Bucknell students go the distance to conduct research.
How do I join?

Group memberships are maintained in the B-Link online community. To join:

- Visit B-Link at www.b-link.bucknell.edu.
- Log in to B-Link. For first-time login code, contact Alumni Relations at 570-577-3223 or alumni@bucknell.edu.
- Go to “My Groups” at top of page.
- Check the box next to the group(s) you want to join. You will be added to the e-mail list for those groups.
- You can view the group pages by going to “Clubs and Networks” on left side and choosing a network.

How do I learn more?

Visit the Affinity Programs FAQ page in B-Link at www.b-link.bucknell.edu/affinityFAQ.
Features

18 Hands Up to Hands-On
Leadership demands that we are not just consumers of the benefits and by-products of science but purveyors of them. Bucknell meets this challenge by taking students out of the classroom and into the field — and stream.
*By Gigi Marino and Barbara Maynard ’88*

24 Celebrating 125 Years of Co-education at Bucknell
When members of the Class of 1883 Frances Rush, Lizzie Lanning and Ann Hay arrived on campus, they were a new breed altogether — the first female students at the newly co-ed University.
*By Theresa Gawlas Medoff ’85*

26 New Turf for Two Teammates
John Squires ’84 and Tom Biemer ’84 once wore helmets and cleats. Twenty-five years later, they team up wearing suits and ties to argue what has been billed as the most important patent law case in over a decade.
*By Kathleen Squires*

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On the Cover: Bucknell biologist DeeAnn Reeder and Megan Vodzak ’09 worked with Sudanese field conservation officers to educate the public about wildlife preservation and study local bat populations in areas that haven’t been assessed for 50 years. Photograph by Bruce Cramer
Hands-on in the Lab, the Field, the World

They work in Sudan and Mexico, Northern Ireland and Spain. They study viral infections in Pennsylvania honeybees and the currency patterns of traders on Wall Street. They are creating water pump and pipe systems for impoverished mountaintop communities in Nicaragua, studying geological formations on earth that will enhance our understanding of Mars and designing robots that swim like fish to be used for search and rescues.

They are not faculty — or at least, not faculty alone. They are undergraduates at Bucknell, working alongside faculty on issues that test their minds and their mettle and contribute not only to their own understanding but also to that of people around the world. It is quite a fascinating way to learn for individuals who, in most cases, haven’t yet reached their 21st birthdays.

At Bucknell, we like to say that students receive a personalized learning experience. Saying it is one thing though, providing it is another. But we do provide it, in small classroom settings — our student-faculty classroom ratio is 11-1, down recently from 12-1 through new investments in faculty hiring. We provide it in first-class laboratories where undergraduate students work with cutting-edge equipment like rapid prototype machines that create epoxy parts out of 3-D images that the students themselves design. We provide it out in the literal fields of study as students join faculty on challenging investigations of difficult and provocative questions at the farthest reaches of the planet.

Perhaps it is this hands-on experience that helps explain the unique combination of success and service that typifies Bucknell graduates. The 2008 Education and Salary Report, released in July by PayScale Inc., says Bucknell graduates have the highest earning potential among graduates of all top U.S. liberal arts colleges. Bucknell, meanwhile, is sixth on the Peace Corps’ top 25 list of small colleges and universities producing Peace Corps volunteers. These indicators are a compliment to Bucknellians and the opportunities for both the success and service their University nurtures.

Determination to keep Bucknell at the forefront of first-class undergraduate learning is behind our decision to launch the most ambitious, comprehensive campaign in Bucknell’s history. The campaign, described further on page 4, provides a special way for those who believe in Bucknell and want to see it rise to the next level to secure its future. Knowing what I know about Bucknell, and the will to explore, lead and serve that characterizes our students and graduates, I have no doubt that the campaign will be a success. This is Bucknell, and so, as our undergraduates remind us every day, we will succeed.

Brian C. Mitchell
PRESIDENT
TAKE ME TO THE RIVER
What a fabulous magazine! And I am blown away by the cover story about Bucknell’s place in the land [Summer 2008]. As a 1960 grad, I had no concept of that “place.” In my adult years, I have been fascinated by rivers; although I had one right in my backyard for four years, I paid little attention to it. I traveled to Bucknell from New Jersey through a dirty, discouraging landscape of mining towns and ignored the river and its history. Now, I want to learn as much as I can about the place. My 50th reunion is 2010 — perhaps you can plan some ancillary opportunities to enjoy the river, the Native American impact, the slave impact and the mining and farming impact that I totally overlooked 50 years ago. I am so proud of Bucknell for taking a leadership role in studying its place in the environment and in enriching it. Congratulations to those making that happen.
Dolores Antoinette Schaefer James ’60
OCALA, Fla.

HEAVY METAL
I enjoyed your cover story on Pennsylvania’s natural history and industrial past. I was particularly interested in the mention of steel being produced in Danville in the late 19th and early 20th centuries. Danville had a reputation for primarily producing the iron; the manufacturing of steel mostly happened in Bethlehem and Pittsburgh. My grandfather worked at the Reading Iron Company’s Big Mill (now the site of the Danville Middle School). The company’s mills all eventually stopped production at the end of the Great Depression, when steel replaced iron production, but not before making a large contribution to American expansion: the first domestic T-rails, which helped build our country’s railways.
G. Richard Garman M’69
MOUNTAINTOP, PA.

DO RUN RUN … SWIM AND BIKE
I watched the Ironman Wisconsin here in Madison in September and was impressed by the achievements of Leslie DiMichele ’07. In her first Ironman, she finished the 2.4-mile swim, 112-mile bike race and the 26.2-mile run in 11.32.10, which placed her fourth in her age group (women 18–24). Her time was also the eighth fastest in which an 18- to 24-year-old woman has ever run Ironman Wisconsin. It’s inspiring to see that Bucknell produces individuals who can manage their first year out of college working as a chemical engineer and still have time to train and participate in what is arguably the most grueling single-day sporting event — a 140.6-mile race — in the world.
Joe Scalia ’07
MADISON, WIS.

Letters

KNOW A GREAT STUDENT WHO EMBRACES BUCKNELL’S IDEALS?
You can help Bucknell by recommending top students for admission. Use the admissions recommendation form at www.bucknell.edu/x42790.xml.
The Right Time for Private Giving

The largest goal of the new campaign is to raise scholarship money.

By Pete Mackey

When President Brian C. Mitchell talks about the University’s new fundraising goals, he emphasizes the impact that private giving can have — and has already. “Thanks to our endowment, every student here receives a silent scholarship of about $10,000 that comes out of the endowment and reduces the tuition cost. And there is hardly a campus building that hasn’t in some way been built, renovated or improved thanks to a donor’s gift. Bucknell is one of the finest liberal arts universities, but we could not achieve our goals without private giving.”

Recognizing how important private giving is, the University has begun its largest fundraising initiative ever, a comprehensive campaign aiming to raise $400 million.

The private phase of the campaign, which began in July 2007, is going extremely well, according to Sam Lundquist, vice president for development and alumni relations. Donors have contributed more than $80 million in new commitments, including $50.5 million last year alone, which established a single-year fundraising record at Bucknell.

The achievement, says Mitchell, “is a wonderful demonstration of the generosity of Bucknell’s alumni and friends and their recognition of how important they are to this University.”

Mitchell believes that the time is right for private giving to have a powerful impact on Bucknell’s academic excellence and reputation, notably by enhancing its faculty and its accessibility to outstanding students.

“We know that the greatest value we provide to students — and, frankly, the greatest value we provide to our alumni — is to offer one of the best learning experiences anywhere,” Mitchell says. “That begins with the faculty, and we intend to invest like never before in faculty recruitment and retention.”

Specifically, Lundquist says, the campaign goals identified by the Board of Trustees include investments of $75 million in the faculty, including endowed chairs, university professorships and faculty fellows. “Strategic investments
in faculty,” Lundquist says, “are essential to keeping and recruiting the individuals who shape the learning experience and, in fact, Bucknell’s national reputation.”

Another $100 million is targeted for the academic program, which supports faculty and student endeavors and includes new courses, innovative programs within and across colleges and academic centers focused on fresh teaching and research initiatives (such as global studies and the environment). “The best universities never rest in exploring new fields of knowledge,” Mitchell notes.

The biggest target for the campaign, though, is scholarships — with a goal of $125 million. “Too often,” says Kurt Thiede, vice president for enrollment management and dean of admissions, “students who consider Bucknell their top choice get offered much larger scholarships by competitors than we are in a position to offer.”

