Chin, Fuchs to receive top alumni awards

B r i a n  W i l s o n

P r i n c e t o n will present its top honors for alumni to Denny Chin, a federal judge who has overseen high-profile cases including the trial of financier Bernard Madoff, and to Elaine Fuchs, a cellular biologist who has conducted pioneering research on human skin diseases.

Chin, who earned a bachelor’s degree in psychology from Princeton in 1975, has been chosen for the Woodrow Wilson Award. Fuchs, who received her Ph.D. in biochemical sciences from the University in 1977, will receive the James Madison Medal. They will be presented with their awards and deliver addresses during Alumni Day activities Saturday, Feb. 26, on campus. Fuchs will speak on “Skin Stem Cells: Their Biology and Clinical Promise” at 9:15 a.m., and Chin will present a lecture titled “The Life of a Judge: From Megan’s Law to Bernie Madoff” at 10:30 a.m. Both talks will take place in Richardson Auditorium of Alexander Hall.

The Wilson Award is bestowed annually upon an undergraduate alumnus or alumna whose career embodies the call to duty in Wilson’s famous speech, “Princeton in the Nation’s Service.” Also a Princeton graduate, Wilson served as president of the University and as president of the United States. The Madison Medal is named for the fourth president of the United States and the person many consider Princeton’s first graduate student. He was appointed by President Barack Obama.

Chin has overseen a range of civil and criminal cases, several of which received national attention. In June 2009 Chin sentenced Madoff to a maximum sentence of 150 years for his role in the largest Ponzi scheme in history, netting $65 billion. He was appointed by President Barack Obama.

Fuchs, who earned a bachelor’s degree in biochemistry and molecular biology from Princeton in 1977, received her Ph.D. in biochemical sciences and social sciences, and has pursued a career as a cellular biologist. She has conducted pioneering research on human skin diseases.

Mann builds body of evidence with evolution studies

U s h m a  P a t e l

W hile teaching his “Human Adaptation” class, Princeton anthropology professor Alan Mann motioned with his arms and legs as he explained the evolution of human joints from earlier vertebrates’ legs as he explained the evolution of human joints from earlier vertebrates’ legs. He also taught his students about human joints from earlier vertebrates’ legs as he explained the evolution of human joints from earlier vertebrates’ legs.

Mann’s sense of wonder about human origins and his bond with all animal species — living and extinct — have endeared him to students and colleagues for more than 40 years. Mann, a physical anthropologist, has focused his research on fossil remains — mainly teeth — of australopith- ecines and Neandertals to understand human growth and development. Mann also teaches a signature summer course in Bordeaux, France, “Modern Human Origins,” which culminates in two weeks of excavation at a site once frequented by Neandertals.

“We have had to counter an argument that Neandertals were sort of dumb bunnies that were inferior to modern humans, the Cro-Magnons, who supposedly replaced them,” Mann said. The evidence discovered at the site, however, Mann said, “gives us a picture of Neandertals as extraordinarily competent people in an environment that was really tough.”

Mann began teaching at Princeton as a visiting professor in 1984 and joined the faculty full time in 2001, when he transferred to emeritus status at the University of Pennsylvania. His research and teaching ties together the sciences and social sciences, and he is “intellectually generous and deeply committed to collegial fellowship,” said anthropology professor and department chair Carol Greenhouse.

“Alan is an invaluable resource on any question having to do with the emergence of humanness. … With a major series of prominent publications, Alan has advanced the horizons of scholarship on Neandertals, as well as on other key issues in biological anthropology,” she said. “He also has a contagious good humor that I can only imagine gives our students welcome and living proof that serious scholarship and enjoyment go hand in hand.”

Origins of species

Mann’s doctoral dissertation, completed at the University of California-Berkeley in 1968, focused on dental development. Since then, he has pursued a theory that by comparing the dental development of early humans to modern humans, researchers could discover other similarities in development. Humans have extensive growth and development periods, resulting in complex mental and physical abilities. So similarities in dental development may reflect coordinated development in other, more complex, systems.

What’s inside?

