



Aikido story on page 3.

Poster

News from the NCI-Frederick Office of Scientific Operations

I recently discussed in *The Poster* why I feel so strongly that the NCI-Frederick is a great place to work. I have discussed many of the more obvious aspects of the NCI-Frederick that make this facility a wonderful and productive place to be. But to fully understand what makes the NCI-Frederick so important to the National Cancer Institute, the National Institutes of Health, and the nation in general, you need to appreciate what makes NCI-Frederick unique.



The bottom line is that this facility is more than just a few NCI research labs and animal facilities located 37 miles north of the main NIH campus in Bethesda. The NCI-Frederick is a unique and integral piece of the NCI, with a unique role and unique mode of operation.

As a background, the NCI-Frederick is a **Government Owned-Contractor Operated (GOCO)** facility. Unlike the NCI effort in Bethesda (which is

predominantly Government-operated), the NCI-Frederick is a unique blend of Government employees and employees from multiple contractors. This situation empowers the NCI-Frederick with added expertise and the flexibility necessary to respond rapidly to the changing research priorities at the NCI. The facility has also been designated as a **Federally Funded Research and Development Center (FFRDC)**. The fact that the NCI-Frederick is the only FFRDC in

the entire Department of Health and Human Services further demonstrates the unique role of this facility. The importance of this FFRDC designation is further exemplified

by the very short list of other prestigious laboratories which have been awarded this status, including Argonne National Laboratory, Los Alamos National Laboratory, Oak Ridge National Laboratory, and the Jet Propulsion Laboratory.

This designation as an FFRDC empowers the NCI-Frederick with special authority, but only to meet the "special needs" of the Government. As such, NCI-Frederick is expected to

continued on page 2

AUGUST 2003

IN THIS ISSUE

Aikido - A Closer Look 3

Charles River Laboratories 4

Data Management Services 5

McKesson BioServices 6

SAIC-Frederick, Inc. 7

Wilson Information Services Corporation 8

Building 470 9

Science Today 10

Platinum Publications 11

Did You Know? 12

Community Outreach 16

Office of Diversity and Employee Programs 17

Environment, Health, and Safety Program 18

Special Events 20

Job Vacancies 24

News from the NCI-Frederick Office of Scientific Operations

continued from page 1

meet some special, long-term, research and development needs of the NCI through the establishment of a long-term relationship with its contractors. This special relationship allows the NCI-Frederick to provide a rapid response capability, which cannot be met as effectively anywhere else in the NIH.

However, our FFRDC designation

prohibits the NCI-Frederick from 1) providing services which can be easily met by existing Government resources, or 2) utilizing these Government facilities to compete with private industry.

Yes, the NCI-Frederick is a pretty special place to work. We are all a very unique and integral element of the NCI. I hope that by understanding

the unique and important role the NCI-Frederick plays in our nation's war on cancer and AIDS, you will have a better appreciation for how important your work is to this mission.

Keep up the good work!

*Craig Reynolds,
Director of
the Office of Scientific Operations*

Dr. Paul Nisson, Project Officer in the Office of Scientific Operations

Dr. Paul Nisson, the new project officer in the Office of Scientific Operations, comes to NCI-Frederick with more than 20 years' experience in research

and product development in the Life Sciences. In his first few months, he has been busy "learning the ropes, developing



relationships with the PI's, working with directors and developing a rational process to examine how well the labs are performing," he said in a recent interview.

"The Office of Scientific Operations is responsible for the operation of the site," Dr. Nisson said. "This office oversees four contracts—the largest being SAIC—and our primary responsibility is to ensure the customer, in this case the government, is satisfied."

Dr. Nisson is responsible for overseeing the Research Technology Program (RTP). "I am part of a government-SAIC team that is trying to ensure that the RTP scientists

provide high quality services, technology development and research collaborations to their customers." He works very closely with the program Director, Dr. Joseph Kates, and Dr. David Goldstein (CCR), who helped to establish the RTP.

The RTP comprises six laboratories and 90 scientists and administrators: the Laboratory of Proteomics and Analytical Technologies, Protein Expression Laboratory, Gene Expression Laboratory, Laboratory of Molecular Technology, Protein Chemistry Laboratory, and the Image Analysis Laboratory.

"The government is responsible for overseeing the program which is staffed and ably managed by SAIC-Frederick, Inc.," Dr. Nisson said. "My main mission has been to set up an annual review process to make sure the six labs are providing quality service to their NCI/NIH customers. After a preliminary review of the program, it is clear that it's an outstanding resource for the NCI and the other NIH institutes as well."

Now that the internal review is completed, the Office of Scientific Operations will turn to outside experts to review the program and offer their evaluation and opinions about its operation and the areas in which it could improve.

A Harvard undergraduate in chemistry, Dr. Nisson received his PhD in Biophysics from the University

of Rochester School of Medicine where he studied the yeast genetics of DNA repair and mutagenesis. As a postdoctoral fellow at the Worcester Foundation he studied gene expression in sea urchin and pre-implantation mouse embryos. He then worked at Life Technologies (now Invitrogen) from 1989 until 2000, commercializing products for molecular biologists in the areas of gene mapping and gene discovery and started and managed a custom services group. Inspired by a growing interest in Bioinformatics, he moved to Compugen, an Israeli computational biology company, as Director of Research and Development, where, over a three-year period, he led the effort to develop a product line called Oligolibraries, a gene expression profiling tool that the company co-markets with Sigma-Genosys.

Dr. Nisson wanted to stay in the Washington Metro area and found his interests and past experience overlapped with the growing needs of the Office of Scientific Operations at the NCI-Frederick directed by Dr. Craig Reynolds. "It's an exciting time to be at the NCI and I'm fortunate to be a part of it," said Dr. Nisson.

Dr. Nisson is located in Building 427, room 7; he can be reached at 301-846-7653, or by e-mail at pnisson@ncifcrf.gov. For more information on the RTP program, visit the website at <http://web.ncifcrf.gov/rtp/>. ♦

Aikido - A Closer Look

Aikido: The Way of Harmony

A delightful aspect of our annual Spring Research Festival is that we see not only the extraordinary research our scientists do, but also glimpses of other paths they follow.

One of those who follow two apparently different paths is Dr. Jack Simpson, a scientist in the Protein Chemistry Laboratory, SAIC-Frederick, Inc. In June he presented at the Research Technology Program's Staff Seminar, speaking on "Nitrocellulose Purification of BIAcore® and Serum Samples for MALDI-TOF," while at the Spring Research Festival, he and his colleagues demonstrated the art of aikido.

Although science and martial arts may seem very different, for Jack they merge almost seamlessly in his life. "Aikido is not a sport; it's traditional *Budo*, or a martial way of life. My big challenge is to use aikido in my career, to use it when I have questions from a seminar, or verbal attacks...to find the source of that conflict and resolve it. Many people now use aikido in conflict resolution in social work, just because of that philosophy," he explains.

Aikido Teaches You About Yourself

People study aikido to learn self-defense, to exercise, to be comfortable with their own body movement, and even to develop spiritually, although aikido is not a religion. Aikido can help people with both confidence and concentration, to know their weaknesses and strengths, and to

defend themselves. Jack says, "A lot of how I have changed has been confidence in myself.

I used to freeze up on school exams, but once I started studying martial arts, I would take five to ten minutes before an exam to do breathing exercises. And my exam scores went right up, because I was relaxed and I could think."

He continues, "Aikido teaches you about yourself: What you can do well, what you need to work on, what you want to work on." A person's demeanor, normally unassuming, may be much more fierce "on the mat" in aikido. "That comes from inside, and it takes a long time to understand how to control and tap into it when you want to. One of my students said I physically get bigger on the mat," he says.

The techniques limber the joints, stretching tendons and ligaments that have not been stretched before. "Performed properly, no permanent damage is ever done, another reason that it is different from other martial arts," Jack explains.

Because aikido can be used as self-defense without physically damaging

all of this negative energy, all this aggression coming at you, your goal is not only to negate that attack but not to hurt the person that is doing it. I can immobilize that person and not break anything," Jack says.



Earning the Black Belt

A martial arts student must usually advance through several non-degree grades before earning the first-degree black belt. "You are just starting at that point, once you have your first black belt," Jack says.

The final, tenth-degree black belt is usually reserved for founders of various systems of martial arts. "In Asian culture, martial arts were traditionally family systems, so it would usually be a family name followed by *Ryu*, meaning 'school' or 'system.' Aikido was at one point called *Ueshiba Ryu* because Ueshiba Sensei founded aikido," Jack notes.

Achieving the first-degree black belt may take as long as 10 years. "And that is the way it should be for any real martial art," he says. Jack explains that by focusing on the belt rather than on the stages of learning, one "loses track of the reason that you are in martial arts: in my opinion, it is the journey [that is important.]"

Martial arts leaders often "send their best instructors to other countries because they want to put their best face forward. So the real masters are not only in Asia but all over the world now. You have as good an opportunity to train with really amazing people in Washington, D.C., as you do in Tokyo."

This November, Jack will test for

continued on page 23



one's opponent, aikido is one of the martial arts police officers, MPs, and secret service agents employ. "One of the more difficult aspects of it, with

Charles River Laboratories (CRL)



Challenge Yourself with Our Quiz!

1. *The Animal Production Area (APA) breeds and sells how many strains of inbred mice?*
A. 8 B. 15 C. 20 D. 25
2. *Which of the following special services does APA offer?*
A. Timed pregnant inbred mice
B. Indwelling jugular catheters in nude mice
C. Vasectomized, ovariectomized, or castrated mice
D. All of the above
3. *Which of the following is true for entering a rodent barrier building at APA?*
A. You must shower and change to scrubs but don't have to wash hair.
B. You must be a technician assigned to the barrier or have permission from the supervisor.
C. You must remove jewelry and all clothing, shower, wash hair and change into an autoclaved uniform.
D. B and C.
4. *To be sure our animals are genetically pure we:*
A. Perform biochemical testing twice a year and skin grafting once per year on all colonies.
B. Perform biochemical testing annually.
C. Perform skin grafting annually on just Foundation colonies.
D. Perform biochemical and skin grafting annually on just Foundation colonies.
5. *Health monitoring on our colonies is performed:*
A. Every other month on each colony by LASP
B. Monthly on each colony by LASP and confirmed twice a year by an independent outside diagnostic lab
C. Quarterly on each colony by LASP
D. Quarterly on each colony by an independent outside diagnostic lab
6. *For health monitoring APA uses:*
A. 1 sentinel per month per barrier
B. 3 sentinels per month per barrier
C. 8-10 colony animals including weans, 10-12 week old animals, and retired breeders per month per barrier
D. Whatever we can spare.
7. *The MMHCC Repository at APA distributes breeding pairs of transgenic mice that are not easily attained commercially. How many lines are now available for distribution?*
A. 15 B. 26 C. 39 D. 55
8. *Questions on health, housing, or husbandry of APA animals should be directed to:*
A. Clarence Reeder at x1151 C. Dr. Mayo at x5606
B. Dr. Fritz at x1206 or Cliff Hubbard at x1205 D. President Bush



Check your answers below. Results:
6-8 correct: You know a lot about our services and operation.
3-5 correct: You know we exist.
0-2 correct: You use *in vitro* technique only!