The problem, says Lundquist, is that Bucknell’s endowment per student is significantly less than that of its competitors. “Endowment per student is a critical marker of how you stand relative to your peers in terms of resources that impact each student day to day. If you’re not competitive on a per-capita basis, you’re starting from a big disadvantage.”

The Board of Trustees has identified 13 schools — including Colgate, Davidson, Lehigh, Middlebury and Wake Forest — as Bucknell’s top competitors for students, faculty and national reputation. Bucknell’s endowment per student is $144,000, while the median endowment is $195,000, or 35 percent more, per student.

Finally, the campaign targets $75 million for campus facilities, including the arts, the library, engineering, the sciences and athletics, and $25 million for the student experience, including leadership and co-curricular programs.

“We know from the start we have had that our alumni are excited about the difference they can make,” says Lundquist. “This campaign will strengthen Bucknell on a whole series of levels, and we’re looking forward to talking with everyone about it.”

Committing to Bucknell
By Martie Lauver Samek ’60

Deciding to take on a leadership role as a vice chair of Bucknell’s new comprehensive campaign was easy. While I have volunteered for the University for many years, including serving as a University Trustee and three terms as president of the Alumni Association Board of Directors, my role in the campaign is the most important and meaningful I have been asked to fulfill.

I am proud of the University and the excellence it offers. To continue this excellence, however, and to assure that the University has the needed financial aid, faculty and program support and campus facilities, all of us who care about Bucknell must ensure that we reach the campaign’s $400 million goal.

Reaching this goal will require a number of large, significant gifts and, equally important, a great number of smaller gifts. More than that, though, achieving the campaign goal will depend on the participation of all of us who care about Bucknell, benefit from it and want it to be strong for years to come.

This involvement can come in many ways — by working with the development office on fundraising programs; by working with the alumni or parents offices to build professional and social opportunities for each other and for today’s students; by working with the career center on networking opportunities — the list goes on. The fact is Bucknell is not an institution whose work is ever done. It is up to all of us to bring it to life and strengthen it.

Now is the time to demonstrate our commitment to Bucknell and its future by making a contribution to the campaign and by being involved. Bucknell’s future depends on us, and I hope that the Bucknell community will embrace this chance to support this great University at a critical juncture in its history.

Martie Samek ’60, her husband, Ed ’58, and daughters, Anne Samek Hopkins ’86, Margaret Samek-Smith ’88 and Elizabeth Samek O’Malley ’91, are all Bucknell graduates.

BILL CARDONI
A Town Tribute to One of Our Own

By Mary Ann Sigler Stanton ’89

I t is no secret to Bucknell alumni or townsfolk that Lewisburg is the quintessential American small town. People know one another, if not by name, then at least by sight. News does not stay new for long, and sad news makes the rounds even more quickly. Within hours of the passing of Charlie Pollock ’70, vice president for external affairs, on July 23, the trademark marquee on the Campus Theatre declared the shared sentiments of town and gown with the simple and heartfelt message, “We’ll Miss You, Charlie.”

Traveling down Market Street the day after Pollock’s passing, drivers and pedestrians alike paused near the theatre to remember him, all struck by the loss of their friend or colleague and by a simple message that dominated the downtown landscape, expressing the sentiments of many. Who had not seen Charlie Pollock’s tall frame striding purposefully across campus or along Market Street, topped by his familiar red hair and ever-present Bucknell tie? His voice, Bucknell theatre-trained as an undergrad, needed no technical amplification to share the latest updates on Lewisburg-Bucknell projects, and its echo will be felt through town hall as well as Marts Hall for years to come.

When asked about Pollock’s impact on Lewisburg, Mayor Judy Wagner said, “It’s hard to focus even a little bit on all that he did, because his presence was so large in all of our endeavors. When we saw Charlie, we knew that something big would happen.

“He was such a wonderful facilitator. He made sure that our communications were accurate, which was so important in any kind of town-gown relationship. He was the conduit between us.

Charlie’s heart and soul were in Lewisburg and Bucknell, and he wanted this to be a great place to live. Most of all, we loved him.”

Pollock exuded the Orange and the Blue from every pore, but it was obvious to all who met him that his love of his adopted hometown of Lewisburg was equal to his love of alma mater. His memorial service, held at Rooke Chapel on Aug. 7, was well attended by town and gown alike.

“We’ll miss you, Charlie.”

Charlie Pollock’s obituary appears on p. 62 of this issue.

Hello Mr. (and Ms.) Chips!

T here’s no telling if the 96 Chips Off the Ol’ Block who enrolled as members of the Class of 2012 this fall have brought back to campus their parents’ tarnished disco balls or well-thumbed copies of The Preppy Handbook. That’s right, the record number of alumni legacies — fully 10 percent of the entering class — are largely the offspring of members of classes from the early 1970s through the mid-’80s, the last of the Baby Boomers. Only time will tell if the kids who were raised on ET: The Extra-Terrestrial will remember to “phone home.”

A list of first-year students who are following in the footsteps of their parents, grandparents or other direct-line relatives is available in B-Link: www.b-link.bucknell.edu.

— Andrew W.M. Beierle
Q & A

A conversation with
Stephen Wallace M’84,
president and CEO of
Students Against Drunk
Driving (SADD) and
author of Reality Gap.

Q: What can parents do to help
prevent their children from
making bad choices?

A: Seven years of original research
from SADD makes it clear that
communication is key when it comes to
guiding young people toward safe, healthy
choices. It sounds simple, but many adults
struggle with how best to talk with teens
about difficult subjects such as underage
drinking, drug use and, most especially,
sexual behavior. Nevertheless, it’s worth
the effort. Parents who talk with their
kids on a regular basis, during normal
conversations, are much more likely to
have children who make good choices
than those who don’t. The book is filled
with useful tools to help get these critical
conversations rolling.

Q: What kind of dangers and pitfalls
might students face when leaving
home for college the first time?

A: Typically, first-year college students
find themselves living in an envi-
rnoment with a lot less structure, fewer
rules and little supervision. Hopefully,
they arrive fully prepared to handle their
newfound freedom and to live by the
rules in their new community. We know
from experience, however, that many
of them don’t, placing themselves and
others at risk. Moms and dads can help
prepare their kids for college by continu-
ing the dialogue, setting expectations
and focusing on the physical, emotional,
social and legal risks that go hand-in-
hand with certain behaviors. It’s also
important to keep tabs on a student’s
psychological well-being as stress and
depression can lead to substance abuse.

Q: Are the problems of drugs, sex
and alcohol more prevalent now
than they have been in the past?

A: Yes, in many ways the problems
are more prevalent because the
behavior is more risky. Drugs may be
more potent, alcohol used more heavily
and recreational sexual behavior has
serious, even life-threatening, conse-
quences. Another problem is the
migration of such behaviors to younger
and younger ages. According to the
research, there is a big spike in alcohol
use between the 6th and 7th grades,
other drug use between the 8th and 9th
grades and a large spike in sexual behav-
ior between the 10th and 11th grades.

Reality Gap, Alcohol, Drugs, and Sex —
What Parents Don’t Know and Teens
Aren’t Telling was published by Sterling
Press in August. For more information, go to

Bucknell in the News

3-D OR NOT 3-D?
Fans of newly released 3-D films
say the updated technology is as
revolutionary as sound and color
once were. But Assistant Professor
of English Eric Faden told the
Arizona Republic he’s skeptical.
“It’s great for tent-pole, spectacular
blockbusters that are long on
thrills…. [But] can you imagine a…19th-century costume drama
in 3-D?”

WALL STREET WOES
With the Bush administration busy
reacting to crises, long-term finan-
cial system remedies will be pun-
ted to the next president, wrote William
Gruver, professor of management,
in a New York Times op-ed. The
next president has to focus on
guiding companies and helping
them to adhere to sound principles
of risk management and avoid
imprudent business practices.

PLANTING A NEW TREE
Five years after LendingTree
founder Doug Lebda ’92 sold the
company, he has returned as chief
executive of the reconfigured
Tree.com to mark its diversifica-
tion into real estate, financing and
insurance. He told the Charlotte
Observer that his challenge is to
navigate a national housing crisis
that has depleted the company’s
profits and led to major job cuts.

MAD ABOUT YOU
Charlie Collier ’91, the man
behind the award-winning AMC
series Mad Men, took a chance
on Matthew Weiner’s script after
HBO and Showtime passed on it.
“I want us to be known as a place
that is creator-friendly,” Collier
told Broadcasting & Cable.
“AMC supports creators in a
way that allows them to be the
driving force.”
New Faculty Faces

Twenty-six new tenure-line faculty join Bucknell this fall.

