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ARE YOU…

by Lisa Veloz, Technology Support Leader
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Although almost everyone at Bucknell uses an Internet-connected computer daily, most people probably don't realize the responsibility associated with this access. Today's technology tools are incredibly powerful, and we must remember that with great power comes great responsibility. To secure the computing environment at Bucknell successfully, each of us must take responsibility to avoid being the weakest link in our community.

Bucknell's network is constantly under attack. Take a look at these statistics:

- **10,000** virus infected emails are caught each day by Bucknell's email server virus scanning tool;
- **Every other day** there is a campus computer broken into by a hacker;
- **4.3 million** virus infected emails were caught by Bucknell's email virus scanner in the 2 days after the My Doom virus was released in January 2004.

This spring, ISR initiated a computer security awareness campaign: **Are you the weakest link?** It includes a website full of great information (www.isr.bucknell.edu/Events/Security), workshops on various security topics, posters, an online quiz and more.

Protecting Against Viruses

Viruses and worms are man-made software programs created to wreak havoc on computers and the Internet. To protect a computer against viruses, users must install and update

the weakest link?

antivirus software. ISR recommends and provides Symantec's (Norton) Antivirus software for all Bucknell faculty, staff and students. ISR also operates a server that automatically updates the virus definitions on all campus computers. For those not connected to the network, it is imperative to update virus definitions regularly (at least once a week in general and more often when news about viruses is released).

In addition to antivirus software, it is critical that everyone be cautious of all email attachments—even ones that come from people you know. Today's mass mailing worms often forge or "spoof" the identity of the sender of an email message.

Windows Operating Systems

It is a common occurrence to turn on the news and hear stories about a new Microsoft vulnerability. To secure against these and other dangers, Windows users must update their operating system on a regular basis. Simply visit Microsoft's Windows Update website *(http://windowsupdate.microsoft.com)* and select **Scan for Updates** and then **Install Critical Updates.** Microsoft recommends waiting 48 hours after release before installing these updates, unless otherwise instructed by ISR.

Macintosh OS X

Software Update is an application in Mac OS X that checks weekly (by

Bucknell

Information Services & Resources

Our customer's success is our success

INSIDE

The Critical Nature of Communication

by Gene Spencer, Associate Vice President for Information Services and Resources
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I t is widely recognized that the success or failure of any institution, organization, or initiative depends heavily on the quality of the communication efforts that support and surround it. One of the factors underlying the success of the university's most recent presidential search has been the conscious efforts by the search committee to find ways to communicate with and solicit feedback from the greater campus community. At each step in the process, we asked "what can we tell the campus?" and "what questions should we be asking?"

Many of the major issues and projects on which ISR is currently working directly address communication of one type or another. The university's web presence is being quietly and methodically transformed into our new "content management system" (EasyWeb) so that we can communicate more effectively with the outside world and with a wide variety of campus constituents. At the same time, the university is working aggressively on a new communication strategy for prospective students, interweaving paper and electronic communications in new and creative ways. That effort is just the tip of the iceberg in an increasingly digital communications agenda.

A number of articles in this edition of ISR@ deal directly with the general topic of communication. I want to call special attention to one issue in particular: the growing financial crisis in the area of "scholarly communications." Our faculty (along with other scholars around the world) provide the results of their research activities to journal publishers largely for free. Those publishers then sell the results of that work back to the higher education community at exorbitant prices (which have been escalating at over 10% per year for over a decade). This system must change.

"The major problem with communication is the illusion that it has occurred."
— George Bernard Shaw

As one of the largest liberal arts institutions in the nation, Bucknell must be a strong voice in this increasingly national debate as we actively seek ways to provide low cost "open access" to critical scholarly information.

On the other end of the communication spectrum, I recently received an e-mail from a colleague thanking ISR for replacing his desktop computer with a new laptop. He requested this change because of his increasing need to communicate with members of the campus community as well as colleagues and business partners off campus. "I actually managed to get work done at home this weekend without having to return to the office. (It is a strange commentary on my life that I am thanking you for the ability to work at home, but actually it saves me a 45-minute round trip drive when that happens)." Armed with a laptop, a high-speed internet connection at home (cable modem or DSL), and a wireless card, our work lives can much more easily invade our personal time. With the growing need to stay in "nearly constant communication" with the world, this is probably a good thing. However, I'll leave it for you to decide.

