For valedictorian Karp, success is built upon teamwork

Kitty MacPherson

Early last fall Princeton's class of 2010 valedictorian David Karp was taking in a lecture by Professor Alexander Smits on the daunting science of turbulent flows as part of a graduate-level engineering course. Thinking ahead about the intimidating problem sets he would have to solve for the course, the straight-A student looked around the classroom and was relieved by the sight of his friends.

His eyes rested on the only other undergraduates in the class of 22, Margaret Byron and Michael Papageorge. They had discussed the course the previous spring and had decided to form “Team Undergrad,” a study group. Together, as Karp hoped, they ultimately would attack the problem sets over the semester with great alacrity, gathering over several weeknights in the library of Charter Club, the eating club where Karp is an officer.

What unfolded, for Karp, was one of the best experiences at Princeton. “Working with these classmates reinforced what I have learned over the years about this place — that it is filled with incredible people with a multitude of talents,” he said. “It also struck me, though, how willing my friends were to work together and help each other. I have learned that there is great power in this.”

Karp's path to the top of the class — which will culminate with his valedictory address at Commencement on Tuesday, June 1 — has been propelled by his embrace of teamwork and creative problem-solving.

Ultimately Karp, who is majoring in mechanical and aerospace engineering, aced Smits' graduate course and formed a lasting bond with his classmates. Smits noted that Karp outdistanced everyone except for the best graduate student in the course. He regards Karp as perhaps the best student he has seen in his 29 years at Princeton.

"He has an almost playful approach to the task at hand, where he first masters the fundamental understanding," said Smits, the Eugene Higgins Professor of Mechanical and Aerospace Engineering and department chair. "Next he broadens the task and raises the bar, perhaps to make it interesting enough to create a genuine challenge, and then he overcomes this challenge of his own making, often in an elegantly simple way."

Karp has accumulated a 4.0 grade point average and 29 As and A+’s. In addition to his major, he will earn certificates in applied and computational mathematics and in applications of computing. His experience at Princeton has left him with an appreciation for the collaboration that he has enjoyed in his academic and social life, and a deep gratitude for his family’s help in supporting him on his way to Princeton and through his college years, he said.

Passion for aerodynamics

As a person whose dream is to conduct pathbreaking research in aerodynamic design — be it space-ships, high-speed aircraft or racecars — Karp said it’s been wonderful to learn firsthand how useful teamwork can be in solving big problems. And, even if, scientifically speaking, one is flying solo, he said, it can be inspiring to be working in a cauldron of discovery such as Princeton.

“You think of someone with a world-class mind like John Nash,” said Karp, speaking of the Nobel laureate and senior research mathematician in the Department of Mathematics who is a personal hero of his. “But even Dr. Nash, when he was working here in Princeton in the 1950s, doing the work that would win him a Nobel Prize, was working in a community of astounding individuals, like (Professor of Mathematical Economics Emeritus) Harold Kuhn. That had to be important to him. Great minds build off each other.”

Karp’s eyes light up when he talks about his passion for aerodynamic design. He gestures with his hands as he describes the air flow over various shapes and how he would like to improve the geometry to make things, as he said, “go really fast.” He loved doing his senior thesis on the use of computer simulations to optimize the flow of air around a wing. His adviser, Luigi Martinelli, an associate professor of mechanical and aerospace engineering, described the work as “a very challenging project at the intersection of aerodynamics and computational engineering that is very much a contemporary research issue in our field.”

The final objective of aerodynamics, Martinelli explained, is to determine shapes that interact optimally with substances such as air or water. In the 1990s, Martinelli’s research group at Princeton developed a novel and powerful aerodynamics design tool for flight conditions in which the air flow is stationary, such as when an airliner is moving at cruise speed.

Continued on page 6
Andlinger Center plans blend technical, aesthetic goals for new energy research hub

Steven Schultz

Architects for Princeton’s Andlinger Center for Energy and the Environment have completed initial plans for laboratory, classroom and garden spaces that support the center’s mission while creating an inviting new presence at the eastern edge of campus.

