Within an academic context, “podcasting” often involves faculty lectures recorded as MP3 files and uploaded to a place such as Blackboard where students can access them. Students can listen to the recordings to review key concepts using a portable device (like an iPod) or a computer.

In her Genetics course, Dr. Emily Stowe-Evans has implemented the basic podcasting idea with a pedagogical spin: adapting Frederick Mosteller’s idea from his 1989 article, “The ‘Muddiest Point in the Lecture’ as a Feedback Device,” she asks her students to write down unclear aspects of the lecture. Based on this feedback, she creates five- to ten-minute podcasts, expanding on those points where students requested more information. Podcasts, available in Blackboard at the students’ convenience, provide a supplement to the lecture without using valuable class time. Stowe-Evans estimates that half of her students use the podcasts as a kind of “bridge” between lectures, clarifying the content of one lecture in preparation for subsequent lectures.

In her Microbiology course, Stowe-Evans uses podcasting as a creative assignment, asking student groups to produce short podcasts regarding a “Microbial Friend” and a “Microbial Foe,” thereby highlighting the diversity of microbes that exist. The “Microbial Friend” podcasts discuss beneficial microbes. The “Microbial Foes” describe pathogenic microbes such as Salmonella typhi (typhoid fever), that can cause serious illnesses. After receiving training from Library and IT’s Debra Cook-Balducci, students produced enhanced podcasts using the Macintosh-based software, GarageBand, which allows users to combine a video track containing still pictures with multiple audio tracks. The enhanced podcasts, viewed in applications such as Quicktime, produce an enjoyable learning aid.

Dr. Stowe-Evans successfully encouraged student investment in the assignment by creating several audiences for the podcasts. All students in the class, as well as students in two other classes, critiqued the podcasts on both entertainment and educational value. She also provided clear criteria for the podcast producers and for the podcast critiques. The podcasts were graded on the accuracy and completeness of the content, “podcast style” or creativity, a one-page podcast summary with citations, and peer critiques. This assignment put the creators in the role of teachers, which tends to produce the most long-lasting understanding of a topic.

Stowe-Evans was pleased with the outcome of the assignment and the amount of energy that the students put into it: “There was one [podcast] that just stuck in my head…I would be trying to go to sleep, and couldn’t stop singing about diphtheria!” She also noted the ease with which she and her students learned to make podcasts after just one training session with Debra Cook-Balducci. Dr. Stowe-Evans welcomes other faculty to speak with her about her experiences with podcasting.

For additional information regarding instructional technology tools, contact any member of the ITEC team at itec@bucknell.edu.
As the new Chief Information Officer of Library and Information Technology here at Bucknell University, let me be the first to welcome you to the inaugural issue of The Next Page. I, along with the editorial staff and writers, hope you will enjoy reading about our endeavors as well as trends in the “industry.” If you haven’t had a chance to meet me, I’ve been at Bucknell since January 2008, and before that served as Vice President for Library and Information Technology and Chief Information Officer at Arcadia University. My wife, two children and I are delighted to be part of the Bucknell community, and look forward to many happy and productive years in Lewisburg. If you’re in the library, please stop by the Library and IT office on level two and say hello!

I wanted to take this opportunity to share with you some of the major initiatives underway in our department. In July, we officially changed our name to Library and Information Technology, as The Bertrand Library is an integral part of our organization, and it is important for it to be included in the organizational identity. In addition to the name change, we have realigned our organization to provide technology and library leadership to academic and administrative departments, as well as services to our students.

Since the beginning of the year, we have undertaken several key initiatives:

**High Performance Computing:** In collaboration with the faculty in Engineering and Arts and Sciences, and ECST, we now have a High Performance Computing cluster for faculty and students for research. This will be in place for the start of the Fall 2008 semester.

**New Library Catalog:** The new integrated library catalog and Research by Subject was launched on August 4, 2008. This project integrates searching of the library’s catalog and research databases. Features of the final product include simultaneous searching of the catalog and research databases, links to relevant sources and websites, and spotlights for events or resources associated with an academic discipline or subject area. Access to myLibrary information, renewing materials and placing holds is available through myBucknell.