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Scientists find gene linked to heart defect 6
Princeton phone app provides mobile resource 8

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Chin and Fuchs receive top awards

Chin, Fuchs to receive top alumni awards

Continued on page 6

Princeton's 2010 Report on Sustainability details the University's progress in reducing on-campus greenhouse gas emissions, water consumption, paper purchases and landfill waste, among other data. In connection with the release of the report, the University hosted an open house (above) on Nov. 16 to showcase its latest green initiatives. To read more about the report and the open house, see page 4.
Students win Rhodes, Mitchell, Marshall awards

Jenifer Greenstein Altmann

Princeton senior Nicholas DiBerardino and alumnus Mark Agrawal received Rhodes Scholarships for two or three years of graduate study at the University of Oxford. DiBerardino and Agrawal are among the 32 American college students who won the fellowships.

DiBerardino, a mathematics major from West Lafayette, Ind., has been named a George J. Mitchell Scholar to spend a year studying economics and policy at National University of Ireland, Galway. The Mitchell Scholarships were awarded to 12 American students by the Alliance.

John Nelson, who graduated from Princeton in 2010 with a bachelor’s degree in history, is one of 31 Rhodes Scholars. Nelson will use the award to obtain two master’s degrees, one in comparative politics at Oxford, the other in economics and policy at National University of Ireland, Galway. He intends to study comparative politics at Oxford.

DiBerardino, a talented composer, has made significant contributions to the music community at Princeton. In addition, he has been composer-in-residence at the Breved Music Center, a summer institute and festival for professional musicians in Breved, N.C., and with the Eastern Pennsylvania Musical Alliance. His career plans include becoming a professor of music and continuing his work with professional musicians.

“At this point, I am interested in teaching a graduate course on MRI imaging. Teaching a graduate course on the fundamentals of medical imaging, I really enjoyed studying two- brain coupling with MRI technology.”

Other interest: Camping. Traveling around the world. Coin collecting.

Nominations sought for teaching award

The Office of the Dean of the Faculty invites members of the university community to submit letters of nomination for the 2011 President’s Award for Distinguished Teaching. The awards, presented annually at Commencement, are intended to recognize excellence in undergraduate and graduate teaching by Princeton faculty members. All current faculty, associate and assistant professors, senior lecturers and lecturers who have served at least half time for three or more years are eligible for nomination.

Letters of nomination should be sent by Monday, Feb. 14, to the Office of the Dean of the Faculty, 9 Nassau Hall, or by e-mail to <princeton@princeton.edu>.

Deadline

In general, the copy deadline for each issue is Friday 10 days in advance of the issue date. The deadline for the next issue, which covers Jan. 17-Feb. 13, is Friday, Jan. 7. A complete schedule can be found at <www.princeton.edu/bulletin>.

Firestone renovation preparations continue; design partner named

RUTH STEVENS

W
ork that began this summer in preparation for a comprehen-
sive renovation of Firestone Library is continuing, and major con-
struction should get under way in a year. University Librarian Ron McCoy and University Architect Ron McCoy made a presentation on the project at the Nov. 15 Council of the Princeton University Community meeting.

They announced that Frederick Fisher and Partners has been selected as the design partner to collaborate with Shepley Bulfinch Richardson & Abbott, which has been working on the project since 1997.

"It is common to establish a team of architects to design facilities for the Princeton campus," McCoy said. "The Firestone project is comprehensive and complex, raising issues such as the reader experience, organization of the collection, sustainability and life safety. All of this requires careful timing and planning to minimize disruption and ensure access to the collection."

"In this context we felt Firestone would benefit from the expertise of a design partner who could provide attention and care for the beautiful spaces of the existing building while guiding a transformation of the interior that is required by important programming goals," he added. "The collaboration between Frederick Fisher and Partners and Shepley Bulfinch gives us the depth of expertise required by the project."

Fisher, an award-winning firm based in Los Angeles, also designed Princeton’s Sherrerd Hall, which was completed in 2008. The selection was made by a committee that included University and library administrators, and Princeton facilities and Shepley Bulfinch staff members.