The design provides for specialized facilities for research related to sustainable energy production and consumption. With a network of gardens and connections to existing buildings, the new spaces are designed to enhance the engineering neighborhood while meeting high standards for sustainable construction.

The plans, developed by the architectural firm of Tod Williams Billie Tsien Architects of New York, are expected to be finished in 2015. Completion of the overall plan marks an important juncture for the university as it searches for new ways to address the pressing issues facing society in the energy field.

Princeton’s class of 1952.

The Andlinger Center, which was created in 2008 thanks to a $100 million gift from 1952 alumnus and business executive David H. Andlinger, has already served as a catalyst for change in the university’s approach to energy research.

Andlinger Center plans blend technical, aesthetic goals for new energy research hub

“A key factor in the university’s decision to create the Andlinger Center was the interest in energy research that was emerging throughout the engineering area well into the 1960s,” said Mark Burstein, Princeton’s executive vice president. “Williams/Tsien have taken a strength of Princeton’s historic campus — that open spaces are as important as buildings — and incorporated this theme into the engineering neighborhood.”

The gardens give the site a “porosity” or openness that invites people to enter, meet and collaborate, said Tod Williams, University architect. “[With the building] you’ll always be moving from the garden to garden, from light to light, from one height to the other.”

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From New Jersey to Nairobi: Princeton in Africa marks 10 years

Jennifer Greensite Altman

Ten years ago, Princeton alumnus Steven Feldstein spent a year in Rwanda assessing orphans and documenting the lives of street children as part of his work for a humanitarian relief organization. Feldstein was in Africa with the first group of University graduates to participate in the Princeton in Africa program, an experience that has shaped his working life.

Today, as a professional staff member for the U.S. Senate Foreign Relations Committee, Feldstein works on allocating foreign assistance to developing countries and often reflects upon his time with Princeton in Africa.

"Having had that experience on the ground — and seeing from both ends how the system works — I got an important insight into crafting policies from this experience," said Feldstein, a member of the class of 2000 who majored in political science, so in addition to testing a range of nongovernmental organizations that work across Africa with the goal of effectively supporting the continent's underserved populations.

"Our fellows have studied Africa and they want to take the experience out of books and into the field," said Cordelia Persen, executive director of Princeton in Africa. "Seeing Africa firsthand is a totally different learning experience."

In 2000, Feldstein was one of Princeton's alumni who headed to Africa for a fellowship. This summer, a program will send 26 students to 18 countries to work in public health, education, community, conservation, postconflict reconstruction and other areas.

In the first 10 years, the program has accepted only Princeton seniors and alumni, but for the class of 2011, those without a Princeton affiliation may apply. The new programs have led to a fourfold increase in applicants.

"Our fellows asked us to open the program to non-Princetonians" because they frequently met people who wanted to apply but didn't attend the University, Persen said. "They told us they knew so many qualified people who could bloom with this opportunity."

By admitting qualified applicants from any school, the program is offering a broader array of skills and talents to partner organizations, Persen said.

Feldstein is among many of the program's 200 alumni who have continued to pursue work or study related to Africa.

A huge portion of our fellows stay involved in Africa, and a lot of them go into science fields," Persen said. "Our mission is to create young leaders who are committed to Africa's development. Students in medical school have done monthlong rotations in Africa. Former fellows who became lawyers have undertaken pro bono work for African governments. Many fellows have returned during their summer breaks from graduate school.

After completing her fellowship with a South African program that grooms teenagers from 54 nations to become future leaders on the continent, alumna Yveting Beverly Lien stayed for a second year — as about 20 percent of Princeton in Africa participants do — to witness the opening of the school, called African Leadership Academy, that she helped to create in Johannesburg. She is now working for a nonprofit organization in New York.

"Living in Africa was the most rewarding two-year period of my life," said Lien, a graduate of the class of 2006 who was a concentrator in African American studies.

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Christopher Campisano is the coordinator of higher education programs at the New Jersey Department of Education for the past four years, has been selected as the director of Princeton’s Program in Teacher Preparation, effective July 12. He succeeds John Webb, who will retire at the end of the academic year.