I wish you a safe and productive summer. Stay in touch!

Gene

THE NEW BUCKNELL UNIVERSITY ID CARD

by Greg Amarante, Systems Integrator
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Who are you and where are you going? These are two philosophical questions you have probably asked yourself sometime or other in your lifetime. Well, I do not have the answers to those questions, but I can tell you how Bucknell knows who you are and I can also tell you where we are going with the process of identifying people on campus.

Bucknell currently is in the process of converting our identification system from Social Security number [SSN] to a generated Bucknell ID number [BU-ID]. This means that every faculty and staff member, as well as every student, will be getting a new ID number in the Banner System and a new ID card to boot. (Actually, you'll be booting the old one.) Yet, this new piece of plastic is not just any old means of identification since the background on most cards will feature that time-tested hub of academia, the Bertrand Library.

There are three teams working to make the BU-ID conversion a reality. A "Card" team handles the physical logistics; a "Tech" team manages the Banner related aspects including on and off-campus systems that will have to convert with us; and a "Communications" team answers questions and informs all of us of the important details. In addition, the "Codes and Standards" team has oversight responsibility for the conversion, attending to both technical issues and community member concerns and questions.

The decision to eliminate the Social Security Number as a primary identifier is based on sound rationale. Principally, the university has an obligation to protect the identity of everyone on campus. If the SSN remains the major means of individual recognition, the potential for compromise is significant. As the potential for identity theft grows, the government also is interested in safeguarding your privacy. It is likely that our state may follow the precedent set by California lawmakers in 2002: "The law prohibits including an individual's Social Security number on any correspondence to that person unless the law requires it. It also requires the use of encryption if the number is transmitted over the Internet." (Patrick Thibodeau, *ComputerWorld*, July 1, 2002)

At present, all of the teams are in the throes of finalizing their parts of the process, asking and answering many questions, as well as scheduling cross-functional meetings to get the job done. Initial implementation of the new BU-ID will be June 14, 2004 with full conversion to be completed during the fall 2004 semester. The Registrar's office converted its databases to include the new ID numbers and has started creating the new cards. The "Communications" team completed an initial notification to campus constituents via *Notes and Notice, What's Happening*, and the faculty and staff forums. The Registrar's Office and Human Resources are handling card distribution, and the "Technical" team is handling all database related conversions both internally and externally.

Bucknell is doing everything it can to protect our personal identities. If you have any questions about the conversion process or the new identification cards, please go to the FAQs on the Bucknell website, or you can send an email to *BU_ID_questions @bucknell.edu.*

A New Tool for Chemists:

SciFinder Scholar Database

by Jim Van Fleet, Librarian/Information Specialist for Science and Engineering Resources
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Chemical Abstracts, the literature database of the American Chemical Society, has traditionally been difficult to use in paper or electronic format, and expensive to provide campus-wide. ISR recently negotiated a license to **SciFinder Scholar**, a new way to search the *Chemical Abstracts* database. This new research tool is available through web browsers, and features easy-to-use menus and search forms. Faculty, staff, and students across campus are now able to search for journal articles and conference papers on all aspects of chemistry. **SciFinder Scholar** even includes a substructure searching module, which allows users to draw a chemical structure or fragment and search for relevant articles.

Researchers from many disciplines will find SciFinder useful; a quick search for papers published by Bucknell faculty and student authors finds 695 articles published from 1907 to date, in the fields of chemistry, biology, physics, geology, and engineering. For recent articles published in some of the journals of the American Chemical Society, there are links to full-text online.

Networked computer users need to go to a specified web page on the ISR web site to download and install **SciFinder Scholar** software on the desktop, along with a copy of the SciFinder user profile. If you print out and read the instructions on the installation web page, the process should take only a few minutes. Bucknell's access to **SciFinder Scholar** involves a unique license arrangement, in which we "share" our seats or access to the database with one other University. We are confident that this shared license will not prevent Bucknell users from receiving the service and level of database access they require, but it does mean users may get an occasional "busy signal" or message indicating all seats are in use.