**Bucknell Message Center:** Bucknell’s new message center was launched in August. It resides within the myBucknell portal, and replaces the outmoded campus listservs. Users can opt-in to receive messages based on different categories, and can choose to receive messages within myBucknell or via e-mail. This initiative was a cooperative venture between the Office of Communications and Library and IT.

**Digital Library Conference:** On July 9, 2008, our Digital Initiatives Group hosted the Mid-Atlantic Digital Library Conference. Nearly two hundred people, including librarians, technologists and vendors from the library and IT community attended. More information about the conference and links to presentations are available on the conference website: www.madlcon.org.

**Campus Portal:** This spring a group of faculty, staff and students helped us in a needs assessment for a campus portal. With the assessment in hand, we are now evaluating various products. The time line for implementing a new campus portal is Summer 2009.

**Document Imaging:** A group of staff members from HR, the Registrar’s Office, Admissions, Development and Alumni Relations, Facilities and Library and IT has been meeting since spring to conduct a campus needs assessment for the Document Imaging project. This summer the group evaluated the different products which meet the campus needs.
Data Warehousing: As the University operations become more complex, the need for analyzing and visualizing information for decision making has become necessary. While we can get most of the information from Banner, we will need additional functionality for our decision support systems. The University is in the process of evaluating the benefits of implementing a Data Warehouse.

DELL: We negotiated aggressive pricing with DELL for campus purchases, and also worked with them to pass on the same level of discounts to our faculty, students and staff. In some cases, the level of discount is over 30% compared to last year.

By the time you read this article, Nancy Dagle will be enjoying her much deserved retirement. Nancy retired from Bucknell University in August 2008 after 23 years of distinguished service. We all miss working with her, but know that she's only a phone call away when we need to draw upon her vast experience and extensive institutional memory. Congratulations, Nancy! We hope you enjoy all of your new adventures!

I also want to take this opportunity to welcome Carrie Rampp, who joined us September 1, 2008 as our new Director of Library Services. Carrie previously served as Area Director of Resource Development and Services at Middlebury College. Carrie brings a wealth of knowledge and experience to her new position, and we all look forward to a fruitful partnership with her.

Also, I’d like to welcome Chris Weber to his new role as the Director of Technology Infrastructure, which he started on September 1, 2008. Chris has been with Bucknell University since 1978, and brings his extensive technology experience to this position. He served as the Manager of the Computer Systems and Operations from 1979 to 1991, and then as the Assistant Director for Systems Operations and Network Planning in the early 1990’s. Most recently, he was a member of the Systems Integration team.

Best wishes for the fall semester, and stay tuned for my next article in our Spring 2009 issue.

PARAM BEDI, Chief Information Officer
Library and Information Technology

MAPPING OUT A MOVE TO GIS
by Jim Van Fleet, Research Services Librarian

Everyone who has used MapQuest to plan a trip is aware of the power of the Internet to come up with a unique solution plotted out on a map, or overlaid on a satellite image. At the highest levels, this sort of research is accomplished through Geographic Information Systems (GIS), a suite of computer tools for the collection, organization, analysis and presentation of spatial data.

GIS is the key emerging technology in many traditionally spatial fields (geography, geology, planning, ecology) and also in many fields that have not yet been widely thought of as spatial (marketing, management, history, engineering, archaeology and art history, anthropology, political science, sociology). This technology can be used to create visual learning tools and to ask or answer questions that were difficult or impossible to address effectively until now.

Social scientists have found GIS useful for research in tracking criminal behavior, analyzing the effects of poverty, and mapping voting behavior. Scientists and engineers employ GIS to study animal habitats, land use and water flow. Faculty in the humanities are employing GIS to explore new approaches to research. Historians, for example, are creating digital maps with GIS to help them interpret historical events. In the business world, firms utilize it as a tool for marketing their products more effectively.