By Barbara Maynard ’88

Campus is alive with fresh faces this fall, and they are not all new students. Twenty-six new faculty members are joining departments from Spanish to chemical engineering. Fourteen of the new hires will help the University meet a pledge made in The Plan for Bucknell to provide faculty with more time to meet with students and resources to pursue their own research. Towards that goal, Bucknell has embarked on a three-year plan to reduce teaching loads from six courses per year to five.

Last year, the University started fulfilling that promise by hiring 24 faculty members, 11 of whom were hired specifically to reach the five-course load goal. Next year the plan will be fulfilled with the addition of 12 more positions.

Reducing teaching loads not only keeps Bucknell competitive for hiring the brightest young teacher-scholars, but also gives the faculty “the resources to do what we hope they will do, which is to be outstanding teachers, scholars and citizens of our community,” says Provost Michael Smyer.

Bucknell has shown its commitment to excellence by committing to full-time positions. “What is especially important is that Bucknell has done this the right way — that is, by adding tenure-track faculty to make up the difference,” says Smyer.

The research interests of this year’s new faculty reflect the diversity of a liberal arts institution, with specialties in 17th-century British lyric poetry, the biology of aging, social networking, Chinese diplomacy and much more.

“It’s an exciting time at Bucknell both because of the normal faculty renewal that comes with hiring new faculty and because of the commitment to a five-course teaching load that we are now implementing,” Smyer says. “Both of them continue to make Bucknell a very attractive place for both faculty and students.”

For full profiles and photos of Bucknell’s 26 new faculty members, go to www.bucknell.edu/bmagazine.

Ray from PayScale

There really is a buck in Bucknell. Big bucks, actually. Bucknell graduates have the highest earning potential of all liberal arts college graduates nationally, according to the 2008 Education and Salary Report by Seattle-based PayScale, Inc. The starting median salary for Bucknell graduates was $54,100, while the mid-career median was $110,000.

Bucknell was followed by Colgate University ($52,800/$108,000) and Amherst ($54,500/$107,000). PayScale also ranked Bucknell 13th among all Northeastern colleges and universities for salary potential. “We hear frequently from employers and alumni about the excellence of our graduates, so it makes sense that they are doing well financially coming out of Bucknell and as their careers progress,” says Sarah Bell, associate director of the Career Development Center. “While salary is one of the many important variables to consider when choosing a professional opportunity, we know our graduates also are very interested in careers that are rewarding in many other ways.”

— Andrew W. M. Beierle
Significant features of the project are the construction of a 75-room inn and business center on the edge of campus near downtown Lewisburg, the relocation of the on-campus bookstore to a location on Market Street and the renovation of the Campus Theatre.

Pennsylvania Governor Ed Rendell visited campus on Aug. 6 as part of a statewide tour to announce the Redevelopment Assistance Capital Project grant to the Lewisburg community, the largest ever awarded to the region.

"Everyone is keenly aware the American economy is challenged," the governor said at Bucknell's Weis Center for the Performing Arts. "We decided in Harrisburg we weren't going to wait for Washington. We decided to craft our own economic stimulus plan."

Bucknell President Brian C. Mitchell said he believes the state's pledge will create opportunities for the University to attract funds from other sources.

"This is as important to Lewisburg, and really the whole region, as it is to Bucknell," Rendell said. "You can't have viable downtowns without something to attract people to those downtowns."

The total price tag on the projects comes to about $100 million. The University is trying to secure other state grants and funds from private developers to put toward the project.

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Engineers of the Future
By Barbara Maynard ’88

This summer, 26 burgeoning engineers spent a week at Bucknell designing bridges, digital circuits and eco-friendly makeovers for their hometowns as part of the first annual Engineering Camp, which drew 13- to 16-year-olds from across central Pennsylvania.

Assistant Professor of Chemical Engineering Erin Jablonski was inspired to start the camp by her graduate school experience as an instructor of similar programs. She says, “Many students that came to such camps knew they were interested and talented in mathematics and science, but wanted to know more about what an engineer is.”

Her colleagues from the College of Engineering helped with talks and hands-on activities on everything from nanotechnology to clinical engineering to renewable energy. Diamond Bishop ’09, Tim McLees ’09, Janet Tesfai ’09 and Jason Wong ’09 served as counselors.

Funding came from a National Science Foundation Nanotechnology for Undergraduate Education grant.

In the yearbook the students created during camp, favorite memories included making an eight-pulley system, viscoelastic slime and optical adhesives and competing to build the strongest bridge. Lunch, staying up late and “the most intense Ultimate Frisbee game ever” also made the list.

For more information, visit www.facstaff.bucknell.edu/ejablons/engCamp.html.

A film crew from an international film crew visited the Bucknell campus this summer to conduct interviews about primate behavior for an upcoming History Channel program, Bad Moon Rising: The Real Wolf Man. The team interviewed Douglas Candland, professor emeritus of psychology and animal behavior, about relationships between primates and feral children, and spent time with primate researcher Meghan Hoopes ’09.

SHORT STACK

Janet Weis and David McCullough received honorary degrees from the University on Oct. 7, the same day that McCullough received the award for being the Janet Weis Fellow in Contemporary Letters at Bucknell University. The Weis fellowship was established by the Degenstein Foundation in Weis’ honor in 2002. McCullough, an internationally known historian and biographer, is its seventh recipient.

The Toni Morrison Society, an international author society of the American Literature Association that studies and celebrates Morrison’s works and their place in art and culture, has moved to Bucknell University. Carmen Gillespie, associate professor of English, will be the society’s new executive director. Bucknell was chosen because of its support of literary creativity and commitment to the humanities.

In April, Bucknell’s Board of Trustees passed a motion endorsing the creation of a School of Management within the College of Arts and Sciences, effective fall 2008, with the understanding it will evolve into a College of Management. This decision follows more than a year of work by trustees, faculty and staff in assessing the wisdom of such an initiative.
Beijing Bound

When J.R. Holden found out he was going to the Olympics, he told his former Bucknell coach he had a ticket to China waiting for him.

Cinderella stories are the stock-in-trade of sportswriters, but this underdog tale grew to Olympian proportions. Spurned by the NBA after graduation, J.R. Holden ’98 launched a successful international career that has seen him play in Latvia, Belgium, Greece and Russia. He nailed the game-winning jumper to give Russia the Eurobasket 2007 championship and a berth in the 2008 Beijing Olympics.

The Russian team placed fifth in a qualifying round that saw only the top four advance to the Olympic quarterfinals. Watching from the sidelines was former Bison coach Pat Flannery ’80, M’83, who attended the Olympics as an invited guest of Holden. Says Flannery, “It was one of the most amazing experiences of my life.”

Pittsburgh-born Holden became a Russian citizen in 2003 to comply with Russian Basketball Federation regulations. He maintains his American citizenship. “All I do is play basketball as a Russian,” he told ESPN. “I pay taxes in the U.S., I live in the U.S., I do everything in the U.S. except play basketball.”

—Andrew W.M. Beierle
Interactive. Transformative. Avant-garde. All the words used to describe the kinds of theatre that interest Gary Grant, professor of theatre, could be used to describe Grant himself. Grant, who has directed more than 20 plays in 20 years of teaching at Bucknell, has a penchant for variety and social meaning when educating students about theatre.

Though Grant says that “academic theatre offers freedom from the necessity of creating box office successes,” one of his recent productions of Sam Shepard’s True West was selected to perform at the Kennedy Center American College Region II Festival at Carnegie Mellon’s main theatre this January. Two other Grant-directed productions of Shepard’s work have been selected to tour regionally and nationally.

“The Shepard plays are special to me,” says Grant, who met the playwright in San Francisco in 2000 during the intermission of The Late Henry Moss, which Shepard was directing. “I felt his nervousness,” Grant said of Shepard, whom he describes as a friendly, straight-shooting talker. Grant hosts a website dedicated to Shepard and plans to use part of his upcoming sabbatical to write a dramaturgical sourcebook about True West to help others who want to direct this show.

During this sabbatical year, Grant also is focusing on applied and interactive theatre, which is based on improvisation and storytelling techniques. This type of theatre emphasizes creating theatre communities at such off-campus sites as senior citizen residences and prisons, where students can interact theatrically with people outside of a traditional theatre setting.

Grant says that an enormous amount of support for students exists within the theatre department and faculty members work hard to help students find their niche. “Theatre is risky and challenging,” he says. “But the faculty are amazing, and students find themselves in all kinds of fields from acting and directing to stage management, entertainment technology, design and lighting.”

