

ATP Update

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Director's Point of View

The Team Is Coming Together



*Tim Harris, Ph.D.,
Director, ATP*

It is very good to be able to report that we have recently made two senior, and significant, hires to the Advanced Technology Program (ATP). As most of you know, Vadim Sapiro is the new director of the Information Technology Supergroup, with our CaBIG™ support function and the Advanced Biomedical Computing Center reporting to him. His commercial experience in computational systems and IT network

support, as well as in bioinformatics, is proving invaluable to the program and to the larger SAIC-Frederick contract. Mike Smith, as you will see below, is joining us as director of the Genetics and Genomics Supergroup. He will balance his time between the Laboratory of Molecular Technology, the Core Genotyping Facility, and the new sequencing center. It is great that they are here.

I have built many scientific teams (some from scratch) in the biotechnology companies that I looked after in the past, and I believe the success of any enterprise, big or small, depends entirely on the people and the way they function in teams. People play on different teams at different times: for example, someone in Protein Expression Laboratory (PEL) plays for the PEL team, but also for the larger, Proteins and Proteomics Supergroup team. Sometimes this is more than just a philosophical matter because when resources are tight, teams might need to borrow or share personnel in the short term, so that priority jobs are completed on time. Recognizing employees for their performance is an important part of team management, and the ATP, in line with other parts of the contract, is launching a new employee recognition program. You can read about it on page 2 of this issue.

It is not a coincidence that football teams (whether playing with a round or an oblong ball) that work

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together as a team do better than those playing simply as a set of individuals doing their own thing—even if some of those individuals are world-class players. We should reflect on that in our own teams.

Michael Smith, Ph.D., to Head Genetics and Genomics

By Tim Harris, Ph.D.

Please join me in welcoming Michael Smith, Ph.D., as our new director of the Genetics and Genomics Supergroup, effective August 30, 2008. Dr. Smith will be responsible for the Laboratory of Molecular Technology on Toll House Avenue (Interim Director: Dr. Ester Rozenblum); the Core Genotyping Facility in Gaithersburg (Interim Director: Amy Hutchinson); and the new sequencing center that will be housed at the Advanced Technology Center in Gaithersburg.



Michael Smith, Ph.D.

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Michael Smith, continued

Dr. Smith is one of the world's experts on using population genetics to discover genes that underlie disparities in disease between racial and ethnic groups. After earning his Ph.D. from Johns Hopkins University in the area of population genetics in 1989, Dr. Smith trained in molecular evolution at the University of California, San Diego, and then joined the Salk Institute for Biological Studies, where he became the Assistant Director of the Human Genome Center focused on human chromosome 11. While at the Salk Institute, he developed genomic sequence sampling (now a division of Genbank). Since 1994, Dr. Smith has been Principal Scientist/Principal Investigator, Basic Research Program, in the Laboratory of Genomic Diversity, where he has focused on a novel gene identification technique (mapping by admixture linkage disequilibrium), HIV-1/AIDS host genetics, the role of IL10 gene in disease, using genes as biomarkers in epidemiological studies, and on human disease genetics in general.

Dr. Smith will be a valuable addition to the team and will contribute a great deal to our mission to provide first-class technology, science, and service to our NCI customers. You may contact him at 301-846-1913 or smithmw@mail.nih.gov. His office will be located at 915 Tollhouse Avenue, Suite #211, Room 100.

ATP Mission Statement Emphasizes “Highly Specialized” Support

By Ken Michaels

Part of SAIC-Frederick's response to the recent Gallup survey is to develop mission statements for all of its operating units to help clarify what they do. Although a number of ATP laboratories already have mission, or vision, statements, the directorate as a whole has not... until now. Agreed upon by ATP Director Tim Harris and the Supergroup leaders at the end of June, the ATP's official mission statement is:

To partner with NCI-Frederick to provide highly specialized support in a complex biomedical research environment, using a broad spectrum of advanced technologies.

Effective now, this mission statement should be used in all appropriate situations. It should be used verbatim, and not paraphrased. And to further progress toward achieving the Gallup goals, all laboratories and support

groups that do not currently have a statement of mission are encouraged to develop one. Andy Stephen (astephen@ncifcrf.gov; 301-846-1634) and Dom Esposito (domespo@ncifcrf.gov; 301-846-7376), ATP Gallup Poll Impact Committee representatives, will be happy to help.

Employee Recognition Program To Be Launched

By Andrew Stephen, Ph.D.

