



THE NATIONAL CANCER INSTITUTE AT FREDERICK

DECEMBER 2010

Interactive Experiments Demonstrate Advanced Technologies

By Maritta Perry Grau, Staff Writer

“Awesome!”... “Wow! Look at that!”... “Way cool!” Those were just some of the comments children made at the Science and Engineering Festival, held on the National Mall, October 23–24.

“We estimate that we did 700–800 experiments,” said Barbara Birnman, public affairs specialist, NCI-Frederick.

Both SAIC-Frederick (through SAIC Corporate) and the NCI Office of Communication and Education (OCE) hosted booths at which many NCI-Frederick staff volunteered.

De Chen, Ph.D., Optical Microscopy and Analysis Laboratory, explained that SAIC had set up biomedical and engineering booths. “The biomedical part was composed of DNA experimental techniques and human health technologies. The engineering part concentrated on achievement in clean energy sources and robotic technologies. The booths provided a very good demonstration of these advanced technologies,” Chen said.

Hands-on Experimenting

At the biomedical booth, people could participate in a simulation of a laparoscopic surgery or could check their heart rate.

The simulation incorporated a large box with two mechanical arms that protruded through holes in the top.

“One arm had a camera attached to it so you could view through a computer screen how you were guiding the other mechanical arm inside

the box to pick up two colored golf balls and place them in a cup in the box,” said Sheryl Ruppel, Biopharmaceutical Development Program.

Asked what she liked best about the activity, Ruppel said, “Watching the expression and determination on the children’s faces as they tried so hard to get the balls in the cups.”

In checking their heart rate, the participants held a monitor and watched the change in heart rate as they went from standing still to running in place. Some were surprised to see how quickly the heart rate began to rise.

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Julie Belanger, Ph.D., CCR Nanobiology Program, asks a child what she thinks is happening during a chromatography experiment using a coffee filter and water-soluble markers.



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Science and Engineering Festival

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Experimenting with Chromatography

Martha Summers, Scientific Library, and Julie Hartman, Office of the Director, NCI-Frederick, worked in the NCI OCE booth, demonstrating how chromatography is used to separate mixtures.

At the OCE booth, Summers said, “We had photos of normal and cancer cells found in various rat organs, so the children could see the difference between the two. Thanks to Cathy Hixson, we also had a description of a chromatography machine and how it is used in cancer research.”

The children drew lines or colored dots with water-soluble markers on a coffee filter, placed the filter over a plastic cup, dropped water onto the filter, and watched the colors spread and separate.

The scientist volunteers used Socratic questioning to help the children see how chromatography works, “The idea being that we, as researchers, can use a more sophisticated type of chromatography to separate complex mixtures of molecules from cancer cells, and study them, one at a time,” said volunteer James Gould, Ph.D., Laboratory of Comparative Carcinogenesis.

The chromatography experiments were among the most popular at the NCI booths. “OCE staff had prepared 500 bags to hand out and we ran out by 2:00 p.m.,” Summers said.

Karobi Moitra, Ph.D., Laboratory of Experimental Immunology (LEI), said, “I must have been talking non-stop for over two hours, and the kids (of all ages) were very excited to do the chromatography experiment.”

Julie Belanger, Ph.D., Center for Cancer Research Nanobiology Program, added, “It was great to see all the kids’ (and adults’!) faces when they did the hands-on activity and learned a little bit about what we do.”

Summers noted, “I loved seeing so many children and parents alike interested in science! I was also thrilled to see so many schools participate. Lots

of science teachers sent students with papers to fill out and questions to ask.”

Explaining the point of the chromatography experiment, Walter Hubert, Ph.D., assistant project officer, NCI, said in a recent e-mail, “Various forms of chromatography and related analytical methods are used in cancer research to resolve mixtures composed of anything from small molecules, such as drugs and metabolites, all the



Walter Hubert, Ph.D., assistant project officer, NCI-Frederick, helps a child “analyze the data”—note what different pigments make up one apparent color during a chromatography experiment.

way up to relatively large biological macromolecules, such as RNA, DNA, and proteins. Thin-layer chromatography, gas chromatography, column chromatography, and gel electrophoresis are examples of these laboratory methods.”

Volunteers Want to Do It Again

Many of the volunteers said they’ll be back next year. Besides those mentioned earlier in the article, other volunteers included Christina Arnold, Office of the Director; Miriam Anver, Ph.D., Laboratory Animal Sciences Program; and Rachel deKluyver, LEI.



James Gould, Ph.D., Laboratory of Comparative Carcinogenesis, explains how chromatography can be used in cancer research to resolve mixtures, whether small molecules or large macromolecules.

Hubert thanked the organizers of both booths for “the opportunity of letting me work with you side-by-side and inspire our next generation of Nobel laureates. A little water-soluble ink goes a long way in creating indelible impressions and lasting curiosity in a child, as well as a drive in parents for seeking out competent schools that provide science-focused curricula.”

Gould added, “I can’t say enough about how much I enjoyed interacting with kids and grownups alike at the NCI booth. They had so many great questions and were sincerely thankful to get a glimpse of how we try to understand and cure cancer.”

Perhaps the best thanks came from a little girl who had been at the chromatography booth, as Birnman noted in an e-mail. “[When] I was walking back to my car, a family that had stopped by the booth walked by, and their little girl hugged me and thanked me for letting her do an experiment.” ■

BDP Helps Image Amyloidosis

By John Gilly and Nicole Fisher,
Biopharmaceutical Development Program,
Guest Writers

The cover of the September 30, 2010, issue of *Blood* showed a striking image of radioimmunodetection of amyloid deposits in a patient with systemic amyloidosis. The image, generated by radiolabeled antibodies, was associated with an article by a group at the University of Tennessee and Vanderbilt University studying options for interventional therapy in treating amyloidosis.

SAIC-Frederick's Biopharmaceutical Development Program (BDP) supported the NCI Biological Resources Branch (BRB) in the development of the murine monoclonal antibody (Mu11-1F4). Mu11-1F4 was then radiolabeled at IBA Molecular (Richmond, VA) before being shipped to the clinical trial site, the University of Tennessee, for patient dosing. Based on the results of this study, the investigators believe that the radiolabeled Mu11-1F4 can be used to identify which patients might be suitable for a treatment study with the chimeric form of this antibody (ch11-1F4).

Primary Amyloidosis

Primary, or AL, amyloidosis occurs when a specialized cell (a plasma cell) in the bone marrow spontaneously overproduces a particular protein portion

of an antibody called the light chain. The protein fibers (amyloids) can form deposits in vital organs such as the heart and liver, decreasing their ability to function. Yearly, 2,000–3,000 new cases of AL amyloidosis are diagnosed in the United States. Because of the public's lack of awareness of the disease and doctors' limited means of diagnosis, however, the actual incidence of the disease is probably much higher.

Mu11-1F4 as Radio-Imaging Agent

Mu11-1F4 is an amyloid-reactive monoclonal antibody developed for use as a radio-imaging agent to determine the biodistribution of the antibody in subjects with AL amyloidosis. When used as a radio-imaging agent, Mu11-1F4 was shown to detect the presence and the extent of the amyloid deposits in the heart, kidneys, lungs, or other affected organs in patients with AL amyloidosis.

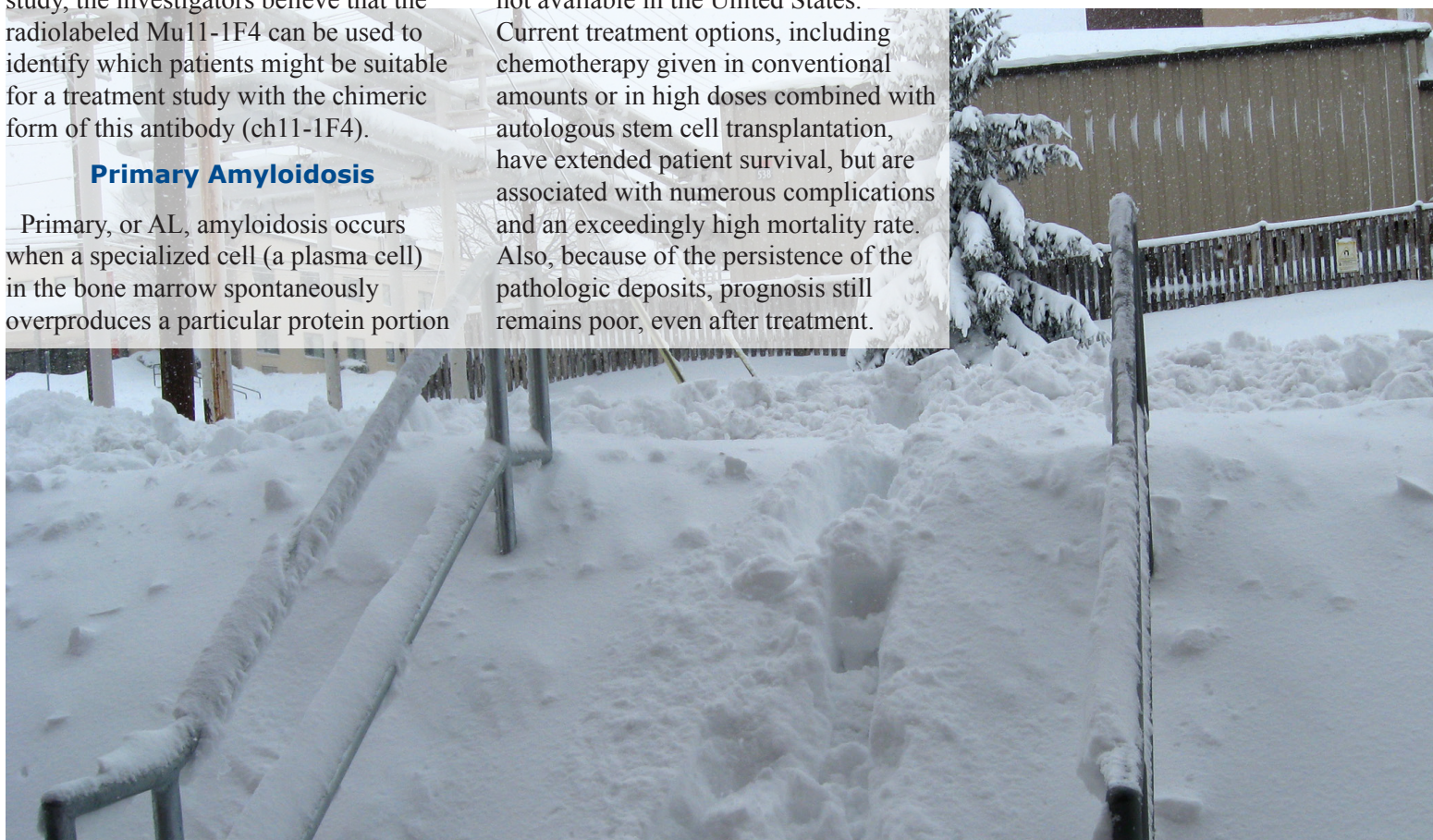
Unfortunately, approved amyloid-specific radio-imaging agents are not available in the United States.

Current treatment options, including chemotherapy given in conventional amounts or in high doses combined with autologous stem cell transplantation, have extended patient survival, but are associated with numerous complications and an exceedingly high mortality rate. Also, because of the persistence of the pathologic deposits, prognosis still remains poor, even after treatment.

Median survival rates for patients with AL amyloidosis are typically 18 to 36 months after diagnosis, but only about nine months for patients who have amyloid deposits in the heart. Fewer than five percent of all patients diagnosed with AL will live for more than 10 years after diagnosis. Improvement of this dismal prognosis clearly necessitates the development of new diagnostic and treatment approaches.

Dr. Jason Yovandich, BRB Program Director, oversees the activities for this project at BDP, while Beverly Keseling is the BDP project scientist, supported by Dr. Steve Giardina for process analytics and Sheryl Ruppel for regulatory affairs.

You can see the image used on the cover of *Blood* at <http://bloodjournal.hematologylibrary.org/content/voll16/issue13/cover.dtl>. That page also contains a link to the brief report in *Blood* by Jonathan Wall, et al., "Radioimmunodetection of Amyloid Deposits in Patients with AL Amyloidosis." ■



NCI-Frederick Awards

NIH Merit Awards

By Maritta Perry Grau and Ashley DeVine,
Staff Writers

The National Institutes of Health (NIH) honored NCI-Frederick personnel with Merit Awards at the NCI Director's Awards Ceremony in November.

The **NCI-Frederick Small Animal Imaging Program (SAIP) Leadership Team** was recognized for its "steadfast leadership during the initiation, development, and operation of the Small Animal Imaging Program at NCI-Frederick."

The team includes SAIC-Frederick staffers Dr. Joseph Kalen, director, SAIP; Dr. Hendrick Bedigian, past director, Laboratory Animal Sciences Program (LASP); Dr. Lionel Feigenbaum, director, LASP; and Dr. Jack Collins, director, Advanced Biomedical Computing Center, Information Systems Program. NCI colleagues are Marcelino Bernardo and Dr. Peter Choyke, Molecular Imaging Program, Center for Cancer Research (CCR); Dr. Piotr Grodzinski, director, NCI Alliance for Nanotechnology in Cancer; Dr. Kristin Komschlies, Office of Scientific Operations (OSO), Office of the Director (OD); and Dr. James Tatum, associate director, Cancer Imaging Program, Division of Cancer Treatment and Diagnosis (DCTD).

The **American Recovery and Reinvestment Act (ARRA) Team** includes both SAIC-Frederick and NCI-Frederick employees, who were recognized for their "outstanding leadership during the development and implementation of substantial ARRA activities at NCI-Frederick."