In his current post, Campisano works with institutions of higher education across the state to ensure that teacher and school leader preparation programs maintain consistently high standards. He previously served for eight years as a program officer with the state Department of Education, overseeing professional development opportunities, curriculum development and program improvement services for school districts across the state.

The Program in Teacher Preparation—which is open to undergraduates, graduate students and alumni—trains individuals to serve as teachers. In addition to offering an undergraduate certificate, the program manages the Princeton University Preparatory Program (PUPP), which helps low-income, high-achieving high school students prepare for college. PUPP is a professional development program for local elementary and middle school teachers; and Teachers as Scholars, an intellectual enrichment program for local elementary and secondary teachers.

Dennis Yuhasz, the interim director since September 2009, will continue to serve as assistant director.

Memorial service for Walter Murphy set for June 9

A memorial service for Walter Murphy, professor of jurisprudence Emeritus, is set for 3 p.m., Wednesday, June 9, in the University Memorial Chapel. Murphy, who served as a judge in the New Jersey Court of Appeals and was a fellow in the Chancellor Green Rotunda, died April 26 in Princeton, NJ, at age 91.

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Employee retirements

Effective Feb. 1: in the Woodrow Wilson School, directors Robert Hoth- ings, after 23 years; in public safety, patrolman Robert Tallman, after 41 years; in the library, applica- tion delivery supervisor Stan- dard Yates, after 31 years; in molecular biology, animal caretaker Dennis Yabana, after 10 years.

Effective June 1: in the Lewis-Sigler Institute for Integrative Genomics, as- sistant director Susan Powell, after 11 years.

Employee obituaries

Retired employees


Africa

Continued from page 3

“it has been wonderful to experience an entire new environment while still being able to rely on the Princeton support network to help navigate the chal- lenges of living and working abroad,” said Grody, who earned her degree in ecology and evolutionary biology with a certificate in environmental studies.

She also is learning that living in another country means adapting to the ways of another culture.

“When you see people you know, you absolutely must stop, say hello and ask how they are doing,“ Grody wrote in an article for the Princeton Africa newsletter. “This means I have to allow an extra 10 minutes to get anywhere to make sure I have time to greet everyone I meet.”

This summer, a new class of Prince- ton in Africa fellows will disperse across the continent to begin their work. Senior Chris Courtin will head to Kenya to help build a village near Kitui for orphaned children. A major in mechanical and aerospace engineer-
Commencement activities scheduled for May 30-June 1

Several University activities for undergraduate and graduate degree candidates and their families are planned for Sunday through Tuesday, May 30-June 1:

• The Baccalaureate service will take place at 2 p.m. Sunday, May 30, in the University Chapel. Guests must be seated by 1:30 p.m. The speaker will be Jeff Bezos, a 1986 Princeton alumnus and founder and chief executive officer of Amazon.com.
• The Pan-African Graduation will be held at 3:30 p.m. Sunday, May 30, in Richardson Auditorium, Alexander Hall. Imani Perry, professor of African American studies at Princeton, will deliver the keynote address.
• The Latino Graduation is set for 7:30 p.m. Sunday, May 30, on the Frist Campus Center South Lawn. Patricia Fernandez-Kelly, senior lecturer in sociology at Princeton, will deliver the keynote address.
• The Class Day ceremony for seniors is set for 11 a.m. Monday, May 31, on Cannon Green (Jadwin Gym in case of severe weather). Guests must be seated by 10:30 a.m. The speaker will be Charles Gibson, a 1965 Princeton alumnus and former anchor for ABC’s “World News.”
• The Hooding ceremony for advanced degree candidates will begin at 5 p.m. Monday, May 31, in McCa- rter Theatre. President Tilghman and Graduate School Dean William Russel will preside.
• The University’s 2013 Commence- ment ceremony is slated for 11 a.m. Tuesday, June 1, on the lawn in front of Nassau Hall (Jadwin Gym in case of severe weather). Guests must be seated by 10:30 a.m. President Tilghman will preside and address the graduates.
• Those interested in attending the upcoming Pan-African or Latino graduations, which are sponsored by the Fields Center, should e-mail caaf@ princeton.edu or call 238-5494. Admission to all other events is by ticket only.
• The Baccalaureate service will be simulcast on a screen outside the chapel as well as in Richardson Auditorium, Alexander Hall; McCosh Hall, Rooms 10 and 50; McCormick Hall, Room 101, and Betts Auditorium of Architecture. Tickets are required at the simulcast sites.
• For the Class Day ceremony, a determination will be made closer to the date of the event regarding simul-casts. Updates will be available on the University home page at <www.princeton.edu>.
• The Hooding ceremony will be simulcast in Dodds Auditorium, Robertson Hall, and Richardson Auditorium; tickets are required at the simulcast sites.
• Commencement will be simulcast in Richardson Auditorium; no tickets are required at the simulcast site.
• The Baccalaureate, Hooding and Commencement ceremonies are sched- uled to be broadcast live on TigerNet Channel 7 on campus and on Chan- nel 27 on Princeton cable television. The events also are scheduled to be webcast live and archived online for later viewing at <www.princeton.edu/WebMedia/>. Streaming video of the events for iPhones also will be avail- able on the WebMedia site.
• Also, for the first time individuals attending the University’s Commence- ment activities will have access to a mobile website at <m.princeton.edu/ commencement-> that provides general information.
• Detailed information about the events, including parking instructions for members of the University commu- nity and guests, is available online. To ease traffic congestion, some University employees are being asked to park in alternate lots on Tuesday. In addition, employees who do not perform essential services for Commencement will be permitted to leave work at 2 p.m. Tues- day with supervisory approval.