Find the link to **SciFinder Scholar** on the ISR web site, in our list of "Databases A-Z."

Announcing the Eighteenth Century Collections Online (ECCO)

by Abby Clobridge, Librarian/Digital Technologist, *aclobrid@bucknell.edu*

ISR is pleased to announce the acquisition of the Eighteenth Century Collection Online (ECCO), a Gale (R) database containing online full-text versions of over 150,000 titles published in England between 1701 and 1800. Over thirty-three million pages of text are included, giving users full-text searchable access to thousands of English and foreign-language titles. Many important works from the Americas are included as well.

ECCO can be used in classes across the Humanities — the database includes collections spanning English literature, history, arts, history of science, philosophy, and religion. For example, ECCO includes text from key eighteenth-century poets, playwrights, and novelists including Jonathan Swift, Robert Burns, Thomas Chatterton, Henry Fielding, Daniel Defoe, and many texts by lesser-known authors representative of the period.

Philosophical works in French or in English translation include titles from notable French figures such as Jean-Jacques Rousseau, Denis Diderot, Montesquieu, and Voltaire.

Some key German writings from philosophers such as Immanuel Kant and Moses Mendelssohn are included in the collection.

On the history side, several editions of historical research published during the eighteenth century cover topics from ancient Roman and Greek history, British history, and histories of nations and regions throughout Europe. The collection is particularly strong in texts covering the French Revolution from a British perspective. For researchers examining colonial history, including settlement of the American colonies, the collection is rich in books, essays, and reports from a British perspective.

The database is accessible to Bucknell faculty, staff, and students from anywhere in the world. Access ECCO from the ISR home page, from our list of Databases A-Z. For researchers already familiar with texts in their field, the database allows you to use and discover materials in new ways; for scholars just starting in a field, you will be amazed at the resources available to you. Happy searching!

LibQUAL+ Survey:
Measuring Library Service Quality

by Isabella O'Neill, Coordinator, Reference Services Programs
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Traditionally, libraries rely upon collecting numbers to establish value for their services. As a part of the "new measures" initiative, the Association of Research Libraries' (ARL) developed the LibQUAL+ Survey tool to move libraries beyond mere numbers in assessing the quality of services. Last spring, ISR took part in the "new measures" movement by using the LibQUAL+ survey to gather feedback. The survey questions addressed four broad dimensions: effect of service, physical environment, access to information, and resources for independent research. The survey questions were designed to identify service quality "gaps" that users experience in library services.

This year, we introduced the survey to all first-year students, and we plan to administer it again to this same group during their final year at Bucknell. We hope to create longitudinal data about undergraduate student service expectations that will help ISR to understand better the service needs and experiences of this group.

ISR found much useful information from the results of the 2003 LibQUAL+ survey. Because we administered the survey along with several other Oberlin Group libraries, we now have peer institution survey data with which to compare and benchmark our services. In general, Bucknell users found library services to be within a higher range of adequacy than the responses received from our peer institutions. The data and comments from the Bucknell campus provide a valuable first step in assessing how well ISR is meeting users' library service needs. We take our customer's feedback seriously and are communicating the survey results to the appropriate ISR work groups.

2003 LibQUAL+ Survey Results

ISR received its highest marks for service adequacy by providing the campus with a space that is comfortable and inviting and inspires studying and learning. Survey responses indicate that the Bertrand Library has convenient service hours. A few survey comments suggested that the library increase its hours as a response to specific research needs during break, holiday, and intersession periods.

"I am very satisfied with the learning environment presented at the library – the staff [is] friendly and helpful and information is readily available."
– Undergraduate student

Lower in the range of service adequacy are the availability of group study space and the quietness of the building for individual activities (e.g. study). Several comments were given about cell phone usage in the library building.

"There are not enough rooms designed for groups to work together and not disturb others."
– Undergraduate student

"The library needs to have a more strict policy on cell phones – they should be required to be turned off when in the library."
– Undergraduate student

Comments in the survey indicated that more computers should be made available to users.