FACULTY PROFILE

Anne Pusey

What do “cup,” “bow,” “snake” and “shadow” have in common? If you’re speaking Chinese, says Anne Pusey, assistant professor of East Asian studies, they form a four-character phrase based on a historical story that means a person is “overly suspicious.”

Pusey says students in her Chinese classes learn far more than language; they discuss cultural, historical, social and moral issues that make her courses rich and sometimes even controversial. According to Pusey, however, the first three days of beginning Chinese are the most important because that is when students learn the tonal sounds that help them determine the right words from the wrong words.

“Chinese is so different from English, and students often don’t know how to approach it,” she says. “I help them gain confidence, because the first year is crucial for whether a student continues or stops learning the language.”

Pusey, who began teaching at Bucknell in 1994, received the 2006 Bucknell-Burma Award for promoting intercultural and international understanding. She advises the Chinese Culture Association and has created language materials for students that incorporate visual and aural activities designed to promote accurate pronunciation. She also escorts groups of students and teachers to China. — Michelle Dangiuro
No Stranger to the Patriot League

New men’s basketball head coach, Dave Paulsen, has a few of his own stories about the Crusaders.

By Brett Tomlinson ‘99

Men’s basketball coach Dave Paulsen may be a newcomer to Bucknell, but he is no stranger to the Patriot League. In December 2003, his Williams College team, the Ephs, traveled two hours east to Worcester, Mass., and outplayed Holy Cross on its home court, improbably topping the Crusaders, 78-71.

The Ephs were the defending Division III national champions at the time, but a small school upsetting a Patriot League powerhouse still was big news. “We got more national notoriety for beating Holy Cross than we did for winning the national championship,” Paulsen says.

At Bucknell, Paulsen hopes to add more ticker-worthy wins for a program that has had its share in the last few seasons. And if history is a guide, the Bison are in good hands. Paulsen has compiled a 262-120 record in 14 seasons as a head coach at LeMoyne, St. Lawrence and Williams, his alma mater. Paulsen’s most successful run came at Williams in 2003 and 2004, when the Ephs won the Division III title and came within a basket of repeating the feat a year later. Michael Crotty, the point guard for those teams and now the Boston Celtics’ director of player development, says that chemistry and cohesiveness defined Paulsen’s program. “We loved to work together each day,” he says.

Off the court, Paulsen, 43, and his wife, Kathy, spent the last eight years raising their three daughters in Williamstown. Leaving was not easy, he admits, but Bucknell seemed like an ideal fit, with a healthy balance of academics and athletics, a tradition of basketball success and a small-town community.

“I knew it was a great opportunity when I accepted the position,” Paulsen says, “and every single experience since that time has confirmed that.”
New Student Orientation

What a welcome mat!

By Jerri Brouse

Bucknell’s new student Orientation embraces tradition, scholarship and community. After Orientation Assistants, carting boxes and bags into the residence halls, help first-year students move in, and parents say their goodbyes, new students share a dinner on the Quad. Directly afterwards, they attend the stately Matriculation ceremony in Rooke Chapel and then walk down a luminaria-lit pathway through the Christy Mathewson Gates, thus officially becoming Bucknellians.

Then, the fun begins: five days of high-energy activities including a kick-off carnival complete with a mechanical bull and cotton candy, Color Games (imagine nearly 1,000 students, paint and waterslides), a street festival, a big downtown Lewisburg welcome, Western line-dancing lessons, music, DJs, barbecues and much more. The last night ends with Convocation and candle lighting, as the new class receives the light of knowledge from the upperclass.

None of this would be possible without the dedication of 100 student Orientation volunteers. This year’s Orientation leader, Sarah Surgala ’09, says, “It’s a fun and exhausting process that takes 10 months of planning and collecting supplies to assure a great welcome for 960 new Bucknellians.”

To see photo galleries of the Class of 2012 Orientation, go to www.bucknell.edu/x42797.xml.

STUDENT PROFILE

Marissa Calhoun ’10

Marissa Calhoun could have spent the summer earning hundreds of dollars per week working at MTV and maybe even rubbing elbows with high-profile celebrities. Instead, she chose to split her time between an $8-per-hour internship with the Public Broadcasting Service (PBS), headquartered in Arlington, Va., and an unpaid internship with Voice of America in Washington, D.C., the broadcasting service of the federal government, whose function is to promote understanding of the United States internationally.

As a junior majoring in English with a concentration in film and media studies and a minor in women’s studies, Calhoun was more interested in making a difference than making money. “I chose PBS and Voice of America because I consider myself a ‘human rights activist’ sort of person,” she says. “For me, PBS represents the integrity and initiative necessary for progress and change.”

Her internships, she says, helped her maximize her summer experience and build a résumé with highly respected organizations.

At PBS, Calhoun spent her time in the interactive department, where she worked on creating websites for various programs, including an upcoming documentary on Muhammad Ali. At Voice of America, Calhoun worked on a magazine program called Perspectives, specifically on a piece that gave an American perspective on issues pertaining to Africa. Perspectives is a daily, English-language show broadcast to viewers in sub-Saharan Africa.

She also had the opportunity to shadow employees in various departments and learn everything from researching show topics to interviewing guests and running the teleprompter.

Following her internships, she went back to work at her job at Homeland Security. Calhoun is in the federal government’s “Stay-In-School” program, which allows students to work during their breaks throughout the school year and over the summer while they attend college.

“Having the opportunity to do work involving critical issues in our country,” she says, “has truly tested my opinion on issues pertinent in the 21st century.”

— Jerri Brouse
BOOKS

Marc Hauser ’81
*Moral Minds: The Nature of Right and Wrong* (Harper Perennial)
“The next time you think that the person across from you must be from Mars, think again,” Harvard psychology and evolutionary biology professor Marc Hauser says in the postscript to the new edition of his landmark book, *Moral Minds*. The brain, he argues, comes wired with a common grammar of morality regardless of gender, upbringing, education or religion, though those elements shape an individual’s articulation of right and wrong. *Moral Minds* is a fascinating, far-ranging tour of the rapidly growing study of morals that challenges the Hobbesian concept of the mind as a blank slate at birth. Hauser supplements research with evidence from daily life to illustrate how humans use the same faculties to arrive at seemingly divergent codes for getting along with one another.

Oriole Farb Feshbach ’53
*Luminations* (Midmarch Arts Press)
When text inspires artist Oriole Farb Feshbach, she does not illustrate it; instead, she engages in what art critic Martica Sawin, who provides the introduction to *Luminations*, calls “reciprocal enhancement.” Feshbach’s sumptuous new work partners with Wallace Stevens’ “The Auroras of Autumn,” a set of cantos tapping the languages of celestial science, seasons and mythology to capture a profoundly integrated vision of life on Earth. Feshbach sings back with a visual vocabulary pushed to an emotional, or “felt,” dimension. Many of her pieces are amalgams, beginning as scientific photographs or charts that she transforms into vivid new media. Each is a satisfying work of art that also completes the larger procession of images and Stevens’ lines.

Frederic Charles Schaffer ’84
*The Hidden Costs of Clean Election Reform* (Cornell University Press)
Clean elections are the bedrock of democracy, but, as Frederic Schaffer has documented through research and firsthand observation of electoral processes around the world, corruption and misbegotten remedies wreak havoc. His latest book on the topic explores how reform can seriously injure the patient it is supposed to cure by excluding or alienating voters or creating pathways to cheating. Reform measures themselves are not to blame; it is the actors — the lawmakers, the candidates and party functionaries, poll workers and civic educators — who intentionally or unintentionally subvert their own goals. Schaffer examines their roles in historical and contemporary election dramas ranging from Florida to the Philippines. He concludes this lucid analysis by reviewing strategies for assuring the integrity of future reforms.

Myles Cooley ’68
*Teaching Kids with Mental Health and Learning Disorders in the Regular Classroom* (Free Spirit Publishing)
With rising diagnoses of emotional and learning disorders across the national school-aged population, an estimated 10 million children identified with one or more such conditions are enrolled in mainstream classrooms this year. For the students, inclusion policies have made it possible to interact in the regular learning community; for teachers, they require striking a delicate balance between individual accommodations and whole-group needs. Psychologist Myles Cooley’s manual identifies symptoms of the disorders and recommends instructional methods and communication strategies to
engage the students on their level, with as little disruption to the classroom environment as possible.