20,000 alumni and guests expected to attend Reunions

Some 20,000 Princeton alumni, family members and friends are expected on campus Thursday through Sunday, May 27-30, for Reunions activities.

Highlights will include annual activities such as: the P-rade through- out campus beginning at 2 p.m. Saturday; alumni-faculty forums and department open houses during the day Friday and Saturday; the “Battle of the Alumni Bands” from 11 a.m. to 4 p.m. Friday on the Frist Campus Center South Lawn; performances by student groups, including Quip- fire!, the Princeton University Players and Triangle Club on Thursday, Fri- day and Saturday evenings; recep- tions and student/ alumni arch sings on Friday and Saturday evenings; and the Univer- sity Orchestra’s lawn concert at 8 p.m. Saturday on Finney and Campbell fields, followed by fireworks at 9:15 p.m. The con- cert and fireworks are open to the entire community.

In addition, some new activities are part of this year’s Reunions schedule (unless otherwise noted, activities are open to alumni, friends and the cam- pus community):
• An exhibition celebrating the art and history of the Nassau Hall Faculty Room will be on view from 10 a.m. to 5 p.m. Friday and Saturday in the Faculty Room. The class of 1970 undertook the exhibition, titled “Inner Sanctum: Memory and Mean- ing in Princeton’s Faculty Room at Nassau Hall,” in honor of its 40th reunion. The exhibition will close Sunday for Commencement activities and reopen Wednes- day, June 3.

In celebration of the 40th reunion of the Butler College green roof, which starts at Dillon Gymnasium, the Office of Sustainability will be offering tours, offered at 10 a.m. Saturday. The tour, by the Office of Sustainability will be open to alumni, friends and the campus community:
• “Green tour” of campus hosted by the Office of Sustainability will be offered at 10 a.m. Saturday. The tour, which starts at Dillon Gymnasium, will include an overview of the Uni- versity’s Sustainability Plan, student environmental initiatives and Dining Services’ sustainable food sourcing and waste disposal efforts. The tour also will visit the Forbes College organic garden and include a focus on the Butler College green roof.
• All alumni and University representatives again will be required to have wristbands in advance from the Alumni Association who do not perform essential services for Commencement will be permitted to leave work at 2 p.m. Tues- day with supervisory approval.
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Charles Wilson Pelle's "George Washington at the Battle of Princeton," is part of the Nassau Hall Faculty Room exhibition, which opens during Reunions and runs through Oct. 30. For more information, visit <princetonartmuseum. org/exhibitions/upcoming>.
Jennifer Greenstein Altmann

During her freshman writing seminar, “Wit and folly in the Age of Shakespeare,” Princeton sent Marguerite Colson to the Shakespearean theatre for a moment that changed her approach to every class she took after that.