If you want to learn more, check out our website at <http://web.ncifcrf.gov/researchresources/apa/>

Answers to the Animal Production/Charles River Laboratories Quiz

1. **(D)** 25 inbred strains, but don't forget the 6 hybrids, 4 outbred stocks, 5 immunocompromised lines, and 2 transgenic (in addition to MMHCC Repository mutants).
2. **(D)** All of the above, of course, and many more! Call us at 301-846-1151.
3. **(D)** Our barriers are entered only by the supervisor and 2 assigned caretakers after a complete shower and hair wash. Nothing else is allowed into the barrier unless it is autoclaved, gamma irradiated, or sprayed with Clidox. This protects the health of our animals for our customers.
4. **(A)** We use biochemical testing to detect any cross-contamination between strains and skin grafting to detect genetic drift. The Foundation, Expansion, and Production colonies are all tested. This gives the highest assurance of a genetically pure product.
5. **(B)** Complete health monitoring of each colony is performed monthly by LASP, and twice a year by an independent lab. This serves as a cross check for both labs and assures us that nothing is missed.
6. **(C)** Colony animals give us the best indication of room health because they have direct contact with other animals. Testing is performed on three age groups because various agents are easier to find at different stages in the animal's life.
7. **(D)** 55 lines are available and more are added regularly. To learn more, go to the MMHCC website <http://web.ncifcrf.gov/researchresources/mmhcc/default.asp>.
8. **(B)** Dr. Fritz and Cliff Hubbard manage APA and can answer these questions. Extension 1153 is only used for orders. ♦

Data Management Services (DMS)

C&SS "After Hours"

While C&SS employees work diligently to support the efforts of the NCI-Frederick, from time to time we do take a break to relax.

The TeamDMS Bowling Team recently captured the Terrace Lanes/First USA League Championship, clinching the title with an impressive 47.5–16.5 record. Congratulations to the team members on a fine season and best of luck in defending their companionship next season!

Despite a wet and rainy day, several DMS employees participated in the annual ERC Golf Tournament. Although the tournament was cancelled after only five holes of golf, team members still enjoyed a day of good food and great camaraderie. While neither of the two DMS teams brought home any trophies, they did sport three of the best dressed golfers of the day!



No, it's not a 1930s movie still. These are the fashionably dressed DMS golfing team members. Left to right: Mark Spielman, Jim Wolfe, and Mike Dipasquale.



DMS bowling team members include, left to right: Tim "The Hammer" Siford, Team Captain Brian "The Leader" Hanshew, Zach "The DITI" Thomas, and Rick "Thank Goodness They Didn't Give Me a Nickname" Klabansky.

While we play hard, we work just as hard. C&SS is available to assist you with your information sciences needs, including:

Statistical Consultation

The Statistical Consultation group provides a wide array of mathematical and statistical consulting services to the NCI-Frederick scientific community. The Director and consulting statisticians work with principal investigators through all facets of the scientific process, from developing and formulating research and statistical hypotheses, designing experiments and statistical analyses, preparing technical reports and graphics, to preparing formal scientific documents and publications in peer-reviewed journals.

Custom Software and Web Development

Our analysts and developers employ modern methodologies and tools to create custom software solutions to meet the unique needs and requirements of the NCI-Frederick. Our staff can assist you with both administrative and scientific programming needs, as well as Web design and development services.

Technology Advocacy and Consultation

As the NCI-Frederick's information technology experts, C&SS continually explores and evaluates new technologies that could benefit the user community and further the mission of NCI-Frederick. C&SS staff would be happy to meet with you to discuss your specific technology needs.

Computer Software Training

Summer computer software training classes are underway, with several new courses added for NCI-Frederick employees. Visit the Computer Software Training website at <http://css.ncifcrf.gov/training> for information or to register for classes.

Site-Licensed Software

C&SS, in conjunction with the NCI, has worked to secure site licenses for many of the programs in broad use at NCI-Frederick. To view the growing list of software, visit the C&SS website at <http://css.ncifcrf.gov/helpdesk/software.asp> or contact the Computer Services Helpdesk.

Contacting the Computer Service Helpdesk

The Computer Service Helpdesk provides the NCI-Frederick community with a single point of contact for computer support, service, information, and assistance. Helpdesk staff is available to assist all NCI-Frederick employees from 8:00 p.m. to 5:00 p.m., Monday through Friday. ♦

The Helpdesk can be contacted at:

- Web: <http://css.ncifcrf.gov/helpdesk>
- Phone: x5115 (8:00 a.m.–5:00 p.m., Monday through Friday)
- E-mail: helpdesk@css.ncifcrf.gov

McKesson BioServices

McKesson BioServices' NCI-Frederick Repositories

In August 2002, SAIC-Frederick, Inc., awarded **McKesson BioServices** the subcontract to manage the NCI-Frederick repositories, including the central biological repository that supports the research programs of the NCI, National Institutes of Health (NIH), NCI/NIH contractors, and other groups.

McKesson BioServices' Principal Investigator Kathleen Groover, Ph.D., oversees this subcontract. She has extensive experience as McKesson BioServices' principal investigator to the NCI Chemotherapeutic Agents Repository (CAR), Occupational Safety and Health Officer, scientist of the NIDA Medications Development Database and the LAAM Project, and Vice President, Occupational Safety and Health. A Certified Industrial Hygienist, she is certified in OSHA compliance and hazardous material transportation, has a BS degree in Chemistry/Math, and a PhD from Duke University in Bioinorganic Chemistry.

Last September, McKesson BioServices took over operations of the Central Repository (Buildings 434 and 1066), the Natural Products Repository/Tumor Bank (Building 1073), and the off-site East Street facility.

To accommodate the needs of the NCI/SAIC biorepository subcontract, a new award-winning facility totaling 33,600 square feet was remodeled, allowing additional space for 1.5 million samples to be stored each year of the contract. In January 2003, the East Street Repository relocated to

a new, ground level facility at 4600 Wedgewood Boulevard, Suite H, just off Buckeystown Pike South.

In addition to standard office, electrical and HVAC requirements, the new facility contains: a building security system with pass card access and 24-hour monitoring of critical

discharge; O₂ monitoring system with an air handling system to evacuate the area in the event of low oxygen; interior access to the roof and an annunciator panel to monitor roof-top units; future lab space and expansion space for repository needs.

McKesson BioServices aims to provide the highest quality services to the NCI-Frederick research community, incorporating state-of-the-art technology and enhancing services and capabilities well into the future.

McKesson BioServices has familiarized itself with NCI-Frederick operations and policies; evaluated and upgraded equipment and systems, including inventory and backup support capabilities; addressed operational details, coordinated efficiencies between sites, generated space utilization plans, and developed quality standard operating procedures. As McKesson BioServices becomes better acquainted with user community needs, the company will be even more responsive in supporting the valuable research accomplished at NCI-Frederick.

McKesson BioServices, part of McKesson Health Solutions, is a leader in clinical supply and biological specimen management. This division provides cost effective solutions using a focused process for clinical outsourcing covering preclinical through Phase IV studies. The company works closely with the U.S. Government, universities, contract research organizations, pharmaceutical, and biotechnology companies throughout the clinical trial process.

For more information about McKesson's biological specimen and clinical supply management services, visit www.mckessonbio.com. To learn more about other services offered by McKesson Corporation, visit www.mckesson.com. ♦



exhaust fan; four 250 KW generators to support the facility (mechanical freezers are supported by two natural gas generators with a continuous fuel supply); back-up connections for temporary generators; Halotron (inert fire suppressant) fire extinguishers which will not harm mechanical and electronic parts in the event of

SAIC-Frederick, Inc. Continues to Meet the Needs of the NCI

SAIC-Frederick, Inc., is entering its eighth year as the **Operations and Technical Support (OTS)** contractor to the National Cancer Institute at Frederick. With the completion of its first five-year contract in 2001, SAIC-Frederick, Inc. won a new and more comprehensive OTS contract covering 2001-2006, with an option for the NCI to grant a two-year extension.

Always sensitive to the needs of the NCI, SAIC-Frederick, Inc., company directors realigned the organizational structure and administrative management into nine directorates and management committees to better meet NCI-Frederick's needs.

The reorganization rapidly showed positive results in many areas, by enhancing communications and identifying individuals responsible for selected activities. In a recent interview, Dr. Larry Arthur, president of SAIC-Frederick, Inc., noted that he is very "proud of the growth and maturity in the programs" in all directorates. He pointed out that some programs, such as the Biopharmaceutical Development Program "have matured to world class status." He is particularly proud of the quality of scientists whom Dr. Joe Kates has attracted to work in the Research Technology Program and the rapidity at which Dr. Kates expanded the RTP capabilities.

"...communication and teamwork are key to...progress."

This matrix management organization has also resulted in the enhancement of many of the support functions and has introduced a "high level of professionalism" into these areas, all of which are essential to ensure that scientists at NCI-Frederick

can concentrate on science rather than support processes.

Dr. Arthur said that communication and teamwork are key to all of the progress that has been made during the life of the SAIC-NCI contract. Initiatives usually first come through division directors to Drs. Robert Wiltrout and Craig Reynolds, then to SAIC-Frederick, Inc., where they are assigned to specific directorates. "There's lots of effective communication back and forth" to make sure that everyone understands what to do and how it's to be done, Dr. Arthur said.

He added that nearly every successful project here has been due to attention to the essential areas of communication and teamwork. "We're only as good as the people who work here. Without the workers, management is pointless," he said.

Directorates

Each Directorate aligns "with one or more major NCI-Frederick Government activities," according to Dr. Arthur. The Directorates "interact directly with their customers, [which] is essential to the successful performance of the contract," he said.

The nine Directorates are:

- *Basic Sciences Program*, Dr. Mary Carrington, Director
- *Applied/Developmental Research Support*, Dr. Michael Baseler, Director
- *Research Technology Program*, Dr. Joseph Kates, Director
- *Biopharmaceutical Development Program*, Dr. George Mitra, Director
- *Vaccine Clinical Materials Program*, Dr. Criss Tarr, Director
- *Laboratory Animal Sciences Program*, Dr. Hendrick Bedigian, Director
- *Environment, Health, and Safety*, Dr. Randall Morin, Director

- *Facilities Maintenance and Engineering*, Mr. William Lonergan, Director
- *Contracts and Administration*, Mr. David Bufter, Director

Administrative Teams

Administrative teams, which include representatives from Acquisition and Logistical Services, Facilities Maintenance and Engineering, Financial and Administrative Systems, and Human Resources, support each Directorate and ensure compliance with all applicable federal, state, and contractual regulations and requirements.