"We have great access in this library. I have visited several other universities – none of which compare to this library as it relates the technology available to the campus community."
– Undergraduate student

"The main suggestion I would make for the library would include an expansion of Tech Courtyard…." – Undergraduate student

It is apparent from the survey results that Bucknell users value being able to work independently, especially regarding remote access to library resources from their home or office. Survey responses about the availability of "easy-to-use tools" allowing independent work and the ability to access electronic resources remotely indicate that users want more of these services.

"…I would like to be able to access the Bucknell information system more easily." – Faculty

"I like it when I can do everything myself…when I do need to use the library…I would like increased access from my off-campus house to various…collections."
– Undergraduate student

Bucknell survey responses indicated that the library is doing an adequate job in providing users with electronic library resources to support their work. Access to print collections and to print and electronic journals collections received a lower score for service adequacy.

"The library is a wonderful resource with people who go beyond to help…but [it] is rarely [equipped] with all the online resources." – Staff

"I would like to see more library subscriptions to journals specific to my field so I don't have to keep ordering things via ILL." – Faculty

The survey results indicated that users perceive library staff as caring, courteous, and being capable of providing individual attention to users who needed assistance.

"I have a great deal of respect for the librarians and staff at the library. They are helpful, courteous, and the library's best resource." – Faculty

"…Bucknell has consistently promoted the library [and] provided the support to allow the library to offer superior resources and hire dedicated staff to assist all patrons. May that state of affairs continue!" – Undergraduate student

Interlibrary loan and document delivery services were praised for their efforts and users ranked these services high in the range of service adequacy.

"Interlibrary loan is incredibly fast." – Undergraduate student

"…I have found interlibrary loan to be quite efficient for obtaining…articles." – Faculty

We appreciate and recognize the willingness of all Bucknell faculty, students, and staff to share their opinion by completing the survey. We look forward to hearing from you in the future when ISR delivers the survey to the Bucknell campus. Remember, we have a suggestion box available from the ISR pages and we encourage your contributions at any time. If you have comments about the survey or its results, please contact LibQUAL@bucknell.edu. Remember, we work for you!

Great Service Cards

by Jeannie Zappe, Director of Service Integration
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Got great service from ISR? Complete one of our new Great Service cards located on any of the main desks in Bertrand Library. We'd like to know what we're doing well so that we can do more of it!

We also have an online version of the service card, which can be found on the ISR web page, http://www.isr.bucknell.edu. Just click the Contact link located on the black menu bar to find the online Great Service card. You can submit any suggestions at that site as well.

We look forward to hearing from you!

PASSWORD TIPS

Tips for protecting your passwords

- Do not send passwords in email.
- Do not write your passwords in a place where others can find them.
- Be sure no one is watching when you login using your password.
- If you enter a password into a Web site, be sure to close all open browser windows when done.
- Don't walk away from a computer until you are certain that you have logged off or locked the system.
- Do not use "remember password" options.
- Be wary of using Internet Explorer's (or other programs) AutoComplete function for usernames and passwords on webpages.

Tips for creating a secure password

- Mix numbers and letters to create secure passwords. Choose a mix of upper case, lower case and numbers/symbols. (Examples: hR7u9Is3, 3Dop89G#)
- Substitute numbers for letters and vice-versa in words to make them easier to remember.
- Use mnemonics (formulas or rhymes) to help create and remember securer passwords. (Example: "My wedding anniversary is June 15th" would be: mWAiJ15t)
- Change your password often. Any password can be cracked given enough time.
- Write down your passwords and keep them in a secure place away from your computer.

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default) for updates to certain pieces of software. When Software Update finds a new update to software, it prompts you either to install the new software or to ignore it. Please don't ignore it! Software Update keeps your operating system protected against security flaws. To run Software Update: From the **Apple** menu, select **System Preferences** and then click **Software Update** and finally click **Check Now** to start the update.

Using secure passwords
Passwords are the first level of security used to protect computer systems. Most hackers attempt to break into someone's system using passwords first. Hackers use password cracking software that can throw approximately 400 passwords at your system every second. This software utilizes many dictionaries (including a variety of languages as well as common popular words) to crack the passwords.