Colson’s close analysis of essay structure and the methods a writer uses to develop an argument convinced Colson that “the way I had written before wasn’t going to cut it,” she said. When working on an essay for the class, she realized she needed to finish the assignment a few days before the deadline to leave time to “analyze it and tear it apart and put it back together.”

The development of her writing skills helped Colson become one of the highest-ranking history major in the class of 2010 and the class salutatorian. As such, she will continue the Princeton tradition of delivering a speech in Latin, one of her key areas of study, at Commencement on Tuesday, June 1.

Colson’s proficiency in Latin is matched by her incisive critical writing about the material, said Professor of Classics Andrew Feldherr. “I consider her one of the most gifted analyses of literature I have taught at Princeton,” said Feldherr, who taught Colson in a course on Latin elegy. “Her translations were consistently letter perfect, and her oral presentation and essay set a very high standard for sophisticated and informative literary engagement with the material.”

Colson is earning a certificate in the language and culture of ancient Rome. She started studying Latin in sixth grade, and she loves “the neat combination of logic and math and literary analysis” in Latin classes. She especially liked Latin in a course on Virgil’s “Aeneid” and the Roman Republic, which she took her first year at Princeton.

American history, she said, for her senior thesis, she examined the life of Edward Stettinius, who served as U.S. secretary of state under presidents Franklin Roosevelt and Harry Truman and oversaw the creation of the United Nations. No biography of Stettinius has been written, perhaps because he lasted just seven months in the position before being fired by Truman, who inherited him when Roosevelt died in office.

Stettinius was kind of a lost figure in history, Colson said. “I saw this as an opportunity to give him a second look.”

She traveled to Truman’s presidential library in Missouri and made some surprising discoveries, including a photograph in which Truman referred to Stettinius’ replacement by the same title “secretary of state” three weeks before firing Stettinius.

The greatest pleasure of giving the senior thesis, Colson said, is that it enables you to “surround yourself with material and let yourself find evidence for an argument.”

History lecturer Paul Miles, her thesis adviser, was impressed with her paper’s “originality, sophisticated analysis and especially fluent composition,” he said.

Salutatorian Marguerite Colson loves “the neat combination of logic and math and literary analysis” in Latin classes. She will continue the Princeton tradition of delivering a speech in Latin at Commencement on Tuesday, June 1.

Karp

Continued from page 1

thesis is devoted to the extension of that method for aerodynamic devices operating in a time-dependent flow, such as a blade for a wind turbine or flapping wings.

Once implemented in software and fully tested, Karp’s thesis is expected to provide a useful new tool for the design of more efficient airfoils for rotating blades, Martinelli said.

Karp said he did his best work on the project in the wee hours of the morning, fueled by chicken nuggets. “I can’t go to sleep until I finish a problem,” he said.

Martinelli, who taught Karp in four courses, said it was fun to witness Karp thinking through a problem.

“His drive to excel was nurtured in Karp early, as a talent for research runs in his family. His maternal grandfather, A. Eric Andersen, was recruited at age 17 to work at Los Alamos National Laboratory in New Mexico during World War II as part of the Manhattan Project to build the atomic bomb. Karp’s father, Doug, is an electrical engineer and business executive, and his mother, Karen, is a research nurse at the neonatal ophthalmology division at the Children’s Hospital of Philadelphia. He has one sister, Melissa, who is a freshman at Tufts University.

His parents always encouraged his intellectual growth, he said. They posted multiplication tables on the refrigerator when he was five so he could memorize them. And he did. When they were driving in Berwyn in suburban Philadelphia, where he grew up, his parents would point to successive speed limit signs and ask him to add one to another. “They were always coming up with puzzles and problems for me to solve,” he said.

His parents allowed him to skip second grade but kept him at grade level after that, though some teachers wanted him to be accelerated. “My parents didn’t want me to be too much younger than everyone else,” he said. “And I’m glad about that. I had a very happy school experience.”

He excelled in his studies at Conestoga High School. When he wasn’t studying, he was playing street hockey in his neighborhood or floor hockey somewhere else, Karp said.

