production.

The following 20 articles have been selected from 13 of the most prestigious science journals published during the past quarter.

Apoptosis

Woldemichael GM, Turbyville TJ, Linehan WM, McMahon JB. Carminomycin I is an apoptosis inducer that targets the Golgi complex in clear cell renal carcinoma cells. *Cancer Res* 71(1):134–142, 2011.

Cell, Tumor, and Stem Cell Biology

Glynn SA, Boersma BJ, Dorsey TH, Yi M, Yfantis HG, Ridnour LA, Martin DN, Switzer CH, Hudson RS, Wink DA, Lee DH, Stephens RM, Ambs S. Increased NOS2 predicts poor survival in estrogen receptor-negative breast cancer patients. *J Clin Invest* 120(11):3843–3854, 2010.

Cellular Immunology and Immune Regulation

Subleski JJ, Hall VL, Wolfe TB, Scarzello AJ, Weiss JM, Chan T, Hodge DL, Back TC, Ortaldo JR, Wiltrout RH. TCR-dependent and -independent activation underlie liver-specific regulation of NKT cells. *J Immunol* 186(2):838–847, 2011.

Clinical Trials and Observations

Kuhns DB, Alvord WG, Heller T, Feld JJ, Pike KM, Marciano BE, Uzel G, DeRavin SS, Priel DA, Soule BP, Zarembek KA, Malech HL, Holland SM, Gallin JI. Residual NADPH oxidase and survival in chronic granulomatous disease. *N Engl J Med* 363(27):2600–2610, 2010.

Jacobs K, et al. Association analyses of 249,796 individuals reveal 18 new loci associated with body mass index. *Nat Genet* 42(11):937–948, 2010.

Genes, Structure, and Regulation

Jain S, Tillinger A, Mopidevi B, Pandey VG, Chauhan CK, Fiering SN, Warmington S, Kumar A. Transgenic mice with -6A haplotype of the human angiotensinogen gene have increased blood pressure compared with -6G haplotype. *J Biol Chem* 285(52):41172–41186, 2010.

Kanamaluru D, Xiao Z, Fang S, Choi SE, Kim DH, Veenstra TD, Kemper JK. Arginine methylation by PRMT5 at a naturally occurring mutation site is critical for liver metabolic regulation by Small Heterodi-

mer Partner. *Mol Cell Biol*, doi: 10.1128/MCB.01212-10, first published online January 24, 2011.

Genomics, Proteomics, and Bioinformatics

Fletcher O, Johnson N, Orr N, Hosking FJ, Gibson LJ, Walker K, Zelenika D, Gut I, Heath S, Palles C, Coupland B, Broderick P, Schoemaker M, Jones M, Williamson J, Chilcott-Burns S, Tomczyk K, Simpson G, Jacobs KB, Chanock SJ, Hunter DJ, Tomlinson IP, Swerdlow A, Ashworth A, Ross G, Dos Santos Silva I, Lathrop M, Houlston RS, Peto J. Novel breast cancer susceptibility locus at 9q31.2: results of a genome-wide association study. *J Natl Cancer Inst*, doi: 10.1093/jnci/djq563, first published online January 24, 2011.

HIV

Carrington M, et al. The major genetic determinants of HIV-1 control affect HLA class I peptide presentation. *Science* 330(6010):1551–1557, 2010.

Immunobiology

Harris LD, Klatt NR, Vinton C, Briant JA, Tabb B, Ladell K, Lifson J, Estes JD, Price DA, Hirsch VM, Brenchley JM. Mechanisms underlying gamma delta T-cell subset perturbations in SIV-infected Asian rhesus macaques. *Blood* 116(20):4148–4157, 2010.

Hiby SE, Apps R, Sharkey AM, Farrell LE, Gardner L, Mulder A, Claas FH, Walker JJ, Redman CC, Morgan L, Tower C, Regan L, Moore GE, Carrington M, Moffett A. Maternal activating KIRs protect against human reproductive failure mediated by fetal HLA-C2. *J Clin Invest* 120(11):4102–4110, 2010.

Sabado RL, O'Brien M, Subedi A, Qin L, Hu N, Taylor E, Dibben O, Stacey A, Fellay J, Shianna KV, Siegal F, Shodell M, Shah K, Larsson M, Lifson J, Nadas A, Marmor M, Hutt R, Margolis D, Garmon D, Markowitz M, Valentine F, Borrow P, Bhardwaj N. Evidence of dysregulation of dendritic cells in primary HIV infection. *Blood* 116(19):3839–3852, 2010.

Tewary P, Yang D, de la Rosa G, Li YN, Finn MW, Krensky AM, Clayberger C, Oppenheim JJ. Granulysin activates antigen-presenting cells through TLR4 and acts as an immune alarmin. *Blood* 116(18):3465–3474, 2010.

Valeri VW, Hryniewicz A, Andresen V, Jones K, Fenizia C, Bialuk I, Chung HK, Fukumoto R, Parks RW, Ferrari MG, Nicot C, Cecchinato V, Ruscetti F, Franchini G. Requirement of the human T-cell leukemia virus p12 and p30 products for infectivity of human dendritic cells and macaques but not rabbits. *Blood* 116(19):3809–3817, 2010.

Van Prooyen N, Gold H, Andresen V, Schwartz O, Jones K, Ruscetti F, Lockett S, Gudla P, Venzon D, Franchini G. Human T-cell leukemia virus type 1 p8 protein increases cellular conduits and virus transmission. *Proc Natl Acad Sci USA* 107(48):20738–20743, 2010.

Lymphoid Neoplasia

Liu X, Ryland L, Yang J, Liao AJ, Aliaga C, Watts R, Tan SF, Kaiser J, Shanmugavelandy SS, Rogers A, Loughran K, Petersen B, Yuen J, Meng FX, Baab KT, Jarbaban NR, Broeg K, Zhang RR, Liao JS, Sayers TJ, Kester M, Loughran TP. Targeting of survivin by nanoliposomal ceramide induces complete remission in a rat model of NK-LGL leukemia. *Blood* 116(20):4192–4201, 2010.

Molecular Biophysics

Ma BY, Nussinov R. Polymorphic C-terminal beta-sheet interactions determine the formation of fibril or amyloid beta-derived diffusible ligand-like globulomer for the Alzheimer A beta 42 dodecamer. *J Biol Chem* 285(47):37102–37110, 2010.

Retrovirus Biology

Aloia AL, Sfanos KS, Isaacs WB, Zheng QZ, Maldarelli F, De Marzo AM, Rein A. XMRV: a new virus in prostate cancer? *Cancer Res* 70(24):10028–10033, 2010.

Gherghe C, Lombo T, Leonard CW, Datta SAK, Bess JW, Gorelick RJ, Rein A, Weeks KM. Definition of a high-affinity Gag recognition structure mediating packaging of a retroviral RNA genome. *Proc Natl Acad Sci USA* 107(45):19248–19253, 2010.

Signal Transduction

Smith FD, Langeberg LK, Cellurale C, Pawson T, Morrison DK, Davis RJ, Scott JD. AKAP-Lbc enhances cyclic AMP control of the ERK1/2 cascade. *Nat Cell Biol* 12(12):1242–1249, 2010. ■

Center for Cancer Research Scientists Receive Awards

By Ashley DeVine, Staff Writer

The following NCI-Frederick Center for Cancer Research (CCR) scientists received recognition in 2010/2011:

Robert Wiltrout, Ph.D., director, CCR, NCI, received the International Society for Biological Therapy of Cancer Exceptional Service Award in 2010.



[Dr. Robert Wiltrout](#)

“This award is particularly gratifying for me because my associations with the society, beginning early in my career, have contributed substantially to both the direction and accomplishments of my scientific

research for more than two decades,” Wiltrout said. He obtained his Ph.D. in immunology from Wayne State University in Michigan. Wiltrout’s career with NCI began in 1978 in the Intramural Research Program. He joined the Laboratory of Experimental Immunology (LEI) in 1986, and today he continues to head the Experimental Therapeutics Section, LEI. In 2005, Wiltrout became CCR director and its scientific director for basic research. He continues to pursue his own research in preclinical immunotherapeutic approaches for translation to clinical trials in cancer patients.

Arthur Andrew Hurwitz, Ph.D., head, Tumor Immunity and Tolerance Section, Laboratory of Molecular Immunoregulation, Cancer and Inflammation Program (CIP), CCR, NCI-

Frederick, received a 2011 American Association of Immunology (AAI) Distinguished Service Award “for outstanding service to AAI through creative and successful initiatives that have benefited the immunology community” (http://www.aai.org/Awards/2011/Recipients/2011_Awardees_Announced_web.htm). “This was a really unexpected

honor,” Hurwitz said. “I appreciate AAI acknowledging me. Certainly, without support from other AAI members, staff, and colleagues over the years, any accomplishments I have achieved would not have been possible.” Hurwitz received his Ph.D. from the Albert Einstein College of Medicine in New York. He brought his research to NCI-Frederick in 2003, where his laboratory continues to study animal models of T-cell tolerance to antigens that are relevant in anti-tumor immunity and autoimmune disease.