Tim Harris, Ph.D., Director of the Advanced Technology Program, recently announced that an Employee Recognition Program will be launched in each of the ATP Supergroups this fall. The program is part of a company-wide effort to formally recognize employees who make outstanding contributions to the quality of work in their directorate.

Last summer, all SAIC-Frederick employees were asked to participate in an Employee Engagement Survey offered by The Gallup Organization. The purpose of the survey was to capture employees' level of engagement, described by Gallup as the level of their loyalty, commitment to the quality of work and mission of their team, and involvement in contributing to the success of the organization. To evaluate the results of the survey, a Gallup Poll Impact Committee was formed with representatives from each directorate. One of the committee's recommendations was that each directorate develop a formal recognition program that meets the specific needs of their organization.

Currently the five ATP Supergroups and individual labs recognize their employees in a variety of different ways, including letters of commendation, lab parties, spot bonuses, and food treats. As part of the new, ATP-wide recognition program, one employee from each of the five Supergroups will be recognized each quarter as “Outstanding Contributor of the Quarter.” Their photos and brief write-ups of their contributions will be published in the *ATP Update*, and each will receive a small gift. Everyone likes to know when they've done a good job, so acknowledging our colleagues with even a “Thank you” is important. If you have creative suggestions for ways to recognize your colleagues' efforts, please send them to the ATP Gallup Poll Impact Committee representatives, Andy Stephen (astephen@ncifcrf.gov; 301-846-1634) or Dom Esposito (domespo@ncifcrf.gov; 301-846-7376).

First ATPI Public–Private Partnership Signed

By David Hoekzema

The Advanced Technology Partnerships Initiative (ATPI) team is pleased to announce that the first public–private partnership collaboration with industry was signed July 15, 2008, with GE Global Research for preclinical characterization of GE’s nanoparticle-based diagnostic imaging agents. GE and the Nanotechnology Characterization Laboratory (NCL) are pursuing a two-year Cooperative Research and Development Agreement (CRADA) to leverage NCL’s assay cascade and expertise across broad classes of nanoparticles to evaluate GE’s proprietary nanoparticle diagnostic imaging agents.

We believe this partnership with a global leader in medical imaging technology marks a significant milestone in the development of the ATPI as we focus on accelerating new technologies that can be used to diagnose and treat cancer. The agreement is also significant in its structure and execution, with Dr. Scott McNeil, Director of NCL, named as Principal Investigator for the CRADA.

We wish Dr. McNeil and his team, and our GE partners, great success in this seminal ATPI project!

New Facility: Progress Report

By Hoyt Matthai

The Advanced Technology Research Facility (ATRF) is well underway. We hope to release a public announcement of the project soon, pending formal government approval and signing of the lease.

As of early July, a preferred site has been selected, and an environmental assessment on this site is progressing; formal budgets have been submitted to NCI-Frederick for review and approval; program space has been defined by square footage; and the facility “shell” has been defined. Additionally, we are making progress on other elements that are key to the infrastructure: a safety policy has been drafted; the IT data center has been defined, including expansion capabilities; the availability of dark fiber (dedicated fiber to run between NCI-Frederick and the ATRF) has been confirmed, and a provider has been tentatively selected; and beta/training facilities for partnering have been designated throughout the facility.

In the coming months we will begin to customize the laboratory layouts by program. While specific needs have been recognized (e.g., isolated slabs for electron microscopes), identifying how casework will be placed in and around existing and future equipment is the next major task to be tackled by individual laboratories, with guidance from our A&E firm.

Look for public announcements about the project as early as next month, followed by information about the groundbreaking, which is expected to occur in the fall.



Preliminary rendering of the Advanced Technology Research Facility.

Strategic Contacts Made at BIO International Business Forum

By David Hoekzema

The Advanced Technology Partnerships Initiative (ATPI) team participated in its first Biotechnology Industry Organization (BIO) International Business Forum at the 2008 BIO International Convention in San Diego in June, meeting with key prospects.

The Business Forum is a systematic venue for scheduling one-on-one, 30-minute meetings with life science and pharmaceutical firms of all types, based on detailed profiles in a searchable database. Partners must mutually agree to meet.

Our objectives at this forum were to: (1) begin sensing the public-private partnership market climate firsthand through dialog with a range of industry players; (2) gain experience and feedback on delivery of our value proposition for the ATPI and the Advanced Technology Research Facility (ATRF); and (3) build awareness of the ATPI and ATRF among potential partners and capture leading partnership opportunities for follow-up. We identified the following types of business for the one-on-one meetings:

- Firms involved in cancer and AIDS drug/device/delivery R&D; and technology enablers
- Small businesses/businesses with Small Business Innovation Research (SBIR)/Small Business Technology Transfer (STTR), or NCI collaboration experience
- Firms seeking to accelerate translational medicine objectives through strategic R&D partnerships and alliances, both domestic and international



SAIC-Frederick was a major Maryland sponsor for the BIO2008 International Convention in June. More than 20,000 industry leaders from 48 states and 70 countries attended.