Management Committees

Three committees enable a cross-section of employees to be involved in the management of the contract.

The **Director's Executive Committee (DEC)** comprises the nine Program Directors and provides overall contract-level guidance and planning; solicits input from DEC members on important matters related to the overall contract; facilitates the transfer of cross-directorate information; provides status reports from each of the Directorates; refers specific tasks to the OTS Operating Committee; and identifies important contract matters needing the attention of NCI or SAIC Corporate senior management.

The **OTS Operating Committee (OOC)** establishes and recommends to the DEC for approval, operating policies and procedures that streamline our administrative operations and result in efficient contract performance.

The third and final committee is the **SAIC-Frederick Research Council**. This committee holds quarterly meetings and provides a forum to advise the SAIC-Frederick management on issues important to the accomplishment of the NCI-Frederick research mission. ♦

Wilson Information Services Corporation (WISCO)

WISCO Adds New Staff



Susie Culler, the newest member of the WISCO staff, became the Library's Administrative Coordinator this past March. Susie has worked in the administrative and education areas for many years, and has a BA from Hood College in studio arts, with an emphasis on nature photography. She has assisted a local photographer in his studio and on location and does occasional freelance projects. ♦

Milestones

The Scientific Library is truly fortunate to have so many dedicated employees, all of whom bring unique talents to NCI-Frederick which are of benefit to our scientific and support staff. Congratulations are offered to those who celebrated milestone anniversaries this year:

5 years: Donnie Hips

Lee Redmond

Elena Zdanova

10 years: Debby McCalpin

Alice Young

15 years: Steve Jones

20 years: Ethel Armstrong

30 years: Darlene Clements

60th Anniversary

The Library actually has reached a milestone of its own this year, celebrating the 60th anniversary since its doors first officially opened in 1943, when the collection was initiated under the directorship of the U.S. Army. It was then called the Camp Detrick Technical Library. The first book purchased by the Army was a *Webster's Collegiate Dictionary*. Thirty years later, in 1973, the National Cancer Institute assumed ownership of this original collection, and has been adding to it ever since! The first book purchased by NCI was Strunk's *Elements of Style*. ♦

	Then (1973)	Now (2003)
Collection size		
- Books	14,000 volumes	12,000 volumes
- Journals	4,700 volumes	44,000 volumes
Footprint	5,125 sq.ft.	11,054 sq.ft.
Professional Staff	3	7
Technical & Support Staff	1	14

Book & Media Exchange

Have all those rainy days this summer kept you indoors with nothing to do but clean out your closets, basement or garage? Well, if so, remember there's a silver lining among all those thunder clouds—the **Scientific Library Book & Media Exchange**, which is planned for October as part of our celebration of

Medical Librarians Month. Just think of this as an opportunity to collect all those books, CDs, videos, DVDs, cassettes, and yes, even those old LPs and 45s you no longer want to keep, that are cluttering up your home. For every item you donate, you will have the opportunity to select a new one in its place, one-for-one. The Library will begin collecting items for the exchange in mid-September. Just bring them to the Library's Circulation Desk in Bldg. 549 and you will get a coupon that you can present on the day the exchange is held. After the opening day, items are made available for swapping for one month, after which any remaining materials are donated to local charities. Help us break our record this year; in the past, we've assisted employees in exchanging as many as 2,000 items. Let's aim for 3,000 this year! ♦

Center for Health Information Health Quiz

Which of the following would cause a consumer to be cautious about a website?

- A) information is provided by a government agency or educational institution
- B) the website will include a current date
- C) there will be good music and lots of flashy advertisements
- D) research citations will be provided where appropriate

Answer C. Though good music and lots of flashy advertisements might make an interesting website, they do not guarantee good health care information. Look for the names of organizations you recognize as sponsors, such as the American Heart Association or Centers for Disease Control and Prevention. You want the newest information when looking for answers, so beware of websites last updated more than a few weeks ago. ♦

Building 470

Update on the Building 470 Dismantlement: Safety First

In our May 2003 issue, we told you about the NCI's plans to dismantle Building 470, once a bioweapons research facility.

From the first decision that the hazardous building needed to come down, the National Institutes of Health (NIH)—which is overseeing the process—has made safety of paramount importance. “The Army took 1,300 samples during the decommissioning of the building [1970-71] and all those samples were negative [for any evidence of *Bacillus anthracis*],” said Carol Shearer, Project Manager, in a recent *Spotlight* article. “There were two rounds of gas decontamination using formaldehyde, and the closed systems [e.g., fermenters] were all steam-sterilized. Drains and other piping systems that they could not reach with steam were cut and then bleach was pumped up into them, and the bleach was then left to sit [in the pipes] to get anything that was in there. This was a very, very extensive decontamination.”

Ms. Shearer's team has also taken an additional 1,450 samples in Building 470 and plans to continue sampling throughout the project to monitor air quality.

Phase One: Asbestos Removal

The project, divided into three phases, began in February 2003 with asbestos removal. The contractor for this work, Controlled Demolition, Inc. (CDI), “is a world-class operation,” according to Ms. Shearer. “They are working in Iraq . . . doing chemical demilitarization in the former Soviet Union . . . [and] many jobs here in the United States. CDI is most well known for its implosions, but that is only about 1% of their work; they do many types of dismantlements,” she said.

Phase Two: Stripping Out the Interior

The second phase involves “stripping out” the building's interior: taking out tanks, miles of pipes, any non-load-bearing walls, and many of the steel grating floors, creating “an excellent way to lower equipment down through the middle of the building . . . where it will be [cut up], put into big cans and then rolled out . . . for transport,” she said.

“The crews will be working six-day weeks, so that on a Saturday we can make more noise,” explained Ms. Shearer. “The more noise we can make, the faster we can go . . . We would like to get it down quickly as long as we don't compromise safety,” she added.

Seismographs have been installed in those labs immediately adjoining 470 to daily monitor noise and vibration and alert workers and management when levels are too high. In such cases, the contractor may opt to use smaller, less noisy equipment or switch the noisier work to off-hours. To minimize dust, an issue common to construction projects, the contractor will frequently hose down the site with water. Workers will also wear respirators for protection against the fumes and carbon monoxide resulting from the metal cutting.

These precautions are particularly important since Building 470 adjoins Buildings 431 and 469; and Buildings 426, 427, and 428 are very near. In fact, safety is of such primary concern that if *anyone* on the project sees anything on the site that constitutes imminent danger to one of the workers, he/she can stop the work immediately.

Phase Three: The Final Stages

When you see scaffolding and green construction mesh around the building, you'll know that Phase III, which will overlap Phase II, has begun. “As workers take the roof off, they will start dismantling the building

and pulling things inward again, and what you will see is the scaffolding and green mesh coming down as the building is dismantled,” said Ms. Shearer.

Building 470 Team Experts in Biosafety

Project Manager Carol Shearer is extremely well qualified to lead this effort, which requires both diverse skills and extensive



biosafety/biosecurity experience. John Bell (SAIC-Frederick, Inc.) is the project's Construction Manager, while Theresa Duley (Southern Research Institute), qualified in both safety and construction, is the Safety Representative. Another team member is anthrax specialist George Anderson, Ph.D., an immunologist with more than “25 years of experience in the vaccine world,” Ms. Shearer said. “Dr. Anderson did a thorough review of all documentation that we have on 470,” she added. In addition, three other biosafety experts also reviewed the building's biosafety-related data.

The whole building should be dismantled by the end of December 2003.

For more information on the Building 470 Project, visit the website at <http://web.ncifcrf.gov/campus/470update/>. ♦

The IBC: Making Sure Research Is Conducted Safely and Responsibly

Although many of us have never heard of the *NCI-Frederick Institutional Biosafety Committee (IBC)*, this group plays a significant role in ensuring that biological research at this facility is conducted safely and responsibly. The IBC reviews research conducted at or sponsored by the NCI-Frederick, involving recombinant DNA, infectious organisms, human-derived material, oncogenes and biological toxins. Researchers wishing to conduct research with these materials must register with the IBC, using the rDNA registration form or the Pathogen, Oncogene, or Toxin registration form available on the Environment, Health and Safety (EHS) website <http://web.ncifcrf.gov/campus/safety/usedocs.stm>.

During its review, the IBC assesses the appropriateness of the proposed laboratory facility, the procedures and practices, the availability of medical countermeasures or medical surveillance, and the training and expertise of the personnel involved in research. The committee may suggest or require changes in procedures, personal protective equipment, engineering controls or physical containment specifications. Once the IBC approves a registration, it sends a registration number in a letter to the investigator. EHS maintains a registry of all projects involving pathogens, rDNA, oncogenes and biological toxins. Each IBC-approved registration is valid for three years, after which the project must be renewed and a new registration form submitted. IBC review is required prior to the initiation of research, when a change in protocol occurs, and when new technologies are introduced.

Registration of biological research protects NCI-Frederick investigators

from non-compliance with applicable regulations and legitimizes their possession of regulated biological agents and toxins. This is especially critical since The USA Patriot Act of 2001 amends Section 175 of the U.S. Criminal Code to allow prosecution of individuals who knowingly possess any biological agent, toxin, or delivery system of a type or in a quantity not reasonably justified by prophylactic, preventive, bona fide research or other peaceful purpose.

In addition to its protocol review function, the NCI-Frederick IBC provides an open forum to discuss biological safety concerns and assist in the resolution of any biological safety issues brought before the committee. To facilitate the discussion of biological safety issues, IBC holds open meetings, usually on the third Tuesday of each month at noon in Building 549, Executive Board Room. The meeting dates and times appear on the "Meetings and Seminars" section of the NCI-Frederick Home Page.

IBC History

In 1975 a conference was held at Asilomar Conference Center, Pacific Grove, CA, hailing a new era in recombinant DNA research in which laboratory safety played a significant role in the experimental design of research. The Asilomar participants felt strongly that each investigator should be responsible for overseeing the risk of his/her research, ensuring that laboratory staff were aware of potential hazards and competent to conduct their research using safe practices. The Asilomar participants also felt that there was a need for institutional review of recombinant DNA experiments and for institutional certification of physical containment in research laboratories. One year later, the NIH guidelines were published and the roles of institutional biosafety committees were first defined. Since

then, NIH guidelines for research involving recombinant DNA molecules and roles and responsibilities of the institutional biosafety committee have changed to meet the changing needs of science, research institutions, and the public. Today, when you look at one institution's IBC, you have seen only one IBC.

The NCI-Frederick IBC comprises 13 voting members and one non-voting, ex-officio member. Dr. Randall Morin, EHS director, is the current IBC chairperson and Mr. Joseph Kozlovac, the Institution's Biological Safety Officer, serves as the IBC Secretary. The experience and background of the other committee members are extensive and varied. Scientific disciplines such as virology, molecular genetics, veterinary medicine, clinical microbiology, bacteriology, mycology, biological safety, public health, and health care are well represented on the committee. In addition, two committee members represent the interests of the surrounding communities and are not associated with NCI-Frederick.