[Dr. Howard Young](#)

Howard Young, Ph.D., deputy chief, LEI, CIP, CCR, NCI-Frederick, received the International Society of Interferon and Cytokine Research (ISICR) Distinguished Service Award “... for his many contributions to the ISICR (a past president, he is the go-to person for questions on any topic relating to the functioning of the society...)” (<http://www.isicr.org/newsletter/ISICR17.2.pdf>). “It is a great honor for me to have been



[Dr. Arthur Andrew Hurwitz](#)

selected as one of the co-recipients of the first ISICR Distinguished Service Award. I am especially pleased that the other recipient was Dr. Sidney Pestka (University of Medicine and Dentistry of New Jersey), as Sid was the individual who challenged me to become involved with ISICR and start the newsletter,” Young said. Young has created and edited the ISICR newsletter for 17 years and served on the ISICR membership committee for many years. He earned his Ph.D. in microbiology from the University of Washington. He worked at NCI-Frederick from 1979–1981, returned in 1983, and was named deputy chief of LEI in 2007. He is also chief of the Cellular and Molecular Immunology Section, LEI, where he studies the regulation of cytokine gene expression.



[Dr. Ruth Nussinov](#)

Ruth Nussinov, Ph.D., head, Computational Structural Biology Group, CCR Nanobiology Program, NCI-Frederick, received a 2011 Fellow of the Biophysical Society Award “for her extraordinary contributions to

advances in computational biology on both nucleic acids and proteins” (<http://www.biophysics.org/LinkClick.aspx?fileticket=JRQsZD6Cv7E%3d&tabid=501>).

The award is in recognition of Nussinov’s method for predicting RNA secondary structures, published in 1978; for her pioneering contributions to the bioinformatics of genome sequences in the early 1980s; and for her fundamental concepts in molecular recognition and signal propagation in protein molecules

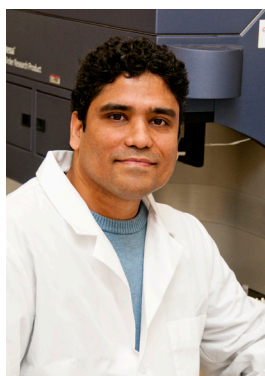
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NCI-Frederick Awards

continued from page 8

and pathways. Nussinov received her Ph.D. in biochemistry from Rutgers University. She came to NCI in 1985.

“I see biophysics as a field that can take the center stage in the future, bringing together diverse disciplines. Such integration has the potential of revolutionizing biomedicine. NCI can take the lead in this revolution,” Nussinov said.



Dr. Ram Savan

Ram Savan, Ph.D., senior fellow, LEI, CIP, CCR, NCI-Frederick, received a 2010 Milstein Young Investigator Award from ISICR. “I am honored that ISICR considered me for this award. This award

is a timely encouragement to young investigators who are at the verge of transitioning to independent faculty positions,” he said. Savan received his Ph.D. in 2004 from the United Graduate School of Agricultural Sciences, Kagoshima University, Japan. He joined NCI in 2005 and his current research is focused on the post-transcriptional regulation of immune genes.

Giorgio Trinchieri, M.D., director, CIP, CCR, NCI-Frederick, received the International Cytokine Society 2010 Lifetime Membership Award. Trinchieri earned his M.D. from the University of Torino in Italy. Since August 2006, he has been the director of CIP and chief of LEI. His research focuses on the interaction between inflammation/innate resistance and

adaptive immunity, and the role of pro-inflammatory cytokines in regulating hematopoiesis, innate resistance, and immunity. ■



Dr. Giorgio Trinchieri

LASP Recognizes Two Employees

*By Aritha Smith and Christina Perella,
Laboratory Animal Sciences Program, Guest Writers*

Louise Cromwell, senior laboratory animal technician, was selected as employee of the month for October 2010 by her peers in the Laboratory Animal Sciences Program (LASP). Cromwell is described as a dedicated staff member who is always willing to help other staff members despite her very busy schedule. Cromwell is also acknowledged as a very important part of the success of the program.

November’s employee of the month, Steve Minnick, was announced in the December *Poster*.

Niza Borchin, laboratory animal technician II, was chosen as employee of the month for December by her coworkers. Borchin is described by her peers as an outstanding employee, a team player, and one who works well with all employees.

“Both of these employees are assets to LASP,” said Troy Cregger, manager of technical operations. ■



Louise Cromwell



Niza Borchin

Advanced Technology Research Facility

ATRF Interior Construction Has Begun

By Hoyt Matthai, *Advanced Technology Program*,
Guest Writer

Construction of the interior space of the Advanced Technology Research Facility (ATRF) has begun.

In December 2010, SAIC-Frederick awarded the general contract for the “fit-out” of the laboratory wings to Whiting-Turner, a Maryland company headquartered in Baltimore, with offices in Frederick. Fit-out includes all interior construction of such major components as wiring, plumbing, interior walls and doors, heating, ventilation, and air conditioning systems, and casework.

The shell for the administration wing (the glassed-in section at the front of the facility) was turned over to SAIC-Frederick in January, and the project team has been working with an architect and engineering firm on the final design of this wing and its three-story atrium. The team recently completed a preliminary plan that validates that space is available and indicates placement for everything and everyone moving to this wing.

A more detailed design is under way for specific spaces such as offices, halls, an auditorium, and conference rooms. The design is expected to be completed by the end of the summer, and interior construction to begin in the fall.

Occupancy of the laboratory and administration wings is anticipated for the summer of 2012.

For a time-lapse construction video of the facility through December 22, 2010, go to: http://www.youtube.com/watch?v=uEahCYfvf0&feature=mfu_in_order&list=UL. ■



Above: First floor of the atrium, between the Biopharmaceutical Development Program (BDP) wing and the Advanced Technology Program (ATP) wing. Right: Three-story atrium, looking toward the ATP wing. Below: Interior view of the second floor of the administration wing. Bottom: Exterior of the ATRF; the BDP wing is on the left and the administration wing is the glassed-in section on the right.



What Is Cloud Computing?

By Shannon McWilliams,
Business Information Systems, Guest Writer

You're probably more familiar than you think with "cloud" computing. All of us are used to creating and storing files with Microsoft Word. Cloud computing allows you to do the same thing but is independent of your particular computer and location. Any computer, whether Mac, Windows, iPhone, or Internet TV, can now be used to edit a Word document through the cloud version of Word at <http://www.office.live.com>.

Similarly, many of us have moved our electronic address books to the cloud via Google's G-mail or Yahoo! mail. With a smartphone, we can tap into those addresses while on the go or can access them via our PCs.

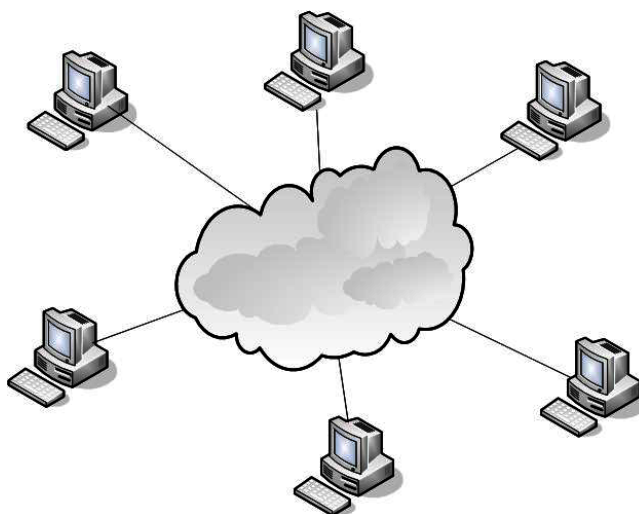
Though no two techies would agree on a single definition of cloud computing, it is generally defined as device- and location-independent computing done across a network.

Let's unpack that: First, the term cloud comes from the cloud-shaped symbol used by network engineers to graphically depict the Internet or other public network in wiring diagrams. Second, although many factors have led to the rise of cloud computing, the most important ones are the wide availability of the Internet and very fast computers.

Internet Availability

Thanks to the dot.com bubble, many miles of fast optical cable were laid around the world. All that cable made fast access to the Internet affordable. Likewise, the cell phone explosion has created large networks with bandwidth to handle data and voice communications.

Given all these entry points, Internet usage has been mainstreamed during the last 20 years. For example, Facebook now claims over 500 million users, approximately one-twelfth of the Earth's population!



To show the interconnectedness among networked computers, engineers often draw a cloud in the center. Image courtesy of Dan Fox, Information Systems Program.

Advances in Computing Power

The other major factor giving rise to the cloud is the enormous advance in computing power over the last few years. In the last five years, we have moved from one computer running one task to one computer running multiple processors, each of which can run multiple tasks. For example, in the NCI-Frederick datacenter, computers that used to take up the space of six large refrigerators now run in the space of a mini-fridge.

Types of IT Clouds

IT clouds may be public or private. "Public" clouds are available to anyone willing to pay for computing resources. For a fee, Amazon (<http://aws.amazon.com>) provides storage, "virtual" computers, and even high-performance scientific computing resources.

Though not widely available yet, the "private" clouds provide cloud resources like Amazon's but are owned by private entities and are not publicly available. For example, a "cancer cloud" might be made available only to cancer researchers and other life sciences personnel.

The advantage of such a "cancer cloud" would be that the compute horsepower, storage, specialized tools, and resources

would be easily available to researchers in cancer and the life sciences whenever they needed it: If your experiments normally use 20 computers' worth of compute power but occasionally you need to run 2,000 computers' worth of calculations, you would be able to "borrow" these extra resources from the cloud as long as needed.