Janet Powers ’61
Difficult to Subdue as the Wind
(Finish Line Press)
Janet Powers is well known as a professor emerita at Gettysburg College and the author of books on Middle Eastern sociology. Now the chapbook Difficult to Subdue as the Wind, part of the publisher’s New Women’s Voices Series, introduces her as a poet who communicates the insights of maturity through natural imagery. Powers details meteorological and human storms, but her Welsh heritage bequeaths hiraeth, an ancient stirring of inner celebration that prevails. Even on a somber occasion, the beauty of nature reconnects her with joy and she can smile, “I whisper greetings laced with love.”

John Stadler ’76
The Ballad of Wilbur and the Moose
(Random House)
In 1989, praise in The New York Times Book Review and other publications lit excitement about John Stadler’s children’s picture book The Ballad of Wilbur and the Moose. Unfortunately, it became an instant rarity with the collapse of its publishing house and the loss of the artwork. The artwork has serendipitously resurfaced nearly 20 years later, and all is right again with cowpoke Wilbur, who rides a big blue moose through the wacky Old West. Writer/illustrator Stadler’s witty pen and wash illustrations, the hallmark of a starred career in children’s literature, are sure to please a new generation of fans.

Mark Fadden ’95
The Campaign
(MarkFadden.com)
It is the fall of 2008 and someone is murdering the American presidential hopefuls in Mark Fadden’s new thriller, The Campaign. Though he began writing it two years ago, it dovetails with today’s headlines to time its debut with the actual 2008 campaign. Fadden has taken a novel approach by publishing straight to an audio book format. Fadden, a former WVBU-FM DJ, provides the vocal narration for the recording. He excels at labyrinth plotting, revealed like Russian nesting dolls, that keeps listeners guessing to the end.

Luke David ’97
The Morgan Lacrosse Story
(PBS)
A most unlikely symbol of the social watershed of the late 1960s was the preppy sport of lacrosse. When historically black Morgan State University in Baltimore became the first nonwhite school to add a team in 1969, coached no less by a Jew, it was a novelty on several counts. The speed and contact of the sport, whose origins are pre-Columbian American, answered the yearning for a gratifying form of athletic expression, but it very publicly put a black collegiate team in a white arena. By the time Morgan took down top-ranked Washington and Lee in 1973, it had become an agent of change. Luke David captures the thrill of the sport and the significance of the Morgan achievement through compelling narration intercut with observations by alumni and coaches and archival images from the team’s heyday. Sid Jamieson, former coach of Bucknell’s team, is among the interviewees.

John Paul Riger ’76
A Jazz Christmas
(Crystal Records)
Colorado-based pianist John Paul Riger and co-producer Bruce Imig offer clean, original stylings of classic holiday music on A Jazz Christmas. A mix of instrumental and vocal pieces, the album begins with a haunting five-part vocal incantation of “Oh Come, Oh Come, Emmanuel!” to which Riger gently adds keyboard. Riger’s piano and Imig’s bass then slide into sophisticated versions of favorites like “Home for the Holidays” and “Winter Wonderland.” Highlights include a surprising rendering of “Silent Night” with Chris Bank’s saxophone and singer Lee Martin’s “Lo, How a Rose E’er Blooming,” which adds a Celtic sensibility to the collection. “Jingle Bells” closes the session with Riger’s wife, Libby, joining the fun. Riger and Imig interject the unexpected into all their arrangements while honoring classic jazz traditions.
Central Pennsylvania in midsummer: A crescendo of color slips into the horizon, and the indigo sky darkens to a grainy dusk. A breeze rustles the cornfields. Little brown bats sleeping in the eaves of a large barn begin to awaken, and their twittering punctuates the descending night. Assistant Professor of Biology DeeAnn Reeder and a group of students have assembled harp traps — large aluminum frames strung with line that confounds the bats’ flight and abets their capture — and set up a staging area for taking blood samples and recording data. The air is filled with the distinct and fetid smell of guano, but this team has long gotten used to it. They’ve spent most of their summer nights capturing and releasing bats.

The little browns begin to swoop out of the barn, a few at first, but within minutes the entire colony is fast departing. The harp traps do their job. The bats get caught in the line and fall into plastic sheeting rigged beneath the traps. The purpose of this night’s work is to determine how pregnant females respond to stress. The team members — Sara Alfano ’10, Kaitlyn Platt ’09, Megan Vodzak ’09, Kim Weaver ’10 and Roymon Jacob MS’09 — scoop up the tiny mammals with no hesitation and determine with a gentle press to a female’s belly if she is pregnant or lactating. Holding the bats for an extended time to induce stress, the students take blood samples at specific intervals. Back in the lab, they will look for stress hormones, specifically cortisol and corticosterone.
Left to right, Sara Alfano ’10, Kaitlyn Piatt ’09, Assistant Professor of Biology DeeAnn Reeder, Kim Weaver ’10 and Megan Vodzak ’09.
“We catch bats all the time for different studies, but we don’t have a handle on the physiological effects,” says Reeder. “We expect to find that in pregnancy we won’t see the response to stress we do at other times. We think pregnant mammals tend to be resistant because you can’t afford to stress out the fetus. The data will have implications for wildlife management, conservation and bat research.”

Reeder will present this work at a conference or submit it to a peer-reviewed journal, and her name will appear last in the list of contributors, as it usually does. In the competitive world of academic research, Reeder not only considers her undergraduates full research partners, she gives them first credit. And she is not alone at Bucknell, where professors routinely engage their students in major research projects, which they present together as peers, not as teacher and student.

Later this month, Reeder and students, including all those listed above, plus John Kobilis ’09 and Amanda Kronquist ’10, will present at the North American Symposium on Bat Research on topics such as hibernation patterns, immune responses and wound-healing rates, as well as a preliminary survey of bats in southern Sudan. In July, neuroscience major Vodzak joined Reeder in the Sudanese bush, helping to assess the local bat population and educating villagers about conservation.

“I feel lucky I have found a research adviser who’s not only interested in what she’s doing but also is interested in having undergraduates help her,” says Vodzak. “I never thought I would be able to say, ‘I’m going to Sudan to do field research.’ I am definitely unique in my group of friends at other schools.”

Today’s Bucknell students live in an increasingly complex and technological world. Leadership demands that they are not just consumers of the benefits and by-products of science but purveyors of them. A 2007 report from the National Leadership Council for Liberal Education and America’s Promise provides the underpinning for Bucknell’s academic vision and educational goals. According to the report, “The world is being dramatically reshaped by scientific and technological innovations, global interdependence, cross-cultural encounters and changes in the balance of economic and political power.”

Says Provost Mick Smyer, “One of the hallmarks of success in the liberal arts university in the 21st century is the integration of faculty scholarship and student learning. It’s not so much that we just want our students to learn facts and information, but we also want them to learn how to develop an understanding in a specific discipline or a field.”

It’s not unusual for Bucknell students to begin research projects in their sophomore year, or even earlier. Joey McMullen ’09 began research in his first year with a term paper for a seminar on early Irish myth and legend. Impressed with the paper, English professor Alf Siewers suggested McMullen rework it for a conference. McMullen has since presented his work at several national and international conferences, including the International Medieval Congress at the University of Leeds in the United Kingdom and the Old Irish Seminar at the Dublin Institute for Advanced Studies School of Celtic Studies.

A distinctive National Science Foundation-funded program in the Department of Physics and Astronomy — Research Experiences for Undergraduates (REU) — involves not just physics and astronomy but also chemical engineering, math and biology, among others. The goal, Associate Professor of Physics Marty Ligare says, is to create a research culture, a graduate-school-like environment for undergraduates from Bucknell and other institutions who learn not only to develop their ideas and topics but also how to present those ideas at conferences and publish in peer-reviewed journals. Since 2002, physics and astronomy students have co-authored 18 papers in scientific journals and presented 60 conference papers.
“Research,” says Ligare, “is one of the best ways to produce scholars.”

Associate Professor of Physics Ben Vollmayr-Lee tells this anecdote about Melinda Gildner ’06, a 2004 REU participant. “As a junior, Lindy gave an impressive talk — a theoretical calculation for the process of forming metal alloys — at the Rutgers Statistical Mechanics Conference. Afterwards, many of my colleagues commented how much they liked it. The best comment was, ‘I didn’t know Bucknell had a graduate program.’ In physics graduate programs, theoretical physics students typically don’t even begin their research until their third year. Since Lindy was presenting research, this person was assuming she was about a fourth-year grad student.”

