

ATP Update

MAY 11, 2007

VOLUME 1, NO.1
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Message from Dr. Harris



Welcome to the first issue of the ATP Update. It's my intention to use this electronic newsletter to improve communication within the Advanced Technology Program. By staying informed about new discoveries, equipment, protocols, and other items of interest, we'll be able to recognize opportunities for collaboration and growth, and become stronger as a

director. The ATP Update will be issued every month, and I hope you will come to look forward to it as your link to all the other ATP labs. I welcome your feedback and your contributions to making this newsletter successful.

Research Technology Program: What's in a Name?

by Maritta Grau

What's in a name? Quite a lot, as Shakespeare would tell you and as Tim Harris, Ph.D., the new Research Technology Program's director, will also tell you. Make that the Advanced Technology Program: Dr. Harris recently announced a change in name from the decade-old Research Technology Program to Advanced Technology Program. After much discussion and consideration, the name was changed, Dr. Harris said, to reflect a more up-to-date description.

"There are now more components to the program than there were before. Recent additions include the Nanotechnology Characterization Laboratory (NCL), headed by Scott McNeil, Ph.D.; the Core Genotyping Facility (CGF), located in Gaithersburg, with Meredith Yeager as Scientific Director; and the Viral Oncology Section (VOS) Core Laboratory, led by Denise Whitby, Ph.D., and Bette Conde, Ph.D. The increased capability that these groups bring necessitated a broader descriptor for the program. It was not lost on us, of course, that ATP is the molecule that provides energy

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to cells, so we felt that the ATP was perhaps a more energetic description than the RTP," Dr. Harris said.

Tandem Affinity Purification Service Available

by Dr. Deb Chatterjee

The Protein Expression Laboratory (PEL) and the Laboratory of Proteomics and Analytical Technologies (LPAT), announce the availability of tandem affinity purification (TAP) service to NCI investigators for discovering protein-protein interactions in mammalian cells. The PEL and LPAT integrated services can deliver all aspects of TAP requirements, from cloning and protein expression to affinity purification of interacting proteins and their identification by mass spectrometry. Significant subsidies for TAP projects are available through the Office of the Director, NCI, and the Center for Cancer Research Office of Science and Technology Partnerships.

For further information, contact Dr. Deb Chatterjee, PEL, at 301-846-6893 or at chatterjee@ncifcrf.gov.

New Program Cuts Calculation Time from Days to Minutes

by Dr. Jack Collins

One of the growing issues in microarray analysis and other biomedical computing applications is how to mine

the overwhelming amount of genomic data available and correlate findings for potential associations. For example, genomic profiling may help researchers better understand genetic risk factors for cancer, develop new procedures for testing the genetic properties of tumors, or identify genetic changes that may result from treatments and therapies.

The Advanced Biomedical Computing Center (ABCC) worked with researchers in Javed Khan's lab to enhance the capabilities of a new software program that allows researchers to determine the correlation between genes in microarray gene expression studies. The MATLAB Star-P™ interactive parallel computing was used to parallelize the correlation models and algorithms developed in MATLAB.

Using Star-P, researchers quickly saw a big jump in performance. Calculations that took more than two days to complete now completed in about 15 minutes—about 200 times faster than before.

ATP Highlights Translational Research Capabilities at BIO2007

by Lisa Simpson

ATP Director Dr. Tim Harris and other senior staff members from SAIC-Frederick, Inc., attended the 15th Annual International Convention of the Biotechnology Industry Organization (BIO) May 6–9, 2007, in Boston, MA. A lead partner in the BioMaryland coalition, SAIC-Frederick, Inc., sponsored a booth to highlight the translational research capabilities offered by SAIC-Frederick, Inc., particularly those of the ATP, the Laboratory Animal Sciences Program, and the Biopharmaceutical Development Program.

SAIC-Frederick, Inc., was positioned as a single point of contact, with capabilities that “reach from basic research, advanced technologies, and pharmaceutical development to clinical trials management—all under one management structure and at one location,” according to Mr. Frank Blanchard, Director of Public Affairs for SAIC-Frederick, Inc. NCI's public-private partnerships and the extension of SAIC's Work for Others program were also promoted, Mr. Blanchard said.