Cloud Computing Risks

Cloud computing has two primary drawbacks: security and continuity. Should G-mail ever be hacked, I will have to apologize to all the friends whose contact information I currently have stored there! Clearly, putting data into a shared resource creates the potential for security breaches.

A second major risk in cloud computing is the risk of financial or technical failure of the cloud provider. If Amazon loses your collection of family photographs, what recourse do you have? Even worse, should Amazon go bankrupt and its assets be sold off, what is your right of recovery of your photographs? Must a new owner abide by privacy clauses in Amazon's contract?

Because of these concerns, most businesses and institutions will probably use a hybrid of private and public clouds, keeping very sensitive data private but utilizing the cost-effective public cloud when privacy and data loss risks are acceptable.

While the risks are real, cloud computing is here to stay. The incredible ability to scale compute and storage space as needed and reduce complexity in an organization's information technology systems while potentially reducing costs will ensure that the cloud is in your future.

Want more information on cloud computing? Go to <http://genomebiology.com/2010/11/5/207> <http://www.nist.gov/itl/cloud/index.cfm>

Bob Hardisty: A Look Back at His Career of 35+ Years

By Ashley DeVine, Staff Writer

After more than 35 years of service, Bob Hardisty, project manager, Contract Planning and Administration Directorate, SAIC-Frederick, retired in January from NCI-Frederick. “I am proud to be a part of the start-up and growth of NCI-Frederick in meeting the challenges of cancer research,” he said.

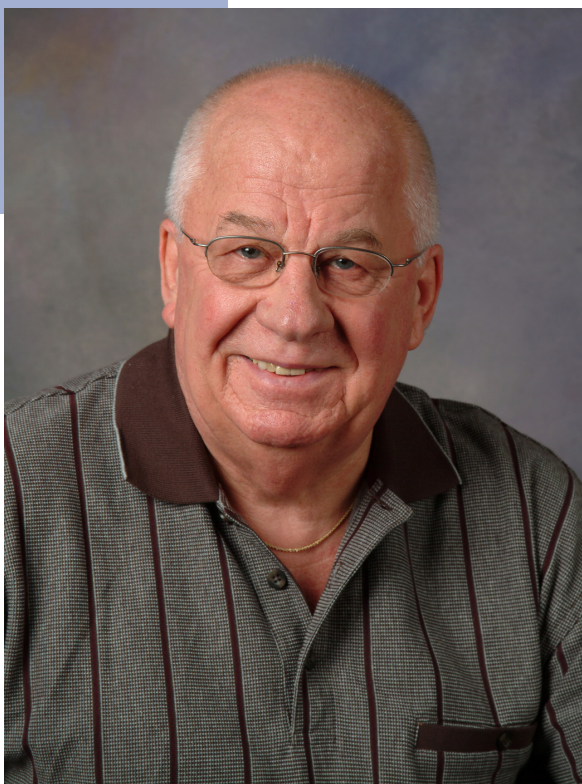
The Beginning of the FCRDC

On July 10, 1972, Hardisty began working at NCI-Frederick as the manager of security for Litton Bionetics, Inc., the contractor at the time. The Frederick Cancer Research and Development Center (FCRDC) had just opened at Fort Detrick. “I came to seek a new career related to law enforcement after 10 years as a deputy sheriff,” Hardisty said.

As head of security, one of the high points of Hardisty’s career was updating the key and locking system at the facility. Because the FCRDC had been closed since 1969, “the security of the buildings was the first priority since there was little or no accountability of keys to the exterior and interior doors,” Hardisty said. This task required hundreds of doors in the 63 buildings the FCRDC occupied to be re-keyed. The project was completed in three months. “The locking system is still being used today, in addition to the key card system,” Hardisty said.

Hardisty next accepted a position as employee relations manager in Human Resources (HR), providing benefits administration and employee relations counseling. After that, he was promoted to corporate HR manager. He continued as HR manager under Program Resources, Inc. (PRI, 1982–1990), DynCorp (1990–1995), and SAIC.

Some of the most interesting changes at NCI-Frederick occurred during the transitions between contractors, he said, especially the transition from Litton Bionetics to PRI. “This was a change from a single contractor to five contractors and involved many new challenges in developing programs and policies that impacted five different



Bob Hardisty retired from his position as project manager, Contract Planning and Administration, SAIC-Frederick, Inc., in January.

corporate philosophies and the multiple personalities of those in charge,” Hardisty said.

As HR manager under PRI, Hardisty was involved with implementing the Service Contract Act (SCA) retroactively for five years. He considers this to be another career achievement. “The SCA applied to all contractors’ hourly employees (non-exempt), which was a large percentage of the workforce,” Hardisty said. This was a two-year project that required the evaluation of job classifications, benefits, and salaries for existing and former employees so that

they could be correctly compensated. Hardisty still has the memo that was sent to all Contracts and Administration staff members, thanking them for a job well done. “The success that we have achieved is a tribute to the technical expertise and professional commitment each of you brought to this effort,” wrote Dave Bufter, then-director of Contracts and Administration, in the memo dated September 19, 1994.

The Role of Project Manager

In 1997, Hardisty became a project manager. It was an exciting transition for Hardisty “to leave a career in HR and take on a new role of project manager,” he said.

Hardisty’s first project was the Y2K project, which took a year to complete. The goal of this project was to ensure that computers, utilities, and various scientific systems were Y2K compliant and to avoid any negative impacts to these systems in the year 2000. Hardisty was recognized by NIH, NCI, and SAIC Corporate for the successful completion of this project.

More recently, Hardisty was involved with the renovation of the cafeteria, a six-month project starting in mid-October 2008. “The cafeteria project was initiated in response to continuing requests to improve the facility and the food service,” Hardisty said. The project team decided to renovate the dining and serving areas of the cafeteria, “which resulted in a colorful and pleasing environment for cafeteria customers,” Hardisty said.

In Retirement

So far, Hardisty is enjoying his retirement, and he plans to spend time with his grandkids and travel. “We are planning a trip to Australia/New Zealand next year, from there, who knows,” he said.

To his former coworkers, Hardisty said, “I would like to wish everyone the very best and keep up the outstanding work, as so many depend on you for your efforts, now and in the future.” ■

Gaining Skills That Last a Lifetime

By Nancy Parrish, Staff Writer

Editor's note: Twins Natalie (Bucheimer) Collins and Elaine (Bucheimer) Cagnina were Werner H. Kirsten student interns at NCI-Frederick in 1995–1996. In the December 2010 issue, we featured Natalie, and now we focus on Elaine.

Elaine (Bucheimer) Cagnina was honing her problem-solving skills even when she was in high school. The former Werner H. Kirsten student intern recalled a time when she was working on a custom-designed DNA sequence analysis program, and she encountered a problem she couldn't solve with the tools at hand. Her mentor handed her a book on the programming language and told her to figure it out.

A few days later, after several hours of studying the book and tinkering on the computer, she had the problem solved.

Skills like these, she said, have served her well throughout her career. "The skills I gained as an intern, specifically critical thinking, asking the right questions, reading the primary literature, and designing experiments, are skills I use each and every day, and will for the rest of my career."

"Summer Gig" Opens Career Path

A 1996 Middletown High School graduate, Cagnina's interest in science was inspired by "a fantastic high school biology teacher." As an intern, she worked with Thomas Schneider, Ph.D., in the Laboratory of Experimental and Computational Biology (now the Center for Cancer Research Nanobiology Program) during her senior year, as well as for the next three summers—an

experience, she said, that was "the best summer gig a college student could get when home from college."

Her "summer gig" turned into a lifelong passion for science. "I have never considered [a] career path other than science," she noted. The internship, she said, "really laid the groundwork for developing my early career."



Cagnina (R) holding her son, following her graduation from the UVA M.D./Ph.D. program in 2010. At left is her sister, Natalie Collins.

Following graduation from Middletown, Cagnina attended the University of Richmond, Virginia, where she earned a degree in biology, mathematics, and English. She went on to pursue graduate studies at the University of Virginia (UVA), where, in 2010, she earned an M.D./Ph.D. in molecular physiology and biological physics. She is currently a resident physician in internal medicine at UVA. She expects to finish her residency in 2013, when she hopes to obtain a fellowship in pulmonary and critical care medicine.

Along the way, she married husband Shawn in 2005, gaining two "fabulous"

stepsons, now ages 12 and 9, and in 2008, their own son was born. "When I'm not working 30-hour shifts," she said, "we like to spend time traveling, playing sports, and being outdoors with the boys."

Internship Opens Doors, Presents Unique Opportunities

Cagnina believes the internship experience "has definitely opened doors in terms of other research experience and graduate programs. I felt as if I have always had an advantage, having had a publication come out of my internship experience, and people still ask me about this experience when I interview."

Students need to take advantage of the opportunities presented by the internship, she said. "Life will only get busier and more complicated. Take the time now to read as much as you can and learn from all the talented scientists to whom you are exposed at NCI. Being able to effectively read a journal article is a skill that will take you far."

She also recommends that interns "go to as many lectures as you can tolerate." Citing a talk she heard as an intern on HIV and infection, she noted, "This is still a hot topic in research today, and I was able to hear about it in the field's absolute infancy." ■

Poster Puzzler



Congratulations to the December 2010 Poster Puzzler winner!

Robin Shelhorse, hazardous material transport specialist, Contracts and Acquisitions Directorate, SAIC-Frederick, is pictured, left, with Paul Miller, executive editor of the *Poster*.