SAIC-Frederick staff includes Beth Kelly, Contract Planning and Administration (CPAD); Ginny



The Small Animal Imaging Program Leadership Team: From left, Marcelino Bernardo, Dr. Kristin Komschlies, Dr. Lionel Feigenbaum, Dr. Hendrick Bedigian, Dr. Piotr Grodzinski, Dr. Joseph Kalen, and Dr. Harold Varmus. (Not pictured: Dr. Jack Collins, Dr. Peter Choyke, and Dr. James Tatum)



The American Recovery and Reinvestment Act Team: From left, Connie Suders, Beth Kelly, Patty White, Altia Sherman, Debbie Guy, and Dr. Harold Varmus. (Not pictured: Ginny Whipp, Ellen Miller, Richard Pendleton, and David Ramos)

Whipp, Financial Management; Ellen Miller, director, Research Program Administration; Richard Pendleton, director, CPAD; and Connie Suders, CPAD. NCI colleagues are Debbie Guy, OSO, OD; David Ramos, chief, Management Operations Support Branch (MOSB); Altia Sherman, OSO, OD; and Patty White, MOSB.

The following NCI-Frederick personnel also received awards:

Darren Henderson, OD, CCR, received a 20-year length-of-service certificate, as well as an award for his work on the Renovation Planning Team for Buildings 10, 41, and 376.

Lori Holliday, Administrative Resource Center, was cited for exceptional administrative leadership in support of CCR.

Kevin D. Brand, M.S., J.D., Technology

Transfer Center, received an award for outstanding skill and creativity in negotiating scientific partnerships with industry.

Dr. Eric O. Freed, HIV Drug Resistance Program Retroviral Replication Laboratory, and Dr. Lino Tessarollo, deputy chief, Mouse Cancer Genetics Program (MCGP), received Mentors of Merit Awards.

Dr. Robert

H. Shoemaker, chief, Screening Technologies Branch, Developmental Therapeutics Program (DTP); Dr. Giorgio Trinchieri, director, Cancer and Inflammation Program; and Dr. Howard Young, Laboratory of Experimental Immunology (LEI), received 30-year length-of-service certificates.

Dr. Dimiter S. Dimitrov, MCGP, and Dr. Diana Linnekin, OD, CCR, received 20-year length-of-service certificates.

Charlotte Hanson, Laboratory of Cancer Prevention (LCP); Dr. O.M. Zack Howard, Laboratory of Molecular Immunoregulation; Dr. Dennis Klinman, LEI; Karen Muszynski, Biological Resources Branch; Anthony Scarzello, LEI; and Dr. Matthew Young, LCP, received 10-year length-of-service certificates. ■

23 NCI-Frederick Staffers Recognized for Contributions to Cancer Therapy

By Maritta Perry Grau, Staff Writer

In celebration of the International Society for Biological Therapy of Cancer's (iSBTe's) 25th anniversary, the organization has created a new Team Science Recognition award. The awards were presented this fall to six institutions or groups that have fostered "success

in the field of cancer immunotherapy/ biological therapy through long-standing and continued collaborative contributions of energy, activity, and intellect" during the past 25 years, according to Chloe Surinak, publicist for iSBTe.

NCI-Frederick scientists (former and

current) being recognized include Drs. Stephen Creekmore, Brendan Curti, Ken Foon, Barry Gause, Ron Herberman, John Janik, Larry Kwak, Dan Longo, William Murphy, Augusto Ochoa, Bob Oldham, Joost Oppenheim, John Ortaldo, Craig Reynolds, Francis Ruscetti, William Sharfman, John Smith, Ronald Steis, Mario Sznol, Walter Urba, Jon Wigginton, Robert Wiltrout, and Howard Young. ■



Several former and current NCI-Frederick scientists received Team Science awards at the October International Society for Biological Therapy of Cancer's 25th anniversary meeting. Pictured, left to right, are Hong Qin, Ph.D., accepting for Larry Kwak, Ph.D., MD Anderson; James Talmadge, Ph.D., University of Nebraska Medical Center; Jon Wigginton, M.D., Bristol-Myers Squibb, Inc.; Mario Sznol, M.D., Yale Cancer Center; Barry Gause, M.D., director, Clinical Research Directorate, SAIC-Frederick, NCI-Frederick; Augusto Ochoa, Ph.D., Louisiana State University Health Sciences Center; William Murphy, Ph.D., University of California-Davis; William Sharfman, M.D., Johns Hopkins University; Craig Reynolds, M.D., director, Office of Scientific Operations, NCI-Frederick; Robert Oldham, M.D., Poplar Bluff Regional Medical Center; Robert Wiltrout, Ph.D., director, Center for Cancer Research; Ronald Herberman, M.D., Intrexon Corporation; and Bernard Fox, Ph.D., iSBTe/SITC president.

LASP Selects Employees of the Month

By Aritha Smith, Laboratory Animal Sciences Program, Guest Writer

The Laboratory Animal Sciences Program's September Employee of the Month is Karen Saylor, laboratory animal technician, who was selected for her dedication to the program and the support she gives to her peers. She is knowledgeable of the entire program and recognizes the needs of others. Saylor supports all staff animal care, technical, office, and management employees.

The November recognition (October's employee had not been chosen at press time) goes to Steve Minnick, who works in the Receiving and Quarantine Facility, Building 429. Minnick is a very dedicated employee and is always very eager to obtain more knowledge in his field. He is very dependable and is always willing to go that extra mile to help his fellow employees. ■



Karen Saylor



Steve Minnick

MyD88 Found to Protect against Colon Cancer

By Nancy Parrish, Staff Writer

Inflammatory bowel disease (IBD), which is associated with a high risk of colon cancer, afflicts 1 in 1,000 people in Western countries. The mechanisms underlying this association have yet to be fully understood.

Bacteria in the colon are believed to play an important role in the development of IBD. These bacteria are first sensed through toll-like receptors (TLRs), many of which trigger an immune response by employing a molecule known as MyD88. Previous studies, using models of liver and skin cancers, have shown that MyD88-mediated signaling enhanced the development of cancer.

In contrast, Rosalba Salcedo, Ph.D., and colleagues in the Basic Science Program, working in support of the Laboratory of Experimental Immunology, Cancer and Inflammation Program, conducted studies indicating that MyD88 signaling

plays a protective role against the development of chronic colitis-associated cancer (CAC) induced by azoxymethane (AOM)/dextran sodium sulfate (DSS) treatment.

The unexpected finding that MyD88 can have both enhancing and protective roles, depending on the type of cancer, is what makes the study significant, Dr. Salcedo explained. Moreover, the research helps clarify “the complex role of inflammation in the development of colitis and subsequent formation of adenocarcinomas,” she said.

Dr. Salcedo received her doctoral training in immunology at the Karolinska Institute at Stockholm, Sweden, and began her career in 1997 studying the roles of chemokines in angiogenesis and tumorigenesis in the Laboratory of Molecular Immunoregulation. Today she is with the Cancer and Inflammation Program, where she enjoys the “opportunity to combine my expertise in the inflammation and cancer fields.”

For Dr. Salcedo, discovering the unexpected is what makes research



Rosalba Salcedo, Ph.D., Laboratory of Experimental Immunology, Cancer and Inflammation Program, Center for Cancer Research, NCI-Frederick

gratifying. “You never really know what the results will be and in which direction your research will lead you,” she noted. “It’s quite an adventure.” ■

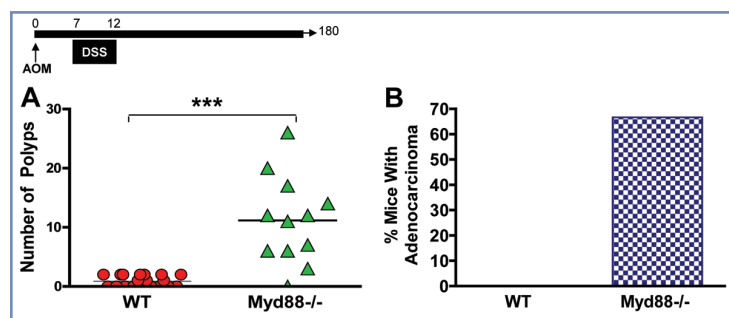
MyD88-Mediated Signaling Prevents Development of Adenocarcinomas of the Colon: Role of Interleukin 18

Salcedo R, Worschech A, Cardone M, Jones Y, Gyulai Z, Dai R-M, Wang E, Ma W, Haines D, O’Huigin C, Marincola FM, and Trinchieri G
J. Exp. Med 207(8):1625–1636, 2010

Signaling through the adaptor protein myeloid differentiation factor 88 (MyD88) promotes carcinogenesis in several cancer models. In contrast, MyD88 signaling has a protective role in the development of azoxymethane (AOM)/dextran sodium sulfate (DSS) colitis-associated cancer (CAC). The inability of *Myd88*^{-/-} mice to heal ulcers generated upon injury creates an altered inflammatory environment that induces early alterations in expression of genes encoding proinflammatory factors, as well as pathways regulating cell proliferation, apoptosis, and DNA repair, resulting in a dramatic increase in adenoma formation and progression to infiltrating adenocarcinomas with

frequent clonal mutations in the β -catenin gene. Others have reported that *toll-like receptor (Tlr) 4*-deficient mice have a similar susceptibility to colitis to *Myd88*-deficient mice but, unlike the latter, are resistant to CAC. We have observed that mice deficient for *Tlr2* or *Il1r* do not show a differential susceptibility to colitis or CAC. However, upon AOM/DSS treatment *Il18*^{-/-} and *Il18r1*^{-/-} mice were more susceptible to colitis

and polyp formation than wild-type mice, suggesting that the phenotype of *Myd88*^{-/-} mice is, in part, a result of their inability to signal through the IL-18 receptor. This study revealed a previously unknown level of complexity surrounding MyD88 activities downstream of different receptors that impact tissue homeostasis and carcinogenesis. ■



The colons of mice were examined for polyps six months after treatment with AOM/DSS (A). MyD88-deficient mice demonstrated a higher frequency of adenocarcinomas than the wild-type controls (B).

The following 34 articles have been selected from 11 of the most prestigious science journals published during the past quarter.

Cell, Tumor, and Tumor Biology

Salcedo R, Worschech A, Cardone M, Jones Y, Gyulai Z, Dai RM, Wang E, Ma W, Haines D, O’Huigin C, Marincola FM, Trinchieri G. Myd88-mediated signaling prevents development of adenocarcinomas of the colon: role of interleukin 18. *J Exp Med* 207(8):1625–1636, 2010.

Van Dyke T. Finding the tumor copycat: approximating a human cancer. *Nat Med* 16(9):976–977, 2010.

Cellular Immunology and Immune Regulation

Gordon SN, Cervasi B, Odorizzi P, Silverman R, Aberra F, Ginsberg G, Estes JD, Paiardini M, Frank I, Silvestri G. Disruption of intestinal CD4(+) T cell homeostasis is a key marker of systemic CD4(+) T cell activation in HIV-infected individuals. *J Immunol* 185(9):5169–5179, 2010.

Perrot I, Deauvieau F, Massacrier C, Hughes N, Garrone P, Durand I, Demaria O, Viaud N, Gauthier L, Blery M, Bonnefoy-Berard N, Morel Y, Tschopp J, Alexopoulou L, Trinchieri G, Patrel C, Caux C. TLR3 and Rig-like receptor on myeloid dendritic cells and Rig-like receptor on human NK cells are both mandatory for production of IFN-gamma in response to double-stranded RNA. *J Immunol* 185(4):2080–2088, 2010.

Von Gegerfelt A, Valentin A, Alicea C, Van Rompay KK, Marthas ML, Montefiori DC, Pavlakakis GN, Felber BK. Emergence of simian immunodeficiency virus-specific cytotoxic CD4+ T cells and increased humoral responses correlate with control of rebounding viremia in CD8-depleted macaques infected with Rev-independent live-attenuated Simian immunodeficiency virus. *J Immunol* 185(6):3348–3358, 2010.

Clinical Immunology

Rai G, Ray S, Milton J, Yang J, Ren P, Lempicki R, Mage RG. Gene expression profiles in a rabbit model of systemic lupus erythematosus autoantibody production. *J Immunol* 185(7):4446–4456, 2010.

DNA Dynamics and Chromosome Structure

Koutros S, Beane Freeman LE, Berndt SI, Andreotti G, Lubin JH, Sandler DP, Hoppin JA, Yu K, Li Q, Burdette LA, Yuenger J, Yeager M, Alavanja MC. Pes-

ticide use modifies the association between genetic variants on chromosome 8q24 and prostate cancer. *Cancer Res* 70(22): 9224–9233, 2010.

Redon CE, Dickey JS, Nakamura AJ, Kareva IG, Naf D, Nowsheen S, Kryston TB, Bonner WM, Georgakilas AG, Sedelnikova OA. Tumors induce complex DNA damage in distant proliferative tissues in vivo. *Proc Natl Acad Sci USA* 107(42):17992–17997, 2010.

Wang J, Sarkar TR, Zhou M, Sharan S, Ritt DA, Veenstra TD, Morrison DK, Huang AM, Sterneck E. CCAAT/enhancer binding protein delta (C/EBP{delta}), CEBPD)-mediated nuclear import of FANCD2 by IPO4 augments cellular response to DNA damage. *Proc Natl Acad Sci USA* 107(37):16131–16136, 2010.

Epidemiology and Prevention

Abnet CC, Freedman ND, Hu N, Wang ZM, Yu K, Shu XO, Yuan JM, Zheng W, Dawsey SM, Dong LM, Lee MP, Ding T, Qiao YL, Gao YT, Koh WP, Xiang YB, Tang ZZ, Fan JH, Wang CY, Wheeler W, Gail MH, Yeager M, Yuenger J, Hutchinson A, Jacobs KB, Giffen CA, Burdett L, Fraumeni JF, Tucker MA, Chow WH, Goldstein AM, Chanock SJ, Taylor PR. A shared susceptibility locus in PLCE1 at 10q23 for gastric adenocarcinoma and esophageal squamous cell carcinoma. *Nat Genet* 42(9):764–767, 2010.