The Bucknell Program for Undergraduate Research (PUR) provides stipends and housing to 40-50 students who work with faculty members over the summer. Timothy McLees ’10 spent his summer developing a sort of high-tech rubber stamp. The idea behind the project was to get nanoparticles — in this case, tiny specks of gold about the size of an individual virus — arranged in straight, thin lines.

“These patterned surfaces will have unique properties that can be exploited for a number of applications, from biologically relevant conductive pathways to unique coatings,” says Assistant Professor of Chemical Engineering Erin Jablonski. For instance, the nanoparticles could simulate nerve cells.

McLees found the challenge of working through his own research problems to be rewarding. “Somebody could tell you what it means to work on research, but actually doing it is much more valuable,” he says.

Jason Wong ’10 also worked on nanoparticles called quantum dots with Assistant Professor of Chemical Engineering Brandon Vogel. The dots’ small size and their capacity to fluoresce when exposed to light make them prime candidates for biological imaging. Vogel and Jablonski hope to use quantum dots to visualize blood flow through tumors and eventually to develop drugs targeted specifically to cancerous growths.

Leo Zacks ’09 worked in the field — or rather, in the stream. Pennsylvania receives some of the most acidic rainfall in the country, thanks to wind-blown emissions from vehicles and coal-fired power plants in the Ohio Valley. The result is hundreds of miles of acidified streams, often with a pH low enough to dissolve metals such as aluminum, which is toxic to fish and other aquatic organisms.

“These are some of our most beautiful streams,” says Assistant Professor of Biology and Environmental Studies Matt McT ammany ’95. “Most of them are in state forests, so they are protected — but not against acid from the atmosphere.”

Local geology affects how strongly a given stream is affected. Streams surrounded by limestone, which contains minerals that neutralize acid, are less affected, while streams situated in Tuscarora sandstone are not so lucky. The headwaters of Buffalo Creek fall into the sandstone category.

“Buffalo Creek used to be a highly rated brook trout stream,” says Zacks, who worked with McT ammany this summer. “Now, the only place you find fish is farther downstream.”

A group of concerned citizens called the Buffalo Creek Watershed Alliance, of which McT ammany is a part, have decided to treat the symptoms, even if they can’t cure the disease. This fall, they installed an artificial wetland that uses limestone to neutralize the headwaters, bringing the creek back to a healthier condition.

For Sam Clark ’10 and Laura Chernak ’09, also funded this summer by PUR, six months of work paid off in one split second — and one split chicken bone. The two worked with Assistant Professor of Biomedical Engineering Eric Kennedy to develop a device to better understand how and why so many people tear their anterior cruciate ligament, or ACL.
Yearly, more than 80,000 people in the United States tear their ACL, which sits behind the kneecap and connects the thighbone to the shinbone. Better understanding of how much torque, or load, it takes to tear the ACL in knees of different shapes and sizes could lead to training programs designed to prevent injury. “Eventually, this research could give athletic trainers the information they need to selectively develop training programs for different athletes,” Kennedy says.

As Clark knows from first-hand experience — she tore her ACL doing gymnastics in eighth grade — most ACL injuries happen fast, and they happen when the knee is twisted. However, twisting at high speed isn’t an easy situation to simulate. Other researchers have pulled on knees or twisted them slowly, but so far, nobody has simulated realistic injury conditions.

“We’re hoping to mimic the actual injury mechanics by twisting the knee really fast,” Clark says. To do that, the team had to create a new apparatus. Chernak, a mechanical engineering major, figured out how to wire the instrumentation, the data acquisition system, the high-speed video camera and the device itself so that they all work together.

Their effort paid off on the last day of the summer research session, when they completed the assembly of their prototype and tested it — unceremoniously, with a chicken bone bought that morning at Walmart. Within one split second, they could see that the device delivered the fast, forceful twist, the data acquisition system recorded the amount of load on the bone, and the video cameras recorded it all.

“I’ve taken design classes, but I had yet to draw something and actually pick out the screw sizes and buy them online and then build the device,” Chernak says, “Being able to go through the whole process has been eye-opening for me.”

Clark is a Presidential Fellow, and Chernak earned independent study credits toward her mechanical engineering minor. The Presidential Fellow program provides funding to students who work one-on-one with professors during their entire undergraduate career. Fellow Matt Feder ’10 is building an electric truck with Associate Professor of Mechanical Engineering Peter Stryker. Last year, in collaboration with Associate Professor of Psychology Arthur Shapiro, Emily Knight ’08 created illusions that placed third in an international contest hosted by the Neural Correlate Society. Ben Reiter ’06 worked at Fermilab with Associate Professor of Physics Sally Koutsoliotas to investigate neutrinos. The Bucknell Bug, the University’s weather station, was built in part by then-President Fellow Philip Marquis ’07, in conjunction with Associate Professor of Geology Duane Griffin.

All engineering students must complete a senior design project, which, says Associate Professor of Biomedical and Chemical Engineering Dan Cavanagh, may contain components of both research and product development, especially in biomedical engineering. Bucknell students and faculty advisors have been working closely with doctors at the Geisinger Medical Center to design and prototype devices to address common clinical problems. Thus far, this collaborative effort has resulted in multiple patent disclosures for medical devices they created, a tangible result of lab work.

The palette of research offerings is impressive and available to students in all majors. The Department of Chemistry has a long and strong tradition of research, which was begun by Professor Emeritus Harold Heine half a century ago. Says Assistant Professor of Chemistry Molly McGuire, “Bucknell was several decades ahead of our peers in this regard.” The Kalman Symposium highlights a poster session and talks each spring. The Bucknell University Environmental Center’s Cultures at the Confluence project, which is funded by the Ben Stow Trust and the Degenstein Foundation, provides numerous interdisciplinary opportunities for students. Assistant Professors of Mathematics Peter Brooksbank and Nathan Ryan recently established a research group to study computational algebra, combinatorics and number theory. Seniors can choose to write an honors thesis, which involves original research. Individual professors receive NSF funding, and many, like Associate Professor of Civil and Environmental Engineering Tom DiStefano, whose students are working to improve a local sewage treatment plant, involve the community.

Cavanagh says such opportunities appeal to applicants. “Bucknell’s strong support of the research interactions between faculty and students is an important reason that many students and faculty choose to come here,” he says. “The valuable contributions that students make to faculty research projects play a big role in the success of the University.”

Vodzak agrees: “Being able to apply what I’m learning and looking at how to approach scientific questions is not only a valuable and rewarding experience but also the best experience I’ve had at Bucknell.”
Inquiring Minds

The research interests of Bucknell undergraduates are impressively ambitious and wide-ranging — from the climate in Alaska 66 million years ago to computer graphics to the impact of alcohol on sexual behavior. The following list includes highlights of the work of student investigators and the faculty mentors with whom they worked.

**HOW GREEN WAS MY VALLEY**
Adam Hinshaw '09 researched and is developing an on-line tour of the river town Northumberland, which will be linked to a similar pilot project for Sunbury, as a start to developing an on-line guidebook and archive of the relation between human community and environment in the confluence area. (Assistant Professor of English Alfred Siewers)

Cullen Kortyna '11 is reconstructing the environmental conditions that existed in south-central Alaska 23 to 66 million years ago. (Associate Professor of Geology Jeffrey Trop)

Molly Pritz '10 and Brent Shipe '10 spent their summer measuring chemistry and flow rate at several mine discharges as well as monitoring two mine drainage treatment systems near Shamokin, Pa. (Associate Professor of Geology Carl Kirby)

Morgane Trenton '09 will travel to Kyrgyzstan next summer to assist in conducting public opinion surveys about environmental issues. (Assistant Professor of Environmental Studies Amanda Wooden)

**OUR BODIES, OUR SELVES**
Lauren Gibbons '09 considers the effect of pupil size and eye color on attractiveness, personality evaluations and long- and short-term dating suitability. (Professor of Psychology Joel Wade)

Mariela Lemus '09 inquires into whether age plays a role in relational aggression among women. (Professor of Psychology Joel Wade)

Julia Martin '09 examines the effects of religious affirmations on how college women view their bodies. (Professor of Psychology Chris Boyatzis)

**HOW THINGS WORK**
Elijah Bowen '09 is testing a method to improve the efficiency of a protocol used to simulate light in computer graphics. (Assistant Professor of Computer Science Josh Steinhurst)

Joseph Foley '09 worked on the synthesis of an antimalarial drug. (Associate Dean of Faculty and Associate Professor of Chemistry Dee Ann Casteel)

Zaf Kamar '09 investigates error detection techniques for content-based memory structures. (Assistant Professor of Electrical Engineering Kundan Nepal)