“The U.S. Department of Labor has identified geotechnology as … [an] important emerging and evolving field… Job opportunities are growing and diversifying as geospatial technologies prove their value in ever more areas.” Although GIS is a powerful and incredibly useful technology, it is complex and difficult to master without adequate support. At Bucknell, Library and Information Technology is hiring a GIS Specialist to develop a program in support of faculty teaching, research and student learning. Many of our faculty have already incorporated aspects of GIS into the curriculum and their research. Similar activities are underway at our peer institutions: Smith, Swarthmore, Middlebury, St. Lawrence and Vassar are all beginning to address the need for specialized support to “launch GIS on their respective campuses.”

The new GIS Specialist will expand opportunities at Bucknell for those who are currently using this technology and enable those who are interested in it to take action. The new position will support course development, instruction, lab usability and faculty development in GIS. Bucknell currently has the technology and infrastructure for widespread GIS usage. The addition of a Specialist to our staff will greatly enhance our efforts to fully utilize the potential of this powerful tool.

References:
Google. It began as one of the most comprehensive search engines on the Internet. Since then, Google’s continued innovation has driven its application development, feeding the desire to easily access and organize large amounts of information. Whether email, videos, blogs, driving directions or images of the earth, the creative ideas from Google appear limitless and have left many wondering what may come next.

**ENTER GOOGLE APPS.**

Google Apps is a collection of productivity applications accessible from any web browser. The suite includes a word processor, spreadsheet, and a presentation application. Also included is Google Sites (a web page development application), Google Calendar and Google Talk (a chat client) that allow you to easily collaborate and share with others, no matter what computer platform they are using. Finally, Google Apps integrates well with Google’s popular email client, Gmail.

The cost? Free. There is also a Premium, fee-based version of the product that allows for additional storage space and a few more features. K-12 and higher education institutions are also eligible for special discounts and provisions for increased security and account management capability.

Advantages? There are many. First, you have access to email, calendar and collaboration tools from any web browser on any computer or mobile device. There are no licenses to maintain or software to install and update. Compatibility is not an issue, as everyone using Google Apps has the same version of the applications. A “Share” button in the upper right hand corner of any document allows you to email or “share” it with another Google Apps user or group.

Disadvantages? Currently you can only use Google Apps online, although an offline version of the product is currently under development. The advanced features of the word processor and spreadsheet pale in comparison to those of Microsoft Word or Excel. You won’t be performing a mail merge or finding the inverse hyperbolic cosine of a number using Google Apps. While there is no reason to believe that documents (like this article, composed on Google Apps) are not reasonably secure, the fact is: a copy of this work is being stored on a remote server.

Regardless of the disadvantages, Google Apps appears to be finding a niche in higher education. Largely in response to student demand, institutions such as Arizona State University, Northwestern University, UNC Greensboro, University of Texas San Antonio and Clemson University have implemented Google Apps at some level. Institutions are abandoning their historic in-house solutions and looking toward Google Apps because how these IT services are provided is not as important to users as being able to access them conveniently, reliably and securely.

For academic institutions, the cost-benefit seems to be largely in favor of adopting Google Apps. The money previously earmarked for server maintenance, facilities, upgrades, and related resources can be re-appropriated to meet other unique, localized needs or new initiatives. As a matter of fact, Arizona State (with an enrollment of 65,000) claims they are saving $400,000 a year since their switch to Google Apps.

Google has successfully revived a concept that strongly resembles the mainframe landscape of decades ago, where users worked at “dumb” terminals, accessing applications residing on centralized computers. Time will tell whether the success of Google Apps continues.

**Q&A WITH ERIC SMITH**

Assistant Director of Information Security and Networking

**Q:** What are some of the biggest security challenges facing higher education institutions today?

**A:** Higher ed institutions traditionally have open-by-design networks, to encourage communication and experimentation. These are easy targets for hackers and contain high-value information and resources, including social security numbers and financial data, which could be used for identity theft.

**Q:** What are the biggest security challenges facing Bucknell?
CARD ACCESS AND THE FUTURE OF THE BUCKNELL NETWORK
by Gregory Amarante, Systems Integrator, Database Integration Team

For almost two months now, the new “Card Access System” at Bucknell University has been providing enhanced security for residence halls and other important areas of the campus. Through the collaborative guidance of Facilities, Finance, Library and Information Technology (IT), the Office of Housing and Residential Life (OHRL) and Public Safety, a proven and advanced technological solution now governs the rights of entry to these locations.