Genovese G, Friedman DJ, Ross MD, Lecordier L, Uzureau P, Freedman BI, Bowden DW, Langefeld CD, Oleksyk TK, Knob ALU, Bernhardt AJ, Hicks PJ, Nelson GW, Vanhollenbeke B, Winkler CA, Kopp JB, Pays E, Pollak MR. Association of trypanolytic ApoL1 variants with kidney disease in African Americans. *Science* 329(5993):841–845, 2010.

Experimental Therapeutics, Molecular Targets, and Chemical Biology

Terzuoli E, Puppo M, Rapisarda A, Uranchimeg B, Cao L, Burger AM, Ziche M, Melillo G. Aminoflavone, a ligand of the aryl hydrocarbon receptor, inhibits HIF-1alpha expression in an AhR-independent fashion. *Cancer Res* 70(17):6837–6848, 2010.

Zhang AX, Murelli RP, Barinka C, Michel J, Cocleaza A, Jorgensen WL, Lubkowski J, Spiegel DA. A remote arene-binding site on prostate specific membrane antigen revealed by antibody-recruiting small molecules. *J Am Chem Soc* 132(36):12711–12716, 2010.

Genetic Diversity

Johnson WE, Onorato DP, Roelke ME, Land ED, Cunningham M, Belden RC, McBride R, Jansen D, Lotz M, Shindle D, Howard J, Wildt DE, Penfold LM, Hostetler JA, Oli MK, O’Brien SJ. Genetic restoration of the Florida panther. *Science* 329(5999):1641–1645, 2010.

Hematopoiesis and Stem Cells

Li HJ, Ji M, Klarmann KD, Keller JR. Repression of Id2 expression by Gfi-1 is required for B-cell and myeloid development. *Blood* 116(7):1060–1069, 2010.

Satyanarayana A, Gudmundsson KO, Chen X, Coppola V, Tessarollo L, Keller JR, Hou SX. RapGEF2 is essential for embryonic hematopoiesis but dispensable for adult hematopoiesis. *Blood* 116(16):2921–2931, 2010.

Host Defense

Leone A, Rohankhedkar M, Okoye A, Legasse A, Axthelm MK, Villinger F, Piatak M, Lifson JD, Assouline B, Morre M, Picker LJ, Sodora DL. Increased CD4(+) T cell levels during IL-7 administration of antiretroviral therapy-treated simian immunodeficiency virus-positive macaques are not dependent on strong proliferative responses. *J Immunol* 185(3):1650–1659, 2010.

HIV

Felts RL, Narayan K, Estes JD, Shi D, Trubey CM, Fu J, Hartnell LM, Ruthel GT, Schneider DK, Nagashima K, Bess JW, Bavari S, Lowekamp BC, Bliss D, Lifson JD, Subramaniam S. 3D visualization of HIV transfer at the virological synapse between dendritic cells and T cells. *Proc Natl Acad Sci USA* 107(30):13336–13341, 2010.

Immunobiology

Cichocki F, Lenvik T, Sharma N, Yun G, Anderson SK, Miller JS. Cutting edge: KIR antisense transcripts are processed into a 28-base PIWI-like RNA in human NK cells. *J Immunol* 185(4):2009–2012, 2010.

De Ravin SS, Cowen EW, Zarembek KA, Whiting-Theobald NL, Kuhns DB, Sandler NG, Douek DC, Pittaluga S, Poliani PL, Lee YN, Notarangelo LD, Wang L, Alt FW, Kang EM, Milner JD, Niemela JE, Fontana-Penn M, Sinal SH, Malech HL. Hypomorphic Rag mutations can cause destructive midline granulomatous disease. *Blood* 116(8):1263–1271, 2010.

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Oku N, Takada K, Fuller RW, Wilson JA, Peach ML, Pannell LK, McMahon JB, Gustafson KR. Isolation, structural elucidation, and absolute stereochemistry of enigmazole A, a cytotoxic phosphomacrolide from the Papua New Guinea Marine Sponge *Cinachyrella enigmatica*. *J Am Chem Soc* 132(30):10278–10285, 2010.

Trinchieri G. Type I interferon: friend or foe? *J Exp Med* 207(10):2053–2063, 2010.

Immunotherapy

Kerkar SP, Muranski P, Kaiser A, Boni A, Sanchez-Perez L, Yu ZY, Palmer DC, Reger RN, Borman ZA, Zhang L, Morgan RA, Gattinoni L, Rosenberg SA, Trinchieri G, Restifo NP. Tumor-specific CD8(+) T cells expressing interleukin-12 eradicate established cancers in lymphodepleted hosts. *Cancer Res* 70(17):6725–6734, 2010.

Weiss JM, Ridnour LA, Back T, Hussain SP, He P, Maciag AE, Keefer LK, Murphy WJ, Harris CC, Wink DA, Wiltrot RH. Macrophage-dependent nitric oxide expression regulates tumor cell detachment and metastasis after IL-2/anti-CD40 immunotherapy. *J Exp Med* 207(11):2455–2467, 2010.

Inflammation

Savan R, McFarland AP, Reynolds DA, Feigenbaum L, Ramakrishnan K, Karwan M, Shirota H, Klinman DM, Dunleavy K, Pittaluga S, Anderson SK, Donnelly RP, Wilson WH, Young HA. A novel role for IL-22R1 as a driver of inflammation. *Blood*, prepublished online October 22, 2010; doi:10.1182/blood-2010-05-285908.

Oncogenes

Mayeenuddin LH, Yu Y, Kang Z, Helman LJ, Cao L. Insulin-like growth factor 1 receptor antibody induces rhabdomyosarcoma cell death via a process involving AKT and Bcl-x(L). *Oncogene* (6 September 2010); doi:10.1038/onc.2010.364.

Sangaletti S, Tripodo C, Ratti C, Piconese S, Porcasi R, Salcedo R, Trinchieri G, Colombo MP, Chiodoni C. Oncogene-driven intrinsic inflammation induces leukocyte production of tumor necrosis factor that critically contributes to mammary carcinogenesis. *Cancer Res* 70(20):7764–7775, 2010.

Phagocytes, Granulocytes, and Myelopoiesis

De Ravin SS, Zarembek KA, Long-Priel D, Chan KC, Fox SD, Gallin JI, Kuhns DB, Malech HL. Tryptophan/kynurenine metabolism in human leukocytes is independent of superoxide and is fully maintained in chronic granulomatous disease. *Blood* 116(10):1755–1760, 2010.

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Pharmacology

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“Be-the-Match” Drive Recruits 103 New Donors

By Maritta Perry Grau, Staff Writer

The recent NIH NMDP “Be-the-Match” bone marrow donor recruitment drive on the NCI-Frederick campus recruited 103 new donors. “Donors came from all parts of the Fort Detrick employee base—federal employees, contract employees, and a few DoD civilians,” according to an e-mail from Susan Leitman, M.D., chief of the Blood Services Section, Department of Transfusion Medicine, NIH.

Leitman singled out Occupational Health Services (OHS) for its “tremendous assistance. OHS provided nursing staff on both days to screen donors and review consents, and their staff was extremely professional and helpful.”

Christina Arnold, Office of the Director, NCI-Frederick, noted that since the “Be-the-Match” drive was held at the same time as the Scientific Library’s Book Swap, “The staff at the Scientific Library made coupons for free books, which we passed on to anyone who joined the marrow registry.”

Others who helped make the event such a success included Laura Geil, Julie Hartman, Arnold, and Dr. Kristin Komschlies, all of the Office of the Director, NCI-Frederick; and Alberta Peugeot, Mary Carol Fleming, Carolyn Cable, Marla Mullen, Rose Saad, Kelly Hutzell, Paula Mathis, and Will Sheffield, all of OHS.

Adding his praise concerning the event, Craig Reynolds, Ph.D., director, Office of Scientific Operations, NCI-Frederick, commented, “I was pleased with the response from our staff and think that we can do even better in the future!” ■

Central Repository Expansion Makes Room for Two Million DCEG Specimens

By Maritta Perry Grau, Staff Writer

From the outside, the Central Repository at Wedgewood Boulevard in Frederick is not noticeably different from its neighbors. It is one of a series of suites in a long, low, one-story building. Just a few doors down, for example, is a flooring company.

Despite the quiet, soothing colors and the friendly, cheerful receptionist, you get an inkling that things are a bit different when you step inside and notice a big panel with 14 sets of white, green, and red alarm buttons.

And beyond the administrative offices, you'll find the place is vastly different—literally: It's a vast warehouse with one room, 120 feet x 260 feet, and a new, second room, 80 feet x 260 feet—both humming with the noise of compressors, air blowers, and other machinery, from gigantic nitrogen tanks to ultra-low-temperature upright and chest freezers.

The recent expansion was just in time to help one of its partners, the Division of Cancer Epidemiology and Genetics (DCEG), in its quest to find more specimen storage space, noted Kathleen Groover, Ph.D., principal investigator for the SAIC-Frederick subcontractor, Fisher BioServices, and head of the Central Repository.

DCEG to Store Specimens at Central Repository

Late last summer, Joseph Fraumeni, M.D., DCEG director; and colleagues Dr. Shiela Zham, deputy director; Dr. Karen Pitt, special assistant for biological resources, DCEG; and Marianne Henderson, chief, Office of Division Operations and Analysis, came to see the new walk-in freezer that their group had funded.

But the DCEG unit isn't just any walk-in freezer, such as you might see in a restaurant kitchen. The 835-square-foot unit has a central hallway, kept at -20°C , and 14 freezer bays (-80°C), seven on each side. Each bay can hold 25,000



Joseph Fraumeni, M.D., director of the Division for Cancer Epidemiology and Genetics, observes vapor-phase specimen storage within a typical liquid nitrogen-cooled tank at the Central Repository's Wedgewood Boulevard facility. These energy-efficient tanks maintain temperatures below -150°C for up to 57,000 specimens in 1.8-ml. cryo vials.

specimens up to 2 cm in size. The unit is also plumbed to a big nitrogen tank outside, a final fail-safe system for all of the tanks in this section of the warehouse.

Groover explained that for efficiency in retrieval, specimens, such as serum, plasma, or other types, will be grouped together. A new robotic system will help to re-array materials, enabling more efficient retrieval.

DCEG also plans to place another 100 chest freezers and 38 nitrogen tanks in the warehouse.

Safeguards and Back-ups Keep People and Specimens Safe

Many safeguards and back-up systems are in place, and new ones have been added, both in the new section of the repository and in the older section.

For example, an electronic surveillance system sounds an alarm if someone stays more than 15 minutes in the freezer. The employee must then remain in a normal-temperature area for at least one half-hour.

"The time varies somewhat, depending on a person's tolerance for cold. They do sorting outside the box so that they are not exposed too long to the ultra-cold temperatures," Groover said.

In both storage rooms, overhead cooling tubes snake their way up and down the rows of tanks and freezers. "The new ductwork is all plumbed together. Heating, ventilation, and air conditioning are important; 11 units provide consistent temperatures throughout the warehouse. That's a constant effort because freezers take in cold air in front, and push out hot air in back," Groover said.

Tall columns, part of a tremendously important fail-safe system, are suspended a couple of inches off the floor to suck up any floor-level nitrogen, should there be a failure in the nitrogen piping. A normal atmosphere includes 20 percent nitrogen mixed with oxygen and other gases; too much nitrogen could quickly displace the oxygen and suffocate those breathing it in.

Not only have back-up systems been carefully thought out, but the systems have been designed to be environmentally friendly and multifunctional. For example, sensors monitor both lights and the oxygen levels. Cryo vents ensure that liquid nitrogen fills the vacuum-jacketed piping, preventing a build-up of gas and making the system more efficient and cost effective. The vents also warm the exhausted nitrogen gas so that when it comes into contact with water vapor in the surrounding air, the water vapor does not form into ice.

Mark Cosentino, Ph.D., Repository Quality Board member, noted that the repository here "is very convenient for the scientists; our location allows a lot of interface with the labs—the physical location of the repository makes sense."

The Central Repository Services provide the NCI research community with various cryogenic services, including low-temperature storage from $+4^{\circ}\text{C}$ to -196°C , controlled-rate freezing, computerized inventory, and distribution of samples. For more information, you can contact Groover at 301-694-5911 or kathleen.groover@thermofisher.com; or Judith Franke at 301-694-5911 or Judith.Franke@thermofisher.com. ■

Protective Services Staff Member Honored as Navy Reservist

By Nancy Parrish, Staff Writer

Wears Many (Military) Hats

Part of Lynette Kelly's weekday job is issuing badges to NCI-Frederick employees. But on many weekends, you might find her issuing orders to her security unit at the U.S. Naval Academy (USNA).

An access control clerk with the Protective Services Department, Kelly joined the Navy Reserve six years ago, she said, "simply out of my desire to serve my country." She has found that being a reservist is "a part-time job with a full-time commitment."

Kelly's commitment to the Navy was recognized in September, when she was awarded the Navy and Marine Corps Achievement Medal for her continued outstanding performance as a trainer and leader. The citation for the award specifically notes that "Petty Officer Kelly's personal initiative and steadfast devotion to duty reflected credit on herself and were in keeping with the highest traditions of the United States Naval Service."

When she learned she received the award, Kelly admits, "I was overwhelmed ... I've never looked at it as anything more than my responsibility to my sailors to give them the best training possible."