Securely browsing the Internet
Check for secure websites before typing in your personal information. A secure site should have a closed padlock in the lower right-hand corner. Be cautious of downloading and installing applications. Do not use auto-complete in your web browser. Do not store passwords in your web browser.

Avoiding file sharing applications
File sharing is a useful tool but, by downloading and installing these programs, you enable the outside world to explore your computer. Many P2P programs also install malicious spyware that can also take over your computer. While it's possible to limit access to a specific folder, it's also very easy to open the entire hard drive accidently. Once inside, hackers have a machine onto which they can install code and programs that act as mail servers and spammers for their own purposes. Most of the billions of pieces of spam sent each year come from these "abducted" computers.

Secure use of laptops
Laptop users must pay particular attention to securing their mobile computers. When on the go (whether at home, office, in the car or at an airport) individuals with a laptop must pay particular attention to the physical security of the computer, including avoiding extremes in temperature. Laptops users need to be particularly conscientious when it comes to completing backups and antivirus updates since their computer is not always connected to the network.

The Weakest Link website provides more information on all of the above security topics as well as great security checklists to help secure your Bucknell-owned and personally-owned computers.

BUCKNELL'S INTERLIBRARY LOAN DEPARTMENT SAVES THE PLANET…
one transaction at a time!

by Jen Clarke, ISR Technical Services
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Laura Hanson '04, Interlibrary Loan Student Assistant, scans an article using the new direct scanner.

Look, it's a FAX, it's a photocopy, no…it's electronic delivery!

Interlibrary Loan services are faster than a speeding bullet, thanks to some new features of the ILLiad system and a new face-up publication scanner.

The staff of The Daily Planet, a/k/a the superheroes of Interlibrary Loan (Candice Hinckley, Kay Knapp and Bill Burkholder), recently implemented a new service that dramatically improves the speed of delivery for journal articles and helps save trees at the same time. Traditionally, Interlibrary Loan departments were huge consumers of natural resources. We photocopied every journal article requested by other libraries, using reams of paper and boxes of toner cartridges in the process. In March, the library acquired a new scanner that provides clear, non-distorted images of bound volumes. The scanner is equipped with a cradle that provides stress-free support to book spines so that fragile and rare items can be scanned without damage to the pages or spine. Now, we scan directly into the program that enables us to send documents to other schools, thus nearly eliminating the need for photocopying.

Electronic document delivery is another new feature of ILLiad. Rather than receiving and passing on the print copies of documents, the program allows us to forward them electronically in PDF format which can be read using Adobe Acrobat software. This reduces the paper and toner usage at Bucknell and significantly reduces the time it takes to deliver articles. With Bucknell's ILL department processing over 17,000 requests each year, the savings are significant!

So, remember. You can reduce your exposure to kryptonite (and mountains of paper) today! **Edit your ILLiad account to indicate that you wish to receive articles electronically.** To learn how to edit your ILLiad account, call the ILL office at 73249.

NEW STAFF IN ISR

Meet Janine Follmer, *Secretary - ISR Library Office*
by Candice Hinckley, Library Technical Assistant, *chinckle@bucknell.edu*

When Janine joined the ISR staff, we knew that she looked familiar. Was it because she resembles the character of Elaine on Seinfeld (according to her high school chums) or because she worked in ISR during her summer breaks from Susquehanna University? Either way, we officially welcome Janine to ISR's cast of characters. Her role is to coordinate and oversee day-to-day operations in the ISR office in the library.

A native of Morrisville, Pennsylvania, Janine moved with her family to Watsontown, graduated from Warrior Run High School, and continued her studies at SU, majoring in Music Education with a concentration in vocal studies. When asked what she wants to be when she grows up, she said, "I've always wanted to be one of the voices in a Walt Disney movie for children." Janine also expresses a desire to "continue to have the drive to learn new things." She enjoys all kinds of exercise, traveling, cooking, and singing. Janine shares a Watsontown home with her husband Kevin and their Labrador retriever Chloie. We look forward to working with Janine, and we welcome her enthusiastic and diverse talents!