Besides Dr. Morin and Mr. Kozlovac, other IBC members include Dr. Jeanne Herring, Laboratory Animal Sciences Program; Dr. Henry Hearn; Dr. David Garfinkel, Gene Regulation and Chromosome Biology Laboratory (GRCB); Dr. Bruce Crise, AIDS Vaccine Program; Ms. Carol Ingraham Tobias, Manager, Occupational Health Services, EHS; Dr. Stephen Creekmore, Biological Resources Branch; Dr. Stephen Hughes, Drug Resistance Program; Dr. Donald Court, GRCB; Dr. Melinda Hollingshead, Biological Testing Branch; Dr. Michael Baseler, Clinical Services Program; Mr. Lucien Winegar, Esq.; and Ms. Cheryl Parrott (*Ex-Officio*), Director of Public Affairs.

If you have an issue that you would like the IBC to review or a question regarding biosafety or the IBC ♦

Platinum Highlight

This quarter's Platinum Highlight article was written by **Dr. Kazuo Nishigaki** and his colleagues. Dr. Nishigaki, who holds both D.V.M. and Ph.D. degrees, was trained in Veterinary Internal Medicine at the University of Tokyo under Dr. Hajime Tsujimoto, who discovered SIV-AGM and SIV-MND. Dr. Nishigaki joined



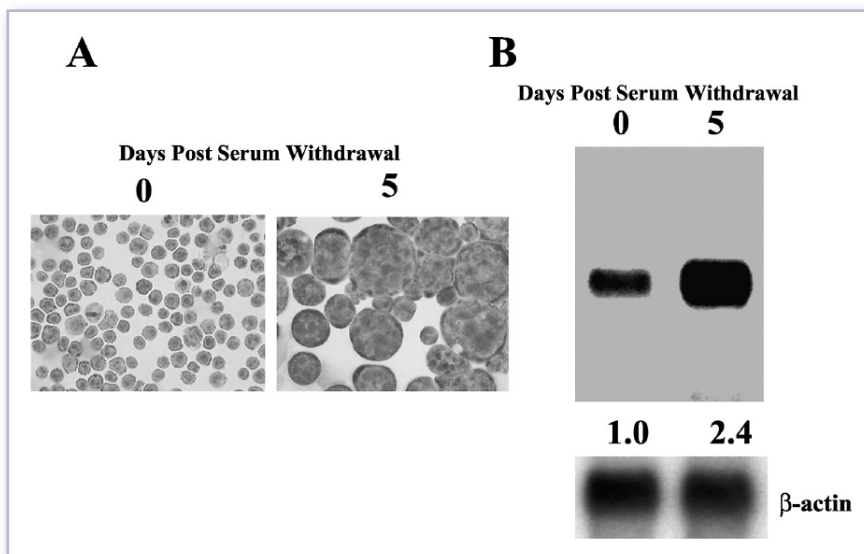
the NCI in 1998 as a Visiting Fellow in the Retroviral Molecular Pathogenesis Section of the Basic Research Laboratory, headed by Dr. Sandra Ruscetti, and earlier this year he was promoted to the position of Research Fellow. The Retroviral Molecular Pathogenesis Section focuses on understanding the molecular basis for the pathogenesis of animal retrovirus-induced diseases. The research of Dr. Nishigaki and others in the Section has led not only to a better understanding of how molecular changes in normal cells can result in pathological consequences but has also resulted in the discovery of novel molecules, described in this Platinum Highlight, that play important roles in the growth and survival of normal cells. The goal of the laboratory is to apply the information gained from their studies on animal diseases models to design rationale strategies for treating similar diseases in humans and domesticated animals. ♦

Nishigaki K., D. Thompson, T. Yugawa, K. Rulli, C. Hanson, J. Cmarik, J.S. Gutkind, H. Teramoto, and S. Ruscetti

Identification and Characterization of a Novel Ste20/Germinal Center Kinase-related Kinase, Polyploidy-associated Protein Kinase

Journal of Biological Chemistry, **278**(15):13520-13530, 2003.

A novel protein kinase, polyploidy-associated protein kinase (PAPK), was isolated using a subtraction cDNA library approach from a mouse erythroleukemia cell line that had been induced to polyploidy after serum withdrawal. PAPK shares homology with members of the Ste20/germinal center kinase family of protein kinases and is ubiquitously expressed as two spliced forms, PAPK-A and PAPK-B, that encode for proteins of 418 and 189 amino acids, respectively. The expression of endogenous PAPK-A protein increased after growth factor withdrawal in murine hematopoietic and fibroblast cells. When tested in an in vitro kinase assay, PAPK-A was activated in response to the stress-inducing agent hydrogen peroxide and slightly by fetal calf serum. Biochemical characterization of the PAPK-A-initiated pathway revealed that this novel kinase does not affect MAP kinase activity but can stimulate both c-Jun N-terminal kinase 1 (JNK1) and ERK6/p38 γ . The kinase activity of PAPK appears to be required for the activation of ERK6/p38 γ but not JNK1. When an inducible construct of PAPK-A was expressed in stably transfected NIH3T3 cells, the cells exhibited distinct cytoskeletal changes and became resistant to apoptotic cell death induced by serum withdrawal, effects of PAPK that require its kinase activity. These data suggest that PAPK is a new member of the Ste20/germinal center kinase family that modulates cytoskeletal organization and cell survival. ♦



Did You Know...?

Anniversary Celebration

Help us celebrate the National Cancer Institute's more than 30 years of research in Frederick!

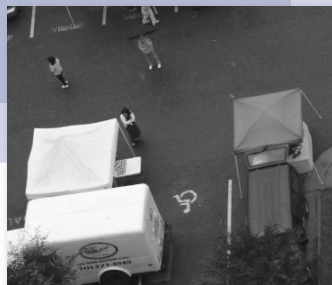
Do you know—

- When this facility began doing cancer research?
- Who was President of the United States then?
- How many people worked here?
- What some of the earliest labs were?
- What we did to relax?
- How many people could fit in a Volkswagen?

We're looking for the answers to these questions and more—and pictures to accompany them—to include with our NCI-Frederick anniversary issue. Grab those old pictures off the bulletin board or pull them out of a shoebox and bring them to Scientific Publications, Graphics & Media (SPGM), Building 362, or drop us a line (publications@ncifcrf.gov; attention: Maritta P. Grau) and tell us your favorite story about the good ole days. ♦

Fort Detrick Farmers' Market

The Fort Detrick Farmers' Market is open this year from June 17th through October 28th, an extended season. The June and July markets were very successful. The Market offers a little something for everyone and is a nice break from work. ♦



The Fort Detrick Farmers' Market from a bird's eye view.

Elementary Outreach Program (EOP)



With the 2002-2003 school year finally completed, the volunteers wrapped up another year of hard work with a picnic at the Post Pond on June 6th. The weather was perfect, the food was good and plentiful, and the company was the best. We hope to make the picnic a tradition. Final figures are not yet available, but volunteers put in approximately 2,500 hours over the school year. As of this year, the Program has been to every elementary school in Frederick County, St. John's in Frederick City, and several elementary schools in Washington County. Volunteers have also taken the Program to schools in Pennsylvania and West Virginia. On June 16th, EOP volunteers and representatives from the Frederick County Public School System participated in a workshop to review all lesson plans with the goal of improving and streamlining them. It was an extremely productive workshop and resulted in improvements for all five lesson plans. ♦

Did You Know...?

What's New in Building 549?



The Atrium: If it's been a while since you dropped in at Building 549, you might want to check out the NCI-Frederick Café wide-screen TV, or take your lunch to the atrium, where you'll find new patio furniture. The comfortable and decorative furnishings add ambiance to the spacious courtyard. The set includes a large 4' round table; 4-swivel based chairs with full rocking motion, and an umbrella to keep the summer sun away (as well as September rains). We also have a loveseat glider for those who want to swing their cares away.

The Lobby: The Conference Center lobby has recently been painted, offering a refreshing look to welcome you to Building 549. To help promote the science developed here at NCI-Frederick, we are displaying this year's Spring Research Festival Gold & Silver award winners.

If you have any ideas or suggestions, contact the Conference Center at <http://web.ncifcrf.gov/campus/committees/conference.asp>. It is our goal to remake Building 549 into a place that is inviting and relaxing, yet functional to science of NCI-Frederick. ♦



The Ron Defelice Board Room sports new deskpads at the executive conference table.



COMSTAR Credit Union Opens Branch in Building 549

The COMSTAR Credit Union recently opened an office adjacent to the Building 549 cafeteria (parking lot side). The credit union is open 8:30 a.m. to 4:00 p.m., Monday through Friday. Information about the services offered by COMSTAR may be obtained from their website at comstarfcu.org. ♦



Left: Debbie Williams and Olivia McGovern stand ready to help customers in the COMSTAR Credit Union. Top: Olivia McGovern counts out money while Dr. Larry Arthur, principal investigator, SAIC-Frederick, Inc., waits, hopefully. Debbie Williams looks on.

The following 30 articles have been selected from a quarterly listing of publications in 10 of the most prestigious science journals.

AIDS Research

Gene expression and viral production in latently infected, resting CD4(+) T cells in viremic versus aviremic HIV-infected individuals. Chun TW, JS Justement, RA Lempicki, J Yang, G Dennis, CW Halahan, C Sanford, P Pandya, SY Liu, M McLaughlin, LA Ehler, S Moir, and AS Fauci. *Proc Natl Acad Sci USA*. **100**(4):1908-1913, 2003.

Recruitment of HIV and its receptors to dendritic cell-T cell junctions. McDonald D, L Wu, SM Bohks, VN KewalRamani, D Unutmaz, and TJ Hope. *Science*. **300**(5623):1295-1297, 2003.

Animal Models

Liver-specific disruption of PPAR gamma in leptin-deficient mice improves fatty liver but aggravates diabetic phenotypes. Matsusue K, M Haluzik, G Lambert, SH Yim, O Gavrilova, JM Ward, B Brewer, ML Reitman, and FJ Gonzalez. *J Clin Invest*. **111**(5):737-747, 2003.

A progeroid syndrome in mice is caused by defects in A-type lamins. Mounkes LC, S Kozlov, L Hernandez, T Sullivan, and CL Stewart. *Nature*. **423**(6937):298-301, 2003.

Treatment Modalities

Inhibition of DNA methylation and reactivation of silenced genes by zebularine. Cheng JC, CB Matsen, FA Gonzales, W Ye, S Greer, VE Marquez, PA Jones, and EU Selker. *J Natl Cancer Inst*. **95**(5):399-409, 2003.

Cytokines

IL-7 therapy dramatically alters peripheral T-cell homeostasis in normal and SIV-infected nonhuman primates. Fry TJ, M Moniuszko, S Creekmore, SJ Donohue, DC Douek, S Giardina, TT Hecht,

BJ Hill, K Komschlies, J Tomaszewski, G Franchini, and CL Mackall. *Blood*. **101**(6):2294-2299, 2003.