Named Junior Sailor of the Quarter, 2010

The achievement medal is not the only honor Kelly has earned recently. She was also named Junior Sailor of the Quarter, third quarter of 2010, for her outstanding performance as a supervisor, trainer, and mentor. She said she has earned this award for the last four consecutive quarters from her reserve center, which has more than 3,000 sailors.

Her nomination specifically cites "her reputation as a knowledgeable leader who can be trusted by all. Her leadership potential is unlimited."

Currently a petty officer, second class, Kelly is a master-at-arms with the Navy Security Forces-Annapolis (NSF Annapolis), which provides security to the USNA. Her position requires her to juggle a number of responsibilities. "I'm my unit's weapons lead petty officer, career counselor, protective service specialist, command investigator, small arms marksmanship instructor, command fitness leader, and I'm on the Special Reaction Team," she said.

Providing security at the USNA requires versatility, flexibility, and diplomacy, she noted, because the USNA functions not only as a college campus, but also as a military base and a historic site. "I could be doing a protection detail for the secretary of defense one week, and the next week assisting visitors for a parade."

No Stranger to Fort Detrick

Before joining Protective Services three years ago, Kelly worked as a guard at the Fort Detrick gates for five years. She believes that her experience working on the gates has been "invaluable in establishing a good rapport with the Army side [of Fort Detrick]."

As an access control clerk, she



Lynette Kelly, Access Control Clerk, Protective Services Department.

programs and issues card keys, issues personal identity verification badges, maintains databases, checks in visitors, monitors laboratory alarms, "and anything else they need me to do." As if holding down two jobs is not enough, she also recently started her bachelor's degree in security management at the American Military University.

Kelly performs her duties at NCI-Frederick with the same high level of commitment as she demonstrates as a Navy reservist. Protective Services Manager Tom Gannon-Miller notes that Kelly's "professionalism and customer service skills are simply outstanding. Whether it is performing her access control duties or manning the dispatch desk, Lynette treats everyone with the utmost respect." ■

Editor's note: As we went to press, Kelly learned that she had been promoted to lead petty officer for NSF Annapolis. She will be responsible for coordinating the security detail of 28 sailors in support of all special events, VIP visits, and sports events at the USNA.



Kelly accepts the Navy and Marine Corps Achievement Award from Capt. Richard Windsor.

Connect with NCI on Social Media

Connect with NCI on Twitter, Facebook, and More

(Note: The following information was adapted from: <http://www.cancer.gov/newmedia>.)

Did you know NCI is now on Twitter, Facebook, and YouTube, and maintains its own RSS feeds? Here is a list of the ways you can connect with NCI through these social media channels.



NCI on Twitter

@theNCI:

<http://twitter.com/thenci>

The latest developments from across NCI.

@NCImcMedia:

<http://twitter.com/ncimcmedia>

Multicultural information and news, including tools developed specifically for journalists reporting on cancer at minority media outlets.

@NCIBulletin:

<http://twitter.com/ncibulletin>

Featured content from NCI's biweekly online newsletter and timely updates from across the cancer research community.

@NCIMedia:

<http://twitter.com/ncimedia>

Press releases, news notes, articles, and other resources to support health and science writers, and other journalists covering cancer research and the activities of NCI.

@NCIprevention:

<http://twitter.com/nciprevention>

The latest information about early detection, cancer risk, and chemoprevention.

@NCISymptomMgmt:

<http://twitter.com/ncisymptommgmt>

Information about coping with the symptoms of cancer or cancer treatment, and end-of-life care.

@SmokefreeWomen:

<http://twitter.com/smokefreewomen>

A team of women offers advice, tips, and support to women trying to quit smoking.

@NCICancerCtrl:

<http://twitter.com/ncicancerctrl>

News and information from Cancer Control and Population Sciences at NCI.

@NCIExhibits:

<http://twitter.com/nciexhibits>

The NCI Exhibit Program travels to scientific and professional meetings and communicates NCI's research and resources.

@NCITrialsatNIH:

<http://twitter.com/ncitrialsatnih>

Information about ongoing cancer clinical trials conducted by NCI's Center for Cancer Research at the NIH campus in Bethesda, MD.



NCI on Facebook

(Note: Currently, government computers do not allow access to Facebook.)

The National Cancer Institute:

<http://www.facebook.com/cancer.gov>

Provides an interactive way to find cancer information and share your perspective. The page includes discussions initiated by group members and links to NCI resources, as well as questions, comments, and cancer news.

Office of Media Relations:

<http://www.facebook.com/NCImedia>

A collection of information and resources from across NCI to inform members of the media about cancer research news and the activities of NCI.

Smokefree Women:

<http://www.facebook.com/smokefree.women>

A place where women who are trying to quit smoking or remain smokefree can share information, encouragement, and support.



NCI RSS Feeds

News Releases:

<http://feeds.feedburner.com/ncinewsreleases>

The latest cancer news from NCI.

NCI Cancer Bulletin:

<http://feeds.feedburner.com/ncicancerbulletin>

Read the latest articles from NCI's biweekly newsletter.

NCI Benchmarks:

<http://feeds.feedburner.com/ncibenchmarks>

A web resource for reporters that contains extensive multimedia background materials pertaining to recent, high-profile cancer news.

NCI Fact Sheets:

<http://feeds.feedburner.com/ncifactsheets>

The latest NCI fact sheets on a variety of cancer topics, including risk factors, prevention, support, treatment, and more.

Clinical Trial Results:

<http://feeds.feedburner.com/ncictresults>

The latest NCI summaries of recently announced results from cancer clinical trials.

Featured Clinical Trials:

<http://feeds.feedburner.com/ncictfeatured>

The latest NCI-sponsored clinical trials featured in the *NCI Cancer Bulletin*.



NCI on YouTube

<http://www.youtube.com/ncigov>:

Features videos from across NCI on a wide range of topics, including profiles of cancer researchers, an introduction to clinical trials, and information about important NCI programs.

NCI was expected to release guidelines that provide direction for using Facebook, Twitter, blogs, and video/YouTube in November. If you are interested in officially posting something on NCI's Facebook page, you can e-mail your request to NCI's Facebook Team at NCIFacebookTeam@mail.nih.gov. ■

Tanya Sappington: Building on NCI's Mission

By Codi Miller, Administrative Resource Center,
Contributing Writer

On a crisp October morning in a conference room in Building 539, administrative laboratory staff and the NCI-Frederick Administrative Resource Center (ARC) staff gathered for the first Administrative Information Meeting (AIM) under the direction of Tanya Sappington, NCI-Frederick's new ARC manager. As the new fiscal year begins and Sappington embraces her role as ARC manager, it is a time for new beginnings.

At the AIM meeting, Sappington explained her comprehensive vision for the future of NCI-Frederick administrators. Her vision champions an administrative community of excellence, where knowledge will be shared and collaboration encouraged. Sappington noted the fiscal challenges ahead and emphasized that cooperation and innovation are needed now more than ever.

Long-time Service to NCI-Frederick ARC

Sappington was recently selected for the ARC manager position after serving at the NCI-Frederick ARC as an administrative officer (AO) for 11 years and as a team leader for almost three

years. She began her career with the government in 1996 with the National Park Service and joined NIH in 1998 as an administrative technician.

Although Sappington is not new to NIH, she brings fresh perspectives and new ideas. She is an ideal selection for her new position because she knows NIH's organizational culture and understands what challenges lie ahead.

Building on NCI's Mission

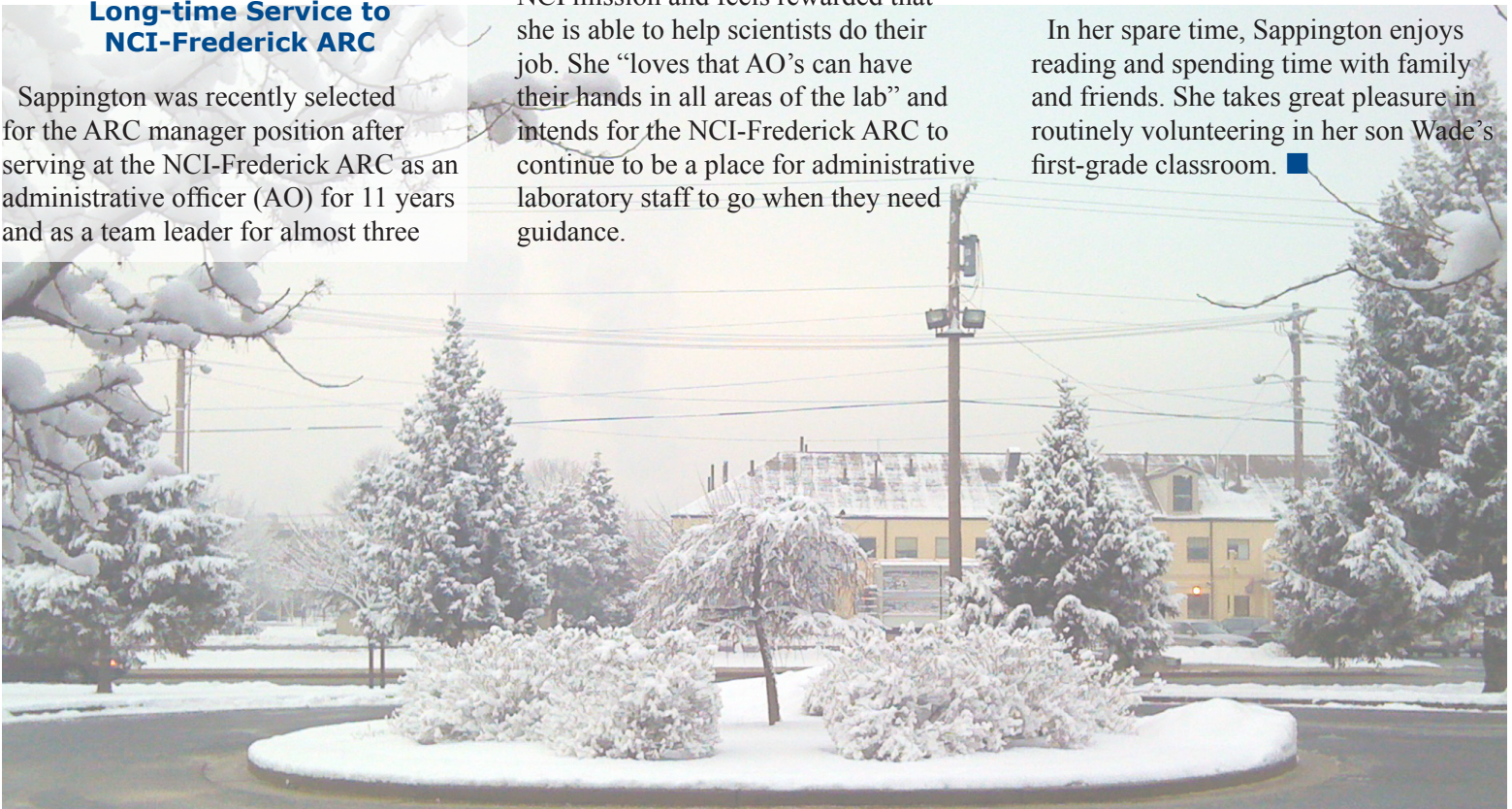
In her new role as ARC manager, Sappington hopes to build on the mission of NCI by providing superior customer service, creating unity among NCI administrators, and improving communication in all areas. One way she plans to achieve this is by creating an administrative newsletter through which NCI administrators can share important information. She also plans to hold regular AIM meetings so that NCI-Frederick ARC staff and laboratory staff can meet to discuss policies and have opportunities for professional growth.

Sappington believes strongly in the NCI mission and feels rewarded that she is able to help scientists do their job. She "loves that AO's can have their hands in all areas of the lab" and intends for the NCI-Frederick ARC to continue to be a place for administrative laboratory staff to go when they need guidance.



Tanya Sappington, Administrative Resource Center manager, encourages NCI-Frederick administrators to collaborate, share their knowledge, and continue to be a resource for administrative laboratory staff.

In her spare time, Sappington enjoys reading and spending time with family and friends. She takes great pleasure in routinely volunteering in her son Wade's first-grade classroom. ■



Natalie Collins: "I Kept Coming Back"

By Nancy Parrish, Staff Writer

Editor's note: Twins Natalie (Bucheimer) Collins and Elaine Bucheimer were Werner H. Kirsten student interns at NCI-Frederick in 1995–1996. Both have stayed in science-related fields. In this issue, we feature Collins, and the March 2011 issue we will focus on Bucheimer.

For Natalie Collins, M.D./Ph.D., the path to her current position as a pediatric oncologist was pretty much a straight line. Once she began her Werner H. Kirsten student internship as a Middletown High School senior in 1995, she couldn't seem to stay away from the laboratory. "I kept coming back for summers through the summer of 1999."

Collins spent one year in the Laboratory of Comparative Carcinogenesis, but said she worked primarily with mentor Matthew Young, Ph.D., in the Laboratory of Cancer Prevention, Gene Regulation Section, under Nancy Colburn, Ph.D. She believes her career was launched during her internship at NCI-Frederick, where she found it "a pleasure" to work with the same mentor for four years. When she started working in the laboratory, she said, "I needed teaching and supervision for everything and by the time I finished I was doing many things on my own. That was really the beginning of my independent research career."

Love of Science Began in High School

Collins credits her love of science to a high school biology teacher, "who inspired me to want to continue to learn more

and showed us many opportunities in science outside the classroom." From Middletown High, she went to the University of Maryland, where she majored in cell and molecular biology. Following graduation from Maryland, she earned her M.D./Ph.D. at the University of Virginia.

The student internship program was an ideal springboard to the M.D./Ph.D. program, Collins said, because the internship taught her "the basics of research and developed [her] curiosity for basic science questions."