Fisher is expected to work on the major public spaces in the building. These include much of the first floor — the lobby, new reading rooms and redesigned exhibition space — as well as a new reading room on the third floor.

Several small construction projects began last summer in the building, including adding more shelving in the southeast corner of C floor, extending the staircase behind the card catalog to the second and third floors, building temporary staff offices on A and C floors, and assessing new brands of lighting and shelving in a small section of B floor.

"This new shelving and lighting, along with wider aisles, will make it a lot more pleasant to use the stacks," Trainer said. "The assessment is showing us that all of the engineering improvements for sustainability and safety can work together at the same time, so we can make it look a lot better and make it easier to use."

Another area related to the renovation also began last summer. All of the Firestone books in the old Richardson call number classification are being re-labeled with Library of Congress call numbers and integrated into the card catalog. The project involves some 750,000 books and is expected to be finished in August 2011.

The old book-classification system, which dates to the turn of the 20th century, is named for its founder, former University Librarian Ernest Richardson. The system has been using the Richardson system for new acquisitions in the late 1960s and switched to the Library of Congress system. Because the old system remained on old books, two volumes on the same topic could be involved in different parts of Firestone.

"Library users have been asking that this recategorization be done for many years, and it is a pleasure to know that the consolidation is under way," Trainer said.

Major construction on the library, part of the University’s Campus Plan, is expected to begin in the summer of 2009 with infrastructure work. To minimize disruption to students and faculty, the renovation will take place in phases over 10 years. At 450,000 square feet, Firestone is the largest academic building on Princeton’s campus. Much of the space is underground, adding to the complexity of the renovation.

Open houses were held Dec. 8 to update undergraduates, gradu-
ate students and faculty on the plans throughout the next year.

The library maintains a blog with updates on the project at <bloglib.princeton.edu/renovation/>. More news on the Web

More news on the Web

Visit the News at Princeton Web page at <www.princeton.edu/main/news> for other recent stories, including the following:

• The University’s Center for African American Studies, Lewis Center for the Arts and Pace Center for Civic Engagement have been collaborating with the city of Trenton and several community groups to help launch the Trenton Mural Arts Project, a volunteer-based organization that hopes to establish a vibrant mural arts program in the city. Princeton students will help with community outreach and the creation of the mural working with the three university partners.

• The working group established this fall to review the University’s undergraduate on-campus social and residential life has launched a website seeking observa-
tions and suggestions from students, alumni and others. The site is at <www.princeton.edu/livingprinceton>. The group was asked to consider several questions that were raised by a separate task force that last year reviewed the relationships between the University and the 10 independent eating clubs.

• The federal government granted Princeton special status as a hub for cybercur-
tury research (the most recent of its kind). Researchers are designing a new field of Academic Excellence in Information Assurance Research by the National Security Agency and the Department of Homeland Security. The program allows faculty and students to apply to federal agencies for special fellowships, scholar-
ships, internships and research funding.

• In a continuing research partnership to identify ways to tackle the world’s climate problem, Princeton’s Carbon Mitigation Initiative (CMI) has received a commitment of $11 million from BP as part of an extension of their partnership first announced in October 2008. CMI, which is part of the Princeton Environ-
mental Institute, was created to investigate the climate and energy problem.

Nassau St. entrance to close Dec. 17

The Nassau Street entrance for vehicles will be closed during the University’s winter recess, from 4 p.m. Friday, Dec. 17, until 7 a.m. Monday, Jan. 3.

More news on the Web

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Princeton continues progress toward sustainability goals

