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# GET ON YOUR BOOTS: A MODEL FOR LOW-COST, REGIONAL PROFESSIONAL DEVELOPMENT FOR SCIENCE LIBRARIANS AT THE UNIVERSITY OF MASSACHUSETTS

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## *Abstract*

The University of Massachusetts Five Campus System Science Librarians organized a low-cost, regional professional development program as part of a response to state-wide life science initiatives. *Science Boot Camp for Librarians* was envisioned as a casual but intensive immersion event into selected scientific subjects that employ networked computing capabilities for research and collaboration. The goal of the event was to provide librarians with subject awareness and networking opportunities to enable them to better engage faculty and research scientists with regard to e-science. This article focuses on the planning and execution of the event as an example of a successful, grass-roots professional development program for librarians engaged with the health and physical sciences.

*Keywords:* Science Librarianship, e-Science, Professional Development

## *Background*

In March of 2008, an *Ad Hoc* Committee of Science Librarians from the University of Massachusetts Five Campus System convened to discuss the challenges of e-science and prepare the Libraries for their role in e-science initiatives. Of the three primary outcomes for the 2008 – 2009 year, the *Ad Hoc* Committee identified professional education as a major component necessary for successfully engaging faculty and researchers on e-science. In order to partner with researchers generating data sets—the basic component of e-science, big or small—librarians must be aware of the research trends in their fields. Moreover, librarians must be familiar with the methodologies used in different disciplines in order to effectively collaborate with and earn the trust of researchers.

As discussions on this topic progressed, it became quickly apparent that even on the *Ad Hoc* Committee only a handful of librarians had formal science education or experience. This is typical of the larger science librarian community; researchers have reported that the proportion of science librarians with undergraduate or graduate science degrees has remained around 30 percent for the past twenty-five years [Liu & Wei, 1993; Mount, 1985; Ortega & Brown, 2005; Winston, 2001]. (This figure is nearly double when only physical science librarians are considered [Hooper-Lane, 1999; Ortega & Brown, 2005].) Further, all members of the *Ad Hoc* Committee struggled to keep current with developments in the traditional

disciplines, and, while they were aware of emerging new fields of research, were not familiar with the parameters. Due to this realization, the *Ad Hoc* Committee initiated a multi-event program between April and June of 2009 designed to inform and prepare science librarians to engage research faculty as a first step toward active participation in e-science projects.

1. *University of Massachusetts and New England Area Librarian e-Science Symposium*  
Hosted by the Lamar Soutter Library at the University of Massachusetts Medical School in Worcester with co-sponsorship from the National Network of Libraries of Medicine–New England Region and the Boston Library Consortium, this day-long symposium was as an educational and collaborative opportunity for science librarians to discuss e-science resources and future roles that libraries and librarians might take on to support their institutions.
2. *Exploring Stem Cell Research: What does it mean for Librarians?* A regional professional development day for area medical librarian co-sponsored by the Lamar Soutter Library, the National Network of Libraries of Medicine-New England Region, the North Atlantic Health Sciences Libraries, and New England Consortium Systems Organization, this event explored the science of stem cell research and the potential for librarian roles in that research effort.
3. *Science Boot Camp for Librarians (Boot Camp)*  
Organized by the *Ad Hoc* Committee with funding from the five University of Massachusetts Library Directors, the Boston Library Consortium, and the National Network of Libraries of Medicine—New England Region, Boot Camp brought together over 50 librarians from New England and the surrounding region for a two-and-a-half day immersion education event which highlighted three topical areas active in e-Science: GIS, bioinformatics, and nanotechnology.

This paper will focus on the planning and execution of the Boot Camp, particularly with respect to its low-budget and high-impact aspects, as an example of a successful, grass-roots professional development program for librarians engaged with health and physical sciences and engineering.

### *Boot Camp*

The *Ad Hoc* Committee felt strongly that, beyond understanding the fundamentals of e-Science, there was a need for the group to educate itself with regard to science as it is currently being practiced in research settings, and that this was not unique to librarians from the University of Massachusetts. In response, Boot Camp was proposed as a casual but intensive immersion event into selected data-intensive, scientific disciplines that employ networked computing capabilities for research and collaboration. With an emphasis on education and on maintaining a “camp”-like atmosphere, Boot Camp became an informal, inclusive, and inexpensive approach to scientific learning in a face-to-face, group environment specifically for librarians.