Today Collins, now married "to a wonderful guy," is a pediatric resident at Children's Hospital Boston and Boston Medical Center. Next year she will begin a pediatric hematology/oncology fellowship at Boston Children's/Dana Farber, where she is looking forward to working in "an arena with lots of opportunities for clinically relevant basic science research." In addition to the research, however, she enjoys "the broad clinical exposure and longitudinal relationships with patients and families."

"Endless Photocopying"

In reflecting on her internship, Collins realizes that she has lived through a major transition in conducting journal searches. "Now it is unheard of to actually have to go to the library to find a

journal article," she said. "I remember countless hours of flipping through bound journals to find articles and endless photocopying."

However, she also remembers the camaraderie and is grateful for the support she received

as an intern and student. "Working with colleagues was the best part. Everyone in the lab was so helpful and supportive, even when I was just a high school student. I learned so much from each one," she recalled.



Today Collins is a pediatric oncologist living with her husband in Boston, where, she says, the "legendary Fenway Park [is] now in our backyard."

Let Your Imagination Be Your Guide

Collins hopes current interns will appreciate the value of their internship. "You don't realize what an unusual opportunity this is to have at the high school level. That will serve you well as you move on in your education," she advised.

Using your imagination and asking the right questions are key elements of research, she noted, and the internship gives students a chance to hone these skills. "Take the opportunity to learn how to ask questions to drive research progress. Know exactly the question you are asking in a given experiment and let your imagination drive you to new experiments." ■



Internship days. Above: Collins at work in the lab. Left: Collins (seated) and a friend in a lighter moment.



Postdoc Appreciation Week

Postdocs Celebrated during National Appreciation Week

By James Gould, Laboratory of Comparative Carcinogenesis, Guest Writer

In 2009, the National Postdoctoral Association (NPA) instituted a National Postdoctoral Appreciation Day to celebrate the important contributions that postdoctoral fellows make at their home institutions. Building on last year's success, NPA called for a week-long celebration of postdoc appreciation this year. Events were held September 20–24 around the world to observe National Postdoctoral Appreciation Week.

In Frederick, several events were organized that addressed the needs and issues of NCI-Frederick's postdocs. A panel discussion was held, comprising the director of the Center for Cancer Research (CCR) Office of Training and Education (OTE), Dr. Jonathan Wiest, two recently departed NCI-Frederick postdocs, and one current visiting fellow. Topics ranged from life–work balance to publication and mentoring, but the overall theme was that postdocs must be active participants in their research and career development.

The CCR Fellows and Young Investigators Association (CCR-FYI) hosted a booth at the NCI-Frederick Farmers' Market and distributed information about itself, the NIH Fellows Committee (FelCom), and NPA. CCR-FYI also distributed popsicles and raffle items while postdocs gathered for a group photo to send to Francis Collins, M.D., Ph.D., NIH director.



Immediately following the bi-weekly NCI-Frederick Postdoctoral Seminar Series, there was an invited speaker from the American Association for the Advancement of Science (AAAS). Richard Weibl, director of the Center for Careers in Science and Technology, spoke about navigating professional development by giving advice on how to network, job search, interview, and be as prepared as possible for the next career step and beyond.

The final event of National Postdoctoral Appreciation Week was a screening of the documentary *Naturally Obsessed: The Making of a Scientist*. This film covers the journey of three graduate students, showing the heartbreaking failures and exhilarating successes of research.

Speaking of successes, on September 23, the U.S. House of

Representatives passed H.R. 1545, which officially recognizes National Postdoctoral Appreciation Week. As with many causes, this was a grassroots campaign straight from the postdoc community. Though postdocs could accomplish little without the guidance and support of senior scientists and administration, organizations such as NPA, FelCom, and CCR-FYI are helpful to postdocs because their missions support postdoc and trainee issues.

The growing emphasis on training is not only the domain of postdocs but also of the institutions where postdocs work. The NIH Office of Intramural Training & Education (OITE) and the CCR OTE are administrative entities dedicated to providing training and career development. ■

For more information on aspects of postdoctoral fellowships, contact Dr. James Gould, gouldj@mail.nih.gov, or 301-846-6077. Or visit the following web sites:

CCR-FYI: <http://ccr.cancer.gov/careers/fellows/default.aspx>

CCR OTE: <http://ccr.nci.nih.gov/careers/> (Jobs, career development and CCR-FYI)

Frederick Fellows: Frederick_Fellows@list.nih.gov (Listserv for Frederick fellows)

NCI-Frederick: <http://www.ncifcrf.gov/>

NIH Listserv: <https://list.nih.gov/> (Join and monitor listservs)

NIH OITE: <http://www.training.nih.gov> (Job listings and career development)

NPA: <http://www.nationalpostdoc.org>

Chemical Insights Conference

MDP-Sponsored Conference Draws International Attendance

By Nancy Parrish, Staff Writer

The second Biennial Chemical Insights into Biological Processes, a conference sponsored in August by the Molecular Discovery Program (MDP) of the Center for Cancer Research, drew attendees from as far away as China, Korea, Switzerland, and Italy. The meeting was held at Hood College to “communicate cutting-edge research in chemical biology to the international scientific community,” according to Joel Schneider, Ph.D., chief of the Chemical Biology Laboratory and co-chair of the conference.

The two-day meeting consisted of lectures, poster sessions, and awards for young scientists, as well as a tour of the NCI-Frederick facilities. The conference was a “huge success,” Schneider said, often with standing-room-only attendance in Hood’s 400-seat auditorium.

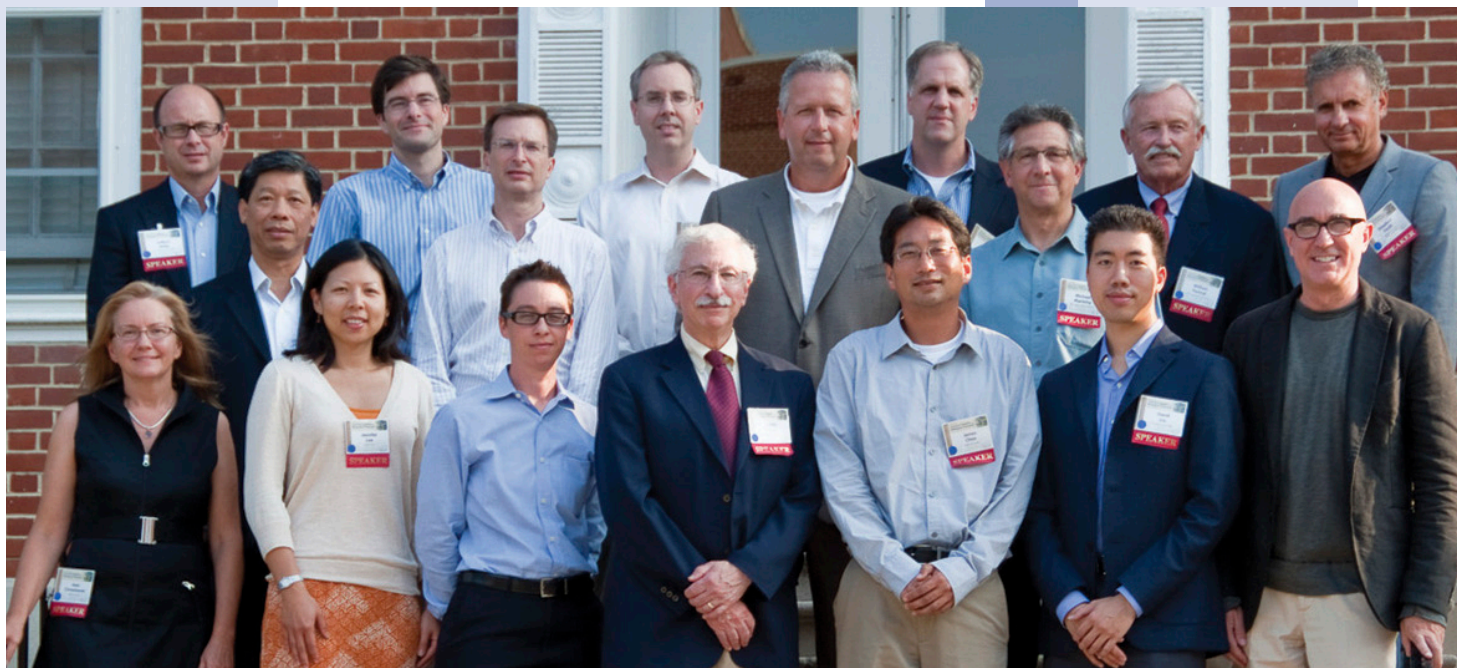
Speakers included internationally recognized leaders in chemistry, biology, and materials science from Harvard, Yale, Stanford, University of California, and other prestigious academic institutions, as well as from the Scripps Research Institute, the NCI Center for Cancer Research, and the National Heart, Lung, and Blood Institute.

“The meeting was organized by a dedicated committee composed of investigators and staff from the Center for Cancer Research,” Schneider said. Co-chairs, in addition to Schneider, were the other MDP laboratory chiefs, Jim McMahon, Ph.D., Molecular Targets Laboratory, and R. Andrew Byrd, Ph.D., Structural Biophysics Laboratory and MDP director.



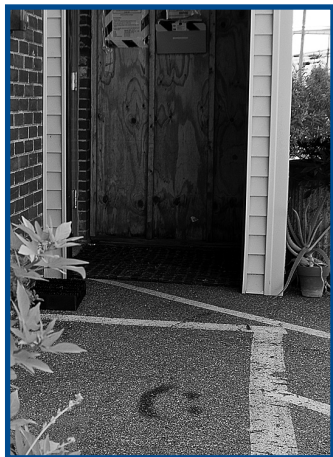
McMahon (left) with Jon Russell, Yale undergraduate student, who was specifically invited to give a poster presentation.

This conference has been held only twice so far, Schneider noted, but it is quickly becoming recognized as “one of the best international symposia in chemical biology.” Planning for the 2012 meeting has already begun, he said. ■



Invited speakers at the Chemical Insights Conference. L to R, back row: Jeffrey Kelly, Nathanael Gray, Jeff Gildersleeve, Scott Strobel, Bill Fenical, and Steve Fesik; middle row: Kit Lam, Craig Crews, Joseph DeSimone, Michael Marletta; front row: Jean Chmielewski, Jennifer Lee, Kate Carroll, Buddy Ratner, James Chen, David Liu, and Stuart Schreiber; not pictured: David Mooney.

Poster Puzzler



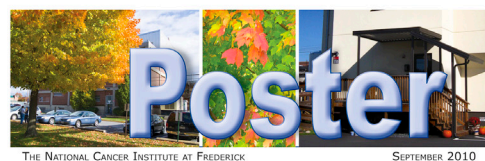
Congratulations to the September 2010 Poster Puzzler winner! Cathy Simpson, General Clerk I, Transportation Department, Contracts and Acquisitions Directorate, SAIC-Frederick, is pictured, right, with Paul Miller, Executive Editor of the *Poster*.

The Poster Puzzler: **When You're Smiling**

By Ashley DeVine, Staff Writer

The September 2010 Poster Puzzler is a smiley face painted on the pavement behind Building 374, located near the Rosemont Gate. Building 374 is occupied by the USDA, Agricultural Research Service, Foreign Disease-Weed Science Research Unit (FDWSRU), and contains research laboratories and the Plant Pathogen Containment Greenhouse Facility. This building is where FDWSRU studies foreign plant pathogens and the diseases they spread to host plants. Additional FDWSRU laboratories and non-containment greenhouses are located in Buildings 1301–1315, on the north side of Fort Detrick. The two missions of FDWSRU are to develop techniques to quickly detect and identify new and emerging crop pathogens and to collect foreign pathogens from overseas to study and release in the U.S. for biological control of introduced weeds. FDWSRU has been a part of Fort Detrick since the early 1970s.

Special thanks to Doug Luster of the USDA, Agricultural Research Service, for providing the information for this article. ■



Puzzler



When You're Smiling



What Is It?

Where Is It?

Your challenge, should you decide to accept it, is to correctly identify the item and its location from the picture to the right. Clue: It's somewhere at Fort Detrick/NCI-Frederick. Win a framed photograph of the Poster Puzzler and an NCI-Frederick tee shirt by e-mailing your guess, along with your name, e-mail address, and daytime phone number, to Poster Puzzler at poster@ncifcrf.gov. Alternatively, you can send us your guess, along with your name and daytime phone number, on one of the *Poster* forms found on the front of the *Poster* stands in the lobbies of Buildings 426 and 549. All entries must be received by **Friday, January 21, 2011**, and the winner will be drawn from all correct answers received by that date.

Good luck and good hunting! ■



Have Poster, Will Travel

Have Poster Will Travel

By Maritta Perry Grau, Staff Writer, and Annie Rogers, CCR, Guest Writer

The *Poster* shows once again what a small world we live in. The *Poster* made its way to Kansas City, Missouri, last summer.

There, Annie Rogers, Laboratory of Cancer Prevention (LCP), Center for Cancer Research (CCR), and husband Steve visited Robert Irons, Ph.D., and his family.

Irons had taken NCI training in the Molecular Biology of Selenium Section (headed by Dr. Dolph Hatfield), LCP, CCR.

Planning a motorcycle ride and tour of the nearby Harley-Davidson plant, they were surprised and pleased to learn that Gail Worth, the owner of a local Harley-Davidson shop, sponsors the “Pink Power Ride” in support of breast cancer research (<http://www.gailsharleydavidson.com/custompage.asp?pg=gailsstory>).

Of her picture, Annie said, “I could have taken it many different places, but I wanted to bring out the fact that breast cancer research is being supported all over. Notice that Robert is wearing his NIH shirt.”