By the numbers

Coinciding with the publication of the Report on Sustainability, the University hosted its second Sustainability Open House on Nov. 15. 
- More than 500 members of the campus and local communities attended the event. About 43 campus and community groups staffed interactive displays and demonstrations to showcase their efforts to protect the environment and to gather feedback from attendees.
- Many of the displays represented the work of Princetonians in research, programs, and student initiatives that are part of the Sustainability Plan. For example, the Princeton Environmental Institute noted that its internship program has grown from just a handful of students to 94 students in 21 countries this last summer.
- Chef Rob Harbison, culinary director at the Princeton University Dining Services, which purchases 92 percent of its food locally (within 250 miles): Bell & Evans chicken, Terhune Orchard apples, Wegmans cranberry orange cookies and spa water.
- A total of 34 campuses and community teams entered a Trash Sculpture Content sponsored by Princeton's Office of Sustainability. Prize winners were: University Nursery School (first place) for a work made from discarded toys, including two ducks swimming in “Lake Carnegie”; the Heffelfinger family (second place) for a cuba called “Menger sponge” made of baseball cards; Sophia and Hishain Liu (third place) for a jellyfish made from bubble wrap and plastic from soda bottles; and YWCA Princeton After School Program (People’s Choice) for a pair of hams and pomegranate seed designs made from water-saving devices. This was one of the first large-scale competitions that bring sustainability to the forefront of University life.
Frist Campus Center hosts 10th anniversary Winterval

Princeton students, faculty and staff are invited to celebrate the upcoming winter season at the Frist Campus Center’s 10th anniversary Winterval celebration from 3 to 5 p.m. Wednesday, Dec. 15, on the center’s 100 level.

This year’s festival will include a dessert buffet and hot chocolate bar; a live cooking demonstration hosted by Rob Harbison, culinary concept coordinator in Dining Services; and a screening of the holiday film “Elf.” Guests also may participate in activities including holiday card making, candy house building, cookie decorating and mug decorating.

The “Peaceable Kingdom” paintings by Edward Hicks are among the most widely recognized icons of American folk art. This painting, a special loan from the Fenimore Art Museum in Cooperstown, N.Y., is on view in the Mary Ellen Bowen Gallery of the Princeton University Art Museum through December. Inspired by a Biblical passage foretelling an ideal world, it shows a virtual menagerie of often predatory animals contentedly coexisting.

LEFT: An exhibition titled “A.S. Penneyer and the Monuments Men” features photos from the Monuments, Fine Arts and Archives program, which assisted in the protection and restitution of cultural monuments in areas affected by World War II. The exhibition is on view through December in the McCormick Hall first floor lobby. In this image, residents of Florence, Italy, seek shelter in the city’s Pitti Palace.

RIGHT: “Women,” an exhibition of works by artist Judith Brodsky, is on view through Jan. 6 in the Bernstein Gallery of Robertson Hall. Brodsky’s large-scale prints focus on themes of race, culture and gender.

For broader listings of campus public events:
PUBLIC EVENTS CALENDAR
<www.princeton.edu/events>
Information on tickets is available at the website below:
UNIVERSITY TICKETING
<www.princeton.edu/ticketes>
For listings by selected University sponsors:
Art Museum
<artmuseum.princeton.edu>
258-3768
Athletics
<www.princetonathletics.com>
258-3358
Center for African American Studies
<www.princeton.edu/africanamericanstudies/events>
258-4276
Council of the Humanities
<humanities.princeton.edu/calendar>
258-4717
Frist Campus Center
<www.princeton.edu/frist>
258-5765
Lewis Center for the Arts
<www.princeton.edu/arts/events/calendar>
258-1500
Library
<www.princeton.edu/~tlac/exhibitions>
258-3181
McCarter Theatre
<www.mccarter.org>
258-2787
Music Department
<www.princeton.edu/music>
258-4241
Office of Information Technology
<www.princeton.edu/oit>
258-2949
Public Lecture Series
<lectures.princeton.edu>
258-3785
Princeton Institute for International and Regional Studies
<www.princeton.edu/~rbsc/exhibitions>
258-4851
Princeton University Concerts
<www.princeton.edu/pconcerts>
258-2980
Richardson Auditorium
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258-5000
School of Architecture
<www.princeton.edu/audi>
258-3741
School of Engineering and Applied Science
<www.princeton.edu/seas>
258-4550
Woodrow Wilson School of Public and International Affairs
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University “A to Z” search page
<www.princeton.edu/main/tools/az>
For audience members needing assistance:
Office of Disability Services
<www.princeton.edu/ods>
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To offer submissions for “Nassau notes,” use the online form:
<www.princeton.edu/main/news/submit events>
Scientists find gene linked to congenital heart defect

By KITTA MACPHERSON

A gene that can cause congenital heart defects has been identified by a team of scientists, including a group from Princeton. The discovery could lead to new treatments for those affected by the conditions brought on by the birth defect.