The Poster Puzzler:

If Trees Could Talk

By Ashley DeVine, Staff Writer

The December Poster Puzzler is the Wye Oak tree on the east side of Building 560. This is one of two Wye Oaks that the Campus Improvement Committee (CIC) planted in 2005. The other tree was planted on the west side of Building 560. These trees are the offspring of the Wye Oak of Wye Mills, Maryland, which stood for over 400 years and was once the oldest and largest white oak tree in the nation. If the mighty Wye Oak could talk, it could tell stories of the founding of our country. In 1939, the state of Maryland declared the Wye Oak to be the living symbol of the state tree, the white oak. A severe thunderstorm destroyed the tree in 2002, but the Maryland Department of Natural Resources was able to harvest some of its seedlings. When these seedlings were made available to the public, CIC purchased two to replace trees that were diseased.

Special thanks to Paul Miller, Office of Scientific Operations, NCI-Frederick, and Tim Rowe, Environment, Health, and Safety Directorate, SAIC-Frederick, for providing information for this article.

Source: The Department of Natural Resources, <http://www.dnr.state.md.us/forests/trees/giant.asp> ■



Puzzler



If Trees Could Talk



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, April 22, 2011**, 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 Greece

By Maritta Perry Grau, Staff Writer

The *Poster* traveled in the company of Jessica Van Schaick, Mouse Cancer Genetics Program, to what many consider the cradle of civilization: Greece. Van Schaick attended the International Mammalian Genome Conference, held in Crete, off the coast of Greece last October. She then spent a couple of days with her mother and sister in Athens, where her sister snapped this picture.

Asked about the most exciting aspect of the conference for her, she replied, "I was able to present my work at the conference. I actually received the Verne Chapman Young Scientist Award for my oral presentation. I received a lot of positive feedback, and I really enjoyed the conference as a whole. They had so many interesting speakers with a lot of really great research going on."

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



Photo courtesy of Carli Dean

Outreach and Special Programs

Student Intern Program Has New Leadership

By Nancy Parrish, Staff Writer

Julie Hartman and James Cherry, Ph.D., have taken the reins of the Werner H. Kirsten Student Intern Program (SIP). Effective with the 2010–2011 school year, Hartman is the SIP administrator, and Cherry is the scientific advisor, responsible for the scientific integrity of the program.

Eight-Year Veteran

Hartman, an education program specialist in the NCI-Frederick Office of the Director, has been a support administrator with SIP for eight years. In her new role, she said, she oversees the program, acting as the liaison with area schools by visiting them regularly to promote SIP and to recruit student interns; recruiting mentors at NCI-Frederick; helping to match interns and mentors; and maintaining the SIP web site, which includes all program information, assessment forms, and application information. She also works with Environment, Health, and Safety to

ensure the safety of the students in the laboratories and counsels students and mentors on individual issues.

Hartman said she hopes to lead the SIP “with the utmost integrity, as it has been for 21 years.” She is exploring ways to expand the program and enjoys working with Cherry, whom she described as “a seasoned mentor.”



James Cherry, new scientific advisor for the Werner H. Kirsten Student Internship Program, shown here with Julie Hartman, new program administrator. Together, they manage the program as well as support students and mentors.

No Stranger to NCI-Frederick

Cherry spent eight years at NCI-Frederick as the head of the QPCR (quantitative polymerase chain reaction)

core facility in the Laboratory of Molecular Technology, Advanced Technology Program (ATP), before leaving three years ago to join Qiagen. He returned in 2010 as scientific program director and assistant project officer for ATP, in the Office of the Director.

As scientific advisor to the SIP, Cherry advises students “on specific matters relating to science and their research projects,” he said. He also focuses on fostering “an understanding of, and engagement with, science” among the students. He works closely with Hartman in promoting the program, matching students and mentors, and resolving individual issues as they arise.

“Mentors and advisors inform and enrich the education of our young researchers both in ways they intend and in ways they cannot see,” Cherry said. “We as senior staff have a responsibility to train our students to become productive members of the research community and contribute to the development of their careers. Our goal is just that.”

For more information on the Werner H. Kirsten Student Intern Program, contact Julie Hartman, 301-846-7338 or hartmanjb@mail.nih.gov; or Jim Cherry, 301-846-6811 or cherry@mail.nih.gov. Or visit the web site at http://web.ncifcrf.gov/careers/student_programs/internships/SIP/. ■

Winter Market Continues through May

By Nancy Parrish, Staff Writer

The Winter Farmers’ Market at NCI-Frederick will continue every other Tuesday through May 24, both inside and outside Building 549. You’ll find delicious food items, produce, and unusual gifts from many of our regular vendors, including Cat’s Paw Farm, Walnut Hill Farm, Stone Hearth Bakery, Two Acre Farm, Dublin Roasters, Celina’s Peruvian Crafts, Buttercup Valley Farm, Stone Meadow Alpacas, Susan Pushkin’s Polymer Clay Jewelry, Frugal Bee, Wanda Remington’s Earrings and Handcrafts, Slice of Heaven Farm; and from our newest vendors, Barton Dame, which offers maple syrup products and gift items, and Enlighten Natural Soy Products, which offers scented soy candle jars and hand/foot night therapy cream. Other vendors periodically participate in the Winter Market.

Winter Market dates remaining are March 15, March 29, April 12, April 26, May 10, and May 24. Summer season will begin early in June.

Special Spring Plant Sale May 3

Whether you want to surprise your mother with a beautiful plant for Mother’s Day on May 8, or you just want to begin your own spring planting, be sure to mark your calendar for May 3, when the Spring Plant Sale and Market will be held in front of Building 549. You can choose from among a variety of flowering plants and herbs, or just stop by to brighten your spirits.

Many of our regular vendors, artisans, and crafters will also participate in this special market, so other gift and food items will be available. ■

Chili Cook-Off

Chili Cook-Off Draws Biggest Crowd Ever

By Nancy Parrish, Staff Writer

Tom Gannon-Miller, Protective Services manager, may have to start looking for a new venue for his department's annual chili cook-off—the event gets bigger every year. The 8th Annual Chili Cook-Off on January 5 drew an estimated 150 attendees, who braved the cold to select the best of 16 chilies, plus one tin of chili cookies. It was the biggest turnout since the cook-offs began in 2003, according to Protective Services staff.

To the casual observer, the event may seem somewhat restrained, with people gathered in small groups, speaking quietly, and making notes on their ballots. But for the delicious aromas wafting in the air and the chili stains on the ballots, you might think a scientific meeting is under way. And it is a scientific meeting, of sorts, as tasters discuss the pros and cons of each entry, pausing to identify flavors and commenting on the richness, texture, and “kick” of each dish. “It sounds like a wine-tasting,” one attendee noted.

When all 120 ballots were counted, Radiation Safety Officer J.T. Moore was declared the clear winner.

“Throw and Taste”

Moore confesses that he doesn't make his chili exactly the same way each time, but rather, “I kinda' throw and taste.” Although no two batches of chili are the same, the two constants in his recipe are cilantro and bourbon (see recipe at right). These ingredients “give it that extra ‘kick,’” he said.

Moore enters the competition each year “for the fun of it,” he said. “I enjoy making (and eating) chili!” He has placed in the top three in previous competitions, including first place in the original 2003 competition. Winning first place this year came as a surprise to him, though. “I actually preferred a couple of other entries over mine,” he said.

Appreciation for Cooks and Counters

“Thanks to all the competitors who entered their favorite recipes,” Gannon-Miller said. “The success of the event lies in all of the different flavors to sample. Special thanks are extended to the official vote tabulators, Sharon Fritz and Roberta Harner.”

Second place went to Mary Carol Fleming, Occupational Health Services, and third place was awarded to Bruce Roberson, Protective Services. Other entrants were Carolyn Cable, Walter Hubert, Dave Johnston, Alberta Peugeot, Kandy Rahochik, Chris Remacle, Will Sheffield, Mary Stewart, Coleen Tabler, Bruce Tobias, Robin Wright, and Pam Young. Dennis Klinman baked the chili cookies. ■



J.T. Moore's Winning Chili Recipe

Moore says he likes to “throw things together” when he cooks. Here is the recipe for his winning chili, although, he notes, “As for amounts, I just add and taste.”

Cooked ground beef (I sometimes use venison)
Chili beans
Black beans
Diced tomatoes
Diced onions
Tomato Sauce
Chili powder (lots)
Cumin
Hot sauce (Tabasco® will do)
Ketchup
Liquid Smoke (just a couple drops)
Rice
Bourbon
Fresh cilantro (lots of it)

Mix all ingredients (except cilantro) over medium heat, let cool, then refrigerate for a couple of days. When ready to eat, reheat. Add cilantro just before serving.