Genetics

Identification of Vangl2 and Scrb1 as planar polarity genes in mammals. Montcouquiol M, RA Rachel, PJ Lanford, NG Copeland, NA Jenkins, and MW Kelley. *Nature*. **423**(6936):173-177, 2003.

The genome sequence of *Bacillus anthracis* Ames and comparison to closely related bacteria. Read TD, SN Peterson, N Tourasse, LW Baillie, IT Paulsen, KE Nelson, H Tettelin, DE Fouts, JA Eisen, SR Gill, EK Holtzapple, OA Okstad, E Helgason, J Rilstone, M Wu, JF Kolonay, MJ Beanan, RJ Dodson, LM Brinkac, M Gwinn, RT DeBoy, R Madpu, SC Daugherty, AS Durkin, DH Haft, WC Nelson, JD Peterson, M Pop, HM Khouri, D Radune, JL Benton, Y Mahamoud, LX Jiang, IR Hance, JF Weidman, KJ Berry, RD Plaut, AM Wolf, KL Watkins, WC Nierman, A Hazen, R Cline, C Redmond, JE Thwaite, O White, SL Salzberg, B Thomason, AM Friedlander, TM Koehler, PC Hanna, AB Kolsto, and CM Fraser. *Nature*. **423**(6935):81-86, 2003.

Evidence for CD4-enhanced signaling through the chemokine receptor CCR5. Staudinger R, SK Phogat, XD Xiao, XH Wang, DS Dimitrov, and S Zolla-Pazner. *J Biol Chem*. **278**(12):10389-10392, 2003.

Transcription start regions in the human genome are favored targets for MLV integration. Wu XL, Y Li, B Crise, and SM Burgess. *Science*. **300**(5626):1749-1751, 2003.

Evi3, a common retroviral integration site in murine B-cell lymphoma, encodes an EBFAZ-related Kruppel-like zinc finger protein. Warming S, P Liu, T Suzuki, K Akagi, S Lindtner, GN Pavlakakis, NA Jenkins, and NG Copeland. *Blood*. **101**(5):1934-1940, 2003.

Immunology

Antigen-primed CD8(+) T cells can mediate resistance, preventing allogeneic marrow engraftment in the simultaneous absence of perforin-, CD95L-, TNFR1- and TRAIL-dependent killing. Komatsu M, M Mammolenti, M Jones, R Jurecic, TJ Sayers, and RB Levy. *Blood*. **101**(10):3991-3999, 2003.

Bcl11a is essential for normal lymphoid development. Liu PT, JR Keller, M Ortiz, L Tessarollo, RA Rachel, T Nakamura, NA Jenkins, and NG Copeland. *Nat Immunol*. **4**(6):525-532, 2003.

Zinc binding and dimerization of *Streptococcus pyogenes* pyrogenic exotoxin C are not essential for T-cell stimulation. Swietnicki W, AM Barnie, BK Dyas, and RG Ulrich. *J Biol Chem*. **278**(11):9885-9895, 2003.

Genome-wide single-nucleotide polymorphism analysis defines haplotype patterns in mouse. Wiltshire T, MT Pletcher, S Batalov, SW Barnes, LM Tarantino, MP Cooke, H Wu, K Smylie, A Santrosyan, NG Copeland, NA Jenkins, F Kalush, RJ Mural, RJ Glynne, SA Kay, MD Adams, and CF Fletcher. *Proc Natl Acad Sci USA*. **100**(6):3380-3385, 2003.

Protein Chemistry

Modulating sphingolipid biosynthetic pathway rescues photoreceptor degeneration. Acharya U, S Patel, E Koundakjian, K Nagashima, X Han, and JK Acharya. *Science*. **299**(5613):1740-1743, 2003.

Tome-1, a trigger of mitotic entry, is degraded during G1 via the APC. Ayad NG, S Rankin, M Murakami, J Jebanathirajah, S Gygi, and MW Kirschner. *Cell*. **113**(1):101-113, 2003.

The BDNF val66met polymorphism affects activity-dependent secretion of BDNF and human memory and hippocampal function. Egan MF, M Kojima,

JH Callicott, TE Goldberg, BS Kolachana, A Bertolino, E Zaitsev, B Gold, D Goldman, M Dean, B Lu, and DR Weinberger. *Cell*. **112**(2):257-269, 2003.

Identification of critical residues of an immunodominant region of Echinococcus granulosus antigen B. Gonzalez-Sapienza G and RE Cachau. *J Biol Chem*. **278**(22):20179-20184, 2003.

CD2-associated protein haploinsufficiency is linked to glomerular disease susceptibility. Kim JM, H Wu, G Green, CA Winkler, JB Kopp, JH Miner, ER Unanue, and AS Shaw. *Science*. **300**(5623):1298-1300, 2003.

Phage HK022 nun protein represses translation of phage lambda N (transcription termination/translation repression). Kim HC, JG Zhou, HR Wilson, G Mogilnitskiy, DL Court, and ME Gottesman. *Proc Natl Acad Sci USA*. **100**(9):5308-5312, 2003.

Protein-protein interactions: Structurally conserved residues distinguish between binding sites and exposed protein surfaces. Ma BY, T Elkayam, H Wolfson, and R Nussinov. *Proc Natl Acad Sci USA*. **100**(10):5772-5777, 2003.

Structural basis for DNA recognition by the basic region leucine zipper transcription factor CCAAT/enhancer-binding protein alpha. Miller M, JD Shuman, T Sebastian, Z Dauter, and PF Johnson. *J Biol Chem*. **278**(17):15178-15184, 2003.

Identification and characterization of a novel Ste20/germinal center kinase-related kinase, polyploidy-associated protein kinase. Nishigaki K, D Thompson, T Yugawa, K Rulli, C Hanson, J Cmarik, JS Gutkind, H Teramoto, and S Ruscetti. *J Biol Chem*. **278**(15):13520-13530, 2003.

Trapping HIV-1 reverse transcriptase before and after translocation on DNA. Sarafianos SG, AD Clark, S Tuske, CJ Squire, K Das, DQ Sheng, P Ilankumar, AR Ramesha, H Kroth, JM Sayer, DM Jerina, PL Boyer, SH Hughes, and E Arnold. *J Biol Chem*. **278**(18):16280-16288, 2003.

Receptors

Restricting Zap70 expression to CD4(+)CD8(+) thymocytes reveals a T-cell receptor-dependent proofreading mechanism controlling the completion of positive selection. Liu XL, A Adams, KF Wildt, B Aronow, L Feigenbaum, and R Bosselut. *J Exper Med*. **197**(3):363-373, 2003.

Signaling through MHC in transgenic mice generates a population of memory phenotype cytolytic cells that lack TCR. McFarland HI, SA Hansal, DI Morris, DW McVicar, PE Love, and AS Rosenberg. *Blood*. **101**(11):4520-4528, 2003.

Forced entry – or does HTLV-I have the key? Derse D and G Heidecker. *Science*. **299**(5613):1670-1671, 2003.

Regulation of the cell-surface expression of an HTLV-1 binding protein in human T cells during immune activation. Nath MD, FW Ruscetti, C Petrow-Sadowski, and KS Jones. *Blood*. **101**(8):3085-3092, 2003.

Cellular Transformation

Hyaluronidase 2 negatively regulates RON receptor tyrosine kinase and mediates transformation of epithelial cells by jaagsiekte sheep retrovirus. Danilkovitch-Miagkova A, FM Duh, I Kuzmin, D Angeloni, SL Liu, AD Miller, and MI Lerman. *Proc Natl Acad Sci USA*. **100**(8):4580-4585, 2003. ♦

The Student Intern Program: A Fresh Perspective on Working at NCI-Frederick

Editor's note: Occasionally, we run articles about one of our various outreach programs, most often from the point of view of how our scientists, administrators and/or support personnel are participating, or what the latest event was. Here's a fresh look at what we do, from the perspective of April Munroe, a senior at Brunswick High School and an intern at the Biological Testing Branch; her mentors are Drs. Susanna Rybak and Diane Newton.

My first two weeks at NCI-Frederick were nerve-racking. I was working with top-notch scientists and cutting-edge technology—the opportunity of a lifetime—and yet I was constantly dropping test tubes and cross-contaminating solutions. Every minute I thought I was going to be fired. I felt like a failure.

It wasn't until our first lab picnic at the Detrick pond that my outlook finally began to change. Looking around me, I saw not only a group of scientists, but a group of people. They didn't discuss work; they discussed politics, gardening, green cards, and the World Cup. They talked about their experiences and the places they

had come from. An American pre-med student had just graduated from NYU and was trying to get into med school; a post-doctoral fellow had uprooted his family from Vietnam and was starting over in the United States; a husband and wife from Germany had both been able to find positions in the lab; and, a newly hired scientist had just arrived from India. Even my mentor had come to the US from China only a couple of years ago. I realized then that being out of place was a learning experience in itself.

During those first weeks at NCI-Frederick, I discovered something about myself that had been lost in the routine classroom. I wanted to learn; I wanted to be thrown into new situations. It was the reason I was eager to come back to the lab day after day despite the obstacles. I wasn't there to give my expert advice on cloning or to impress my colleagues, and I wasn't there just to make a grade. I showed up every morning ready for a new idea, a new challenge. I've



worked at the lab for nearly a year now, and I still break an occasional test tube, or contaminate DNA, or even sometimes wreck an entire experiment. But I've learned that just making the most of an experience can make a difference.

I plan to attend New York University and major in biology. ♦

Career Camp 2003

Several staff members volunteered at the Frederick County Public Schools Career Camp sponsored by the Frederick County Career & Technology Center. The Camp exposes students to both skilled and professional careers so they can make informed decisions regarding their future careers and educational choices. Although the Camp is available to all current 6th, 7th, and 8th graders and is in its 11th year, this is the first year the NCI-Frederick has been involved. Our volunteers provided support and assistance to the teachers either through consultation or actual classroom teaching. We hope to expand our involvement in the Camp in the years to come. Several

volunteers toured the facility on June 25th and were quite impressed with the class offerings, the teachers, and the facility. ♦

National Youth Leadership Forum on Medicine (NYLFM)

A group of 20 students from the NYLFM (http://www.nylf.org/med/med_home.html) visited the NCI-Frederick on Wednesday, July 9th. The NYLFM introduces outstanding high school students to the ever-important world of medicine. Since 1993, the 10-day program has introduced students to professionals from some of the nation's top medical centers and faculty from renowned institutions

of learning and research facilities. This year, the group toured the Natural Products Repository, visited laboratories, and heard lectures on related subjects. ♦

Mentoring Workshop

This fall, the NCI Fellowship Office will offer Part II of the successful mentoring workshop given on April 24th at NCI-Frederick. Details about this workshop will be disseminated once they are finalized. ♦

NCI Fellowship Office

The NCI Fellowship Office has regular hours in Building 578 on the second and fourth Mondays of every month. You may make an appointment by calling 301-496-4796. ♦

Office of Diversity and Employee Programs

Diversity Grand Rounds Lecture Series

The second Diversity Grand Rounds seminar in a four-part series was held on June 10th with a presentation by Dr. Steven Long-Nguyen Robbins, Director of the Woodrick Institute for the Study of Racism and Diversity at Aquinas College. About 25 people attended the 90-minute seminar, entitled “Unintentional Intolerance: What You Think You Know Might Hurt Others.” Attendees were treated to a spirited interactive session during which Dr. Robbins related humorous anecdotes about individual perceptions, group dynamics, and how cultural differences influence our work and personal interactions.