Meet Eric Smith, *Network Administrator*
by Lynda Thaler, Library Technical Assistant, *lthaler@bucknell.edu*

On the job since mid-February, Eric Smith is our new Network Administrator. In a room "abuzz" with machines on a mission, Eric feels at home. Eric's job is to ensure that data can get from your PC to its intended destination. Dealing with the installation and configuration of core equipment located in key areas throughout campus, he reviews productivity of the network. Beyond the day-to-day surveillance, he evaluates the adaptability of equipment to new applications as they arise.

Born and raised in Selinsgrove, Pennsylvania, he holds a degree in chemistry. How does Eric spend his time when not tinkering with computers? He might be out motorcycling. He might be spending time with his sixteen-month-old son Owen, or driving his wife, Lori, "nuts" collecting even more Atari 2600 video game cartridges. Or, he might be collecting … honey! Would you believe that Eric is an amateur beekeeper? It's a "generational thing," according to Eric, whose uncle piqued his interest in tending hives. You could say that Eric keeps things "humming" at work and at home!
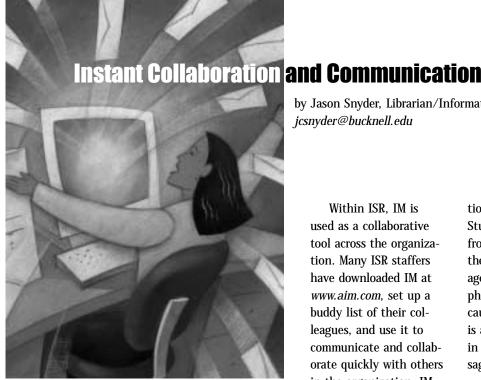
Meet Jamie Piperberg, *Technology Support Intern*
by Lynda Thaler, Library Technical Assistant, *lthaler@bucknell.edu*

Newly hired as Technology Support Intern, Jamie Piperberg is a 2001 Bucknell graduate with a degree in Computer Science Engineering. She now spends most of her time giving field support, mainly to faculty, with a focus on Macs. After graduation from Bucknell, she got a taste of big city life and the business world in New Haven, CT where she worked writing Mac and Palm software and providing customer support.

Although the ethnic food was great in New Haven, Jamie returned to "greener" small-town Pennsylvania where she found a more desirable lifestyle, with the additional comfort of family nearby. Jamie sees herself staying in academia because she appreciates the emphasis on doing the job well and getting things to work, rather than doing the job in the quickest, most cost-effective way. As for finding that elusive balance between personal and professional life, maybe she could revive her interest in Renaissance dance (as practiced by the Society for Creative Anachronism), dig out long-neglected craft and jewelry making supplies, delve into a few more sci-fi/fantasy novels, or just curl up between her boyfriend Tom, and her cat, Toby.

Instant Collaboration and Communication

by Jason Snyder, Librarian/Information Specialist for the Humanities
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Have you ever wondered how you can communicate for free with people across the world, or just across campus? Are you and your colleagues looking for a simple communication and collaboration tool? AOL Instant Messenger, or IM, as it is more popularly known, is just such a tool.

What is IM? In technical terms, it is a synchronous communication system. In everyday language, it is a computer program in which you can simultaneously communicate with others by typing messages into a window, which are then automatically sent to the person with whom you're talking. In other words, you can have a live chat with someone in the next room, or around the globe. You can also send files, web page links, and so on.

IM is popular with all age ranges of people. High school students use it to communicate with each other after school. College students use it to talk to friends from home, as well as classmates and friends on campus. Parents use it to talk to their children and relatives who may be far away.

Within ISR, IM is used as a collaborative tool across the organization. Many ISR staffers have downloaded IM at *www.aim.com*, set up a buddy list of their colleagues, and use it to communicate and collaborate quickly with others in the organization. IM proved invaluable during the renovation of the reference offices. The reference staff were scattered all over Bertrand Library, and it was difficult to communicate with everyone, let alone keep track of where everyone was! After all of the reference staff downloaded IM and began using it, everyone could collaborate virtually without running all over the building. Mini-meetings were held over IM, thus reducing the need to schedule face-to-face time.