A number of our peer institutions have successfully implemented “one-card” solutions that provide services beyond access control to physical spaces. ID cards at Villanova, George Mason, George Washington and Emory entitle students, faculty and staff to make purchases from nearby businesses, manage meal plans, and to use laundry, vending and bank machines. These quality of life services provide the convenience and security expected in today’s technologically advanced society. Although Bucknell’s card access system lays the foundation for providing other in-demand, card-based services, safety and security are the emphasis of the current phase of the project.

Bucknell’s new Card Access Office oversees the business of ID cards. Because Bucknell’s vision lists residential life as a key component of our “integrated environment for student learning and growth,” I spoke to Assistant Dean of Students, Dan Remley. He states: “We realize that the world has changed slightly and we have to acclimate to those differences. We don’t want to be negative about our environment, but we need to be cognizant of the possibilities.” He also stressed that the new system allows for a level of security that does not infringe on the rights and privileges which Bucknellians have enjoyed. “Access times and privileges reflect the norms that are reasonable for each member of the community,” Remley added, while admitting there will be a learning curve.

According to Library and IT’s Assistant Director of Information Security and Networking, Eric Smith, the card access project demonstrates how the campus’s physical network is now a “true utility” like telephone service, water and electricity. There are actual, mission-critical systems like card access depending on it. Eric says, “The technology we had in place was not designed for that type of reliability. We continue to retrofit, allowing for more redundancy and protection. Our network is starting to look more like fault-tolerant bank systems and hospital networks.” Interestingly, Eric noted that the new ID cards, which use radio frequencies, are more reliable and secure than credit cards, which use unencrypted magnetic stripes. In the end, the added robustness of the network enhances current services and allows for the introduction of others.

This implementation brings Bucknell up to date with peer institutions in the ID card arena. It has acted as a catalyst for upgrading our network to a level of service and performance necessary for the future. This system is yet another step toward realizing the Bucknell vision “to provide students with the premier undergraduate experience in American higher education” and the Library and IT vision to provide “leadership and services that enable students, faculty and staff to creatively and productively enhance the University’s academic, administrative and co-curricular environments.”

Dean Remley invites members of the community to call the Card Office at extension 71953 to report any problems they may be experiencing.

A: Many commercial software packages that we use do not meet our strict security requirements. We often have to take extra steps to enhance their security. The Bucknell VPN (Virtual Private Network), for example, is often used to provide a secure mechanism for remote users to connect to such resources.

Q: What changes has Bucknell made, and how do they affect users?
A: We’ve installed new firewalls and are carefully controlling the resources which can be directly accessed from the Internet. After the first 24 hours, the new firewalls blocked over 7 million malicious attempts to scan our internal network. We’ve designed the new firewall so that most users will not be affected.

Q: What changes are still to come?
A: Two major projects: 1) A mechanism for resetting your Bucknell password; enforcement of password strength and expiration rules, and 2) A system, called SafeConnect, which detects and prevents insecure computers from connecting to our network.
The 2007 ECAR Study of Undergraduate Students and Information Technology asked undergraduate students how they use technology and what its effect was on their educational experience. The study shows a steady increase in the use of computers and technology. This is no surprise. You can’t walk into the library without seeing dozens of students at the computers, their cell phones close by, ready to receive or send their next text message.

A quick glance around the computers in the library shows that students are also increasingly being drawn to social networking sites, such as Facebook and MySpace. According to ECAR, students use these tools in their personal lives, but not for academic purposes. However, even though students may see academic use of Facebook as an intrusion into their private spheres, forward thinking faculty are finding it to be a useful tool for teaching and classroom management.

Alf Siewers, Assistant Professor of English, took a risk and used Facebook in his teaching. Surprisingly, he encountered no resistance from students resentful of his entrée into their domain. In fact, at the beginning of each semester, Alf asks his students if they are comfortable using Facebook for classroom purposes, and tells them that alternate arrangements can be made. So far, he has not had to make any special arrangements. Alf is conscious of the fact that students may not be completely comfortable interacting with faculty on Facebook, so he arranges things so that his students don’t even have to be his “friends” to interact with him in this virtual realm.