The next presentation will be on September 11 at 1:00 p.m. in the Building 426 Conference Room; Ms. Annette Merritt Cummings, Director of Diversity Services, Bernard Hodes Groups, will speak on “Diversity Management and Its Impact on Organizational Effectiveness.” This series is sponsored by the NCI’s Office of Diversity and Employment Programs (ODEP) and all are welcome. ♦



Celebrating Diversity

The **Frederick Employee Diversity Team (F-EDT)** has been celebrating diversity since the summer of 2001. The F-EDT’s mission is to create opportunities, sponsor activities, and develop outreach and education initiatives that

- Foster respect for all employees on the Frederick campus;
- Celebrate the rich diversity that age, race, gender, ability, personality, culture, national origin, religious beliefs, sexual orientation, veteran status, marital status, job classification and other personal and organizational characteristics bring to the workplace;
- Create and maintain a work environment that values differences and similarities among all employees and promotes

productivity, work quality, equity, and respectful communication.

The F-EDT seeks to accomplish these goals by sponsoring special events. Past events have included an Oktoberfest celebration, the Bernetta R. Brown Young, Gifted and Black Dance Troupe, a Reggae Festival, and the Fidos for Freedom program. Ongoing EDT-sponsored projects include

- Building 549 Diversity Café—exploring different cultures through cinema;
- Cafeteria Diversity Display Case—exhibiting those items that represent the wonderful complexity of cultures coexisting at NCI-Frederick; and
- The World Map, next to the Display Case in 549 Cafeteria—

NCI-Frederick and Fort Detrick “families” are encouraged to place pins locating their geographic origins.

The F-EDT also collaborates with the Army’s Equal Employment Opportunity (EEO) office to promote camaraderie between civilian and military personnel. Past combined observances have included African-American History month and Women’s History month celebrations. The F-EDT conducts an annual ticket raffle for the Army-sponsored Hawaiian Luau, traditionally held on the Friday after the Spring Research Festival.

The F-EDT plans to launch several initiatives in the coming months, including a Diversity website to feature information about EDT activities. In the next Poster issue, we will profile the F-EDT members. ♦

A Case for Health Promotion in Our Workplace

An Editorial by Carol Tobias

Is it responsible stewardship, good business, or just a nice thing to do? Putting time, effort and money into health promotion activities may not appear to be a prudent use of the Occupational Health Services (OHS) budget. But at OHS, we think it is, and we're not alone.

A couple of years ago I attended the Mid-Atlantic Regional Conference on Occupational Medicine, where Edward A. Emmett, MD, MS, spoke about "Strategic Opportunities in Occupational Health," such as health promotion in the work place. Dr. Emmett discussed reducing the impact of non-occupational injury and disease on the workplace by advocating for control of chronic disease. By monitoring, educating, and following employees, occupational health professionals can curb the loss of quality of life and productivity caused by diabetes, hypertension, and hyperlipidemia.

More recently, in a similar vein, on May 13, 2003, at the American Industrial Hygiene Conference and Exposition, John Howard, Director of the National Institute for Occupational Safety and Health (NIOSH) spoke on the growth of chronic diseases such as obesity and diabetes, and how a focus on health promotion would help ensure the "workability" of the workforce. He also spoke about the overlap in disease causation and the cost-effectiveness of combining occupational health with aspects of public health.

What does this mean for NCI-Frederick? OHS has a long history of caring for the employees, students and volunteers on campus and off-site. We don't see sick people as machines with broken parts that need to be

fixed. Rather, we follow a "nursing" model: we see each of you as a part of a greater whole—your work team, family unit, friendships, neighborhood, etc. We might ask about non-work activities, safety behaviors, and demographic-recognized risks because they may be affecting your ability to do your job. We want you able to perform your entire job at the highest functioning level possible.

Maintaining a Healthy Workforce

Part of maintaining a healthy work force is knowing the health risks of each age group: Accidental injuries in youth; stress of balancing work and extended family in middle age; physical debilitations that develop with undiagnosed and untreated chronic illness as the work force ages. Promoting health includes knowing what to look for.

Safety Training

OHS participates with the rest of EHS in a mandatory full day of safety training for the high school students before they begin working here; despite that, year after year we treat our newly oriented student population* for work-related accidents. All workers must maintain vigilance in the laboratory at all times.

Employee Assistance

Family and work stresses of adulthood are reflected in both your emotional and physical health. The Employee Assistance Program coordinator counsels employees and their family members or refers them as needed. The nurses or nurse practitioners often determine that physical symptoms are tied to stress, and work to resolve the underlying cause as well as the chief complaint.

Chronic disease management is not in the mandate of occupational health. Our staff does not take the place of a

primary care provider or specialist. However, we do help identify conditions, monitor some parameters, and provide options for seeking further care. We have a blood pressure clinic to take and store readings, and because of the broad panel we negotiated for, our periodic laboratory work-up does contain information that can be helpful to other providers. We also believe in age-, lifestyle- and gender-appropriate cancer screenings. That we would be at the National Cancer Institute and not screen for melanomas, colorectal, breast, cervical, prostate and other cancers whenever possible would be hypocritical. We also counsel you about ways to curb tobacco use, achieve weight loss, and improve fitness.

Occupational Health Services is dedicated to serving the NCI-Frederick population by promoting a healthy lifestyle. Is it responsible stewardship, good business or a nice thing to do? Yes. Can we do it all? No. We must cover all directly occupational services first. But when we evaluate your injured shoulder, we may well take your blood pressure, check that mole on your back, and ask if you're ready to quit smoking.

* As of July 1, 2003, we had treated two students who started work here in June – one had a chemical burn, one had an eye splash. ♦

Environment, Health, and Safety Program

Everything You Want to Know About Crosswalks (But Were Afraid to Ask)

It's no secret that whether you're walking or driving, you'll find the numerous roads on the NCI-Frederick campus heavily traveled each day, so that entering crosswalks can be potentially dangerous. This article will provide guidelines on your responsibilities, whether pedestrian or driver, in regard to crosswalks.

- Right-of-way does not relieve you from exercising due care. In other words, you must look both ways before entering a crosswalk.

- Only after you enter a crosswalk with no vehicles in the immediate vicinity do you possess right-of-way. You may not step into the path of an oncoming vehicle simply because you have entered the crosswalk.
- As a driver, you should come to a stop when a pedestrian is crossing the roadway in a crosswalk.
- As a pedestrian, you must not suddenly leave a curb or other place of safety and walk or run into the path of a vehicle so close that it is impossible for the driver to yield.
- Whether you are the pedestrian or the vehicle operator, you must use

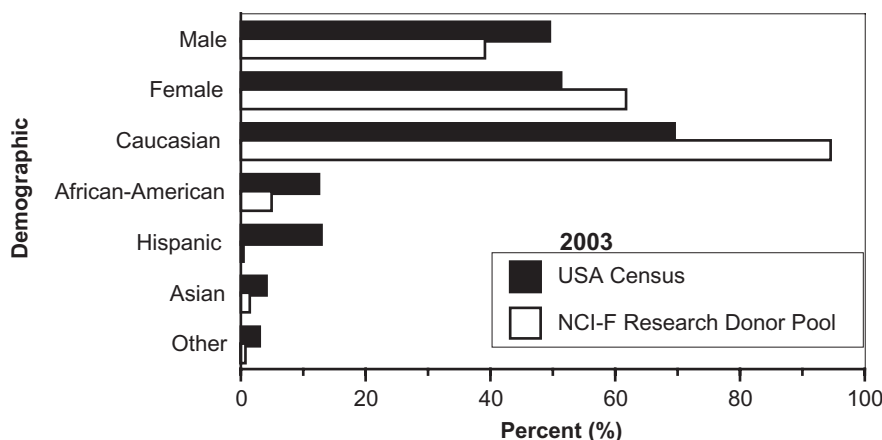
reasonable care and diligence to avoid injury, no matter who has the right of way.



For more information, call Protective Services at 301-846-1091. ♦

Diverse Donors Needed

Through the **Research Donor Program (RDP)**, Occupational Health Services provides control blood samples to NCI-Frederick laboratories. As research controls, the samples should be representative of the American population demographics. However, if you are a Caucasian or female, you are over-represented; every other group is under-represented. To close the gap, those who are under-represented must want to have NCI-Frederick control samples represent them. Although we do not recruit particular groups, we encourage all employees to consider joining the donor pool.



Frequently Asked Questions:

Am I paid for my discomfort and inconvenience if I donate?

YES! The pay scale increases with the volume you donate. Most donations pay \$10, but if you are asked for more than one donation or more than 101 cc, you will be paid more. Visit our website <http://home.ncifcrf.gov/ehs/ehs.asp?id=14>, or pick up a brochure at OHS.

How do I sign up for the donor program?

Send a note with your name and contact information to request inclusion to "Donor Program, OHS, Bldg 426," or e-mail ohs@mail.ncifcrf.gov. The eligibility criteria are listed on the website.

How can I find out more about the program?

See the website above, or pick up a brochure for complete details. Training classes are held periodically, during which the program is explained and consent forms are filled out. Participants can decline at any time and are usually called every couple of months.

What can the researcher find out about me?

The program is double-blind: you are never told what laboratory or clinical study your blood is used for and the researchers do not know who donates the specimen (the laboratory receives the specimen labeled with a number). Privacy laws also protect any identifiable information. ♦

Special Events

Take Your Child To Work Day



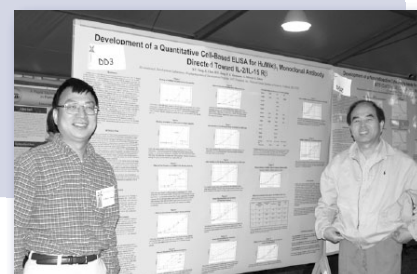
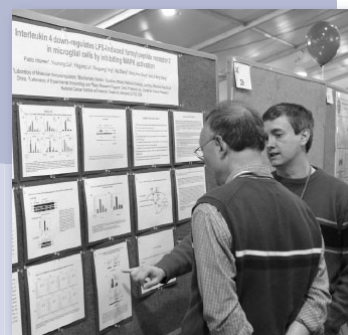
TYCTWD 2003 was held Wednesday, July 23rd. Children participated in 23 sponsored programs for which the children must register and a lot of wonderful Hub activities. Volunteers and Program Sponsors worked very hard to make this day a meaningful experience for employees of the NCI-Frederick and Fort Detrick and their children. ♦



Special Events

Spring Research Festival

May 14 & 15, 2003



Special Events

Spring Research Festival Award Winners

One of the only chances we have to survey the varied cancer-related research that goes on at NCI-Frederick is the annual Spring Research Festival. However, this year the celebration has lingered long into summer as the Conference Center has displayed small groups of winning posters each week. But just in case you've missed those poster displays or haven't seen the website, here is a list of the winning posters.