Tips for “Greener” Living

By Michele Gula Atha and Howard Young,
NCI Green Team, Guest Writers

- Trying to lose weight in the new year? Bring in your own lunch, along with utensils and a reusable water bottle. It is green and also cuts down on caloric intake because you are controlling your own portion sizes.
- Set your ceiling fans to run clockwise because this will push warmer air down. Also use the slowest speed.
- Check your doors for drafts and seal any leaks. You might be surprised how much cold air comes in through the smallest crevices.
- Is cold air coming through electrical outlets that you rarely use? You can solve this problem by using outlet plugs.
- Open up the blinds on south-facing windows during the day to allow the sunlight to warm your home. Keep covered those windows that receive no direct sunlight. This will insulate the area from cold window drafts. At night, close all window coverings to retain heat.
- Check windows for proper caulking. If you have single-pane windows, add storm windows. Even a plastic film over windows will reduce heat loss.
- Wood ashes are a great source of nutrients for your compost pile or garden. However, it is critically **important** that the ash be completely cooled before you store it in any container or spread it outside. Make sure there are no smoldering embers before removing ash from the fireplace.
- Consider designating an area in your office for a swap program. Bring in items you no longer want or use and watch them disappear quickly. You may also get some nice items from coworkers.
- Check the air pressure in your tires and make sure they are properly inflated. Cooler temperatures lower tire pressure, which decreases fuel efficiency.
- It is a good time to check that your refrigerator is level. The door should automatically swing shut instead of staying open. To check the seal on the door, try closing it on a dollar bill. If you can pull the bill out easily, it's time to replace the gaskets. ■

Energy Efficiency and Solar Basics

By Peter Boving, *Environment, Health, and Safety*,
Guest Writer

Most people have heard of solar panels, which are photovoltaic (PV) panels that convert energy from the sun into electricity. Yet, many of us may not realize the value of alternative energy to offset electric, gas, and oil consumption. The first step is energy conservation—turn down the thermostat, insulate, wear a sweater, fix leaks, and use fluorescent or LED lights when needed and daylight when available.

The next step is to offset fossil fuel consumption. A well-known method is to supplement space heating with a wood stove. Other effective methods are solar hot water (SHW) preheating, passive solar space heating, and PV panels.

Solar collectors have evolved over the years. The rectangular collectors of the 1970s have been surpassed by evacuated tube collectors that are designed for cold climate zones. Think of a row of

clear glass tubes, each with a black tube inside (see photo). The evacuated tube collector employs the physics of heat transfer. Sunlight passes through the vacuum inside the clear glass tubes and warms the black heat absorber inside, while the heat generated by the absorber cannot return through the vacuum. This is the greenhouse effect in miniature. As a result, collector temperatures will reliably heat domestic hot water above 120°F, even in winter. SHW

can also be used to warm floors for active solar space heating. The Department of Energy, National Renewable Energy Laboratory, states that evacuated tube collectors can achieve 170°F to 350°F.¹

PV panels have also become popular. PV systems are double to triple the cost of SHW, and need about three times the space. Due to the cost and size of PV arrays, it is best to design a PV system to match the electrical load after



This evacuated tube is part of a solar collector that uses the sun's energy to heat domestic hot water.

conservation measures and offsets by alternative energy sources are in place.

Passive solar space heating uses south-facing windows to allow sunlight to heat surfaces inside a building. Thermal mass (usually tile, brick, or concrete) stores heat during the day and releases it at night to prevent overheating of the space. ■

¹http://www.eere.energy.gov/basics/buildings/water_heaters_solar.html

Spring Research Festival

Spring Research Festival Coming April 27 and 28, Registration Closes April 15

By Ashley DeVine, Staff Writer

The 15th annual Spring Research Festival (SRF) will be held on April 27 and 28, near Building 1520, Porter Street. The location has changed because of construction around Fort Detrick/NCI-Frederick.

David Newman, Ph.D., chief of the Natural Products Branch, led the committee in selecting this year's theme, *Pseudopterogorgia elisabethae*, a type of coral found in the Caribbean.

"This compound is a beautiful example of where the invertebrate organism that was thought to produce it was in fact simply a host for a symbiotic organism, a dinoflagellate. Then, to everyone's surprise, it turned out that this symbiont had a bacterial symbiont, a Pseudomonad, that was the actual producer," Newman said.

Events leading up to SRF begin April 26, with the postdoc symposium, "Cellular Mechanisms in Cancer, Autoimmunity, and Infectious Diseases," in the Building 549 auditorium. The symposium is chaired by Dr. Ira Daar, principal investigator, Developmental Signal Transduction Section, Laboratory



The anti-inflammatory and analgesic properties of pseudopterodin compounds from *Pseudopterogorgia elisabethae*, a Caribbean coral, may be useful adjuvant therapies for cancer (<http://www.upsicrrlab.ca/node/81>).

of Cell and Developmental Signaling, Center for Cancer Research.

Also on April 26, the Frederick Chapter of the Armed Forces Communications and Electronics Association will sponsor a golf tournament with a 1 p.m. shotgun

start at the Maryland National Golf Club. The tournament will raise funds for SRF poster grants, the Young Engineers and Scientists program at Fort Detrick, and other local educational programs.

SRF poster presentations, commercial exhibits, and the health, education, and safety expo will be open 10:00 a.m.–2:30 p.m., April 27 and 28. The latest scientific equipment and technology will be on display at the Biomedical Research Equipment and Supplies Exhibit, sponsored by the Technical Sales Association.

As a cost-savings measure, the SRF Committee has purchased give-away items instead of T-shirts for poster and exhibitor participants.

A new activity this year will be a science poster scavenger hunt with prizes. Festival attendees will be given a list of questions about the poster presentations. Names of those with the correct answers will be placed in a drawing for a prize.

Zi Paní will serve food and refreshments again at this year's festival.

Registration for all poster presenters and exhibitors ends April 15. For information on all activities and events, visit the SRF web site, <http://www.ncifcrf.gov/events/springfest/2011>. ■

Classes and Seminars

Summer Interns Are Coming: Are You Ready?

By Julie Hartman, Community Outreach,
Contributing Writer

Soon the summer interns will descend on NCI-Frederick—and your PI may put one or more of them under your charge. Do you know what your intern(s) will do this summer? Have you thought about the best way to design a summer project for a novice?

The NCI Office Of Intramural Training & Education (OITE) is sponsoring **Mentoring a Summer Student**, an informative session on how you can

provide the best experience for the interns in your laboratory—and gain valuable help with your own work. Come and learn how to help shape the future of the next generation of scientists—**April 14, 10:00–11:00 a.m.**, in the Building 549 auditorium.

Registration is required. To register or for more information, go to the Employee Education Opportunities web site, at <http://web.ncifcrf.gov/campus/outreach/course-list.asp>.

OITE is a division of the Office of Intramural Research, Office of the Director, NIH. For more information, go to <http://www.training.nih.gov>.

Student Seminar Series Begins June 14

The Summer Student Seminar Series allows summer interns to meet one another and learn about the broad range of research being carried out at NCI-Frederick. The series starts on June 14 at noon, and continues every Tuesday at noon in the Building 549 auditorium, until August 2. Watch your e-mail for details. ■

Employee Assistance Program

EAP Will Launch Parent and Elder Care Support Groups

By Selden Cooper, Employee Assistance Program, Guest Writer

A recent Employee Assistance Program (EAP) survey of the NCI-Frederick workforce revealed considerable employee interest in support groups for parents of children and adolescents, and for caregivers of elderly relatives.

As this newsletter goes to press, we are planning to offer pilot support programs for these two groups on Tuesdays and Wednesdays at 12:00 p.m. Contingent on our experience with them, we hope to offer additional support groups in the future, organized around other interests, such as stress management, relationships, weight management, and coping with anxiety and depression, all of which ranked high in our poll. We will publicize the groups through majordomos, so be alert for notices regarding time and locations.

EAP Once Again in Building 426

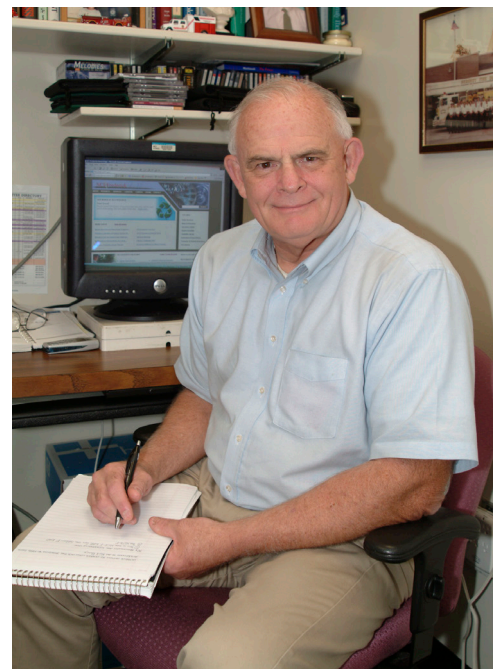
Remember that the EAP office has been relocated to the Occupational Health Services suite in Building 426; the phone number remains 301-846-1308. The EAP office is staffed on Wednesdays from 7:00 a.m. until 6:00 p.m., and on Fridays from 7:00 to 11:00 a.m.

Scheduling an Appointment

You or your family member may choose to schedule an appointment in one of two ways:

You may call me directly (301-846-1308). If I am not available, you may leave a confidential voice mail, and I will return your call as soon as I can.

You may call the Business Health Services (BHS) toll-free number (1-800-765-3277; available 24 hours a day/seven days a week). If you prefer, you also can arrange appointments with me (the on-site counselor) by calling the toll-free number. The toll-free EAP number is also the route through which you and family members may access the BHS nationwide affiliate network, if you would prefer to be seen by a licensed EAP professional off-site. ■



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

National Cancer Institute of Frederick presents your Employee Assistance Program (EAP) - help for you and your household members.

Program benefits include (among others):

- Up to five (5) FREE counseling sessions with an EAP professional for you and each of your household members.
- FREE legal consultations and resources.
- FREE financial consultations and resources.
- Access to a FREE online resource library with a wealth of information!