Princeton researchers focused on identifying and studying the gene in zebrafish embryos, and the team’s work expanded to include collaborations with other groups studying the genetics of mice and people.

“This work really showcases the use of embryonic and model systems to better understand human disease,” said Rebecca Burdine, an associate professor of molecular biology at Princeton who led her team.

The newly discovered gene, called CCDC40 (for “coiled coil domain containing protein 40”), controls right-left patterning as tissues develop, a critical factor in the configuration and effectiveness of organs. Scientists found the gene by analyzing in zebrafish and mice in which the placement, and sometimes the internal structure, of organs is disrupted or reversed. While these so-called “left-right patterning” defects occur very rarely in zebrafish and mice, they occur at high frequency in the animals with mutated CCDC40 genes.

Their study was published online in Nature Genetics on Dec. 5. A separate paper by another group identifying a sister gene, CCDC39, based on studies of genes in sheepdogs, appears in the same edition of the science journal.

“We used the strengths of different model organisms to gain an understanding of how a novel protein, produced by this new gene, functions,” said Irene Zohn, who led a research group studying mice genetics at the Children’s National Medical Center in Washington, D.C., and is one of the first authors on the CCDC40 study with Burdine’s group. A third group, led by physician Heymut Omran and based at University Hospital in Freiburg, Germany, collaborated with the team, with other individual participants located elsewhere.

“These findings would not have been possible without the collaborations between the three groups,” Zohn said.

The collaboration started several years ago when Zohn contacted Burdine, a renowned expert in the study of left-right patterning in animals.

Developmental biologists such as Burdine investigate what factors contribute to patterns in vertebrates relating to symmetry and leading to where organs are placed in the spatial configuration of the body. In humans and many animals, for example, the heart is usually situated on the left side with the liver at its lower right. Flaws in left-right patterning can lead to congenital heart defects in humans.

It is estimated that one in 10,000 people have a condition known as situs inversus, when the left-right pattern of the body is switched. In most cases, there are no adverse consequences of this condition, but problems arise when perturbations in the patterning signals produce reversals within organs, including heart structures, and the aorta and pulmonary artery. In rare circumstances, the heart can be located on one side without the supporting structures around it such as arteries and veins. That condition can be fatal.

In earlier research Burdine had found a gene in mice that, when mutated, appeared to lead to disruption of the left-right patterning causing heart defects. She asked Burdine if she could locate a similar gene in zebrafish.

When Burdine studied the mouse gene found by Zohn’s team and its location in the spool of genetic material known as the genome, Burdine realized that her team knew of a gene mutation in zebrafish that was in the same general area of the zebrafish genome. Upon further study, however, Burdine and her team found that the mouse and zebrafish genes were not only in the same general area of their relative genomes — they were the same gene.

At that point, the teams tracked where the genes were expressed in mice and fish to better understand their function. The groups found that the genes were specifically turned on in cells that produce motile cilia, which line the airways that project from the surface of cells.

Burdine reasoned that zebrafish embryos could be a model system to test the properties of the gene also should possess some sort of defect in the cilia themselves. However, Budy, the team in zebrafish embryos through normal lab microscopes showed nothing beyond the ordinary.

For a closer look, Burdine employed a special transmission electron microscope to “take a closer look” at the cilia in the zebrafish with the mutation in CCDC40 and compared those images with the wild-type, or normal, gene. The cilia in the zebrafish with the mutations “were disrupted in their structure,” Burdine said. “I had never seen before,” Burdine said.

She sent the images to Omran, who was treating patients with a disorder known as primary ciliary dyskinesia or PCD. These patients suffer from a diverse range of symptoms, including infertility, due to the inability to move sperm, and increased susceptibility to common respiratory infections, including bronchitis and sinusitis. Boys and girls with the condition also are required for proper left-right patterning; these patients also often have developmental disabilities.