### Logistics

The *Ad Hoc* Committee is made of up science librarians from all five UMass campuses (Amherst, Boston, Dartmouth, Lowell, and Worcester). Using in-person meetings, regular teleconferences, and a wiki platform to coordinate members across the state, the *Ad Hoc* Committee was able to organize and execute Boot Camp within a seven-month period.

The group conducted cost-comparison between two University campuses with regard to overnight lodging, parking, meals, and rental fees for meeting rooms, microphones, and projection equipment. Amenities for participants such as Internet access, suitable space for a banquet, and area attractions were also considered. For its overall cost and centralized facilities, the University of Massachusetts Dartmouth was selected to host this historic first Science Boot Camp for Librarians.

UMass Dartmouth is located on the south coast of Massachusetts, a one-hour drive from Boston and Worcester, and about two hours from Lowell and Amherst. The Claire T. Carney Library at UMass Dartmouth features a central, open lecture space that can accommodate 100 people and was the primary location for Boot Camp activities. The lecture space is adjacent to the library's Learning Commons, where participants had access to the Internet and e-mail, as well as a group study area with tables that were used as a dining area. Campus food services delivered all meals to the Boot Camp space.

Because Boot Camp was an experimental effort during difficult financial times, value and affordability were of prime importance. The five University of Massachusetts campus library directors uniformly contributed \$1000.00 each to the cost of the Boot Camp. Each contribution covered registration for participants from that campus and gave the planners some seed money to use for deposits and miscellaneous expenses before registrations were received. The Boston Library Consortium also contributed \$800.00 toward the cost of a banquet. With this support, the *Ad Hoc* Committee was able to set reasonable registration fees for attendees, particularly for those who had to pay their own expenses (See Table 1).

Boot Camp Registration Fees	
Full registration (2.5 days with meals and overnight accommodation)	\$200.00
Full registration (2.5 days with meals but no overnight accommodation)	\$100.00
One day registration	\$50.00

Table 1: Tiered registration fees for Boot Camp

Boot Camp was advertised to the libraries of the Boston Library Consortium as well as the National Libraries of Medicine—New England Region libraries and science libraries through targeted listservs, and promotional announcements were made at the e-Science Symposium and the Stem Cell Research Day.

With a shoestring budget and short preparation time, the group set up a site using UMass Amherst's Libguide subscription. Libguides, a commercial web publishing platform developed by Springshare, are easy to set up and change, and, with a basic knowledge of HTML, can easily be made distinctive and attractive. The site (<http://guides.library.umass.edu/bootcamp>) provided information on the topics to be covered, the instructors, the schedule, some preparatory reading, directions to the UMass Dartmouth campus, and a link to the registration site.

### Program

The *Ad Hoc* Committee was concerned with organizing an event that would provide area librarians an opportunity to learn about scientific subjects in enough detail to use electronic research tools more efficiently and contribute to e-Science projects more effectively. With that in mind, the *Ad Hoc* committee planned for consecutive, three-hour subject sessions over a two-and-a-half day period.

Sessions were arranged with two “instructors,” one to provide an introduction to the topic and another to provide a more detailed overview of the research tools used within that discipline. The subjects chosen for Boot Camp—Geographic Information Systems (GIS), Bioinformatics, and Nanotechnology—were considered examples of areas where data-driven scientific research has been or is increasingly conducted in a networked environment. Instructors were identified from the University of Massachusetts System faculty and offered a small honorarium for participating.

Boot Camp was held from Wednesday, June 24, 2009 to Friday, June 26, 2009. Wednesday morning was kept for registration, moving into the dorms, and guided architectural tours of the campus, which was designed by Paul Rudolph, former dean of Yale’s school of Art and Architecture.

Wednesday afternoon officially opened Boot Camp with remarks from the Library Directors and the first subject session: GIS. Dr. Zong-guo Xia from UMass Dartmouth provided an introduction to GIS and Matthew Arsenault, a consultant from NOAA, described field applications of GIS. There was a lively question period at the end of the session and many participants stayed to ask about jobs associated with GIS.

