A Different Shade of Green: Race, Place and Environmental Justice

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PEI and the Center for African American Studies: An Environmental Justice Initiative

By Jean Marie Layton

When PEI sought to partner with the humanities, the Institute looked towards Stanhope Hall. This year, PEI embarked on a joint initiative with The Center for African American Studies by inviting Carleton College Associate Professor Kimberly K. Smith to serve as the inaugural Currie C. and Thomas A. Barron Visiting Professor in the Environment and Humanities at PEI and Visiting Associate Professor in The Center for African American Studies (CAAS). By bringing Professor Smith to campus during the 2007–2008 year, PEI and CAAS undertook an initiative to introduce the study of environmental justice to the Princeton community and to explore a multitude of issues that the environmental justice movement raises. The basic premise behind the movement is that environmental benefits and hazards should be shared equally by communities. The environmental justice movement seeks to correct the balance of environmental burdens borne by minority, poor and politically marginalized communities.

Leading off the collaboration between PEI and CAAS, in November 2007, Majora Carter, the Founder and Executive Director of Sustainable South Bronx, spoke to a riveted audience about her work in the South Bronx and detailed precisely why this area is such an extreme example of the types of environmental injustice that occur along racial and class lines (see story on page 6). Following Majora Carter’s introduction of the concept of environmental justice, PEI supported an environmental justice film series that explored the issues of race, class, inequality and the environment. Films included Spike Lee’s documentary, “When the Levees Broke: A Requiem in Four Acts;” “Two Square Miles: Small Town America Fights Back,” about the siting of a cement plant in Hudson, N.Y. and “In the Light of Reverence” and “Homecoming: Sometimes I Am Haunted by Red Dirt and Clay” which explored themes of commercial development in Native American lands and land ownership by African Americans in the South.

During this past spring semester, Professor Smith co-taught a course with Melissa Harris-Lacewell, Associate Professor of Politics and The Center for African American Studies on Environmental Justice. The class included a trip to New Orleans over spring break, where students met with community organizers, various non-profits and homeowners in post-Katrina neighborhoods. In addition, the class participated in a tour of Newark, N.J., organized by Greenfaith, where they visited several Superfund sites around Newark.

The PEI and CAAS partnership hosted their final event of the year on April 28th and 29th, a conference entitled “A Different Shade of Green: Race, Place and Environmental Justice” which is part of the Bert G. Kerstetter ’66 Ethics and the Environment Lecture Series. Steve Pacala, Director of PEI, indicated his enthusiasm for the project: “We are pleased to be collaborating with The Center for African American Studies on the environmental justice conference—a new area of inquiry for students and faculty at Princeton University. Our conference is the culmination of a year-long effort to investigate the many facets of environmental justice—the history, the policy and how community-based science influences the outcomes.” Valerie Smith, Director of The Center for African American Studies at Princeton
indicated that through this collaboration, “CAAS and PEI have explored together the intersection of social justice and environmental stewardship, both pressing issues for the twenty-first century.”

Bringing together scholars of the environmental justice movement as well as community leaders, policymakers and local and international activists, the conference sought to initiate the dialogue about environmental justice issues on the Princeton campus. Leading off the conference on Monday, April 28th was keynote speaker Dorceta Taylor, Associate Professor of Environmental Sociology at the School of Natural Resources and Environment at the University of Michigan. Taylor engaged the audience in McCosh 50 (during a torrential downpour) with an explication of environmental racism and the various issues at stake in environmentally challenged communities including facility siting, land rights, corporate accountability, toxicity and job creation.

Starting the conference on the 29th, Beverly Wright, Director of the Deep South Center for Environmental Justice at Dillard University, spoke about issues affecting poor neighborhoods in the wake of Hurricane Katrina and how her organization works to build bridges between academia and the community in solving environmental issues faced by poor residents in New Orleans. Through the use of GIS technology, Wright is able to analyze the disparate impacts and site specific community profiles for disaster relief and associated environmental burdens placed on various socioeconomic and racial communities in New Orleans. Despite the overwhelming press coverage of post-Katrina New Orleans, Wright’s visual evidence of the uneven redevelopment of post-Katrina New Orleans neighborhoods based along racial lines was very compelling.

