



Interview with Andrea Twiss-Brooks

Talking about eScience, Libraries and Other Things:

An Interview with Andrea Twiss-Brooks, Co-director of the Science Libraries Division of the University of Chicago's John Crerar Library

By Svetla Baykoucheva and Andrea Twiss-Brooks

For many years, Andrea Twiss-Brooks has been one of the most noticeable members of the Chemical Information Division of the American Chemical Society (CINF). She has worked in the University of Chicago Library's Science Libraries Division since 1993, starting as Chemistry Librarian. As time progressed, she added collection development and reference services in other subject areas, including physics, geophysical sciences and the history of science, medicine and technology. Prior to pursuing a career as a chemistry librarian, Andrea worked as laboratory technician intern in industry, a teaching assistant in chemistry, project manager for an update of the Wiley-NBS Mass Spectral Database, and an editorial associate for the journal *Accounts of Chemical Research*. Andrea currently holds the position of Co-Director, Science Libraries Division, where she has administrative responsibilities for all collections in science, medicine, and technology at the University of Chicago.



Andrea received her B.S. in chemistry from Texas Christian University in Fort Worth and her M.S. in chemistry from Cornell University. These degrees were followed by a M.S. in library science from the University of North Texas. She is a member of the American Chemical Society and its Division of Chemical Information, the Geoscience Information Society, the Association of Academic Health Sciences Libraries, and the Medical Libraries Association, and she has served on a variety of advisory bodies for scientific and medical publishers.

Svetla Baykoucheva: *Andrea, we recently met with you at a conference on eScience in Phoenix, Arizona. This was the last event of a six-month long initiative from the Association of Research Libraries (ARL) known as the "eScience Institute." More than 70 universities, with three representatives from each institution, participated in this program. What are the main conclusions that you have drawn from the discussions at this conference? At what stage of involvement are most of the universities in eScience/eResearch?*

Andrea Twiss-Brooks: Our eScience Institute team gained a lot from the interaction with other universities' teams at the Phoenix event. The universities represented at the event in Phoenix are primarily large research institutions. We discovered that there is a broad range of involvement by libraries in supporting eScience (or, even more broadly, eResearch). Coming up to the event, we believed that collaboration with other stakeholders on campus is critical to the success of any eResearch support services that our Library wants to develop, and we were even more firmly convinced of this after discussions with various colleagues at the event. At the University of Chicago, the Director of Research Computing (organizationally located in the office of the Vice President for Research and National Laboratories) provided a senior staff member from his organization for our Library team, and we gained valuable insight into issues from this member. The development of a community of practice among institutions and their libraries will also be crucial. The continued sharing of information, best practices, and innovative approaches among the members of the Institute should be one of the outcomes of this program.

SB: *How do you see the role that science librarians could play in eScience/eResearch? Will having a science background be helpful to deal with scientific data? What kind of skills do librarians need to develop to meet the challenges of this new area?*

ATB: Science librarians could play a number of roles in supporting eResearch. Roles that librarians might play in managing scientific data include consulting faculty on the creation of data management plans, selection and application of appropriate existing metadata schema, development of ontologies and metadata schema for scientific data in areas lacking existing schema, providing DOI assignments for improving citability of datasets, managing institutional data repositories for discovery and sharing of datasets, and designing long-term preservation archives for scientific data. There are several models that are already emerging at various institutions. After the Phoenix event, I had an opportunity to visit with colleagues at the University of New Mexico, where they have hired several data librarians, including a life sciences and an engineering data librarian. The science backgrounds of these data librarians are an important asset, allowing the librarians to discuss research data and the research process knowledgeably with their faculty. While librarians have some skills that could be adapted to the needs of eResearch support, we will also need to develop new skills in our staff, including a better understanding of disciplinary research techniques and the structure of the resulting data, knowledge of XML and other important standards, programming and scripting language ability, and ability to communicate effectively with both researchers and technical staff involved in providing the eResearch support services.

Positions held by Andrea Twiss-Brooks in the ACS Chemical Information Division (CINF)

Divisional Web Site
Creator/Coordinator
(1995-2006)

Division Chair (2001)

GDCh CIC – ACS CINF
Collaboration Steering
Committee (2005-present)

Bylaws and Procedures
Manual Committee, Chair
(2003-2006)

Awards Committee (2007-
present), Chair (2012-2015)

Program Committee (2008-
present)

Division Councilor (2006-
present)

SB: *What are the technical challenges in accessing, assessing, managing, and using data? How could such problems as variable data quality, coupling heterogeneous data together, and inadequate metadata be solved?*

ATB: One of the biggest challenges is figuring out where to start. Our researchers are pumping out huge amounts of data, in every conceivable format. I think we have to think strategically, but act tactically. If we wait until we have a “perfect” solution, we won’t do anything. Whatever the technical solutions may be, I also think it’s going to be critical to work with the researchers to provide solutions that fit into their existing workflows as much as possible. I don’t have too many answers to this question, but there are a lot of smart people out there working on various aspects—collaboration and partnerships on our campuses and between institutions is going to be the key to finding sustainable solutions.

SB: *What kind of new services may researchers need in order to preserve, manage, or find scientific data? At what stage of the research process do you think librarians could have an input in this process?*

ATB: I think that librarians should have input from the beginning. We have already been consulted by a few of our faculty during the grant writing phase of the process. This has been a terrific opportunity not only to be involved in thinking through the data management planning, but also to educate researchers in what librarians can do for them. We should have a role in educating the future researcher by offering instruction and outreach to our graduate student populations. Librarians are well placed to provide the framework for data management principles, understanding of rights and responsibilities, introduction to concepts such as data curation, and more. When we interviewed faculty as part of the eScience Institute work, we heard, over and over, that the library is seen as trusted, neutral, and stable. This places libraries in a unique position, with our communities looking to us to provide long-term archiving and preservation solutions that serve the entire community.