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. ■



Left to right: Annie Rogers, Laboratory of Cancer Prevention (LCP), Center for Cancer Research; Gail Worth, owner of Gail’s Harley-Davidson shop near Kansas City, Missouri; and Robert Irons, Ph.D., former postdoc, Molecular Biology of Selenium Section, LCP.

Seeking the Face of NCI-Frederick

By Maritta Perry Grau, Staff Writer

How did your family get from there to here? Seeking answers to this question gained great popularity more than 30 years ago with the publication of Alex Haley's *Roots* (1977), and more recently with shows such as PBS's *History Detectives* and *Faces of America*.

In segments aired since 2007, *History Detectives* most often explores the history of a document and how it relates to a particular family, while *Faces* was a four-part special aired in February 2010, in which Henry Louis Gates, Jr., director of the W.E.B. Du Bois Institute for African and American Research at Harvard University, explored the family genealogy of 12 Americans. Both shows use old family pictures and documents, as well as searches of public archives and other sources.

What's in Your Attic?

Or basement, closet, or other place stuffed with family memorabilia? The Diversity Team would like to explore the "roots" and "faces" of NCI-Frederick.

Approximately 2,800 people work at NCI-Frederick. Many have traveled great distances to work here—not just from Rockville, but from Russia, Poland, China, Japan, India, Pakistan, Mongolia, and other countries.

You may have brought some family pictures or other heirlooms with you that link you to your past. Could you share these with your colleagues at NCI-Frederick?

Share Your Family Mementoes

If you'd allow us to display some family mementoes for a short time in the display case in the lobby of Building 549, or share some stories about your family history, contact Maritta Grau at graump@mail.nih.gov or 301-846-5248. The artifacts will be returned to you after a few weeks' display.



One intriguing story came to us from Dr. Howard Young, Laboratory of Experimental Immunology. A few years ago, his great-aunt sent him a document that spurred him to do some family research: a picture and official document releasing his great-uncle from work he had been doing on the Panama Canal.

With some information from this document, Young tracked his uncle through Ellis Island, where he had entered the U.S., to Cheyenne, Wyoming, where he became a naturalized U.S. citizen in 1912.

Young was surprised to learn, upon further investigation, that there was a fairly large Jewish settlement in Cheyenne. "It started out as a Reformed Jewish congregation, but gradually became Orthodox," Young said.

The information he found has piqued his interest in his family's genealogy. "I even met someone at a conference

Thought for the Quarter

"The most exciting phrase to hear in science, the one that heralds new discoveries, is not 'Eureka!' but 'That's funny...'"

Isaac Asimov, American scientist, (1920–1992)

Source:

http://www.brainyquote.com/quotes/authors/i/isaac_asimov_2.html

who might be related," he said. "He had the same, very unusual last name as my grandfather's, whose name was changed when he entered the U.S."

Movie Ticket Winners

Congratulations to **Robin Meckley**, Scientific Library; **Beverly Studebaker**, Facilities Maintenance and Engineering; and **Nancy Walsh** and **Holly Morris**, both in the Mouse Cancer Genetics Program, the winners of free movie tickets from the NCI-Frederick Diversity Team. The tickets, with no expiration date, are good for movies at local Regal theatres.

When you are determining your answers, remember that the answers are predicated on the display case and not on information you might receive from the Internet.

Celebrating Black History

February will be Black History Month. If you have suggestions/materials to share with us that we could use in the display case, please contact Paul Miller at millepau@mail.nih.gov, 301-846-5660, or Ethel Armstrong at armstroe@mail.nih.gov, 301-846-5843. ■

Outreach and Special Programs

Inspire a Child with Hands-on Experiments

By Nancy Parrish, Staff Writer

The Elementary Outreach Program is calling for NCI-Frederick volunteers to participate in STEM Nights at Frederick County schools. STEM (Science, Technology, Engineering, and Mathematics) programs have been developed nationwide to promote awareness of the many career opportunities available in these disciplines. Programs in Frederick County are held in the evenings to inform parents and encourage their involvement with their children's activities and with the schools.

STEM Nights usually involve several exhibits offering hands-on activities to the children and their parents. "Some employees may not be able to volunteer during the day, but may be interested

in doing so in the evening," said Julie Hartman, administrator of the Elementary Outreach Program.

The events are generally from 6:00 to 8:00 p.m., and require two to four volunteers to set up, present, and break down an activity. "We usually do one or two experiments, which don't necessarily have to be related to the classroom curriculum," Hartman said. "The main thing is to spark some interest among the children." Total time involved is approximately three hours.

For information on volunteering for STEM Nights or working with elementary school science classes during the day, contact Hartman at 301-846-7338 or hartmanjb@mail.nih.gov. ■



Mac Trubey, right, participated in a STEM event by demonstrating liquid nitrogen and dry ice at the 30th Annual Elementary Science and Engineering Fair on November 20. Trubey is head of the Cellular Immunity Core Laboratory, AIDS and Cancer Virus Program.

New! NCI-Frederick Winter Farmer's Market

By Barbara Birnman, Office of the Director, Guest Writer

Don't forget that the NCI-Frederick Farmers' Market now lasts all year long! You can get fresh seasonal produce, baked goods, eggs, cheeses, jams, jellies, sauces, and so many of the things you love at the Summer Market, all year long. The Winter Market is held every other Tuesday through May 24, 2011, from 11:00 a.m. until 1:00 p.m., outside of the Building 549 Conference Center.

The next Winter Market is scheduled for January 4. Watch your e-mail for details.

Holiday Market December 21

Need a last-minute gift? No time for baking? Mark your calendar for the Holiday Market, from 10:30 a.m. until 1:30 p.m., at the Building 549 Conference Center. Many of our regular season Farmers' Market vendors and artisans will be offering crafts, baked goods, sweets, gift items, and much more. ■



Nineteen Patents Issued for Inventions Created by NCI-Frederick Researchers

By Charles Salahuddin, Technology Transfer Center, Guest Writer

Patents grant a period of exclusivity to organizations whose inventors develop novel technologies. The process for obtaining a U.S. patent involves a rigorous review of the technology's usefulness and its novelty among the current technologies in the field; therefore, it is a prestigious honor for the inventors who receive patents.

Filing for patent protection is a critical component in the process of translating technologies invented at NIH into a form that can improve public health. Although excluding others from using NIH technologies may seem at odds with NIH's policy of making scientific knowledge widely available, patent protection provides an incentive to outside parties that have the capacity to commercialize NIH technologies through various partnership agreements. Few commercial entities would be willing to partner with NIH and to expend the tremendous amount of money and time associated with developing therapeutic or diagnostic products without the exclusivity that is granted by patent protection. NIH policy permits the inventions to be shared for research use.

NCI-Frederick researchers contributed significantly to 19 patents issued by the U.S. Patent and Trademark Office in 2010. The large number of patents issued to NCI-Frederick scientists every year is just another example of the dedication to scientific excellence that is present in NCI-Frederick laboratories.

Patents Issued in 2010

US 7,666,674; issued February 23:

Use of sterically stabilized cationic liposomes to efficiently deliver CPG oligonucleotides in vivo

Inventors: Dennis M. Klinman*, Ihsan Gursel, and Ken J. Ishii

US 7,674,621; issued March 9: Plasmids and phages for homologous recombination and methods of use

Inventors: Donald L. Court*, Simanti Datta*, and Nina Costantino*

US 7,674,777; issued March 9:

Immunostimulatory nucleic acid molecules

Inventors: Arthur M. Krieg, Dennis Klinman*, and Alfred D. Steinberg

US 7,713,529; issued May 11:

Methods for treating and preventing infectious disease

Inventors: Arthur M. Krieg, Dennis Klinman*, and Alfred D. Steinberg

US 7,723,022; issued May 25:

Immunostimulatory nucleic acid molecules

Inventors: Arthur M. Krieg, Dennis Klinman*, and Alfred D. Steinberg

US 7,723,500; issued May 25:

Immunostimulatory nucleic acid molecules

Inventors: Arthur M. Krieg, Joel Kline, Dennis Klinman*, and Alfred D. Steinberg

US 7,749,984; issued July 6:

Computer-based model for identification and characterization of non-competitive inhibitors of nicotinic acetylcholine receptors and related ligand-gated ion channel receptors

Inventors: Irving W. Wainer, Krzysztof Jozwiak, Ruin Moaddel, Sarangan Ravichandran*, and Jack Collins*

US 7,754,420; issued July 13:

Methods of using cyanovirins to inhibit viral infection

Inventors: Michael R. Boyd* and Barry O'Keefe*

US 7,754,676; issued July 13:

Defensin-antigen fusion proteins

Inventors: Larry W. Kwak* and Arya Biragyn*

US 7,758,876; issued July 20:

Method of preventing infections from bioterrorism agents with immunostimulatory CpG oligonucleotides

Inventors: Dennis M. Klinman*, Bruce Ivins, and Daniela Verthelyi

US 7,767,645; issued August 3:

SH2 domain binding inhibitors

Inventors: Terrence R. Burke, Jr.*, Zhen-Dan Shi, and Sang-Uk Kang*

US 7,771,729; issued August 10:

Methods of potentiating HIV-1-specific CD8+ immune responses involving the concomitant administration of DNA and ALVAC expression vectors

Inventors: Genoveffa Franchini, Zdenek Hel, George Pavlakis*, and James Tartaglia

US 7,781,183; issued August 24:

Inhibition of anthrax lethal factor protease

Inventors: Sina Bavari, Rekha G. Panchal*, Ann Hermone*, Tam Nguyen*, and Rick

Gussio*

US 7,781,413; issued August 24:

SEMA3B inhibits tumor growth and induces apoptosis in cancer cells

Inventors: John Minna, Yoshio Tomizawa, Yoshitaka Sekido, and Michael Lerman*

US 7,790,473; issued September 7:

Biofunctionalized quantum dots for biological imaging

Inventors: Joseph J. Barchi, Jr.* and Sergei A. Svarovsky*

US 7,790,735; issued September 7:

Methanocarba cycloalkyl nucleoside analogues

Inventors: Kenneth A. Jacobson and Victor E. Marquez*

US 7,790,764; issued September 7:

Biologically active macrolides, compositions, and uses thereof

Inventors: Michael R. Boyd*, Kirk R. Gustafson*, and Charles L. Cantrell

US 7,803,913; issued September 28:

Identification of novel broadly cross-reactive neutralizing human monoclonal antibodies using sequential antigen panning of phage display libraries

Inventors: Dimiter S. Dimitrov* and Mei-Yun Zhang*

US 7,807,472; issued October 5:

Methods for separation and detection of ketosteroids and other carbonyl-containing compounds

Inventors: Xia Xu*, Regina G. Ziegler, David J. Waterhouse, Joseph E. Saavedra*, and Larry K. Keefer*

Many of the patents issued to NCI-Frederick scientists in 2010 have already had significant impacts on public health. For example, U.S. patent 7,674,621, "Plasmids and phages for homologous recombination and methods of use," was part of a technology platform that won Federal Laboratory Consortium Excellence in Technology Transfer Awards at both the regional and national levels. The technology, which was invented by Dr. Donald Court and Nina Constantino of NCI-Frederick's Gene Regulation and Chromosome Biology Laboratory, is a revolutionary platform for recombinant genomic engineering that has allowed researchers to decrease the time, cost, and effort needed to genetically modify DNA sequences. ■

*Denotes NCI-Frederick researchers

Intramural Training and Education

Opportunities to Build Your Career, Shape Your Future

By Julie Hartman, Community Outreach, Contributing Writer

Now you can take advantage of classes sponsored by the NIH Office of Intramural Training & Education (OITE) without leaving NCI-Frederick. The following classes will be offered in the coming months:

Setting Goals and Keeping Them: Learn the art of setting goals and keeping them. From planning experiments, writing papers, searching for your next job, or balancing your work/life activities—being able to set and accomplish goals is essential to a successful and enjoyable career. Fellows will work on creating an action plan to set achievable goals. Learn invaluable advice and goal-setting strategies in a relaxed environment, while networking with fellows seeking similar goals.

No matter what goal you are currently striving toward, this class can help you. *January 13, 10:00–11:00 a.m., Building 549, Conference Room A*

Grants: This introduction to grant writing is largely focused on NIH grants. Topics include: funding opportunities, the submission and review process, the inner workings of study sections, and planning and writing grants. This workshop is intended to provide the background fellows need to begin crafting a grant application; it does not involve written assignments or feedback on drafts of applications. *February 8, 8:30–11:30 a.m., Building 549, Auditorium*

Interviewing Strategies: In this highly interactive workshop, experts will offer advice and strategies for successful participation in the highly competitive job-seeking process of interviewing skills in relation to both industry and academia. Topics will include interviewing skills, meeting interviewers' expectations, communicating responses with confidence, and effective preparation for the interview. *March 11, 10:00–11:00 a.m., Building 549, Auditorium*

Registration for classes is required. For information on registration, 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>. ■



Save Yourself a Trip!

Make sure your NIH Enterprise Directory (NED) contact information is up to date at <https://ned.nih.gov/ned>, so you don't waste a trip into work when NCI-Frederick is closed. Remember, not all emergencies happen during work hours. If you only have workplace contact information on file in NED, you might not know about an emergency closure until you report for duty. ■

EAP Relocates to Building 426

By Selden Cooper, Employee Assistance Program, Contributing Writer

As of September 27, the Employee Assistance Program (EAP) office has been relocated to the Occupational Health Services suite in Building 426. Previously, EAP was in Building 371.

The services offered to you continue to be as comprehensive as ever, and OHS continues to be accountable for the operation of EAP as stipulated in its Statement of Work.

What Services and Protections for My Privacy Are Provided?