Following Wright’s presentation, a host of panel discussions were held throughout the day that examined environmental justice from a multiplicity of viewpoints. Included in the discussions was the use of scientific methods to determine environmental discrimination, and the various methodologies used by the environmental justice movement in attaining its goals. Also included were stories from the field—activists who have been working with communities both domestically and internationally on ways to improve their degraded environments. Additional panels explored the relationship between environmental justice and the natural sciences and the question of bringing science “back” to the hands of those affected by environmental hazards through community monitoring projects, knowledge sharing and education.

As part of the day-long conference, Princeton students presented their environmental justice research in a poster session. Exploring such topics as black female leadership in the green movement, brownfields recovery in Trenton and Newark, and the “greening” of rap lyrics, students presented their findings from their class projects while interacting with conference panelists and attendees.

The afternoon’s session was commenced by Dale Jamieson, Professor of Environmental Studies at New York University, who spoke about the ethics of climate change. Jamieson posed a series of questions for the audience about the ethical implications of climate change including who should bear the greatest responsibility for the environmental fallout.

In all, fifteen speakers and panelists participated in the second day of the conference, which took place on Tuesday, April 29, from 8:00 AM until 5:00 PM. To view video footage of conference sessions held on Tuesday, or for specific information on the event including the participants’ biographies and abstracts, please visit www.princeton.edu/sites/pei/ejconference.

By viewing environmental justice through a panoply of lenses this past year, PEI and CAAS hoped to illustrate the environmental burdens affecting poor and minority communities throughout the world. As one audience member suggested, “We have been engaged for two days discussing environmental justice from so many perspectives. My question is this: where is Princeton going from here on the environmental justice front?” Certainly, given the interest among students, faculty and conference attendees, PEI and CAAS are developing a path for further environmental justice collaboration at Princeton.
hey admit July is a perfect time to be there, and they are captivated by the clear ocean water and legendary pink beaches. However, for Princeton’s serious students of oceanography, Bermuda is just as appealing as a center for marine and environmental research.

During the summer of 2008, Daniel Sigman, Professor of Geosciences, will, for the second time, teach GEO/ENV318, “Observing the Marine Environment” in Bermuda. The course, an introduction to ocean sciences, provides an opportunity for undergraduates to experience work “in the field” alongside a geosciences faculty member. As Professor Sigman explains, “The content and activities of this course are unusual in undergraduate curricula but are becoming increasingly relevant to basic research and environmental policy.”

The course operates out of the Bermuda Institute of Ocean Sciences (BIOS), an independent marine research and educational institution founded in 1903. In 2005 Princeton and BIOS formed the Princeton-BIOS Summer Undergraduate Program. Professor Sigman will co-teach the course with Dr. Michael Lomas of BIOS.

Teaching this course in Bermuda as opposed to somewhere closer to Princeton (for instance, coastal New Jersey), means the class can study data that BIOS has been collecting since its founding. But more importantly, according to Professor Sigman, “The shelf regions off the coast of New Jersey each have their own character, and they are not highly representative of the global ocean. The ocean mixes laterally, so out in the open ocean, off the coast of Bermuda, we can take small samples and measurements that provide information for a huge area of the ocean.” In addition to the open ocean cruises, the class also takes samples from Bermuda’s near shore waters.
This course is an unusual experience for undergraduates for many reasons. As Professor Sigman relates, “Oceanography courses at most universities are large survey courses. This course is more in-depth, more real. I can use the immediacy of the environment to develop my students’ enthusiasm for conducting basic research, and I can more readily provide a basic understanding of some of the most ubiquitous environments on Earth.

Admittedly, while we are in Bermuda, we do encounter practical challenges. However, students learn many lessons through these experiences, namely, the importance of attention to detail, a need to focus on the task at hand, and the necessity of shared responsibility and collaboration. It also brings basic research out of the imaginary realm of perfect conditions, helping students to understand it as a human activity.”

Emma Giunipero ’09, who took the course last summer, said, “The most rewarding part of the course was being able to go out into the ocean, analyze the data collected (from both the cruises and near shore field trips) in the lab, and then compare the data to previous cruises to find errors and/or changes. For example, we found that oxygen is in rich supply in the surface waters because of the atmospheric-ocean interaction, but several hundreds of meters below the surface, oxygen decreases and a minimum concentration of oxygen is reached because it is used for respiration by marine organisms. As the depth increases even more, oxygen concentrations increase again because of oxygen rich water flowing from the poles towards the equator. In general, the data revealed that the oceans are dynamic bodies of water with properties varying based on water depth as a result of the Earth’s rotation, temperature, and interactions with organisms.”