SB: *What kind of developments could force a shift from a “provenance” scientific culture to one of shared data, open access, community models?*

ATB: That’s a hard one. While our current system of determining tenure and promotion remains entrenched, it’s hard to envision a culture of more sharing, open access and community models. In some disciplines we do see more sharing and more openness, but it seems to me that we need a “carrot” to encourage more sharing, and that the reward for more sharing and more openness needs to be tied to academic success.

SB: *Now you have higher responsibilities, but for many years you were a chemistry librarian. What does your current job entail?*

ATB: I am actually still a chemistry librarian, but these days I also have more administrative responsibilities. Except for the substantial increase of time spent in meetings, I have to say I find it very rewarding. I am responsible for overall management of all collections-related activities in the science libraries at the University of Chicago, including the John Crerar Library. In this capacity, I have been fortunate to have been involved in the planning and implementation of our Google book scanning effort in the sciences, a two-year effort that we will wrap up this summer. Because many gifts to the Library focus on collections, I have had increasing opportunities to interact with donors and potential donors in a variety of contexts. I’m also a member of the senior management team for the Library which works together to provide a long term vision for the role of the Library in the future. This planning includes not only thinking about services, budgets, and staff development, but also space planning.

SB: *How will the many organizational and technological changes currently happening affect the field of chemical publishing and chemical information?*

ATB: We’ve already seen a dramatic change in publishing and chemical information in the last decade. I’m not sure I can predict what the next decade holds for publishing, but I’m sure it’s going to be just as exciting as the last one. A lot will depend on how quickly shared data, open access, and community models we talked about earlier take hold in the chemistry community.

SB: *You have played many roles in the ACS Chemical Information Division (CINF). How did you get actively involved with the Division, and which of the many positions you have held has been the most satisfying to you? Could you tell us an interesting story or fact related to CINF that might not be known to our readers?*

ATB: I originally became involved with CINF as the creator of our very first Website, or as I preferred to style myself in those days, the Web diva. I don’t want to say how long ago that was, but the first CINF Web page was hand coded in plain HTML and hosted on the library’s web server. Through my work as the Web diva, I interacted with the officers, committee chairs and membership of the Division. It’s hard to say which position has been the most rewarding, since each position had its unique aspects. I have enjoyed being Division Councilor for the past several years, primarily because of the interaction with the larger ACS organization as well as the opportunity to raise awareness of CINF as a Division among other Councilors and members of ACS. I don’t know if I have an interesting story about CINF, but I do think it’s a fact that our Division is the friendliest Division in ACS. Networking with colleagues is one of the most important benefits that I get out of my CINF membership; CINF is a collection of some of the smartest people I know, and I get lots of great ideas and good advice from them.

SB: *If you are to consult those involved in the curriculum of library schools, what advice would you give them? If you need to hire a librarian in the near future, what skills are you going to look for in the candidates?*

ATB: I think that library schools need to be flexible in their curricula, while not abandoning the basic principles of librarianship. New librarians need more technical knowledge today, but they also need to understand broad principles and problems. They need to be able to apply principles of metadata, information organization, enhancing discoverability of information, and curation, preservation, and archiving principles and practice. One of the most important skills we look for in candidates is actually a non-technical skill, and a hard one to define: potential. In my estimation, a candidate with potential should have at least some of the technical knowledge needed, but demonstrate a strong willingness and an ability to continue to learn and develop, an intense curiosity about the institution’s research and learning activities, excellent communication skills, and flexibility/adaptability. We don’t know exactly

Positions related to or as a result of Andrea Twiss-Brooks’ various roles in CINF

ACS Joint Board-Council
Committee on Chemical
Abstracts Service

ACS Committee on
Community Activities

ACS Committee on
Nominations and Elections

Organized or co-organized
and/or presented at a number
of CINF technical symposia

Editor, Special Topics in
Intellectual Property (ACS
Symposium Series 1055),
Oxford University Press, 2011
based on a CINF technical
symposium

Feature editor, “Chemical
Information Instructor,” Journal
of Chemical Education
(2002-2009)

what challenges we'll be facing next, and having competent staff who are not afraid to try something new is one of the keys to our future success.

SB: *Tell us something about yourself. What hobbies (if any) do you have? What books do you read? What particular interests do you have? In most of the interviews that I have done for the Bulletin, I have often asked this question, and I have always been surprised by the answers I got.*

ATB: I am an avid reader, mainly of mysteries with historical settings (I'm particularly fond of Ruth Downie, Charles Todd, and Anne Perry), although I do belong to a book group where the selections serve to "stretch" me a bit. One recent book and discussion I particularly enjoyed was "Angle of Repose," by Wallace Stegner. I'm also a fan of debut novels; I feel like these books are the ones that the authors "had" to get written, and I don't have to live up to any preconceptions of their previous works. I enjoy hiking and nature and was thrilled to have an opportunity to try one of the trails in Phoenix's South Mountain Park following the eScience Institute event. Recently, I have been spending quite a lot of time quilting. It provides me with a creative outlet that results in an actual physical product, which is a nice counterpoint to my professional activities, which usually result in something a bit less concrete. If anyone is interested in seeing my projects, I've just launched a new blog: <http://andreasquilting.wordpress.com>

SB: *Thanks, Andrea, for discussing eScience and other questions that I am sure will be of great interest to the readers of the Bulletin.*

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