

THE EMBEDDED LIBRARIAN: NIH INFORMATIONISTS CLICK INTO CHEMISTRY AND TECH TRANSFER

by Cindy Clark

The information needs of NIH researchers tend to be highly specialized. Consider the working world of chemists and the technology-transfer specialists who actively promote discoveries made at NIH. Like many specialists, they have a specific language that condenses communication.

When NIH chemists, investigators, or analysts need to find information, informationists who understand their language can be an enormous help.

Now in its sixth year of collaborating with NIH researchers, the NIH Library's Informationist Service employs 14 information specialists who work with research groups across the spectrum of NIH institutes, divisions, and programs.*

"In the past," NIH Library Director Suzanne Grefsheim said, "[our] informationist services focused primarily on clinical researchers, but we always thought basic scientists such as chemists would find the service beneficial. Before reaching out to this community, however, it was a matter of hiring librarians with the subject expertise needed to provide the relevant customized service."

What scientists such as chemists might appreciate from an

informationist, she said, "might best be characterized as knowledge management—database development, such as linking structures to relevant citations; data and document curation; and even text and data mining."

An informationist might well introduce the research team to new software tools—such as the electronic lab book—and other new information resources, she said.

An informationist might also search databases that require special expertise, such as patent databases. Their specialization enables informationists not only to "find the answers but also to anticipate the questions," Grefsheim observed.

As for the future, Grefsheim anticipates a growing demand from both clinical and basic researchers for the services of bio-informationists, especially to organize and analyze the massive amounts of genetic information flowing from the Human Genome Project and similar initiatives.

* For background information on the NIH Library Informationist Service, see "The 'Embedded Librarian': NIH Informationists Become Team Players," *The NIH Catalyst*, Nov.–Dec. 2005, available online at <http://www.nih.gov/catalyst/2005/05.11.01/page8.html>.

GOOD CHEMISTRY

Barbara Brandys joined the NIH Library in 1997 and became an informationist in 2004. She provides information services to various NIH groups, including the Drug Information Service at the Clinical Center.

After receiving her undergraduate degree in chemistry, she worked as a science teacher and then as a chemist in the private sector. Brandys speaks several languages, including English, Hebrew, and Polish, and also serves as a volunteer translator in the Clinical Center.

Larry Keefer, head of the Chemistry Section and chief of the NCI Laboratory of Comparative Carcinogenesis

(LCC), has worked with Brandys for more than five years. "One of the challenges we were struggling with was setting up a website for compounds. We needed the structures and data uploaded," said Keefer.

Brandys joined on to convert the structures to images and enhance links to relevant data and publications for the *Nitric Oxide Donors* database.

The LCC patents compositions of matter with the intention of making them widely available for pharmacological screening. If a compound has a commercial application, say, as an effective anticancer agent, a material transfer agreement can be signed and licensing can be obtained through NIH.

Brandys' knowledge of chemistry and information management allows her to search and locate accurate compound properties and make expert contributions to the LCC website:



Michael Walden

Informationist Barbara Brandys displays chemistry structure data she enhanced for Larry Keefer's group at the Laboratory of Comparative Carcinogenesis, NCI

<http://home.ncifcrf.gov/lcc/nitricoxide/default.asp>.

Keefer is impressed with Brandys' work. He said that "when the group publishes an article with a new compound in it, she pulls chemical parameters from the methods section and uploads them to the database."

Brandys specializes in chemistry/structures, drug information, and toxicology searches and provides chemistry resources seminars to chemistry-focused groups within NIH. Recently, Brandys started to work on the design and development of a new compound database for the Imaging Probe Development Center. ■



Marti Welch

Larry Keefer's NCI-Frederick lab group: (sitting, left to right) Joseph Hrabie, Larry K. Keefer, Joseph Saavedra; (standing, left to right) Carlos Velazquez, Michael Citro, Daniela Andrei, Geoffrey Lynn, Ana Maciag, and Harinath Chakrapani

AT HOME IN THE IPDC AND OTT

Josh Duberman has been an informationist at the NIH Library since May 2005. He has a Masters in Library Studies and a bachelor's degree in chemistry, with extensive information research experience in the private sector, as well as experience as a working scientist in both government and private laboratories.