Let Business Health Services (BHS), your Employee Assistance Program (EAP) provider, help! The EAP is a free and confidential wellness, counseling and referral program for employees and their household members, to use for personal and workplace issues including legal and financial concerns.

Counselors are available on-site at building 426 on: Tuesdays 7-6, Wednesdays 7-6 & Fridays 7-11. EAP Counselors are also available in Frederick and throughout MD and WV for those who wish to be seen offsite.

Call 1-800-765-3277 to speak with a counselor today.
Available 24 hours a day/7 days a week

Also access a customized website just for National Cancer Institute of Frederick employees and their household members by visiting www.bhsonline.com and entering "NCIF" as the username. The website provides a wealth of information and resources just for you!

 BUSINESS HEALTH SERVICES
Solutions for a Healthier Workplace™

©2010 Business Health Services.

Fitness Challenge

Fitness Challenge Kick-off Generates High Energy

By Will Sheffield, Occupational Health Services, Guest Writer, and Nancy Parrish, Staff Writer

If you missed the Fitness Challenge kick-off on January 4, you missed out on some high-energy fun with fitness. The event drew record attendance, with 54 attendees, who received “give-away” items, including water bottles, sewing kits, and key chain whistles. Attendees were also eligible for the door prizes that were presented throughout the session.

SAIC-Frederick Chief Executive Officer Larry Arthur, Ph.D., opened the event with a sobering statistic: according to the National Institute on Aging, he said, lack of physical activity and poor diet are the second greatest causes of death in the United States, after smoking. The Fitness Challenge encourages people to live a healthier lifestyle, Arthur said, and since the program began in 2006, SAIC-Frederick employees have walked, run, or biked a distance equivalent to more than six times around the world, and logged nearly 33,000 hours of other fitness activities.

Will Sheffield, fitness challenge coordinator, introduced staff members from Fitness First, a local health club that has partnered with NCI-Frederick in the Fitness Challenge. Trainers emphasized the importance of exercise in relieving stress, which is thought to be a gateway to disease, and recommended getting proper guidance from a certified personal trainer, especially if you are new to physical fitness. A trainer will assess your overall fitness and suggest improvements, starting with small changes and working up to larger ones.

The audience was then challenged to come to the stage for some physical activity. Three men volunteered to take the challenge, followed by seven women, all of whom valiantly performed push-ups as the audience counted off the repetitions. Winners received prizes for their efforts.

The program’s finale came as E.J. Livesey, an SAIC-Frederick Protective Services officer, amazed the audience with his exceptional arm strength. Cautioning, “Please do not try this at home,” he held an eight-pound sledgehammer at arm’s length above his head and slowly lowered it to his face and back. Next he bent a horseshoe, a seven-inch brass bar, and a three-foot, rolled steel reinforcing bar.

It’s not too late to enroll in the 2011 Fitness Challenge. Visit the Fitness Challenge web site at <http://saic.ncifcrf.gov/fitnesschallenge/> to set up your account. Track your weight and monthly activities, and you might just be the next monthly—or even year-end—winner! For more information, contact Will Sheffield, 301-846-1096, or sheffieldwg@mail.nih.gov. ■



Weigh-Ins Now on the Honor System

The Fitness Challenge weigh-in procedure has changed. As with the other fitness categories, weight information is now recorded on the honor system: you will be expected to weigh yourself on the first Tuesday of each month and record your weight in your personal “tracker” on the Fitness Challenge web site. Every month, Will Sheffield, fitness challenge coordinator, will generate a report that includes winners in each category, including weight loss.

Sheffield recommends that you use the same scale each time you weigh in to avoid discrepancies in weight. The scales at Industry Lane, Occupational Health Services, the Scientific Library, TJ Drive, and the Vaccine Pilot Plant, are still available, but you will have to coordinate with a staff member to arrange for your personal weigh-in. Contact Will Sheffield for more information.

Remember: You must use the Fitness Challenge web site to be eligible to win a monthly or year-end Fitness Challenge award:

<http://saic.ncifcrf.gov/fitnesschallenge/>

NCI-Frederick Employee Diversity Team

Education: A Powerful Weapon

By Maritta Perry Grau, Staff Writer

In these tough financial times, you may be finding it hard to complete an undergraduate, graduate, or postgraduate degree. Advice is available from high school or college counselors, or perhaps your mentor or colleagues at NCI-Frederick. They can guide you to information about scholarships, grants, work-study programs, or other types of aid, such as what may be available from community organizations. To get you started, below is a list of scholarships and informational websites targeted to minority women.

Thought for the Quarter

“Education is the most powerful weapon which you can use to change the world.”

Nelson Mandela

Source:
<http://quotations.about.com/od/famousquotes/a/famouseducation.htm>

Actuary Scholarships for Minority Students: <http://www.beanactuary.org>
American Chemical Society Scholarships: <http://bit.ly/hyjknB>
American Geological Institute Minority Geoscience Student Scholarship: <http://www.agiweb.org/mpp/index.html>
American Political Science Association Minority scholarship list: http://www.apsanet.org/content_11666.cfm
Barbara Jordan Health Policy Scholars Program: <http://kff.org/about/jordanscholars.cfm>
Engineering for Minorities: <http://www.nacme.org>
Gates Millennium Scholars: [http://www.gmsp.org/\(bfnb4u55ixjaak3qoius3wqg\)/default.aspx](http://www.gmsp.org/(bfnb4u55ixjaak3qoius3wqg)/default.aspx)
International Education Financial Aid: <http://www.iefaf.org>
Jack Kent Cook Foundation Graduate Scholars Program: <http://www.jackkentcookefoundation.org>
John L. Carey Accounting Scholarship: <http://www.aicpa.org/BecomeACPA/Scholarships/Pages/default.aspx>
Kaiser Media Internships in Health Reporting: <http://kff.org/mediafellows/mediainternships.cfm>
LGBT Scholarships: <http://www.leaguefoundation.org>
Microsoft Scholarships (for computer-related degrees): <http://careers.microsoft.com/careers/en/us/collegescholarship.aspx>
Morris K. Udall Undergraduate Scholarship: <http://www.udall.gov>
National Science and Mathematics Access to Retain Talent Grant (SMART Grant): <http://studentaid.ed.gov/PORTALSWebApp/students/english/NewPrograms.jsp>
Student Affairs Administrators in Higher Education: <http://www.naspa.org/programs/nufp/default.cfm>
Students of Color Scholarship: <http://www.financialaid4you.com/index.php/home>
Unmet Need Scholarship: http://www.thesalliemafund.org/smfnew/scholarship/Unmet_need.html

What's New?

Visit the NCI-Frederick Employee Diversity Team website (<http://diversity.ncifcrf.gov/>) to see what's new. Get information on travel, recipes, our latest movie showings, other events, and more. ■

OHS Medical Director

R.J. Thomas, M.D., Retires

By Alberta Peugeot, Occupational Health Services, Contributing Writer



R. J. Thomas, M.D., recently retired after 38 years of providing medical oversight for the Occupational Health Services (OHS) Clinic, the last five of which were as an SAIC-Frederick employee.

Thomas had a distinguished medical career, both as a surgeon and as an expert

in occupational and environmental medicine. He served NCI-Frederick as medical director from 1972 through 2010. During that time, from 1969 to 1998, he also was medical director of the Occupational Health Department, Eastalco Aluminum Company.

In 1993, in conjunction with Frederick Memorial Hospital (FMH), he helped to establish Corporate Occupational Health Solutions, which today provides free-standing clinics for work-related injuries and other related services for companies in Frederick and Carroll counties.

Thomas is a member of the American College of Occupational and Environmental Medicine, a former fellow of the American College of Surgeons,

and a Diplomate of the American Board of Surgery. He is past president of the Frederick County Medical Society, former Chief of the Medical Staff and past member of the Board of Trustees at FMH, and currently on the staff at FMH.

Thomas was recognized for his contributions with a service award at the SAIC-Frederick Annual Awards Program in December. Many of his colleagues offered their thanks and appreciation for his dedicated service and wished him well in his retirement, as he pursues some of his many other interests, such as golf, traveling, and participation in the Rotary Club of Frederick. ■

New Faces at NCI-Frederick

One-hundred and nine people joined our facility in October, November, and December 2010.

The National Cancer Institute welcomes...

Kimberly Boelte ■ Christopher Burnette ■ Gretchen Dollar ■ Erin George ■ Tarang Hirani ■ Ventzislava Hristova ■ Soon-Kyung Hwang ■ Mari Imashimizu ■ Stacy Jackson ■ Paula Jacobs ■ Ioannis Kagiampakis ■ Smita Kakar ■ Milton Kimbrough ■ Adrienne King ■ Natalia Kruchinin ■ Christopher Larrimore ■ Katy Limpert ■ Aifu Lin ■ Sharon Livingstone ■ Angelica Martins ■ Yongfen Min ■ Saddam Muthana ■ Mary Olanich ■ Kathleen Petretta ■ Sreejith Raran Kurussi ■ Sophia Russell ■ Alexandra Schneider ■ Loretta Smith ■ Rene Sorra ■ Jose Sotelo ■ Daniel Stringer ■ Eswary Thirthagiri ■ Lizhen Wang ■ Thomas Wilhelm ■ Xueqiang Wu ■ Zhenye Yang ■ Jia You ■ Priscilla Zenatti ■ Zhongyu Zhu



Jessica Dickens



Saddam Muthana



Smita Kakar



Matthew Bess



Candice Perry



Kathleen Petretta



Rene Sorra

Data Management Services welcomes...