Since 2006, EAP has worked through Business Health Solutions (BHS), a Baltimore-based subcontractor for external employee assistance services, providing comprehensive EAP services. These services include problem assessment, problem–solution formulation, referral to community resources, limited face-to-face counseling (up to five sessions “per problem episode”), follow-up, crisis intervention, consultation to managers and supervisors, and the provision of EAP-related wellness seminars. Other services include:

- A toll-free, round-the-clock EAP phone number (1-800-765-3277);
- Limited, free legal and financial consultation, via the toll-free number;
- Access to a nationwide affiliate network of mental health and substance abuse professionals, also through the toll-free number; and
- The availability of a sophisticated web site, which is a literal treasure-trove of information on a wide range of relevant topics.

Unchanged (since moving from OHS to BHS’s aegis) are the protections accorded to sensitive personal information disclosed to the EAP, including the identity of program service consumers; the confidentiality of such personal information is regulated by

stringent federal and Maryland laws and regulations (including the Privacy Act of 1974 and HIPAA), HHS and NCI-Frederick EAP policies, and the Professional Ethical Codes of the EAP Provider(s).

Additionally, the U.S. Supreme Court in 1996 extended, in an EAP case, privilege (that is, the right to refuse to divulge information obtained in a confidential relationship) to the records of Licensed Clinical Social Workers. Under this concept, the client holds the privilege, only the client can waive the privilege, and the clinical service provider is legally obligated to protect information covered by privilege. The only exceptions to confidentiality occur when the duties to protect and/or warn arise; i.e., when a person appears to constitute an immediate risk to either his/her own safety, or that of a third party. The latter includes situations in which abuse or neglect of a child, or a vulnerable adult, is suspected, or instances involving impairment that may imperil public safety.

Special federal regulations, 42 CFR Part 2, protect the sanctity of alcohol and drug treatment records from disclosure, even to law enforcement agencies. Hard-copy EAP records are stored in a GSA-approved document safe, and electronic data is protected by appropriate firewalls and passwords.

How Did EAPs Begin?

Employee Assistance Programs (EAPs) trace their origins to Occupational Alcoholism Programs that first appeared before the 1950s and eventually evolved into “broad-brush” EAPs that address the stressors and life challenges to which we all are vulnerable.

EAPs operate at the interface of the occupational-professional, and the personal-familial arenas of life, and are predicated on recognition that stress derived from one area can readily spill over into the other to the detriment of both, and that the well-being of the organization is interdependent with that



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

of the workforce.

In particular, it is recognized that stress associated with personal problems can compromise job performance, decrease attendance, and result in inappropriate behavior, potentially jeopardizing job security. EAPs address such problems so as to prevent or mitigate the impact of such spillover, but also to preserve and enhance the quality of life and well-being of both employees and family members. As such, EAPs represent an investment in the most valuable, yet fragile, asset of any organization—the human resource—as well as an expression of humanitarian concern for employees and their families.

NCI-Frederick’s own EAP began in 1987–1988 as a full-time, internal program under the Operations and Technical Support Contract and was outsourced in 2006 to BHS.

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Green Tips for the Holiday Season

By Michele Gula Atha, Quality Control, SAIC-Frederick, and Howard Young, Laboratory of Experimental Immunology, NCI-Frederick, Guest Writers

Don't forget to think green this holiday season. This is the time of year when the amount of waste produced by the average household increases by about 25 percent (<http://www.epa.gov/region1/topics/waste/greening-your-holidays.html>).

Here are some tips to help you conserve energy and resources during the hustle and bustle of the holidays.

- Favorite holiday memories usually involve time spent with family and friends. Consider giving the gift of an experience: buy tickets to a sporting event, Disney On Ice, or a play.
- Consider recycling or trading in your old holiday lights for LED lights. Some home improvement stores will give you a credit towards the purchase of new LED lights when you bring in your old lights.
- Recycle your live Christmas tree. Most trees can be donated to the yard waste area of your local recycling center, where the trees are used for mulch. Alternatively, if you live near a lake that is stocked by the state, find

out if they put trees in the lake to serve as new fish habitats. If so, there should be a collection point set up for the trees. This practice is becoming more common.



- Shop online early so that items can be shipped by ground instead of air transport. It is estimated that ground shipping is six times more efficient than overnight air shipping (and usually less expensive as well).
- If you are considering giving candles as a gift, try beeswax candles from local bee-keepers. Paraffin candles are made from petroleum residue and are not good for your health or for the environment. Candles made from beeswax, soy, or natural vegetable-based wax are more eco-friendly because they biodegrade and are smoke-free.



- St. Jude's Ranch for Children accepts your holiday cards or other greeting cards. To learn entrepreneurship skills, the children participate in making new cards by removing the front and attaching a new back. Customers receive holiday cards from reused materials and the children receive payment for their work and learn the benefits and importance of "going green." There are some rules, so please visit http://www.stjudesranch.org/help_card.php for more information. You can send cards to:

St. Jude's Ranch for Children
Recycled Card Program
100 St. Jude's Street
Boulder City, NV 89005



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How Do I Contact the EAP Provider?

The EAP provider, Selden Cooper, is on-site on Tuesdays and Wednesdays from 7:00 a.m. to 6:00 p.m., and on Fridays from 7:00 to 11:00 a.m.; he can be reached directly at 301-846-1308. You or your family members do not have to call the BHS office to schedule an appointment with the on-site EAP provider. However, if you would like to see a community affiliate rather than the on-site counselor, call the toll-free number.

Under HHS policy, appointments for EAP services are considered "duty" time, but you must secure your immediate supervisor's approval in advance. Recognizing that many persons would prefer their use of the EAP to be totally private, the EAP provides appointment times outside of normal working hours, and with off-site community affiliates.

Cooper is a licensed Maryland mental health professional, and a Certified Employee Assistance Professional, and has been at NCI-Frederick for nine years. His EAP background spans more than 25 years, and includes service

to a major teaching medical center in New Jersey, and with the Office of Employee Assistance at the U.S. House of Representatives.

Please do not hesitate to consult EAP if, at any point, you believe that its services could benefit you or your family. Also, should you have any comments regarding the program or its operation, please write to the OHS Users Committee (<http://web.ncifcrf.gov/campus/committees/ohs.asp>) or to Paul Miller (millerpau@mail.nih.gov or 301-846-5660). ■

Play and Learning Station



PALS Kids Learn about Fire Safety

By Ashley DeVine, Staff Writer

Fire safety came to life for Play and Learning Station (PALS) children in October when they were visited by Peter Boving, Environment, Health, and Safety (EHS) fire prevention inspector, along with a Fort Detrick Fire and Emergency Services ladder truck and Sparky the fire safety dog.

Thirty-five kids, ages three months to five years, listened to *The Sparky Story* and sang along to *Fire Truck!*, the sing-along story by Ivan Ulz. "Kids love the rhythm of 'fire truck, fire truck, I want to ride on a fire truck,'" Boving said. "The kids even made up motions to go along with the story."

After the stories and the singing, the children had a chance to meet Sparky and sit in the ladder truck.

"The firemen explained to us what tools they have on the truck and the children got to climb in and explore," said Natascha Fearnow, director of PALS.

The older kids received a fire hat, a sticker, and a fire safety coloring book or activity book. "This year, we also provided trick-or-treat bags to remind kids and parents that 'smoke alarms are a sound you can live with,'" Boving said. The theme of Fire Prevention Week 2010 was smoke alarms.

Boving said it is important to start teaching kids about fire safety at a young age so they will know what to do if there is a fire and will know how to avoid starting a fire. "Children also need to know that firefighters are there to help them, and that there is a real person under the helmet and inside that suit," Boving said.

Fire Prevention Week was established in 1922 to memorialize the Great Chicago Fire of October 8, 1871, which killed more than 250 people, left thousands homeless, and destroyed 17,400 structures and 2,000 acres of land. ■

Play and Learning Station



Princesses, superheroes, ghosts, and goblins—you saw them all and more in the annual Play and Learning Station Halloween Parade on October 29. ■

Fourth Annual Halloween Photo Contest Winners



“Sweet Candy Corn,” submitted by Kim Abdinoor, subcontract specialist, Contract Planning and Administration.

“101 Dalmations,” submitted by Michele Gula Atha, Quality Control Analyst, Biopharmaceutical Development Program (center, holding “puppy”).



“Protective Services,” submitted by Lynette Kelly, access control clerk, Protective Services. Pictured are Protective Services staff, left to right, back row: Kelly, Tom Gannon-Miller; front row: Roberta Harner, Sharon Fritz.

Halloween Costume Contest



New Faces at NCI-Frederick

One-hundred twenty people joined our facility in July, August, and September 2010.

The National Cancer Institute welcomes...

Amit Adhikari ■ Danny Adler ■ Sundus Ahmed ■ Jonathan Bryan ■ Yatyng Chang ■ Eirini Christodoulaki ■ Jennifer Chua ■ Christopher Conner ■ Elizabeth Cothren ■ Ashley Denney ■ Suzelle Fiedler ■ Iris Geisler ■ Melissa Gregory ■ Michael Hall ■ Syed Kashif Haque ■ Kevin Harlen ■ Masahiko Imashimizu ■ Mark Kennedy ■ Supraja Kolluri ■ Charles Lin ■ Sean Llewellyn ■ Anne Supang Martin ■ John Maschek ■ Annie Merritt ■ Brian Mikolajczyk ■ Mariam Nejati ■ Lan Nguyen ■ Henrik Nielsen ■ Hye-Kang Park ■ Richard Pompei ■ Valarie Porter ■ Anne Powell ■ Vinita Puri ■ Lei Shi ■ Hee Jae Shin ■ Alexis Shingleton ■ Satyendra Kumar Singh ■ Amy Stull ■ Lei Sun ■ Humeyra Taskent ■ Francesco Tomassoni Ardori ■ Julia Tritapoe ■ Tianlei Ying ■ Ying Zhang



Amit Adhikari



Alla Brafman



Duncan Donohue



Jesse FitzGibbon

Data Management Services welcomes...

Kathleen Blank ■ Kyle Fullmer ■ Michelle Short



Elizabeth Cothren



Kevin Harlen



Jason Mitchell

SAIC-Frederick welcomes...

Mary Abreu ■ George Afari ■ Constance Agamasu ■ Catherine Battaglia ■ Anne Book ■ Alla Brafman ■ Valerie Brinsfield ■ Elizabeth Broussard ■ Sujata Bupp ■ Carol Caballero ■ Angela Carrigan ■ Melissa Castle ■ Foong-Chee Cheah ■ Daniel Cogswell ■ John Contino, Jr. ■ Duncan Donohue ■ Hao Du ■ Kimberly Dunham ■ Amiran Dzutsev ■ Jesse FitzGibbon ■ Silvia France ■ Margaret Gordon ■ Allen Green ■ Michelle Hester ■ Terry Hill ■ Lubna Hooda ■ Michael Hourigan, Jr. ■ Yifang Huang ■ Xiaoli Jiao ■ Kristine Jones ■ Geeta Karnik ■ Mary Kennedy ■ Emir Khatipov ■ Sonya Krishnan ■ Raina Kumar ■ Eunice Lee ■ Chih Jian Lih ■ Shretta Majett Lawson ■ Tania Marek ■ Tina Marvel ■ Marcus McCready ■ Susan Meslovich ■ Despina-Maria Michaels ■ Madge Miles ■ Sheri Miles ■ Jason Mitchell ■ Anuoluwapo Osinusi ■ Gary Paquet ■ Maria Prigge ■ Calvin Proffitt, Jr. ■ Vivekanandan Ramani ■ Shashikala Ratnayake ■ Michele Richman ■ Cindy Roope ■ Julie Scuffins ■ Kimber Shank ■ Jyoti Shetty ■ David Sims ■ Leslie Sobin ■ Sara Stallings ■ Nathan Starner ■ Qiang Sun ■ Wenping Sun ■ David Tabor ■ Mary Anne Tamula ■ Nuri Temiz ■ Michael Valenti ■ Jessica Vaughan ■ Amanda Vogel ■ William Walsh ■ Andrew Watson ■ Erin Wheeler ■ Martin White ■



Nuri Temiz

Helpdesk Assists with a Variety of Problems

By Jim Racheff, Data Management Services,
Guest Writer

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 problems
- Purchase of IT equipment
- Access to site-licensed software
- Use of a loaner computer

The 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 can 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

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 Active Directory (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.

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 remotely providing support, providing an inventory of computers, and meeting

NIH requirements to periodically check security settings. As with the NIH 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.

PIV Card Authentication

NIH AD consolidation is also an important step to support personal identity verification (PIV) card authentication; once accounts are consolidated and a PIV card reader is installed on your computer, you will be able to use your newly issued NIH PIV card to log onto your computer. NCI will provide PIV card readers for all existing NCI-Frederick computers, and C&SS will distribute and install them over the next few months. C&SS recommends that all new systems be purchased with integrated PIV card readers.

Questions?

Any questions about these initiatives or any IT-related matter may be directed to the Helpdesk at 301-846-5115 or fredhelpdesk@nih.gov. ■

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.

January

Cervical Health Awareness Month, <http://www.nccc-online.org/awareness.html>

February

National Cancer Prevention Month, Cancer Prevention Information from the National Cancer Institute:

<http://www.cancer.gov/cancertopics/prevention>

National Wear Red Day, February 4: <http://www.nhlbi.nih.gov/educational/hearttruth/> or

<http://www.goredforwomen.org/wearredday/>

American Heart Month: <http://www.heart.org/HEARTORG/>

SAIC-Frederick Holds on to Defelice Cup

By Nancy Parrish, Staff Writer

For the second year in a row, SAIC-Frederick won the Ronald H. Defelice Cup, an annual Columbus Day golf tournament between government and contractor. This win brings SAIC-Frederick's tournament standing to two wins against NCI-Frederick's three.