The BioMaryland coalition also includes the State of Maryland, MedImmune, the National Institutes of Health, the University of Maryland at College Park, MdBio, and the Montgomery County Department of Economic Development. According to Mr. Blanchard, this partnership afforded us “a chance to put our logo and

signs in some key places at the event and on the BIO and BioMaryland Web sites.

Mr. Blanchard and Dr. Harris were joined by Dr. Carl Garland, ATP Business Operations Director, Dr. John Gilly, Deputy Director of the Biopharmaceutical Development Program, Dr. Charmaine Richman, Scientific Administrator for SAIC-Frederick, Inc., Dr. Bruce Crise, Director, Business Development, ATP, and Mr. Dave Butfer, Director of Contracts and Administration for SAIC-Frederick, Inc.

Founded in 1993 as a nonprofit association, BIO now represents more than 1,100 biotechnology companies, state and international affiliates, and related organizations. Its mission is to provide business development services to the biotechnology industry, and it is widely known for its annual convention.

Image Analysis Laboratory Announces New Staff, Services

By Dr. Stephen Lockett

The Image Analysis Laboratory recently announced the addition of Mr. Kaustav Nandy to its staff. Mr. Nandy holds two master of science degrees in medical image analysis and mathematical modeling from the Indian Institute of Technology in Kanpur and the University of Maryland in College Park, respectively. In addition to quantitative image analysis research, Mr. Nandy's activities will focus on supporting users of the confocal microscopy laboratory. Mr. Nandy is located in Building 538, Room 125 and may be reached on 301-846-6109 or e-mail at nandyk@ncifcrf.gov.

Confocal microscopes are readily available to members of the NCI-Frederick community, generally with only a couple of days' notice. There is no charge to NCI staff. To use the calendars for the confocal microscopes in Buildings 538 and 560, go to web.ncifcrf.gov/rtp and scroll to the bottom right and click on “Confocal Online Scheduling.” You will need an NIH AD domain account (yourname@mail.nih.gov) to access the calendars. If you only have e-mail for NCI-Frederick (username@ncifcrf.gov), you will need to obtain an NIH AD domain account by calling Dan Grab at Computer and Statistical Services (301-846-1283) or dsg@css.ncifcrf.gov. Alternatively, you may continue to contact one of the confocal microscopy staff to schedule microscope time.

PCL Acquires Lifetime Spectrophotometer

by Dr. Andy Stephen

The Protein Chemistry Laboratory (PCL) has recently acquired a lifetime spectrophotometer (Fluo Time 200, Picoquant), which, investigators say, will improve their studies of molecular interactions. The new technology allows investigators to accurately count emitted photons and measure the fluorescence lifetime of interacting molecules. Prior to this acquisition, PCL investigators used steady-state fluorescence intensity or fluorescence anisotropy (a measure of molecular rotation) to measure the binding of one molecule to another. For example, when the fluorescence of molecule "A" changes when it binds to molecule "B", investigators can now measure the new fluorescence lifetime of molecule A. Adding more B, they will see a change in the distribution of the lifetimes, indicating what proportion of B is bound to A. By measuring the time-resolved fluorescence anisotropy, they can obtain information on the size of molecule A by calculating its rate of rotation. They have already used this technology to understand the molecular motions of fluorescein bound to oligonucleotides.

posters with the addition of a new wide-format printer. According to Manager Ken Michaels, "The addition of a second printer will allow SPGM to produce more posters in less time. This increased capacity will enable



us to serve the scientific community at NCI-Frederick more effectively."

SPGM staff are available to help with one-piece posters, or any other communication

need. For more information, contact Ken Michaels at 301-846-1057, or kvm@ncifcrf.gov. Or contact the business office at 301-846-1055 or <http://web.ncifcrf.gov/spgm>.

SPGM Doubles Capacity for Poster Production

by Nancy Parrish

Scientific Publications, Graphics & Media (SPGM) has increased its capacity for producing one-piece scientific

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ATP Update is published monthly by the Scientific Publications, Graphics & Media department for the Advanced Technology Program of SAIC-Frederick, Inc., Operations and Technical Support Contractor for the National Cancer Institute at Frederick in Frederick, Maryland. The content of this publication does not necessarily reflect the views or policies of the Department of Health and Human Services, nor does mention of trade names, commercial products, or organizations imply endorsement by the U.S. Government.

Advanced Technology Program



Contract N01-CO-12400 • Funded by the National Cancer Institute