Tyler Fullmer ■ Duncan Henry ■ Andrea Johnson ■ Harold Padgett

SAIC-Frederick welcomes...

Jeffrey Aaronson ■ Kanakadurga Addepalli ■ Ayobola Akingbade ■ Sarah Anderson ■ Priya Balasubramanian ■ Matthew Bess ■ Robin Burges ■ Sudhir Chowbina ■ Facundo Cutuli ■ Lue Dai ■ Lucius Deatherage ■ James D'Errico ■ Jessica Dickens ■ Cheryl Domitrovich ■ Mathew Donaldson ■ Joshua Eaton ■ Randy Fast ■ Nicole Ford ■ Ruben Garay ■ Heather Gorby ■ Melanie Gordon ■ Erin Gottschalk ■ Kimberly Grooms ■ Cynda Hall ■ Lisa Heflin ■ Herbert Higson ■ Parthav Jailwala ■ Li Jia ■ Jiangsong Jiang ■ Mark Johnson ■ Sara Jones ■ Muhaymin Kamal ■ Lori Keisling ■ Won-Il Kim ■ Sophie Limou ■ Allison Marrero ■ Trent McKee ■ Gholamreza Mehri ■ Kevin Meslovich ■ Mohammad Tariq Mohabbat ■ Reynaldo Montoya Achata ■ Won Jong Moon ■ April Oh ■ Naomi Ohashi ■ Engin Ozler ■ Candice Perry ■ Stephen Pisle ■ Stephanie Pluckhorn ■ Kassia Pulley ■ Javier Quiñones ■ Candace Robinson ■ Susanna Samick ■ Gail Schetrompf ■ Christine Seabright ■ Jianfeng Shi ■ Charles Shive ■ Kimberly Teska ■ Merertu Tesso ■ Kim Thai ■ Ki Um ■ Yujin Wang ■ Linda Washington ■ Juanita Weaver ■ Maureen Wilson ■ Joshua Zais ■ Candice Zodrow ■



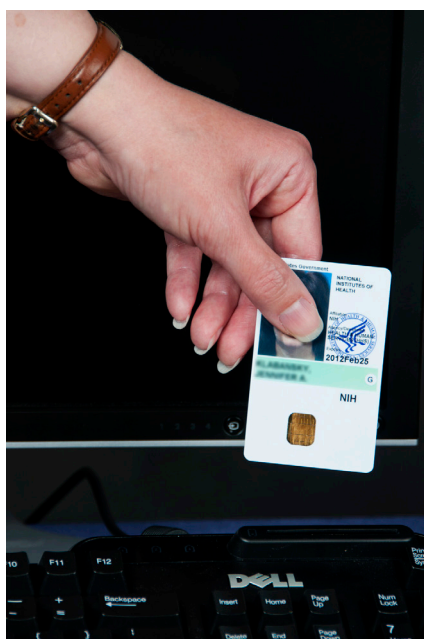
Daniel Stringer

IT News at NCI-Frederick

By Jim Racheff, Data Management Services, Guest Writer

Trying to stay current with changes in technology, security requirements, and systems improvements is challenging at best. Here we have highlighted timely information and events that affect computer users throughout NCI-Frederick. Keep in mind that computer-related questions or problems should be referred to the NCI-Frederick Computer Helpdesk.

NIH Computer Systems Will Soon Require PIV Cards



NCI-Frederick is ramping up to start using PIV cards to support NIH security guidelines.

Installation and configuration of a Personal Identity Verification (PIV) card reader on all NCI-Frederick computers is an important step to supporting NIH security guidelines. NIH systems will soon support or require authentication using PIV cards. This change will potentially affect many NCI-Frederick users, most notably those using remote network access via VPN.

NCI is supplying PIV card readers for all existing NCI-Frederick computers; a shipment of more than 3,000 readers was received in January. C&SS is distributing, installing, and configuring card readers on a building-by-building basis. Employees will be notified of installation schedules well in advance, and individual appointments can be scheduled for users not available during scheduled distribution periods. Priority will be given to users of VPN or any other system known to require PIV authentication.

Users may contact the NCI-Frederick Helpdesk at 301-846-5115 with any questions.

IT Asset Management Coming Soon

IT Asset Management (ITAM) is a system soon to be deployed at NCI-Frederick. ITAM will provide local IT staff with additional capabilities, such as the ability to remotely provide support, provide an inventory of computers, and meet NIH requirements to periodically check security settings.

As with the NIH Active Directory (AD) consolidation, C&SS will communicate and coordinate with laboratories and program areas to ensure that mission-essential activities are not negatively impacted or disrupted during ITAM implementation. If you have any questions, you may contact the NCI-Frederick Helpdesk at 301-846-5115.

NIH Active Directory Consolidation Continues

C&SS is in the process of helping NCI-Frederick laboratories and program areas consolidate computer and user accounts into the NIH AD. Consolidating our local security systems will allow us to more easily share information with each other and other collaborators at NIH, as well as help NCI-Frederick comply with laws, regulations, and policies related to IT security. Several groups have already been migrated, and the effort is expected to continue through June 2011.

NCI-Frederick Helpdesk Assists with Your Computer-related Problems

Computer users at NCI-Frederick may contact the NCI-Frederick Computer Helpdesk with IT-related requests for service and support, or with any computer-related questions, including:

- General desktop computer support
- Account passwords and e-mail assistance
- Support for Computer and Statistical Services (C&SS)-developed and -supported systems, and NCI-Frederick web sites
- Suspected virus or IT security problem
- Purchase of IT equipment
- Access to site-licensed software
- Use of a loaner computer

The NCI-Frederick Helpdesk is staffed from 8:00 a.m. to 5:00 p.m., Monday through Friday, excluding NCI-Frederick holidays. Users can expect most desktop support requests to be addressed within five working days; “urgent” requests are handled within one working day. Users may contact the Helpdesk via:

- Web: <http://css.ncifcrf.gov/helpdesk>
Note: this is the preferred method for requesting support.
- Phone: 301-846-5115
- E-mail: fredhelpdesk@nih.gov ■

CCR Informatics Core Opens

By Jack Collins, Advanced Biomedical Computing Center, Guest Writer

The Advanced Biomedical Computing Center (ABCC) has opened a new core dedicated to enhancing and expanding access to bioinformatics analysis support to Center for Cancer Research (CCR) investigators. Eric Stahlberg, Ph.D., directs the CCR Informatics Core.

The Informatics Core is an innovative partnership between CCR and SAIC-Frederick's ABCC, providing scientific, informatics, and computational analysis support to CCR investigators. With expertise in computational biology and bioinformatics, the core provides solutions to the challenges in managing the ever-growing amount and complexity of data generated through high-throughput genomic and molecular technologies. The informatics core group will develop and deploy new methods for analysis and visualization of complex biological data; will provide training and support for informatics applications; and will maintain a central informatics portal as an information resource for principal investigators to identify and access bioinformatics support.

Stahlberg was previously director of computational science at Wittenberg University, Springfield, Ohio, and before that led the bioinformatics program at the Ohio Supercomputing Center.

Stahlberg is located in Building 41, Room B620A, on the Bethesda campus. For further information, access the CCR Informatics Core website: <http://ccrifx.cancer.gov>.

CCR Researchers Receive Federal Laboratory Consortium Mid-Atlantic Region 2010 Awards for Excellence in Technology Transfer

Among the NCI-Frederick CCR recipients who received technology transfer awards during 2010 was SAIC-Frederick's Dr. Hong Lou, Laboratory of Experimental Immunology (LEI). Along with NCI co-authors Nadya Tarasova, Molecular Targets Development Program (MTDP); Michael Dean (LEI); and Sergey Tarasov (MTDP), the group received an "Excellence in Technology Transfer" award for their paper, "Novel Protein-like Therapeutics for the Treatment of Cancer."

OHS Celebrates National Wear Red Day

Although significant progress has been made in increasing awareness that heart disease is women's #1 killer (from 34 percent in 2000 to 69 percent in 2009), most fail to make the connection between its risk factors and their personal risk of developing heart disease. A nationwide campaign, The Heart Truth, is underway to raise awareness that women need to protect their hearts from disease.

The Heart Truth created and introduced the "red dress" in 2002 as a national symbol for women and heart disease awareness. For more information about women and heart disease, including materials such as *The Healthy Heart Handbook for Women* and fact sheets about women and heart disease, please visit <http://www.hearttruth.gov> or call the National Heart, Lung, and Blood Institute Health Information Center at 301-592-8573. ■



Occupational Health Services women wore red on Friday, February 4, to raise NCI-Frederick's awareness of women's heart disease. Visit <http://www.goredforwomen.org> for information. Pictured left to right are Rose Saad, Marla Mullen, Theresa Bell, Jennifer Jurell, Kelly Hutzell, Sarah Hooper, Alberta Peugeot (manager), Kim DiGiandomenico, Mary Carol Fleming, Kandy Rahochik, Mary Stewart, and Coleen Tabler.

Scientific Library Sponsors New Lecture Series

By Robin Meckley, Scientific Library,
Contributing Writer

An excellent suggestion by one of our loyal users has led the staff of the Scientific Library to sponsor a new lecture series on the history of NCI-Frederick, "Research through the Years @ NCI-Frederick." At each lecture, several long-time employees will participate in panel discussions. Combined with topical movies, these discussions serve as expanded Science in the Cinema events.