Mark Kawczenski '09 examines the material properties of the steel in the historic Tuscarora Creek Bridge. (Assistant Professor of Civil and Environmental Engineering Stephen Buonopane)

Richard LaFredo '09 evaluated the effectiveness of a new salt-resistant product for use in soil-bentonite cutoff walls. (Assistant Professor of Civil and Environmental Engineering Michael Malusis)

Andrew Litzenberger '09 created a microfluidic device that mimics the leaky blood vessels associated with tumors. (Assistant Professor of Chemical Engineering Erin Jablonski)

Thomas Mann '11 is using nuclear magnetic resonance to examine the structure and behavior of zinc salts. (Assistant Professor of Chemistry David Rovnyak)

**THE MISTS OF HISTORY**
Jenny Dalzell '09 and Cara Cambradella '08, MA'10 have researched and designed an on-line history project related to the river valley’s Amerindian history in the 17th century. The project supports a proposal to extend the National Park Service’s John Smith Trail north from the Chesapeake to the Mid-Susquehanna. (Assistant Professor of English Alfred Siewers)

Albert Joseph McMullen '09 examined the significance of place names in early Irish mythological texts. (Assistant Professor of English Alfred Siewers)

**THE DATING GAME**
Maggie Cohen '09 looks at age/class year preferences for mates among college men and women. (Professor of Psychology Joel Wade)

Sean Coyne '10 studies the effect of reconciliation on the behavior of hamadryas baboons. (Professor of Animal Behavior Peter Judge)

Lauren Rutter '09 analyzes students’ understanding of the impact of drinking on consent to sexual activity — and on unwanted sexual experiences. (Associate Professor of Psychology Bill Flack)

**APOCALYPSE NOW**
Kevin Mullen '09 spent his summer analyzing and comparing modern and ancient texts, in English and Hebrew, dealing with Christian and Jewish beliefs on the end of days and the afterlife. He concluded that Christianity and Judaism share similar apocalyptic religious ideas. (Assistant Professor of Religion Rivka Ulmer)

**SAVING THE CHILDREN**
Kelly Bates '09 has collected data from more than 100 AIDS orphans in Addis Ababa, Ethiopia, attempting to document the proportions of severe psychological trauma, symptoms of Post-Traumatic Stress Disorder, and other psychological consequences among these children. (Associate Professor of Psychology Bill Flack)
For the 534 young women in this year’s entering class, matriculating at a university has been a given in their academic lives. Although surely a momentous occasion for them and their families, their arrival at Bucknell caused no stir or dissension. But when members of the Class of 1883 Frances Rush, Lizzie Lanning and Annie Hay arrived on campus, they were a new breed altogether—the first female students at the newly co-ed University.

Educating girls had been part of the school’s mission since its founding in 1846. But, back then, the University at Lewisburg had three divisions—a college and two separate schools that corresponded roughly to today’s high school, one for boys and one for girls. That, too, had been noteworthy, for “the prejudices of the community were very strong against a liberal education for women,” wrote Harriet Spratt, principal of the Female Institute from 1869 to 1878.

Bucknell went co-ed far in advance of other private colleges and universities—nearly 90 years before any other Patriot League school. Among the Ivies, only Cornell and the University of Pennsylvania opened their doors earlier to women. The pioneering female students at Bucknell had the support of the University President, many of the faculty and benefactor and board chairman William Bucknell, who “warmly favored allowing the women to enter the college.” Yet day-to-day life proved a struggle, as the college women “[were] not received with the most cordial enthusiasm,” a female student reported in the 1901 L’Agenda. “The honor must have been too great to bear,” she added, “for we only hear of one of these women holding out until she earned her degree.” That woman was Frances Rush, who graduated in 1887.

Yet, Rush was not the first female to graduate from Bucknell. That honor belongs to Chella Scott, who entered the University in 1884 with upper-class status. Scott must have been a real powerhouse, for not only did she earn a bachelor of science degree with honors in 1885, but she also graduated first in her class of 14.

To smooth the way for future women, the administration rearranged the curricula at the Female Institute such that its graduates had already completed the equivalent of the first year of college, making it easy for them to slip unobtrusively from the Institute to the University without stirring up opposition “among the hardshelled conservatives.”

These early graduates included trailblazers such as Eveline Stanton 1890, who became the first dean of college women at Bucknell, and Mary Bartol 1894, who went on to earn a doctorate and head the classics department at Rockford College. Mary Harris 1894, daughter of University President John Harris, also earned a doctorate; she worked as a prison warden and became an expert in penology. Mary Moore Wolfe 1896 was one of the first women in Pennsylvania to attend medical school.

By early in the 20th century, women made up nearly one-third of the student body, but it would take many more years—and the efforts of countless Bucknellians—before women achieved the equality they enjoy at the University today. In fact, in recent years, the enrollment for women exceeds that of men, a trend that has been happening nationwide since the 1950s. Women comprise 56 percent of the Class of 2012.

Bucknell celebrates the 125th anniversary of co-education this academic year, culminating with a day of festivities on March 22, 2009.
NEW TURF
for two
TEAMMATES

BY KATHLEEN SQUIRES • PHOTOGRAPHY BY BILL CARDONI
TWENTY-FIVE YEARS LATER, TWO BISON GRIDDER BUDDIES ARGUE A LANDMARK PATENT CASE IN THE HIGHEST COURT IN THE LAND.

Tom Biemer ’84, left, and John Squires ’84.
My brother never had any trouble making a good argument when we were growing up, whether it was about why his ELO albums were better than my Donna Summer discs or how his organic chemistry studies held just as much intrigue as my love of Shakespeare’s plays. I might not have always agreed with him, but his skills of persuasion went well beyond “am not” and “are too.” Team him up with one of his buddies, and my claims never stood a chance.

It was no surprise to me, then, that he’d eventually become a lawyer, one poised to get his way, of course, and to accomplish important things. Even less of a surprise to me was that he would realize one of his most career-defining achievements with the help of a good friend and Bison football teammate.

My brother, John Squires ’84, and his classmate Tom Biemer ’84 may team up wearing suits and ties instead of helmets and cleats, and their field of play may have changed to the realm of intellectual property (IP) law, but their spirit is still just as competitive. Nearly 25 years after they first met, the two are now officially “friends of the court” on what has been billed as the most important patent law case in over a decade. The pair collaborated on a forceful legal brief that argues about a patent issue they were having with State Street Bank. The 1998 ruling, which the federal circuit decided in favor of Tom’s client, stated that a so-called business method was an abstract idea and a new technology. John, as the chief intellectual property counsel for the Goldman Sachs Group, Inc., and Tom, as a partner at the Philadelphia law firm Dilworth Paxson LLP, are both acting on behalf of Regulatory Data Corp. in the case. And both, co-incidently, “happen to have strong opinions about this issue,” says “Biemer,” the name by which I’ve known Tom all my life.

John and Biemer first met when they were floormates in “old” Swartz Hall. They would share rides home in my brother’s Mustang to northern New Jersey, and their camaraderie grew on the gridiron — John as a linebacker and Tom as an offensive tackle. Little did they know when they were allies against rivals like Lehigh that they’d team up again later in life to redefine the legal landscape for one of the U.S. economy’s most valuable assets — intellectual property.

Though the friends started off on seemingly divergent paths, they would eventually, and crucially, cross again. After earning a bachelor’s degree in economics from Bucknell, Biemer served in the U.S. Army for four years in El Paso, Texas, before enrolling in law school at the University of Texas. He graduated in 1991 and then joined Dilworth Paxson LLP as a litigator.

John earned his bachelor’s in chemistry, then spent five years with IBM in Bethlehem, Pa., before he responded to the lure of law school. Conflicted about whether he should change careers, he visited Biemer in Texas and liked what he heard. “We talked about how going to law school was making an investment in yourself,” John says. Convinced, he enrolled in the University of Pittsburgh School of Law, graduating in 1992. Legal positions at New York firms Morgan & Finnegan and Rogers & Wells followed before he became lead in-house counsel for a new technologies business at Honeywell, Inc. In 2000, Goldman Sachs hired John as its first intellectual property lawyer.