Duberman has several patents and has written numerous articles for professional publications about the information industry, searching techniques, and information resources. His areas of expertise and research include intellectual property, chemistry, biotechnology, pharmaceuticals, engineering, competitive intelligence and technology transfer resources, and information-retrieval issues.

Duberman often works with Gary Griffiths, director of the Imaging Probe Development Center (IPDC), and his staff. An NIH core chemistry facility set up as part of the NIH Roadmap for Medical Research, the IPDC is dedicated to the production of imaging probes for all requesting intramural scientists.

Griffiths said, "We have been very busy with multiple collaborations now ongoing with around a dozen institutes and centers, indicating the demand for such agents here at NIH. A result of this is that we tend to perform syntheses across the full range of chemical compositions, which is a very broad knowledge range indeed. Because of our mandate and our multiple project areas, we have unique, ongoing, and important needs for excellent library services and support. The NIH library staff has helped us substantially on several projects."

Among Duberman's accomplishments at IPDC, Griffiths said, are helping to "decipher multiple patent and literature methods for the chemical

syntheses of certain complex dye molecules, thereby allowing our scientists to choose the best method from these multiple alternatives. This in turn saved us time, effort, and resources."

Duberman acknowledged that his continuing education, and especially his study of fluorescence and dye chemistry, made it possible for him to provide the kind of in-depth information services relevant to Griffiths' group. Duberman has also conducted chemical substructure patent searches, called Markush searches, in pursuit of potential IPDC inventions.

Promoting the work of NIH chemists is the purview of Steven Ferguson, director of the Division of Technology Development and Transfer (DTDT) of the Office of Technology Transfer (OTT). He and his staff, as well as students taking the popular FAES course Biomedical Business Development for Scientists, take advantage of Duberman's wealth of chemistry and information research expertise.

Topics covered in Duberman's office and classroom presentations, Ferguson said, include "patent searching" and "how to use public search engines to find information on pharmaceuticals and vaccines."

Ferguson's division is responsible for assessing the technology products market. Approximately 200 products on the market, mostly laboratory reagents, were licensed by NIH. About 20 are vaccines and therapeutics. The division uses outside law firms to conduct complete patent searches.

Keeping informed about NIH Library resources and services is a valuable aspect of the Informationist Service. "It's just amazing the kinds of things you can do from your desktop these days," said Ferguson. "It's quite exciting. The new challenge is how to manage it, sort it, and filter it." ■



Michael Walden

He gets around: Informationist Josh Duberman with (left) IPDC Director Gary Griffiths at the NIH Library's new online catalog access station, and (below) . . .



Michael Walden

. . . with DTDT Director Steven Ferguson amidst a display of technology transfer successes at OTT's Executive Boulevard site

To read more about informationists, visit the NIH website at

<http://nihlibrary.nih.gov/LibraryServices/Informationists.htm>.

For more information about the Informationist Service, contact Susan Whitmore at (301) 496-1157 or

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or Suzanne Grefshes at (301) 496-2448 or grefshes@mail.nih.gov.

PRAT Fellowship Applications Due January 30, 2008

The NIGMS Pharmacology Research Associate (PRAT) program is now accepting applications for positions to begin October 2008. This competitive research fellowship program supports training at NIH or FDA laboratories for postdoctoral candidates. The program focuses on training in the pharmacological sciences and related research areas such as molecular pharmacology, signal-transduction mechanisms, drug metabolism, immunopharmacology, chemistry and drug design, structural biology, endocrinology, bioinformatics, and neuroscience.

PRAT fellowships are three-year appointments at competitive salaries. Some supply and travel funds are provided to help

support research in preceptors' laboratories. Applicants must identify a preceptor in their application. Preceptors may be any tenured or tenure-track scientist at NIH or FDA who has agreed to host the applicant. Applicants must be citizens or permanent residents of the United States and have been at the NIH or FDA for no more than one year at the time they submit their application.

Applications for the 2008 PRAT Fellowships will be accepted through **January 30, 2008**. For more information or application materials, contact the PRAT program assistant at (301) 594-3583 or e-mail prat@nigms.nih.gov. ■