Cancer Research through the Years

We kicked off this new series in May 2010, with a four-member panel discussion about "Cancer Research through the Years @ NCI-Frederick." That panel included Robin Winkler-Pickett, laboratory manager for the director of the Cancer and Inflammation Program; Howard Young, Ph.D., deputy laboratory chief, Laboratory of Experimental Immunology; Lucy Anderson, Ph.D., senior investigator, Laboratory of Comparative Carcinogenesis; and R. Andrew Byrd, Ph.D., laboratory chief, Structural Biophysics Laboratory. The accompanying movie was *Living Proof*, starring Harry Connick, Jr., as Dr. Dennis Slamon, the cancer researcher who discovered the breast cancer drug herceptin.

AIDS Research through the Years

In December 2010, Stephen Hughes, Ph.D., head of the Vector Design and Replication Section, chief of the Retroviral Replication Laboratory, and director of the HIV Drug Resistance Program, drew a very large and enthusiastic audience for his talk on

"AIDS Research through the Years @ NCI-Frederick." We showed the movie *AIDS JAAGO*, a compilation of four short films about AIDS in India.

Chemistry Research through the Years

We celebrated our informal designation of February as "Chemistry Month" by holding various chemistry-related programs, including a panel of chemists discussing "Chemistry Research through the Years @ NCI-Frederick." Larry Keefer, Ph.D., chief, Laboratory of Comparative Carcinogenesis; Larry Phillips, Ph.D., chemist, Biological Testing Branch, Developmental Therapeutics Program; and Nadya Tarasova, Ph.D., head, Synthetic Biologics and Drug Discovery Facility, Cancer and Inflammation Program, shared their experiences of working at NCI-Frederick in various chemical positions. The movie for this topic was *Dr. Ehrlich's Magic Bullet*, a classic 1940 black and white biography starring Edward G. Robinson as the German scientist who gave birth to modern drug discovery.

The speakers for these panel discussions have generously allowed their talks to be recorded to DVD, which we have packaged with the movie DVDs for you to check out.

Plans are being made for additional "Research through the Years @ NCI-Frederick" events on topics such as genetics research, natural products research, and animal research. Watch for announcements of upcoming programs on the Science in the Cinema web page at <http://www-library.ncifcrf.gov/science-cinema.aspx>.

Please e-mail your comments and suggestions on topics and/or speakers for this fascinating new lecture series to NCIFredLibrary@mail.nih.gov.

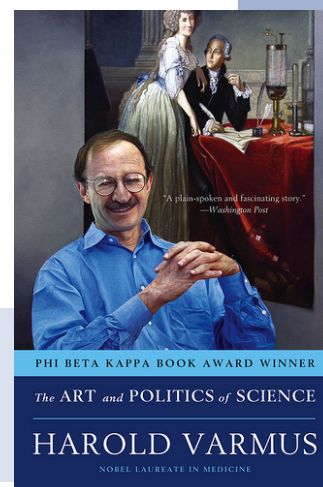
Need a Diversion? Read a Book!

By Tracie Frederick and Robin Meckley,
Scientific Library, Contributing Writers

The Scientific Library has all 11 volumes of *The Best American Science and Nature Writing* series. Each book compiles articles about various scientific topics from the previous year of newspapers and popular magazines. More than just straight reporting of scientific research, the pieces gathered in the 2009 edition compel the reader to think about spending 30 years researching animal communication with an African gray parrot, the effect of the Internet on our reading abilities, the possibility of living forever, and more. This series of books provides an entertaining way to touch on topics about which you might not normally read.

The new NCI director, Harold Varmus, has written an entertaining and enlightening autobiography titled *The Art and Politics of Science*, our January 2011 selection. Book club members were surprised to learn that Dr. Varmus started out his academic career as a literature major, focusing on the writings of Charles Dickens. The meandering path he followed to end up as the head of NCI makes for a fascinating read.

Complete information about the Reading Diversions Book Club, including an online discussion option, is available at <http://www-library.ncifcrf.gov/bookclub.aspx>.



Beyond the Deadline: It's Dead!

By Ken Michaels, Manager,
Visual Communications

The term “deadline” was first recorded in official congressional papers in the United States in 1864. During the American Civil War, prisoners were housed in high-walled, wooden stockades. A railing was placed approximately 20 feet inside the stockade’s walls, and prisoners were informed that it marked the limit beyond which they must not cross. Should a prisoner cross the line, the guards in the watchtowers assumed that an escape attempt was under way, and had orders to shoot to kill. The line came to be known picturesquely (and appropriately) as the “dead line.”¹

The journalism industry picked up the term and adopted it for everyday use. A reporter working on a story was always given a deadline to meet. Since submission of the story is only the first step, to be followed by editing, typesetting, layout, and printing press make-ready before the presses could actually start rolling—with every story in place—the meaning was clear: if the story isn’t in by the deadline, the story is dead, at least for that edition. The reporter had to realize that much had to happen after the story was finished for it to make it into the daily newspaper. It wasn’t enough to just tell the story—it had to be told on time, or it wouldn’t be told at all. It was dead.

In organizations, people are expected to respect each other’s time frames for collective projects, such as meeting reporting requirements, sending out meeting agendas, completing meeting minutes, etc., to function efficiently together. We have “due dates” and we have “deadlines,” but do we always use these terms precisely?

A due date specifies the date by which something is desired. Due dates are largely about setting forth plans for completing the project as conveniently as possible. Courteous employees



Photo of Andersonville prison, taken in 1864. Dead line is seen toward the right of the photo. Source: Library of Congress, Civil War Photograph Collection, <http://www.loc.gov/pictures/item/99400870/>.

with effective time management skills typically will either simply meet the due date or, if circumstances dictate, negotiate a modification. Some develop reputations for virtually always (or virtually never) meeting due dates. Those who reliably meet due dates, not surprisingly, tend to find favor with co-workers.

Unlike a due date, which can be flexible, a deadline is an absolute. It’s the point at which something will happen, or it won’t. The end of an open enrollment period for fringe benefits, for example, is a deadline. You either meet the deadline and get what you want, or you don’t. Tomorrow is too late.

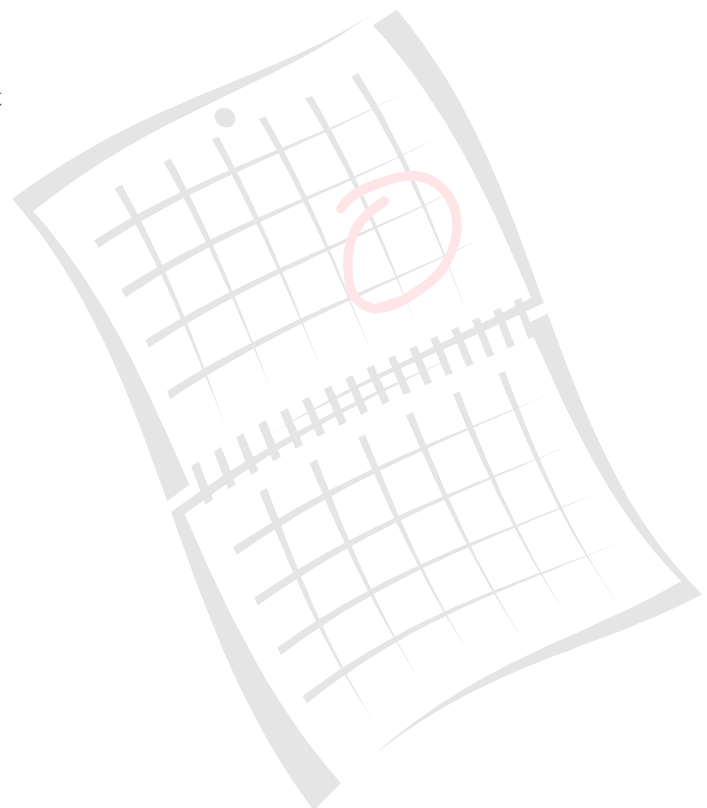
Recently another expression has surfaced—the “drop-dead date.” It goes something like this: “I know I missed the due date, and it’s past the deadline, but what’s the real drop-wdead date?” I suppose there’s something about saying “drop-dead” that seems a higher order of magnitude in terms of

consequences, but by definition, the “drop-dead date” is the deadline.

It seems to me that one aspect of effective institutional communication is using terms like “due date” and “deadline” with precision, with everybody understanding what they mean, and behaving accordingly. Due dates can sometimes be missed with no serious consequence other than causing somebody else inconvenience.

Courteous employees meet their due dates as a matter of routine. Deadlines can’t be missed without consequences, and the consequences are almost always negative. Effective employees meet deadlines. ■

¹Source: <http://users.tinyonline.co.uk/gswithenbank/curiousc.htm>



Upcoming Events and Dates to Note

April 15

Registration ends for Spring Research Festival

April 22

Poster Puzzler entries due

April 27 and 28

Spring Research Festival

May 30

Memorial Day; NCI-Frederick closed

Employment Opportunities

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

Charles River Laboratories
www.criver.com

Data Management Services
css.ncifcrf.gov/services

National Cancer Institute at Frederick
web.ncifcrf.gov/careers

SAIC-Frederick, Inc.
www.saic-frederick.com

Wilson Information Services Corporation
www-library.ncifcrf.gov

How Are We Doing?

Tell us what you like best about the *Poster*, or what you'd like to see added or improved.

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

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202221