Rather than using Blackboard for his course pages, Alf uses Facebook. He quickly found that his students “liked being engaged there” and that they found Facebook to be “more intuitive than Blackboard.” At the beginning of each semester since Fall 2007, he has created a Facebook group for every class, which allows him to use the “News” feature for posting syllabi and assignments. The discussion board also plays a big part in his courses, allowing students to post reading responses and comment on each other’s thoughts. He makes the groups “secret”, so that no one other than those enrolled in the class may see what’s posted.

What does Alf like best about using Facebook in his classes? First, the groups are never deleted, therefore, he has a permanent record of the interactions that happened between him and his students. The discussions and assignments posted by students remain online for everyone involved with the class to refer to indefinitely. He likes that students can create links to relevant videos, photos, pages and other resources they find online and in databases. Alf also values the increased engagement students have with the material in Facebook, because it is a virtual world they enjoy and one in which they feel comfortable.

Alf also aims to educate his students about this virtual world they inhabit. During the course of the semester, his students also get some lessons in online privacy. Outside of class, Alf feels that it is important for students to understand that what they post on Facebook could be seen by someone other than their friends. For instance, because Facebook is made up of networks that include alumni who may one day be potential employers. Alf tries to educate students on the use of privacy settings that allow them to control who can view their profiles, posted items, and so on. Hopefully, in the process of learning to use privacy settings, students will realize that what they do online can have repercussions in the real world. After all, one embarrassing picture can make the difference between gainful employment and rejection. Students who interact with professors like Alf Siewers will learn to recognize the increasingly blurred difference between public and private.

1 ECAR study available at: www.educause.edu/ers0706/13903

In our next issue, we will feature an article about Professor Carl Milofsky’s video adventures in Northern Ireland.

A PROFESSOR’S ADVENTURES IN FACEBOOK

by Jason Snyder and Kathleen McQuiston, Research Services Librarians

BACK IT UP, BUCKNELL! Have you ever taken a digital picture and put it on your computer? Wrote a paper, prepared a presentation or spent time downloading or ripping songs to your computer? If you answered yes to any of these, you should back up your data to an external hard drive. Every month at the Tech Desk, we see hard drives that fail without warning, sometimes without a chance of recovery. Library and IT strongly recommends that every student at Bucknell buys an external hard drive and backs up their computer. Find lots of suggestions and options for you at www.bucknell.edu/backitup.xml.
JEFFREY CAMPBELL, an experienced videographer, has been hired as Classroom and Event Support Analyst. During his years working with cable and advertising companies, Jeff produced numerous television and radio commercials and broadcasts, including live sporting events. More recently, he worked part-time on video projects for the Web Development Team here at Bucknell, becoming familiar with the campus community.

Jeff’s primary role now is to provide video support for the expanding calendar of events hosted by Bucknell. While arranging coverage for local, regional and national events brought to campus by visiting scholars and guest speakers, Jeff will be advancing one of the strategies in The Plan for Bucknell: Build Bridges. To further complement the skills of his new colleagues, Jeff also brings years of experience on the Macintosh platform.

A native of western New York, Jeff has considered Pennsylvania his adopted home since early adulthood. The next time you’re at an event, see if you can spot Jeff. If not behind a camera, he might be found behind a mask. In his spare time, Jeff plays goalie for the roller hockey club team at Bucknell.

NANCY FRAZIER is our new Instructional Services Librarian, and she has enthusiasm written all over her face. Nancy determines never to become a hidden resource; rather, she intends to become known to Bucknell students as an educational partner with faculty. The model of academic librarian as instructor is one that Nancy shaped during her years at Buffalo State College. More recently, she worked at Bucknell as Office Coordinator of Major Gifts.

Advancing the information literacy program at Bucknell is a charge Nancy is thrilled to accept. Library materials are collected to support student coursework, yet finding and using these resources may be challenging to students. Focused instructional sessions, including those within the Foundation Seminar program, promote student use of the library. A natural teacher, Nancy will enjoy planning and conducting these sessions.