Postdoctoral Category Gold Award

Structural Biology and Chemistry

Kyeong Lee, Laboratory of Medicinal Chemistry (LMC), Center for Cancer Research (CCR), NCI-Frederick: Tripeptide Inhibitors of Yersinia Protein-Tyrosine Phosphatase as Potential Leads for Therapeutic Development Against Plague

Virology

Mathias Viard, Laboratory of Experimental and Computational Biology, NCI-Frederick: A Proteomic Approach to the Study of HIV Entry

Cancer Biology

Ye Zhou, Laboratory of Molecular Immunoregulation, NCI-Frederick: Activation of Formylpeptide Receptor (FPR) in Malignant Astrocytoma Cells Promotes the Production of Vascular Endothelial Growth Factor (VEGF)

Molecular Biology

Kelly A. Harrison, Basic Research Laboratory (BRL), NCI-Frederick: Transcriptional Regulation of Smarcf1, a Member of the SWI/SNF Complex, During Adipogenesis

Immunology

Jeremy Perkins, Laboratory of Experimental Immunobiology (LEI), NCI-Frederick: CpG Activation of Murine NK Cells Apparently Dependent upon Dendritic Cells

Silver Award

Virology

Li Wu, HIV Drug Resistance Program, NCI-Frederick: Variable Efficiency of HIV-1 Transmission by Different DC Sign-Expressing Cell Lines

Cancer Biology

Thomas Sebastian, Regulation of Cell Growth Laboratory, NCI-Frederick: C/EBP β Is an Effector of Oncogenic Ras-induced Cell Cycle Arrest

Molecular Biology

Susan Lindtner, BRL, NCI-Frederick: Function of the RNA Transport Element (RTE) and Identification of Cellular Binding Factors Possibly Participating in Export

Cancer Biology

Karen R. Rulli, BRL, NCI-Frederick: The Envelope Glycoprotein of Friend Spleen Focus-Forming Virus Deregulates Erythropoiesis by Activating a Truncated Met-Related Tyrosine Kinase

Drug Development and Delivery

Zhen-Dan Shi, Chang-Qing Wei, Yang Gao, James Vasselli, Manchao Zhang, Hongpeng Liu, Dajun Yang, Marston Linehan and Terrence Burke, Jr. LMC, NCI-Frederick: Design of Non Phosphorus-Containing Grb2 SH2 Domain Binding Ligands that Exhibit High Affinity in Cell-based Assays

Molecular Biology

Fang Yuan, Quantitative Molecular Diagnostics Section, Retroviral Pathogenesis Laboratory, AIDS Vaccine Program, SAIC-Frederick, Inc., NCI-Frederick: Sensitive Highly Discriminant RT-PCR Assay Method for Quantitative Analysis of Point Mutations in SIV Genome

Diagnostics and Therapeutics

Christopher Cote, Bacteriology Division, USAMRIID: A Sensitive Fluorescence Assay for the Quantitative Determination of Spore Germination Inhibitory Activity of Antibodies to *B. anthracis*

Technicians Category

Gold Award

Virology

Thomas Parks, Viral Epidemiology Section, AIDS Vaccine Program, SAIC-Frederick, Inc., NCI-Frederick: A Real-Time PCR-based Assay for the Detection of Retroviruses

New Technology

Doug Hosack, Laboratory of Immunopathogenesis and Bioinformatics (LIB), Clinical Services Program, SAIC-Freder-

ick, Inc., NCI-Frederick: Finding Biological Themes in Microarray-derived Gene Lists with EASE

Biochemistry

Rowena Schokman, Toxinology Division, USAMRIID: Ebola VP40 Protein Interaction with Membrane Lipids

Cancer Biology

Alan Brooks, LEI, SAIC-Frederick, Inc., NCI-Frederick: The Proteasome Inhibitor PS-341 Sensitizes Neoplastic Cells to TRAIL-mediated Apoptosis by Reducing Levels of c-FLIP

Virology

David Morcock, AIDS Vaccine Program, SAIC-Frederick, Inc., NCI-Frederick: Viral Inactivation by Covalent Modification of Cysteines in HIV-1 Nucleocapsid Protein

Silver Award

Diagnostics and Therapeutics

Steven J. Moon, GEO-CENTERS, Inc., Diagnostic Systems and Pathology Divisions, USAMRIID: Detection of Viral RNA from Paraffin-embedded Tissues after Prolonged Formalin Fixation

Molecular Biology

A. Nichole Hoffman, Retroviral Pathogenesis Laboratory, AIDS Vaccine Program, SAIC-Frederick, Inc., NCI-Frederick: Rapid, Ultrasensitive Plasma SIV RNA Assay—How Low Can You Go?

Biochemistry

Colleen A. McHugh, Department of Cell Biology and Biochemistry, USAMRIID: Folding of a Stable Sub-Domain of the Ricin A Chain

New Technology

Wei Gao, LIB, Clinical Services Program, SAIC-Frederick, Inc.; and Laboratory of Immunoregulation, National Institute of Allergy and Infectious Diseases, National Institutes of Health: A Graphical Environment for the Analysis and Visualization of Genome-Scale Datasets

Immunology

Matthew Morrow, Human Retrovirus Section, BRL, CCR, NCI-Frederick: Specific Depletion of CD27+B220-Memory B Cells in HIV-1 Infected Individuals

Aikido - A Closer Look

Vaccines and Gene Therapy

J.L. Meyers, Bacteriology Division, USAMRIID; CpG Oligonucleotide as an Adjuvant Modulates the Immune Response in BALB/c Mice to the *Yersinia pestis* F1-V Plague Vaccine

Student Category Gold Award Cancer Biology

Halina Zakowicz, Gene Regulation Section, CCR, NCI-Frederick: Pdcd4: A Novel Tumor Suppressor Protein that Interacts with eIF4A and eIF4G

Molecular Biology

Laura Ewing, USDA FDWSRU: Gene Expression Analysis of the Soybean Rust Fungus, *Phakopsora pachyrhizi*, Using Real Time RT-PCR

Developmental and Cell Biology

Vera A. Voronina, Cancer and Developmental Biology Laboratory, NCI-Frederick: Conditional Inactivation of the Retinal Homeobox Gene Leads to Anophthalmia

Silver Award New Technology

Noureen Khan, Laboratory of Comparative Carcinogenesis, NCI-Frederick: Quantitative Assessment with Reverse Transcription—Polymerase Chain Reaction Analysis Gene Profiling to Identify Genes Controlling Cell Proliferation

Immunology

Trevor J Schmader, Toxinology Division, USAMRIID: Characterization of Monoclonal Antibodies against Streptococcal Pyrogenic Exotoxin A

Cancer Biology

Shannon Mort, Gene Regulation Section, BRL: Creating a Tet-regulated Dominant Negative Jun Expression Vector to Control Tumor Promotion ♦

continued from page 3

a third-degree black belt, the last physical test in aikido. “After that, everything is based on how your students do, more than how you do.” Following tradition, Aikido bestows teaching licenses, or *menkyo*. Like the belts, *menkyo* have different levels: beginning, intermediate, and mastery-of-all-techniques. Jack’s teacher, Clyde Takaguchi, of Silver Spring, Maryland, has recommended him for the first level, *Fuku Shidojin*.

Frederick Classes

Having trained in Washington, DC, with Takaguchi Sensei, Jack knew many members of the Frederick aikido club, Capital Aikikai of Frederick. When he began working here in 2001 and became chief instructor of that club, he chose to move it on base.

Jack holds classes for on- and off-base personnel in the Fort Detrick Fitness Center, Monday and Wednesday, 7:30 to 8:30 p.m., and Friday, 6:30 to 8:00. He says, “We have classes three days a week. Our Friday night class is devoted to weapons and randori, or freestyle, any attack and any defense. We usually have between 10 and 15 people on the mat each night. I think our roster is up to 25 students currently.”

Club members can also choose to train at the main Dojo in Silver Spring where classes are held seven days a week.

Jack admits that initially training can be painful. “When you are learning how to fall and roll, it really does feel like someone has taken a 2 x 4 and beaten you over the back with it. Just coming to terms with how to roll and be comfortable on a mat is the hardest process for people to get over.

Jack emphasizes that “In other martial arts, you are trying to beat an opponent. In aikido, we are partners, two people who work to understand and do a technique. I would say it is totally unique in terms of martial arts.

Since it is a throwing art, in practice, you throw someone four times and they throw you four times. So there is always this partnership.”

He continues, “Aikido is for everybody. My youngest student is 10 and my oldest student is 74.” Aikido includes many women, Jack points out, “primarily because the focus is not on strength. Few other martial arts, other than those developed specifically for women, have such a high ratio of female practitioners,” he explains.

“I recommend anybody who is interested to come and watch a class, because it is only by watching that you can start to see what is happening. Then who knows, they may become addicted to the movement like I was!” ♦

Visit *The Poster* website (<http://web.ncifcrf.gov/campus/publications/>) to learn more about

- Why Dr. Simpson became interested in aikido
- What weapons are studied in aikido
- How aikido differs from jujitsu and tae kwon do
- Why, initially, women may be better than men at aikido
- How the founder of aikido thought it could help resolve world conflicts.

For further information, also check out these websites:

<http://www.contemplator.com/aikido/index.htm> (Capital Aikikai of Frederick, MD)

<http://www.capitalaikikai.org> (Capital Aikikai of Silver Spring, MD)

<http://www.aikidofaq.com/introduction.html> (General questions and answers about aikido)

<http://www.aikido.gaeta.org/gallery.html> (Video of Dr. Simpson demonstrating aikido moves). ♦

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Job Openings

SAIC-Frederick, Inc.

Animal Caretaker I: positions require completion of 8th grade or equivalent; 1 year of previous work experience and the ability to lift and carry up to 50 lbs.

Research Technicians (various laboratories): positions require BS degree or equivalent (4 years) related biomedical research experience.

Sr. Research Technicians (various laboratories): positions require BS degree or equivalent plus 2 years of related biomedical experience.



SAIC-Frederick, Inc.
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Research Associates (various laboratories): positions require BS degree or equivalent plus 4 years of related biomedical experience.

Clinical Research Associates (various levels), Clinical Monitoring Research Program: positions require minimum of BS degree (preferably in a scientific discipline, BSN, or pharmacy) and a minimum of 2 years directly related experience overseeing multiple concurrent clinical trials.