On Thursday morning the group reconvened at the library over breakfast and began the second day of camp. The first subject session was on Bioinformatics, led by Dr. James Griffith, chair of the department of Medical Laboratory Science at UMass Dartmouth. His presentation was followed by Dr. David Osterbur from Harvard University Library who demonstrated the use of BLAST, a program that finds regions of local similarity between nucleotide or protein sequences. The Thursday afternoon session, led by Dr. Sanjeev Manohar from UMass Lowell with the help of a graduate student, provided a thorough introduction to the field of Nanotechnology.

All three sessions were video-recorded by UMass Dartmouth’s Visual Resource Center (VRC), which copied the videos to 2-DVD sets. The VRC also designed a case to hold them, and each attendee was later sent a set.

Friday morning closed Boot Camp with a short debriefing and a discussion about future Boot Camps.

### Camp Activities

The *Ad Hoc* Committee programmed several activities to foster networking and camaraderie and to buffer the educational component of the event. Merit badges, designed and created for each topic by Sally Gore, a member of the Ad Hoc Committee, were distributed at the end of each session along with evaluation forms for that session.

Wednesday evening featured a “Non-Sensible Shoe” dinner. Campers were invited to wear their least-sensible shoes and were given an opportunity to tell a story behind the shoes that they had chosen. Three winners were selected to receive \$25.00 gift certificates from Barnes and Noble. A very creative *Ad Hoc* committee member had re-written the words of three songs to fit the theme of science boot camp—“Little Data Sets” (to the tune of “Little Boxes”), was one. She led us in a sing-along to close the banquet and end the first day of camp.

Thursday evening gave participants a chance to leave campus and see more of the region. A dinner banquet was held in New Bedford restaurant located on the fish pier among the fishing boats. Participants carpooled and could return to

campus after dinner or go for a walk in historic New Bedford or along the pier to see the boats up close.

### *Outcomes*

The success of Boot Camp can be measured not only in the overwhelmingly positive final evaluation survey results that were received, but also in requests for program and planning material at regional and national conferences where the Boot Camp has been referenced.

A total of sixty campers registered for Boot Camp, the majority of whom registered for the entire event with accommodation. All campers received a final evaluation survey electronically; 63% completed the survey. Overall, respondents classified Boot Camp as extremely valuable (70%) and reported that they would attend a future Boot Camp (92%). "I have a stronger sense of what bioinformatics, GIS, and nanotechnology is. Some of the science lingo also forced me to recall some of those concepts I learned in my science classes in college (several years ago). I think it's important to keep current on new and emerging scientific fields, especially when those fields profoundly impact other scientific fields."

With regard to the content of Boot Camp, respondents considered the chosen subjects to be relevant (89%) and valuable (65%) and rated the content of each subject session similarly well (80% and 65% respectively). "In order to justify my coming to the Boot Camp, I studied the campus web site for faculty expertise on the three subjects. To my delight [my University] offers courses in all three." However, it was difficult to achieve consistency between each subject session with regard to the level of detail provided and resources discussed—62% of respondents rated the sessions as detailed enough and 52% as cohesive and logical. Although some campers expressed an interest in either a one-day or blended multi-media course, the three-day format was valued. "It would not be a "boot camp" without an overnight option"; "I don't think a one-day only format would be appropriate because I think there is too much content to cover. The three day session was perfect."

Survey respondents learned of the event either through one of the listservs or directly through their institution (31%); in addition word of mouth was an effective mechanism for reaching campers (25%). With regard to the event cost and accommodations, respondents were generally pleased, the majority finding the event inexpensive (47%) and rating it very good on lodging and meals.

This first Boot Camp was an experimental approach to providing professional development for science librarians particularly with regard to e-Science. Perhaps because it was the first attempt to provide this kind of learning experience, the Boot Camp goals were not explicit or developed enough (58% reporting that the event had clear goals). Also, one component that campers requested most often for future Boot Camps was an opportunity for hands-on learning or lab sessions to experiment with some of the resources described during the subject sessions (83%). In addition, campers requested additional time for networking with other librarians.