Twelve players each, from NCI and SAIC, met at the Westwinds Golf Club to participate.

Most Valuable Player awards went to David Goldstein, Ph.D., NCI-Frederick, and Bill Utermahlen, SAIC-Frederick. Donald Court, Ph.D, NCI-Frederick, won the Bob Moschel Sportsmanship Award.

The Ronald H. Defelice Cup was named in honor of the many contributions Mr. Defelice made to NCI-Frederick in his more than 40 years here. ■



Team victorious. Members of SAIC-Frederick's winning team in the fifth annual Ronald H. Defelice Cup, L to R: Larry Arthur (captain, holding the award plaque), Dennis Dougherty (assistant captain, holding the trophy), and Utermahlen (SAIC most valuable player).

ATRF: Moving Ahead

By Hoyt Matthai, Advanced Technology Program, Guest Writer

The construction of the building shells for the laboratory wings of the Advanced Technology Research Facility (ATRF) is now complete. SAIC-Frederick is hiring a general contractor to oversee the interior "fit-out," which includes all wiring, plumbing, interior walls and doors, heating, ventilation, and air conditioning systems, casework, etc. Fit-out for the administration wing is expected to begin in the fall of 2011.

Occupancy of the ATRF is projected for May/June 2012.

Watch the construction in real time, at: http://camera.mataninc.com:45452/view/viewer_index.shtml?id=1028. ■



In a late summer visit to NCI-Frederick, Walt Havenstein (left), chief executive officer of SAIC Corporate, toured the soon-to-be-completed Advanced Technology Research Facility with Craig Reynolds, Ph.D., director, Office of Scientific Operations, NCI-Frederick. In a later town hall meeting, Havenstein told SAIC-Frederick employees, "I expect you to... help your customers be successful, contribute to the success of the National Cancer Institute, NIH, and the programs that you work on that are so important to our nation."



Books—Which Format Do You Choose?

By Robin Meckley, WISCO, Contributing Writer

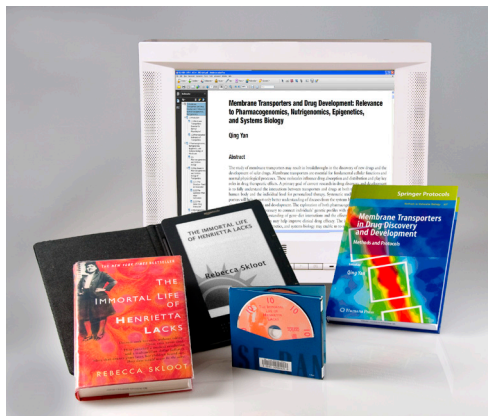
When talking about books, book-lovers usually say that touching the books and feeling the pages between the fingers are some of the best feelings in the world. Today's book-lovers have a number of different formats from which to choose. They can touch the traditional print books, listen to audiobooks, read online books on the computer, and even carry around portable e-books. The Scientific Library is staying current with the different book formats, and offering our patrons different options by purchasing print, online, audio, and e-books.

Print Books

The majority of our books are in the traditional print format. Both reference and circulating books can be held and touched. We have made a change in the appearance of print books. We are now able to retain the paper covers on the books we purchase. We are able to cover print books with a clear, protective casing that protects the books, keeps them clean, and allows those attractive covers to catch your eye and draw you in.

Audiobooks

But print books are not the only game in town. The Scientific Library is increasing its collection of audiobooks. Audiobooks are usually in CD format, which makes them popular with commuters. Audiobooks feature a talented voice actor who reads the stories



aloud with expression and flair. Many of our audiobooks are part of the Reading Diversions collection. Some titles available in audio format include *The Hot Zone*, *Molecular Genetics for Chemists*, *A New Understanding of the Atom*, *The One Minute Manager*, *Self-Esteem and Peak Performance*, *A Short History of Nearly Everything*, *Think Smart*, and *A Life Decoded: My Genome, My Life*. The entire list is available for browsing as a Featured List on the online catalog webpage at <http://www-library.ncifcrf.gov/opacmenu.aspx>.

Online Books

The Scientific Library also has a selection of online books for patrons. Online books require the use of a desktop computer or a laptop. Most of the online books available from the Library's main web site are restricted to NCI-Frederick use only. Many science reference books, as well as circulating books, are now available in the online format, making it very convenient to locate specific information from your office or lab, just

when and where you need it. Online book titles include *Advances in Cancer Research*, *Britannica Online*, *Cancer: Principles and Practice of Oncology*, the *Current Protocols* series, *Diseases of the Breast*, and *Evolutionary Biology*. The entire list can be viewed and searched at <http://www-library.ncifcrf.gov/onlinebooks.aspx>.

E-books

The newest book format is the e-book. An e-book is viewed on a portable electronic device that can carry thousands of book titles at one time, which makes the format very appealing for travel. Some e-book platforms include the Barnes and Noble Nook, the Amazon Kindle, and the Sony Reader. The Scientific Library recently purchased two Amazon Kindles. Each Kindle holds almost 100 books, with titles that include *The Autism Sourcebook*, *DNA: The Secret of Life*, *Essential Concepts in Molecular Pathology*, *Francis Crick: Hunter of Life's Secrets*, *The Ten Most Beautiful Experiments*, *Viruses and Human Disease*, and *Communicating Science: Professional, Popular, Literary*. All titles are on both Kindles. The Library staff is very excited to offer this new format to the NCI-Frederick community. Complete information is available on the Kindle webpage at <http://www-library.ncifcrf.gov/kindle.aspx>.

We invite you to stop by the Scientific Library in Building 549, or view our web site at <http://www-library.ncifcrf.gov> to browse all of our book formats. ■

Learn How One Woman's Cells Contributed to Scientific Breakthroughs and Experience a Story of Survival at the South Pole

By Tracie Frederick and Robin Meckley, WISCO, Contributing Writers

Here are two books that were recently read as part of the Scientific Library's Reading Diversions Book Club. Copies of both books are available at the library. In this first-person narrative, *Ice Bound: A Doctor's Incredible Battle for Survival at the South Pole*, Dr. Jerri Nielsen recounts her experience of discovering a lump in her breast while living at the South Pole. Some

readers thought the book was "captivating," as they experienced the harsh environment along with the author. One book club member found the writing so descriptive that she snuggled into a blanket to keep warm as she read! Dr. Nielsen tells much of her story through e-mails sent during her ordeal. Experiencing her emotions from this first-person point-of-view was riveting.

Rebecca Skloot tells the story of Henrietta Lacks, the donor of the widely used HeLa cells, in *The Immortal Life of Henrietta Lacks*. Many book club members thought this book showed a different perspective of cell research. The author spent 10 years exploring Lacks' life and her contribution to science. Skloot worked with the Lacks family to gather many facts used in the book. As a result, Skloot's relationship with Deborah Lacks, Henrietta's daughter, is a compelling part of the narrative. ■

On Effective Communication

Don't Abuse the Pointer

By Ken Michaels, Manager, Visual Communications

A recommendation I frequently offer to speakers is that if you must use the pointer in your presentation, follow three important steps:

1. Pick up the pointer and hold it in both hands.
2. Point the laser beam directly at your target.
3. Put down the pointer and continue your presentation.

Why hold it in both hands? Two reasons: it makes you very aware that you're holding the pointer, and it helps you hold it steady.

Many speakers who pick up the pointer the moment they begin talking not only point to things of interest on the screen, but often start pointing at everything on the screen, shaking the pointer back and forth for emphasis, drawing circles around things they want to call special

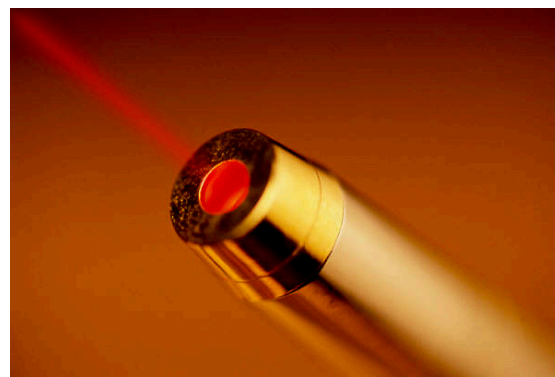
attention to, even pointing to the words as they read them verbatim to their audience. Presently, that little red or green dot is dancing around the screen so actively that the audience wishes they'd premedicated with Dramamine®.

The slide advance device in one hand and the pointer in the other is a very common sight during scientific presentations. The trouble with this technique is that the pointer becomes a crutch. When we're holding the pointer in our hand, we tend to be pointing it at something on the screen; and when we focus our attention on the screen, we're losing focus on our audience. That's why I advise picking it up only when there's something on the screen you really want to call attention to, then putting it back down, and resume speaking to your audience.

With a little planning, you can avoid using a pointer altogether. Showing bullets one at a time, or

bringing in data or graphics like arrows, boxes, and circles one at a time adds detail incrementally as the discussion progresses and makes it clear to the audience where their attention should be. Such techniques are child's play for PowerPoint.

So why not try putting the pointer down? Probably, you'll look at the screen less and your audience more. After all, they came to your talk mainly to hear you talk, not to see a laser light show. ■



Fitness Challenge 2010

Year-End Is a Time for Assessment

By Will Sheffield, Occupational Health Services, Contributing Writer

The end of the year is a good time to assess what we've done for our health and well-being, and what we can do better next year. Here's a preview of some of the events planned by Occupational Health Services (OHS) that can help you continue on your path to good health:

2011 Fitness Challenge Kick-off:

January 4, Building 549, from noon until 1:00 p.m., Larry Arthur, Ph.D., chief executive officer, SAIC-Frederick, will be on hand, along with representatives from Fitness First, to motivate people to participate.

Fitness Challenge Weigh-ins and Lunch and Learn Programs:

First Tuesday of each month. More information may be found on the Fitness Challenge web site, <http://saic.ncifcrf.gov/fitnesschallenge/>.

Red Cross Blood Drive: January 6
Contact Carolyn Cable to sign up at cablecf@mail.nih.gov.

American Heart Month: February
Check your CPR/AED (automatic external defibrillator) card for your current status. If you need to update your status or you want to become certified, contact OHS about taking a class (301-846-1096).

National Nutrition Month: March
Watch your e-mail for opportunities to learn about good nutrition. ■

Congratulations to These Fitness Challenge Winners

Most Miles Walked:

Rob Hill (August)
Ester Sudec (September)
Jennifer Lipski (October)

Most Miles Run:

Jamie Rodriguez (October)

Most Weight Lost:

Eileen Downey (August)

The "winners' circle" has shrunk as the year progressed because you can only win a monthly award once in a calendar year. Keep in mind, however, that, while you may be recognized only once in the monthly programs, as long as you continue to enter your data throughout the year, you could be one of the annual winners.

Upcoming Events and Dates to Note

December 24

Christmas Holiday: NCI-Frederick closed

December 31

New Year's Day Holiday: NCI-Frederick closed

January 6

2011 NCI Intramural Scientific Investigators Retreat

January 17

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

January 21

Poster Puzzler entries due

March 1

Poster/exhibit registration opens for Spring Research Festival

February 21

Presidents' Day: NCI-Frederick closed

April 27 and 28

Spring Research Festival

Employment Opportunities

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

Charles River Laboratories
www.criver.com

Data Management Services
css.ncifcrf.gov/services

National Cancer Institute at Frederick
www.training.nih.gov

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

Wilson Information Services Corporation
www-library.ncifcrf.gov

NCI-Frederick Programs

NCI-Frederick/Ft. Detrick Fitness Challenge 2010
saic.ncifcrf.gov/fitnesschallenge/

NCI-Frederick Suggestion Committees
web.ncifcrf.gov/campus/committees/

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

Special thanks to Rhonda Anderson, Walter Hubert, Kathleen Groover, and Nancy Walsh for all the winter photos in this issue.

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

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

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

web.ncifcrf.gov/ThePoster

201852



Weather Advisory

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

Closed or Delayed Opening

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

Early Dismissal

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

Telephone Numbers

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

Internet

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

Radio/TV

Frederick, MD

WTLP	FM 103.9
WFMD	AM 930
WFRE	FM 99.9
WYPF	FM 88.1
WWFD	AM 820
WAFY	FM 103.1
WWEG	FM 106.9

Hagerstown, MD

WAYZ	FM 104.7
WJEJ	AM 1240
WARK	AM 1490
WDLD	FM 96.7
WHAG	NBC 25 (TV)

Baltimore, MD

WBAL	AM 1090
WIYY	FM 97.9
WYPR	FM 88.1
WPOC	FM 93.1
WCBM	AM 680
WLIF	FM 101.9
WWMX	FM 106.5
WRBS	FM 95.1

WERQ

FM 92.3

WMAR

ABC2 (TV)

WBAL

NBC 11 (TV)

WJZ

CBS13 (TV)

WBFF

FOX45 (TV)

Thurmont, MD

WTHU AM 1450

Brunswick, MD

WTRI AM 1520

Williamsport, MD

WCRH FM 90.5

WICL FM 95.9

Chambersburg, PA

WIKZ FM 95.1

WCHA AM 800

Gettysburg, PA

WGET AM 1320

WGTY FM 107.7

Greencastle, PA

WQCM FM 94.3

WPPT FM 92.1

WBHB FM 101.5

Winchester, VA

WINC FM 92.5

Martinsburg, WV

WEPM AM 1340

WRNR AM 740

WLTF FM 97.5 ■



Weather Advisory

Winter Driving Safety Tips

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

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



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

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

Coordinated Highways Action Response Team (CHART)

<http://www.chart.state.md.us>

View current traffic and emergency road conditions across the state. You'll find several links to help you during a snow emergency: snow emergency plans; weather-related road closures; school closures; area-wide road conditions.

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