Colson also has relished taking a variety of courses outside her major and has applied to a number of extracurricular projects.

“You don’t have to settle down here. You can do a lot of things you love,” she said.

Inspired by her experience in her freshman writing seminar, Colson became a fellow at the Writing Center, where for three years she helped graduate students create résumés and other applications, seniors with their theses and freshmen with their first college papers.

“I think you can learn a lot about your own writing from reading other people’s,” she said.

At the Writing Center, she has excelled at providing “that crucial outside perspective and sympathetic ear for other writers,” said Amanda Irwin Wilkins, director of the Princeton Writing Program, which oversees the center. “The students she has worked with remark on what a good listener she is, always attentive and encouraging as they develop their ideas and refine their arguments.”

Colson also has served as a tutor for English as a Second Language and a volunteer at Princeton Nurs- ing Home through the University’s Community House civic engagement organization.

Continuing this summer, she will be a yearlong fellow with the Project 55 alumni service group, working as an investigator in New York City police department’s Investigation Division Central unit and assisting in the prosecution of white-collar crimes. She hopes the fellowship will help her decide whether to go to law school.

“I love the idea of marshalling evi- dence and looking at many different pieces of information before forming your argument,” she said. “It’s a career that would keep me reading and writing.”

At Princeton Karp has won many honors, twice winning the Shapiro Prize for Academic Excellence. He was elected to the Tau Beta Pi engineering honor society in 2008 and to Phi Kappa in 2009. In Fall 2009, he was the co-winner of the Class of 1939 Princeton- Evans scholarship, awarded to the student who has achieved the highest academic standing at the end of junior year.

Karp also has won significant recognition beyond Princeton. He was one of 14 students nationwide to be awarded a Churchill Scholarship for 2010-11, which will help him travel to the University of Cambridge to pursue a master’s degree in applied mathematics. And he is one of 15 stu- dents nationwide to receive a $230,000 fellowship from the Hertz Foundation, which will support five years of doctoral study in com- putational fluid dynamics at Stanford University.

This summer, Karp will be working at Jane Street Capital in New York, a proprietary trading firm.

Looking ahead, Karp is consider- ing multiple career paths. He might design spacecraft for NASA or work on hypersonic aircraft. He might possibly apply his talents to racing, he loves race cars, a passion he picked up from his mother, so he might end up creating new models for the vehicles. And he wants to spend some time snowboarding, a sport he picked up recently.

“These are exciting choices, all growing out of my experience here,” Karp said. “I am looking forward to figuring it out.”

Gifted analyst of history, literature to be salutatorian
The task force also noted “a number of developments in recent years that seem to have improved the experiences of students in the clubs and the relationships between the clubs and the University.” They include “the identification of ‘best practices’ governing several aspects of club operations, including the provision of alcohol; improvements in the process by which the bicker clubs notify their new members; modifications in the University’s financial aid policies to recognize the costs of club meal contracts; the introduction of shared meal plans; and even the appointment of [the] task force.” At the same time, the findings of the task force point to several areas of concern. Such concerns include lower participation in the clubs by students from lower-income and minority backgrounds; “the culture of alcohol” that seems to characterize much of club life; a selection process that many describe as haphazard; and the development of pipeline relationships into a number of selective clubs that help sustain Greek organizations that many feel are incompatible with the Princeton residential experience,” stated the task force.

Other areas of concern include the ongoing financial viability of the clubs, in particular the sign-in clubs, as well as the cost of maintaining old, much-used buildings.

Stating that “we hope and believe that these concerns and challenges can be addressed,” the task force emphasizes that the clubs and the University have a great stake in preserving the viability, vitality and value of the eating clubs, and as in a crew race, the best outcome is going to be achieved if everyone is pulling on the oars in the same direction, and together.”

... both the University and the clubs have a great stake in preserving the viability, vitality and value of the eating clubs, and as in a crew race, the best outcome is going to be achieved if everyone is pulling on the oars in the same direction, and together.”