Of the 26 patients with similar cilia structural defects tested by Omran, some had mutations in CCDC40. This is consistent with the findings presented by the team led by Burdine and Omran. Patients with this congenital heart defect. This finding provided evidence of a link between the CCDC40 gene and respiratory disorder and the heart problems.

By knowing the gene and the proteins it expresses and the molecular pathways it regulates, scientists may be able to better treat those with the mutant gene and its functions.

Continued on page 8
Mann showed strong similarities to humans, descended from Neandertals. The two — despite many experts’ accusations — would show the connection between Neandertals and modern humans in dispute among some scientists, other researchers have added to the evidence supporting ancestral ties. In the West, there has always been a notion that if you didn’t look like a white European, you were in some way inferior,” Mann said. “What I try to tell students is Neandertals didn’t look like us — they had big brow ridges, they had big faces and chins — and because they didn’t look like us doesn’t mean they couldn’t behave like us. That appearance doesn’t tell you anything about competence and behavioral capability and ability to perform on a level that is similar to ours.”

While Mann noted that his findings on dental links between Neander- tals and modern humans remain in dispute among some scientists, other researchers have added to the evidence supporting ancestral ties. In “We use physical anthropology as a way of showing a person is inno- cent,” Mann said. “Referring to a case in which he helped free a teenager accused of rape and DNA later con- firmed the teenager’s innocence, he said, “That, I have to say, was the best thing I’ve ever done.”

**Summers in Bordeaux**

In 1990, Mann was a Fulbright Scholar at the University of Bordeaux, where he became a research associate of the anthropology laboratory and worked with Brano Maureille, now head of the lab, was at the time a doctoral student. The two became friends, and in 2001 the French government authorized Maureille and Mann to restart excavations at Les Pradelles. The collapsed cave in southwest France served as a hunting camp for Neandertals to butcher reindeer and horse meat for adulthood. By 40,000 to 80,000 years ago, Mann modified a summer study abroad course to Bordeaux he had led for years, adding two weeks of excavation. The course, “Modern Human Origins,” also involves lectures and visits to important archaeologi- cal sites and painted caves, and it focuses on some markers of “human- ness” — the ability to use tools, the development of language and the production of art.

Mann said he also encourages the students, fewer than 20 each year, to become themselves in the French life and culture. Mann, a vegetarian, delights in teaching them about French cuisine.

Senior James Magagna, a com- parative literature major who spent summer 2010 in Mann’s course, called it “the best six weeks of school I’ve ever had,” and described Mann as “our professor, tour guide, chauffeur, chaperone, all-around avuncular figure.” The opportunity to study human origins in southwest France was extraordinary, he said, and Mann provided context that enhanced their experiences.

“During our field trips to the prehistoric caves and archaeologi- cal sites, Professor Mann acted as an additional tour guide, asking all the right questions and often clarifying or illuminating points of interest that would have otherwise remained obscure,” he said. “His knowledge and enthusiasm really helped bring to life these dark, obscure, historically remote, almost-aliens prehistoric sites.”

When students arrive in the rural village of Marillac-le-Franc for excava- tions, Mann ensures they get hands-on experiences while he super- vises, said junior Rocky Rothenberg, who took the course in 2009.

“One of the best things about him is he knows when to pull back a bit,” she said. “It was clear he was there to teach us, not put himself in it.”

The students alternate between dig- ging and sieving dirt for tiny traces of bone. Over the years, the teams have found remains from a dozen, robust, healthy Neandertals, including a piece of a femur bone this summer. They also have found flint knives and remains of thousands of animals.

The fact that Neandertals had separate places for living and butchery, as well as their success in hunting and talent for tool making, shows their intelli- gence, Mann said. The researchers preserve the excavated dirt, try to extract DNA from the bones, and map the sites and their findings through an electronic surveying telescope, creating a three- dimensional diagram of the site and where each object was found within it.

“Our success is incredible,” said Maureille at the University of Bor- deaux. The findings, the use of modern technology and the publishing produc- tivity of the French researchers have made Les Pradelles a model site in France, he said.