Keeping in touch with folks and collaborating in the office aren't the limits of IM's functionality. Many college campuses are testing the boundaries and uses of IM. For example, the South Orange County Community College District, in California, has created a service called MySite Agent. It is an IM/web/cell phone interface that is tied in to the campus information systems, with information on calendaring, course schedules, and so on. According to *http://mysiteagent.com*, "MySite Agent is an innovative new way for … students to access information. It is an interactive agent that uses a 'conversational interface' which allows a student to simply ask questions in normal, everyday English." Students can get campus information from this automated service over IM, the Web, or their cell phones. The agent, which is still in its testing phase, was presented at last fall's Educause conference in Anaheim, CA, and is an exciting peek at things to come in the world of instant and text messaging.

ISR has similar experimental plans in the works. The Technology Support group plans to make its technology knowledgebase available via IM. The knowledgebase is a repository of Bucknell-specific practical technology information, which is currently available on the ISR website at: *www.isr.bucknell.edu/Technology_Support/Knowledgebase/*. According to Keelan Cleary, Technology Support Specialist, users will be able to enter technology questions in IM and will be taken to a web page with the appropriate answer. Cleary says that in its initial stages, the IM version of the knowledgebase will be "the same search engine and information as the web-based knowledgebase," but will be instantly accessible to IM users. If this service proves to be popular and useful to the Bucknell community, it could be expanded to encompass natural language searching, and perhaps interface with other Bucknell information systems.

Stay tuned to ISR's website, *www.isr.bucknell.edu*, and to ISR@ for updates on these and other exciting technologies!

The Crisis in Scholarly Communication

by Nancy Dagle, Director of Information Integration
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A crisis has been in the making for the last three decades, and unless scholars, publishers, learned societies, and universities work together to find a solution, our current system of scholarly communication will cease to be sustainable. So warned Sam Demas, the college librarian at Carleton College and board member of SPARC, the Scholarly Publishing and Resources Coalition, at a recent talk sponsored by ISR. The problem, he explained, began when commercial publishers took over the publication of scientific journals, which until then had been issued by scholarly societies, and with it, the profits from research and the rights to the publications. As the publishers merged to form huge conglomerates, they increased their prices—over 200% between 1986 and 2002—and libraries were forced to cut back on subscriptions. (Bertrand Library has in fact undergone several cancellations during that time period.) Electronic publication has not reduced costs, since publishers often charge extra for electronic access, and bundle together large numbers of titles at a single, exorbitant price. The alarming result of these cutbacks is to restrict the accessibility to information to only those scholars whose institutions can afford it, an increasingly small academic elite.

While libraries have been able to mitigate the problem to some extent through improved document delivery and consortial purchasing, libraries and universities are beginning to resist and to develop alternatives. Recently, for example, administrators at the University of California and the University of Maryland issued statements declaring the economics of scholarly publishing to be unsustainable. Cornell, Stanford, Harvard, TRLN, Carleton—and Bucknell—rejected the "big deal" bundling from Elsevier, a major publisher of scientific journals. In the U.K., the House of Commons Science and Technology Committee is conducting an inquiry into scientific publications.

Demas went on to describe a possible solution, one that would enable us to realize the benefits of network dissemination of research—Open Access. Publications would be freely available on the Internet either in open archives (institutional repositories) or peer-reviewed open access journals. They would be funded through publication charges, which would generally be paid for by grant funding or institutional support. Authors or their institutions would retain rights to their publications. Although it is still controversial, organizations such as the American Physiological Society, IEEE, and the Oxford University Press are experimenting with this model, and it is SPARC's mission to promote it through advocacy and education.

Bucknell is a member of SPARC, and has recently joined the Public Library of Science, whose first journal, PLoS Biology, has received outstanding reviews. (It is available by searching the journal title *PLoS Biology* in our online catalog.) ISR will continue to communicate with the Bucknell community about issues in scholarly communication as we seek solutions to the approaching crisis.

More information is available at *www.createchange.org/home.html.*