Overall, the Ad Hoc Committee was very pleased with the event and with the response that it generated from the campers. "It was great & worthwhile!"; "All fantastic speakers! Learned a lot!" (See Figure 1).

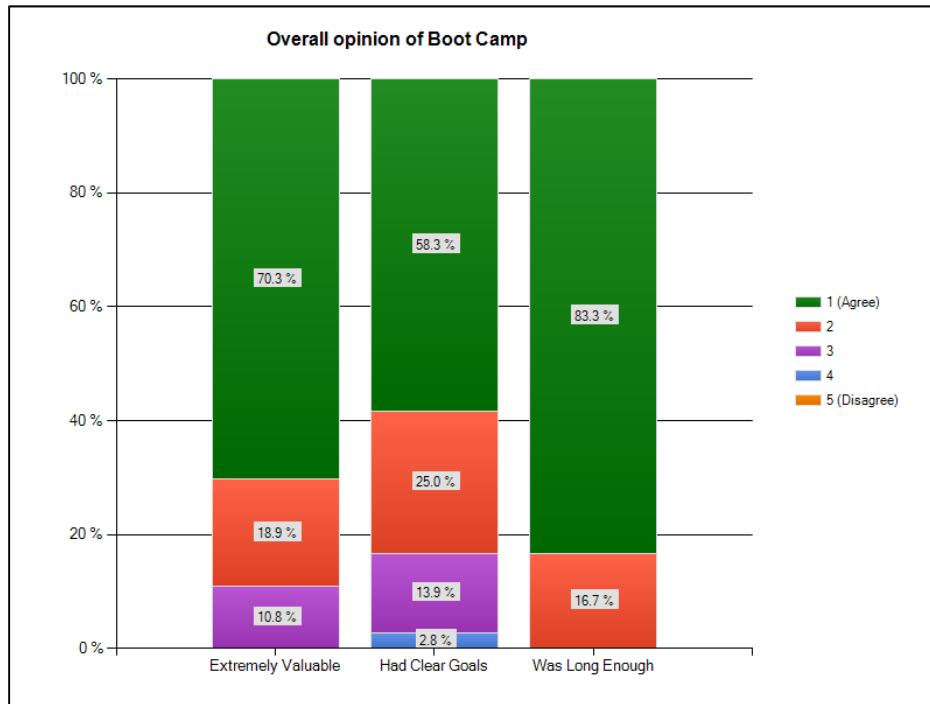


Figure 1: Responses from final evaluation with regard to overall value, goals, and length of Boot Camp

Currently, the University of Massachusetts System Science Librarians are planning a Second Science Boot Camp for Librarians to take place during the summer of 2010. The goal for that event is to maintain the educational focus while including the desired hands-on experience and to expand the focus on impacts for librarianship.

#### *Science Librarians Boot Camp as a Model*

Since the 2009 Boot Camp, members of the *Ad Hoc* Committee have been asked half-jokingly when they would bring the Boot Camp to other parts of the country. While the notion of a road-show Boot Camp is intriguing, we feel that the camp can serve as a model for similar low-budget “home-grown” events. Here we offer some suggestions for others who would like to stage their own Boot Camp.

- A community of institutions is essential. While one institution could produce a boot camp, much of the value comes from networking. In addition, a consortium of some sort creates a larger pool of researchers to draw on for speakers. Planning and execution would be easier with a regional association, which would also provide a natural audience for the camp.
- Institutional support is vital. Each of the five Library Directors contributed funds to the camp, permitted librarians to spend time planning it, and provided administrative support such as signing authorizations for venue reservations and expenditures.
- Use what is at hand. Libguides, dormitories, researchers, local attractions, the talent in the planning group—these all helped to keep the cost low. Each campus contributed some promotional items such as pens or sticky notes for “swag.”
- Integrate fun into the camp. Merit badges and camp songs made the project seem much less like work, both for organizers and attendees. In

the same way, it is important to find researchers who are engaging speakers.

- It's not clear to us yet how scalable Boot Camp is. It seems that camaraderie and community would decrease as the number of participants increase. On the other hand, costs might be even further reduced with a larger group.

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