For a complete listing of all open positions, or to apply for posted openings, please visit our website at: <http://saic.ncifcrf.gov>

Research and Training Opportunities

Please contact the individual contractor's human resources representative or go to the contractor's Web site for up-to-date, detailed information and job requirements.

Charles River Laboratories

<http://www.criver.com>

Data Management Services

<http://css.ncifcrf.gov/about/dms.html>

National Cancer Institute at Frederick

<http://www.training.nih.gov/postdoctoral>

SAIC-Frederick, Inc.

<http://saic.ncifcrf.gov>

Wilson Information Services Corporation

<http://www-library@ncifcrf.gov>

The National Cancer Institute at Frederick

Poster

Frederick, MD 21702-1201

Aikido - A Closer Look

Aikido: The Way of Harmony

A delightful aspect of our annual Spring Research Festival is that we see not only the extraordinary research our scientists do, but we also glimpse other paths they follow. A few years ago, we were treated to scientists performing the blues, showing their skills at scales other than laboratory ones.

One of those who follow two apparently different paths is Dr. Jack Simpson, a scientist in the Protein Chemistry Laboratory, SAIC-Frederick, Inc. In June, he presented at the Research Technology Program's Staff Seminar, speaking on "Nitrocellulose Purification of BIAcore® and Serum Samples for MALDI-TOF." And earlier, at the Spring Research Festival, we saw a more physical side as he and his colleagues demonstrated the art of aikido.

Although science and martial arts may seem very different, for Jack they merge almost seamlessly in his life. "Aikido is not a sport; it's traditional *Budo*, or a martial way of life. My big challenge is to use aikido in my career, to use it when I have questions from a seminar, or verbal attacks. How can



I get off the line of that attack, find the source of that conflict, and resolve it? Many people now use aikido in resolution conflict in social work and things like that, just because of that philosophy," he explains.

Aikido Teaches You About Yourself

People study aikido to learn self-defense, to exercise, to be comfortable with their own body movement, and even to develop spiritually, although aikido is not a religion. Aikido can help people with both confidence and concentration, to know their weaknesses and strengths, and to defend themselves. "A lot of how I have changed has been confidence in myself. I used to get very apprehensive and freeze up on school exams, but once I started studying martial arts, I would take five to ten minutes before an exam to do breathing exercises. And my exam scores went right up, because I was relaxed and I could think."

He continues, "Aikido teaches you about yourself: What you can do well, what you need to work on, what you want to work on." Often, a person's demeanor, normally unassuming, may be much more fierce "on the mat" in aikido. "That comes from inside, and it takes a long time to understand how to control and tap into it when you want to. One of my students said I physically get bigger on the mat," he says.

The techniques limber the joints, stretching tendons and ligaments that have not been stretched before. Because aikido can be used as self-

defense without physically damaging one's opponent, police officers, MPs, and secret service agents use it, as well as other forms of martial arts. "Performed properly, no permanent damage is ever done, another reason that it is different from other martial arts. And one of the more difficult aspects of it, with all of this negative energy, all this aggression coming at you, your goal is not only to negate that attack but not to hurt the person that is doing it. In tae kwon do or karate, I may punch someone and break their ribs. Yeah, we have stopped the attack, but now we have issues in terms of was too much force used, did the situation say that I should do that? In aikido I can immobilize that person and not break anything."

Jack explains, "Aikido is all pain compliance, usually a pin where, if they move, maybe their shoulder comes out of joint or their elbow comes out of joint or their neck snaps. So they don't want to move because moving would be more painful. Relatively speaking, the pins in aikido are easy for you, effective on your opponent, and there is no amount of physical exertion that you have to have to do that. Aikido is not based on strength." Jack says that most people don't realize that learning to relax is a martial arts technique. You can use it to calm yourself in almost any situation—taking exams, presenting seminars, responding to road rage on the Beltway or to a family argument. Jack explains that "You can take yourself out of that, concentrate on your breathing, and come back to the center, and things work out."

Aikido - A Closer Look

The founder of Aikido believed his principles could be used to reconcile the world's problems. "You can now use that partnership or that concept of taking an attack, physical or verbal, and move off the line of that, try to negate it and bring it to a conclusion where both people are satisfied."

Early Interest in Martial Arts

Even as a child, Jack was fascinated by Eastern mysticism as exemplified in the old television series, "Kung Fu." Later, when a car accident ended his competitive swimming career in his senior year of college, he turned to martial arts. In graduate school in Texas, he earned his first degree black belt and a second-degree black belt in hapkido, a Korean art, and was chief instructor at the Texas A&M Self-Defense Club. When he began his first job (in Syracuse, New York), he found no hapkido school, so he decided to observe an aikido class. "I really became infatuated and amazed by the movement of aikido, which has been called 'moving Zen,'" he says.

In terms of testing and taking rank exams, Jack began anew, removing the hapkido black belt and tying on a new white belt. This November, he will test for third-degree black belt, the last physical test in aikido. "After that, everything is based on how your students do, more than how you do."

Earning the Black Belt

Before a martial arts student can earn a black belt, he or she must usually advance through several non-degree "grades." For instance, in tae kwon do, students begin with the Tenth *kyu* and then progress to the First *kyu*, after which they begin to earn black belts, the first of which is called a "beginning" belt, or *shodan*, in

Japanese. "You are just starting at that point, once you have your first black belt," Jack says.

The final, tenth-degree black belt is usually reserved for the founders of the various systems of martial arts. "In Asian culture, martial arts were traditionally family systems, so it would usually be a family name followed by *Ryu*, meaning 'school' or 'system.' For instance, *Daito Ryu*, which aikido and hapkido stem from, is named after the Daito family. Aikido was at one point called *Ueshiba Ryu* because Ueshiba Sensei founded aikido," Jack notes.

Following tradition, Aikido bestows teaching licenses, or *menkyo*. Like the belts, *menkyo* have different levels: beginning, intermediate, and mastery-of-all-techniques. Jack's teacher, Clyde Takaguchi, of Silver Spring, Maryland, has recommended him for the first level, *Fuku Shidojin*.



Having trained in Washington, DC, with Takaguchi Sensei, Jack knew many members of the more than 15-year-old Frederick aikido club, Capital Aikikai of Frederick. When he began working here in 2001 and became chief instructor of that club, he chose to move it on base.

How long does it take to earn that first degree black belt? Jack replies with a chuckle, "The more often they ask, the longer it takes." Jack explains that by focusing on the belt rather than on the stages of learning, one "loses

track of the reason that you are in martial arts: in my opinion, it is the journey and not where you want to get to [that is important.]"

He adds that, realistically, achieving the first-degree black belt may take as long as 10 years. "And that is the way it should be for any real martial art," he says. "You hear about people who get black belts in one or two years and, unless they train six days a week, 6-7 hours a day, it is not real. For a student to progress, then at least 2 to 3 times a week is pretty much what you need to do to progress at a good level. There has always been a mystique to going back to Japan, Korea or China to train; in reality the leaders of a particular martial art send their best instructors to other countries because they want to put their best face forward. So the real masters are not only in Asia but all over the world now. You have as good an opportunity to train with really amazing people in Washington, D.C., as you do in Tokyo."

Martial arts also teach visualization, a technique Jack says is critical for the traditional brick-breaking. "In jujitsu, we used to break two-inch concrete slabs. The preparation is complete focus and visualization. You mentally see yourself breaking the bricks before it happens, so that in your mind's eye it has already happened and you have already completed that task successfully. In aikido, visualization is also important, except that the final thing that you want to do is not known. In other words, in aikido, and again this is true of real *Budo*, for you to do the technique properly you can't be 'there.' You have to let go of self to allow the technique to happen. Much martial arts training is to get rid of your ego, because if you think of 'me' doing something, 'I' have limitations: I am this tall, this heavy, and this strong. If I let go of 'me,' then anything can happen. And that is when it is real cool and why you take it as a path for a long time. When I first started

Aikido - A Closer Look

in jujitsu, breaking a brick seemed impossible. Physically, I couldn't do it, but then when I did it, anything was possible.

"Once in college, just as I started martial arts, I was a bartender and a guy swung a pool cue at me. The martial art technique I used was to get out of the way; it went past me, and he fell down. That is the best martial art technique you can use; the best block is to not be there when the strike gets there, which is also again the first principle in aikido: get off the line of any attack, because if you stay on line, you are going to run into force versus force, speed versus speed."

Frederick Classes

Jack notes that "Aikido does not have *kata*, or forms, where a person goes through movements of an imaginary fight. Our movements are directed at throwing something, so you need to actually throw someone to feel how that happens. We do teach some *kata* with two traditional weapons, the sword and *Jo*, a wooden staff that is measured from the ground to underneath your armpit." On your own, you can practice *suburi*, or sword cuts. "A hundred or so a day until your shoulder feels like it is going to fall off!" Jack says with a laugh.

Jack holds classes for on- and off-base personnel in the Fort Detrick Fitness Center, Monday and Wednesday, 7:30 to 8:30 p.m., and Friday, 6:30 to 8:00. He says, "We have classes three days a week. Our Friday night class is devoted to weapons and *randori*, or freestyle, any attack and any defense. We usually have between 10 and 15 people on the mat each night. I think our roster is up to 25 students currently."

Both Jack and Takaguchi Sensei run non-profit clubs, collecting no salary. "We do charge dues for full-time adult students—\$35 per month. Those dues buy mats. People get kind



of cross if you just throw them on the street or concrete. We recently bought \$4,000 worth of mats for the club. I get uniforms, or *gi's*, at cost for the students." Jack adds that no other equipment is needed, just "a lot of determination and patience!"

Club members can also choose to train at the main Dojo in Silver Spring where classes are held seven days a week.

Aikido and Women

Women also participate in Jack's classes. "Women are better at aikido initially than men because women don't usually use strength as their first option. If you are trying to be strong, to force something in aikido, then you are doing something wrong. There really should not be any strength involved in the techniques of aikido and women tap into that a lot earlier than men do. Men will automatically try to force something. . . Few other martial arts, other than those developed specifically for women, have such a high ratio of female practitioners. For instance, the study of *naginata*, a big, long, spear-like weapon used to knock people off horses, was traditionally for women, because it was a last-resort weapon to defend a household against Samurai warriors," he explains.

Jack admits training can be painful, initially. "When you are learning how to fall and roll, it really does feel

like someone has taken a 2 x 4 and beaten you over the back with it. Just coming to terms with how to roll and be comfortable on a mat is the hardest process for people to get over."

Jack emphasizes that "In other martial arts, you are trying to beat an opponent. In aikido, we are partners, two people who work to understand and do a technique. I would say it is totally unique in terms of martial arts. Since it is a throwing art, in practice, you throw someone four times and they throw you four times. So there is always this partnership."

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(Capital Aikikai of Silver Spring, MD)

<http://www.aikidofaq.com/introduction.html>
(General questions about aikido)

<http://www.aikido.gaeta.org/gallery.html>
(Video of Dr. Simpson demonstrating aikido moves) ♦