“His knowledge and enthusiasm really helped bring to life these dark, obscure, historically remote, almost-aliens prehistoric sites.” — James Magagna, Class of 2011

**Dec. 13, 2010**

PRINCETON UNIVERSITY BULLETIN 7

lions of years. In the 1980s, he began to study Neandertals, a group in the Homo genus that scientists say lived in Europe, disappeared about 30,000 years ago and offered more recent clues about the origins of human development.

At Penn, Mann began working with his collaborator of more than 30 years, Janet Monge.

Monge was a doctoral student of Mann’s in the 1970s and is now a visit- ing associate professor at Princeton and an adjunct associate professor of anthropology at Penn.

Mann and Monge began to create databases of images of Neandertal and modern human teeth, looking for pat- terns that appeared in both groups and would show the connection between the two — despite prevailing view that modern humans were not descended from Neandertals.

“We had a rocky time, but we solidified a lot of our research methods because of the critiques,” Monge said.

Their research, which showed that Neandertal’s dental development showed strong similarities to humans, May 2010, researchers in Germany concluded, based on DNA analysis, that Neandertals and humans had mated, and to 1 4 percent of the human genome of non-Africans today came from Neandertals.

“I jumped up and down with that one,” Mann said.

As his work’s dental development continues, Mann’s research has yielded grants, and some unusual opportuni- ties to put his expertise to the test.

“When you teach, you’re saying you can’t lead a class without it. I really want to show you something,” Mann said. He then pointed to his six framed diplomas of a white European, you were in some way inferior,” Mann said.”

“**His knowledge and enthusiasm really helped bring to life these dark, obscure, historically remote, almost-aliens prehistoric sites.**” — James Magagna, Class of 2011

**Dec. 13, 2010**

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**Mann Continued from page 1**

**dentity between early and mod- ern humans could signal levels of sophisticated development in humans’ primitive ancestors.**

“Teeth function in a way that is part of your lifetime,” Mann said, such as humans’ development of “milk” teeth for early childhood and permanent teeth for adulthood.

Mann conducted excavations and fossil molding and casting around the world, including fieldwork in Afghanistan, Australia, Greece, Croatia, Germany, Hungary, Israel and South Africa. He began his research with australopithecines, a primate species that dates back mil-
The course catalogue provides a full listing of every course from the University registrar’s website, sorted by category — category, seniorship, interdisciplinary programs, natural sciences, social sciences, and writing seminars — all of which are then subdivided into course topics. Within each category, users can view every course offered for the most current semester, along with a detailed course description, the days on which it is held, the number of sections (if applicable), the name of the instructors and its location on campus.

The application, which is organized by each of the University’s varsity sports teams, with subdivisions for men’s and women’s teams within each sport tab, users can access a regularly updated news feed about that particular team, as well as the current season’s schedule and scores.

The multimedia module brings users to Princeton’s YouTube page, where users can watch a wide variety of content, including student- and faculty-produced videos, as well as features showcasing University events such as Reunions and Commencement. Moreover, the still photography module enables potential students and visitors to take a virtual tour of the campus’ most attractive buildings and grounds as well as browse for photos of activities and events held on campus.

For those looking to keep up with current Princeton news and events, the news module will provide users with updated content from the University’s home page. This will include top news, feature stories and event features. Users also can search within the news module for keywords or topics.

The evolution of iPrinceton was a cooperative venture between OIT and Blackboard Mobile Central, a San Francisco-based educational technology design firm that previously had helped develop smartphone applications for universities that include Duke, Stanford and MIT.

Also instrumental in the app’s development was Ryan Irwin, a member of the class of 2010. According to Goldstein, Irwin grew up with the group of young men who eventually went on to form Blackboard Mobile, and this summer Irwin worked with the Blackboard team in California to help facilitate the execution of iPrinceton.

“Mr. Irwin was able to test test builds of several different apps and to let us know what we could expect from iPrinceton,” Goldstein said of Irwin’s contributions.

Several University departments also played an integral role in the development with much of the app’s content. For example, all course data was supplied by the registrar’s office, while the University’s Office of Communications provides the app’s videos, campus images and news feed.

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