The two friends kept in touch throughout the years, reuniting annually at their alma mater for the Bud Ranck–Tom Gadd golf outings and, whenever possible, to cheer on the Bison at home games. But it was Biemer’s first patent case that brought them together professionally. “I got into patent law by accident,” he explains. “A coworker at Dilworth got a call from a client about a patent issue they were having with State Street Bank.

 patent law The Federal Circuit Court of Appeals in Washington, D.C., selected their brief from almost 40 similar arguments filed in the landmark case known as “In re: Bilski” to help decide where the line exists between an abstract idea and a new technology. John, as the chief intellectual property counsel for the Goldman Sachs Group, Inc., and Tom, as a partner at the Philadelphia law firm Dilworth Paxson LLP, are both acting on behalf of Regulatory Data Corp. in the case. And both, co-incidently, “happen to have strong opinions about this issue,” says “Biemer,” the name by which I’ve known Tom all my life.

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The 1998 ruling, which the federal circuit decided in favor of Tom’s client, stated that a so-called business method was an eligible technology for patenting. This ground-breaking legal victory was tantamount to winning a Bison Patriot League championship. “The case got a lot of press, and it just made sense for me to spend more time working in that area,” Biemer adds.

That ruling kicked off the larger issue in government agencies about how, exactly, to examine these new types of “business method” patents and how to administer the process to do it. The agencies were slow to implement the federal court’s ruling, and many new patent applications began to languish, including many under my brother’s responsibility. “I became fed up,” John says, so the former defenseman took the offensive this time, by recruiting Biemer to collaborate on a law review paper titled “Patent Law 101.” He says, “That paper gave us strong credibility with a set of academics whom we have been working with ever since.”

The landmark paper also allowed John and Biemer to gain yardage on promoting the issue, through teaching a class

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You solve the problem by running through that wall.’
together at New York Law School, as well as many domestic and international speaking engagements. Dinner with the vice chairman of the Federal Reserve, testimony before the Senate Judiciary Committee and meetings with cabinet officials followed.

A decision is expected by the end of 2008. A ruling upholding the original State Street decision of 10 years ago would be the ultimate victory for the former Bison, as the outcome of their case could affect all technological areas, ranging from oil exploration to terrorist tracking to digital watermarking of electronic signals.

Both Biemer and John credit their Bucknell experience with their current-day successes. John says that in addition to his science degree, his work as a reporter and editor for The Bucknellian and his English classes (he won the University Prize for Men in English in 1981) honed not only his writing skills, essential for his brief work, but also his communication skills, which come in handy in a specialized field where you need to reconcile the man-with-the-protractor-in-his-pocket with a judge and jury.

Biemer agrees, citing his economics background and Bison football, of course, as crucial to his work. “You don’t find a lot of football player patent lawyers out there, but the aggressive nature of the game has been helpful, along with the problem-solving skills I learned on the field. We need to run to that end zone, but there’s a wall in the way. What do you do? You solve the problem by running through that wall.” He adds that Bucknell offered him the opportunity to play football while continuing to take his academics seriously. “Bucknell provided a great balance — it wasn’t all football all the time. I was able to do other things, too. I was a ROTC guy, and I spent a semester abroad. Many school teams wouldn’t allow you to do that.”

Underscoring the importance of Bucknell’s balance, Biemer adds, “During the NCAA tournament, the thing that made me happy wasn’t that Bucknell beat Kansas. It was that the kids who were playing were engineers with at least a 3.5 GPA. That is really saying something.”

So it shouldn’t be surprising that football players can make great patent attorneys, a point even acknowledged by current Senate Judiciary Committee Chair Senator Patrick Leahy. When Leahy read John’s résumé into the record before his testimony, he paused with a smile as he said, “Well, Mr. Squires, I don’t think I’ve ever had a former I-AA linebacker testify before.” My brother didn’t resist the opportunity to work his alma mater into the mix. “Yes, Senator,” he replied. “I’m a proud Bison.” No argument there.

John Squires lives in Franklin Lakes, N.J., with his wife, Mary Lou, and children, William, 10, and Elizabeth, 8. Tom Biemer lives in Wayne, Pa., with his wife, Carolyn Durner Biemer ’84, and children, Jack, 14, and Harry, 12. Kathleen Squires is a freelance writer living in Manhattan. She is a graduate of Lafayette College, a school whose football team, her brother argues, is inferior to Bucknell’s. The jury is still out on that. For outtakes of this photo session, go to www.bucknell.edu/bmagazine.
Full Frame

Bring on the Bison!
Nothing says autumn at Bucknell better than the crisp air of sweater weather, big blue skies, tailgating and weekend football.

Photograph by Laurie Jackson

If you would like a reprint of this photo or the photo on the back cover, please e-mail bmagazine@bucknell.edu with your name and address, and we’ll send you a complimentary 8x10 photo.
B-Link Profile #24

CALI WILLIAMS YOST, Class of 1987

Student activities: Kappa Kappa Gamma, The Bucknellian
Resides: Madison, N.J.
Employment: Work+Life Fit, Inc. president and CEO, author
Volunteer role: Alumni Association Board of Directors, Communications/Stakeholders Committee member

Uses B-Link for:
- Posting a blog of highlights from the most recent Bucknell Alumni Board meeting on the Alumni Association page
- Keeping in touch with friends, so far from 1986 and 1987
- Connecting and communicating with other Alumni Board members

WIN A PRIZE! The first 10 alumni to respond to alumni@bucknell.edu with the answer to the following question will be entered to win a $25 Bucknell Bookstore gift certificate. Question: What is the name of the chairperson of the Clubs and Young Alumni Committee on the Alumni Association Board of Directors? (Hint: look in B-Link under “Clubs and Networks”)

“B-Link is a vehicle for reigniting and maintaining the strong ties I made while at Bucknell and since becoming an alumna.”

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If you need your first-time login code, contact alumni@bucknell.edu or 570-577-3223. More than 4,500 alumni have signed up already.
On the faculty here, you will find experts in the neuroscience of music, the plays of Sam Shepard and the indigenous peoples of the North Pole, along with scholars of Greek literature, industrial automation and aquatic ecology. As a group, we have spent decades acquiring a vast body of knowledge, which we would like to pass on to you. Bucknell’s highly selective admissions process has guaranteed that you, the Class of 2012, are talented, capable and ready to learn, so you might expect this transfer of knowledge from us to you to be an easy task. Unfortunately, it is not.

Cognitive research has shown that deep learning cannot be accomplished as a simple hand-off of information. True understanding occurs only when our brains actively struggle with concepts. To absorb and retain new ideas, you need to work and play with them until you own them.

We would love to make learning easier for you, but as E.M. Forster said, “Spoon feeding teaches us nothing in the long run but the shape of the spoon.” At Bucknell, we are more ambitious than that. We want to help you develop the mental agility to grapple with hard concepts, critically evaluate subtle theories and make nuanced judgments.

You may be frustrated because it seems your professor is refusing to give you a straightforward answer or is adding complexity to an already difficult exercise. You are probably right. Our job is not to dispense easy answers, but to pose hard questions.

Nabokov once said, “A wise reader reads the book of genius not with his heart, not so much even with his brain, but with his spine.” I like this quote because it indicates how much the life of the mind is a demanding, almost physical activity.

Your college education is not something that is going to happen to you. It is something you are going to do. Bucknell will provide an environment where rigorous inquiry is encouraged. We will do our best to present explanations of the great ideas and difficult questions. We will illustrate the wonders of art and the challenges of technology. We will do everything to make apparent the inner workings of the world, but ultimately what we want is for you to get in the game and steal the ball.

Wallace Stevens was a lawyer and a vice president of a major insurance company. But Stevens was more than that. He also was one of the greatest American poets of the 20th century. That double life, as a rational man of business and as a brilliant modernist poet, makes Stevens a wonderful exemplar of a liberal arts education. I leave you with lines from one of his poems:

“... my ears made the blowing hymns they heard.
I was myself the compass of that sea:
I was the world in which I walked, and what I saw
Or heard or felt came not but from myself;
And there I found myself more truly and more strange.”

This essay is excerpted from Thomas Cassidy’s talk to first-year students at Matriculation. Cassidy is associate professor of mathematics. He’s been at Bucknell since 1999 and studies noncommutative ring theory, a branch of abstract algebra.
Owen and Judy Anderson value family, community, and the environment. As certified forest stewards, they’ve spent 40 years nurturing thousands of trees on their farm – along with five children, organic vegetables, and fields of flowers. With the same care, Owen taught physics to thousands of Bucknellians.

After he retired, the couple donated property to the University in exchange for lifetime income that allowed them to create a scholarship in their name. “We put all our kids through college, and Bucknell paid for all or most of the tuition,” says Judy. “We wanted to show our appreciation of what the University did for our family.”

Bucknell thanks the Andersons and now follows their example by providing careful stewardship of the Owen and Judith Anderson Scholarship.