Fifteen productive meetings were held with pharmaceutical and biotech firms, mainly small businesses. The ATPI business development team is engaged with many of these firms in follow-up discussions on potential collaborations, with several good prospects for public-private partnerships.

Scientific Advisory Board Established

By James Hartley, Ph.D.

The Advanced Technology Program (ATP) is charged with developing and implementing cutting-edge capabilities for NCI and NIH investigators. As a part of that ongoing effort, a Scientific Advisory Board (SAB) has been created to assess the science and technology of the ATP laboratories. We hope to get feedback on the technological approaches we are taking in the ATP, and to get independent assessments and external validation of what we are doing, as well as what we may be missing.

The first SAB meeting took place on June 3 on the Frederick campus. The day-long meeting included presentations by the Proteins and Proteomics Supergroup (which includes the Protein Chemistry Laboratory, the Protein Expression Laboratory, and the Laboratory of Proteomics and Analytical Technologies.)

SAB members include Dr. Jeff Strathern, Dr. Sriram Subramaniam, Dr. David Goldstein, as well as external scientific advisers Dr. Charles Cantor and Dr. Larry Gold. Dr. Cantor is a member of the National Academy of Sciences (NAS), author of important texts on molecular biology and genomics, and an adviser to more than a dozen biotechnology firms. He is currently chief scientific officer of Sequenom, Inc. Dr. Gold, also a member of the NAS, is a professor at the University of Colorado and founder and CEO of Somalogic, Inc.

The comments and suggestions of Drs. Cantor and Gold will help ensure that critical tools are at hand as the ATP supports the health and science missions of NCI.

Technology To Be Focus of ATP Retreat

By Timothy Veenstra, Ph.D.

Please join us on October 23 for the second annual Advanced Technology Program (ATP) Scientific Retreat to be held at the Clarion Hotel and Conference Center in historic Shepherdstown, WV. This one-day retreat will highlight the state-of-the-art genomic, proteomic, imaging, nanotechnology, protein expression, and metabolomic technologies that are available within the ATP. Presentations from both ATP and NCI scientists will illustrate how these technologies may be applied to cutting-edge research.

Like last year, the retreat will include lunch-time buzz sessions to allow attendees to discuss specific topics related to technology needs, as well as time for networking during breaks. Registration is free and open to all NIH scientists, but pre-registration is required. For more information, or to register, please visit <http://web.ncifcrf.gov/events/atp/2008/default.asp>. We look forward to seeing you there!



The Clarion Hotel and Conference Center, Shepherdstown, WV, will be the site of the ATP Scientific Retreat in October. Photo from the web site, <http://www.clarionshepherdstown.com/>

On Effective Communication

Less is More

By Ken Michaels

Years ago, when I made 35mm slides for the faculty of an academic medical center, one client in particular often began his request with the phrase "Now I know,

Mr. Michaels, that you would advise against this, but ..." and would proceed to tell me that he desired to put an entire page from *Grant's Anatomy* on a single slide. He was right. I would advise against it, given the opportunity. In fact, I had already advised against it often enough that he decided to save us both time by giving my advice a nod, then proceeding to his instructions all the same. Naturally, he got what he wanted, my advice notwithstanding.

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

The ultimate goal in virtually all forms of communication is for the audience to understand the message. And any nonessential or distracting element, be it gratuitous graphics, poor grammar, excessive or barely relevant data, creates a "speed bump" along the road to understanding.

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

Tufte's coined word "chartjunk" has since been picked up by many to refer to all visual elements in an illustration that are unnecessary for comprehension. I would suggest that we should police not only our chartjunk, but our "wordjunk" as well, if I may coin a term of my own, especially when making PowerPoint slides. One particular category of chartjunk that Tufte defines is "redundant representations of the simplest data." I can imagine no more "redundant representation of data" than that of the presenter who builds PowerPoint slides in complete sentences, puts them on the screen ... and then reads them verbatim to the audience.

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

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On Effective Communication, continued

silent for a moment and let the audience read it for themselves).

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

WORKING WITH THE ADVANCED TECHNOLOGY PROGRAM

The expertise of the Advanced Technology Program may be accessed through a variety of funding, contractual, and partnership mechanisms. For further information, please contact:

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