The opportunity to work in an organization that has successfully merged library with technology is one Nancy greatly values. She looks forward to coordinating with technology staff and working with the Teaching and Learning Center during the new academic year. Nancy also serves as library liaison to East Asian Studies, History, Mathematics and Physics.

Nancy is married and has three sons. In her leisure time, she sings with the Susquehanna Valley Chorale, loves going to estate sales and hikes the hills and valleys of Pennsylvania.

ISABELLA O’NEILL, a familiar face in the Bertrand Library for over twenty years, is now found among rare books and university papers. She is the new Curator of Special Collections/University Archives (SC/UA), following the retirement of Doris Dysinger in Spring 2008.

With her background in public services, she naturally sees the collections of SC/UA as a rich resource for the Bucknell University community. In her new role, Isabella hopes to make these unique materials more visible, accessible and integrated into faculty and student research.

Isabella has already expanded service hours for more convenient access: Monday to Friday, 9 a.m. to 5 p.m., throughout the calendar year. In Special Collections, there is a strong foundation of existing holdings, such as its library of Irish literature. Building on such holdings is one of Isabella’s goals. In University Archives, materials related to institutional history are collected and preserved. Isabella sees that improved organization and cataloging would reveal this largely hidden collection to potential users. Digitizing some portions of SC/UA to provide remote access is an exciting, future challenge she welcomes.

Take one flight down the central stairs of the Bertrand Library, step into the comfortable reading room and renew your acquaintance with Isabella O’Neill.
Here in Library and Information Technology, student workers are invaluable to accomplishing our goals. Our organization simply could not function without motivated young people staffing our service desks, helping patrons, troubleshooting computers, and accomplishing other important duties. Once in a while, working here influences a student’s career choice. Brody Selleck ’07 is one such student who wants to follow in our footsteps.

Brody is working towards his MLS at the University of North Carolina, Chapel Hill. While at Bucknell, Brody was a double major in Political Science and History and worked in the library’s circulation department for three years. He was also very heavily involved in the University Library Committee and Library and Information Technology’s Student Advisory Group. I got to know Brody well during his time in the group, and was impressed by his thoughtful and innovative contributions. Brody says serving on this group was his favorite thing about working for Library and IT. He says that “knowing that the staff valued the opinions of the students changed [his] view of the library and put [him] on the track to becoming a librarian.”

In the spring of 2007, Brody started on this track by showing up in my office, and stating that he was interested in becoming a librarian. I got to be an unofficial career counselor that day as I explained to Brody all about library school, the MLS degree, and the different facets and areas of librarianship. We also set up a job shadowing experience for him for the following fall.

Recently, I checked in with Brody and interviewed him about his decision to pursue a career as a librarian:

**JASON:** How did your time working at the Library prepare you for entry into this field?

**BRODY:** I think my experience prepared me for library school primarily because it gave me the chance to work with, and talk to people in the field. If I had not worked for Library and IT, I would not be on my way to a career that I know I will love.

**JASON:** What classes/work are you doing at UNC that will prepare you for entry into the field?

**BRODY:** I am very interested in digital librarianship, so I will be taking some digital library-based classes in the fall that will give me a more detailed background. I am also working in the Carolina Digital Library and Archives. I work on the library’s pilot program for mass digitization of manuscripts. My work involves scanning the manuscripts on a high speed, high resolution scanner, developing item-level metadata for the materials, and user testing for the project’s web page.

**JASON:** What are your career plans?

**BRODY:** I am torn between working at a university like Bucknell and possibly moving to Ireland to work at a college there. Wherever I end up, I want my job to be related to digitization.

**JASON:** How can a motivated young librarian make a difference in the field?

**BRODY:** Libraries are always changing, and in my opinion, the best way for a young librarian to make a difference is to continue the change. We are learning about a lot of new ideas in school that could really change how libraries are perceived. I think that in today’s library world, just being involved is going to make a difference.

Brody’s expected date of graduation from UNC Chapel Hill is 2009.