The task force report provides a brief history and some basic facts and figures about the clubs, along with findings and recommendations in eight key areas for consideration by the University and the clubs.
Researchers develop relief technologies for Haiti

Hilary Parker

Even before the Jan. 12 earthquake that devastated Haiti, killing more than 200,000 people and leaving more than 1 million homeless, the citizens of the Caribbean nation were in desperate need of access to clean drinking water and electricity. After the disaster the need skyrocketed, inspiring a team of Princeton researchers to launch a one-year effort to develop, deploy and test two novel disaster-relief technologies — a rainwater harvester and filtration system, and a wind turbine for renewable energy production. These technologies would harness Haiti’s abundant rainfall and ever-present winds to provide clean water and energy. The team, which includes engineers and architects, is funded by a $100,000 grant from the National Science Foundation (NSF) through the organization’s Rapid Response Research program.

“We want to provide a valuable service to Haiti in a time of great need,” said Catherine Peters, an assistant professor of civil and environmental engineering who is leading the project. “We also want to advance technologies for disaster recovery more broadly and create resources for sustainable reconstruction in Haiti and around the world.”

On April 6, Raymond Joseph, the Haitian ambassador to the United States, met with the research team to talk about reconstruction efforts during a visit to the University.

“Only one-fifth of the country was hit [by the earthquake], but it affected 80 percent of our economy” and had a devastating human toll, he said, stressing the need to rebuild with modern services and infrastructure dispersed throughout the nation, rather than concentrated in the capital city of Port-au-Prince. “Today is a new day for Haiti — the new day is the decennialization of the country with the new technologies to make it happen.”

In keeping with this philosophy, both of the new technologies are designed to operate independently from existing infrastructure, such as water and electricity transmission lines, and can be positioned where needed to provide a local source of clean water. To enable rapid deployment, both the rainwater filtration unit and wind turbine are designed for transport in standard shipping containers, which are incorporated into the systems once they are put in place.

The NSF grant will support the construction and testing of one prototype of each system, which will be deployed in the vicinity of Jacmel, located on the country’s southern coast. The technology designs were developed by Princeton architecture faculty member Jane Harris and ATOPIA Researcher, her Princeton-based non-profit design organization. The Haiti effort is an extension of the organization’s PITCH_Africa project, which has received funding from the Annenberg Foundation to develop an extensive range of rainwater harvesting and energy-generating structures for communities in sub-Saharan Africa, where water is scarce and electricity nonexistent.

The first technology, a rainwater harvester with an integrated water filtration system, could serve a population of 50 to 100 people. The system harvests, filters and stores water, further insulating the building. “Much of the progress in sustainability will come in further detailing, but the initial concept provides a very good foundation for meeting the University’s goals,” Burstein said.

Next to the laboratory building, a second main building will provide office and other research space. It will connect to the EQaud’s E Wing, as well as to Bowen Hall, the current focus of materials science research.

The third structure will be a lecture hall at the intersection of Olden Street and Prospect Avenue.

Construction of that portion of the project will require demolition of the former Osborn Clubhouse at 86 Olden St., former home of the Fields Center, which moved to Prospect Ave. in September. The Ferris Thompson Gateway on Prospect and the brick walk along the corner of Olden and Prospect will be preserved.

Located on the corner and facing the center of campus, the planned lecture hall presents an important outward-looking face for the Andlinger Center, Downtown Princeton. Classes, talks and conferences will help connect the technical work of the center with other disciplines, while giving space its ability to draw people into a part of campus that has not been used as effectively as other areas. The location for the Andlinger Center is an essential pivot point for the overall campus,” Burstein said. “This building is designed to be a focal point of this location by dramatically improving the EQaud and opening connections among downtown, the arts and university education.”

Pending municipal approval, initial work on the site, including placement of foundations, started in November 2011. The University also continues to seek additional donors to support the building’s construction, both at the campus and at the emerging downtown area.

This site map shows the three buildings and four garden areas that make up the Andlinger Center. The buildings connect to the Engineering Quadrangle and Bowen Hall, while the gardens introduce the park-like feeling that characterizes the Princeton campus. The Ferris Thompson Gateway on Prospect and the brick walk along the corner of Olden and Prospect will be preserved.