This summer, there are twelve openings for students, and freshmen through seniors are enrolled. To see the course description, please visit: www.geoweb.princeton.edu/students/undergrad_info/slideshows/318slideshow.html. For Geosciences: www.geoweb.princeton.edu. For BIOS: www.bios.edu.

“I can use the immediacy of the environment to develop my students’ enthusiasm for conducting basic research, and I can more readily provide a basic understanding of some of the most ubiquitous environments on Earth.”

—Professor Daniel Sigman
joiting the crowd with her dynamic personality and urgent message, Majora Carter’s visit to the Princeton campus on November 14, 2007 caused a sensation and inspired many in attendance at her lecture to rethink and reexamine their priorities and assumptions regarding civil rights and environmental issues. As Carter pointedly said, “Race and class have everything to do with where you see parks and trees.”

On that Tuesday evening, Carter, Founder and Executive Director of Sustainable South Bronx, captivated the audience in a packed Frist 302. Carter was born and raised and has lived most of her adult life in the South Bronx. In 2001, she founded Sustainable South Bronx (SSBX) to lead the fight for environmental justice in her borough by implementing economically sustainable projects that reflect the needs of the local community. In 2005 she earned a MacArthur “Genius” Fellowship for her work as an “urban revitalization strategist.”

Carter’s lecture was co-sponsored by the Princeton Environmental Institute and The Center for African American Studies. Kathy Hackett, Associate Director of the Princeton Environmental Institute, welcomed and introduced Majora Carter. Following Carter’s talk, Melissa Harris-Lacewell, Associate Professor of Politics and The Center for African American Studies, engaged Carter in a dialogue about her work and moderated the vigorous question and answer session.

Carter’s lecture began with a slide show examining the fate of the Bronx since the 1950s—a time when the Bronx was a racially-mixed, economically stable community. Fast-forwarding to the present, Carter reported that the South Bronx is ravaged by poverty and unemployment and that “40% of the waste in New York City is trucked to the South Bronx, plus 100% of the waste from the South Bronx” is moved through its streets. She also explained that although 95% of the fresh produce sold regionally is warehoused and trucked out of the South Bronx, people in the South Bronx cannot purchase any for themselves, and, “Even if they did, they wouldn’t know what to do with it.”

Carter’s declaration that, “Environmental Justice is the civil rights issue of the 21st century,” captivated the audience as a message containing enormous implications and profound truth.

Carter discussed many solutions to the problems in the South Bronx, such as her efforts to reclaim abandoned sites for waterfront parks and SSBX’s work to bring “green collar” jobs to the South Bronx. One such initiative seeks to train residents to install green roofs—focusing on a “triple bottom line” of creating jobs and stimulating the local economy, greening the South Bronx and helping the community to break out of a cycle of poverty. As Carter pointed out, “Green is for all, not just for those who can afford it. Green jobs build a personal and economic stake in the environment.”

Carter ended by noting, “We are building tributes to our collective failures, rather than building monuments to love and hope. The idea is not to get rid of industry, but to clean it up. Compared to the cost of poverty, cleaning up the environment would be a bargain.” For more information, please go to www.ssbx.org.
Princeton Unveils its Sustainability Plan

By Shana Weber, Sustainability Manager, Princeton University

Princeton has unveiled its comprehensive Sustainability Plan (www.princeton.edu/pr/reports/sustain/htm/index.htm) and is now entering into a full implementation phase. This is a terrific moment and speaks to Princeton’s serious commitment to leading in the sustainability arena. But if you read the press releases and the Plan itself you will not know the whole story—the gritty underbelly of sustainability behind the scenes, the many decidedly unsexy initiatives going on out of sight that dramatically influence our performance.

Solar panels, bio-swales, geothermal systems, cogeneration, energy-efficient buildings, living roofs, compact fluorescent light bulbs, electric carts, recycled paper, hybrid vehicles and alternative fuels: all of these are important and most fall into the realm of “sexy” and photogenic when it comes to communicating sustainability. And all are educationally valuable. But what about the “grit” that gives sustainability its “umph?” How about steam traps? Low-flow toilets and showerheads? Steam and chilled water pipe insulation? Better windows? LED lighting in exit signs and elsewhere? What about the arduous task of determining whether or not the food we serve is the most sustainable we can get (regardless of what the label says)?

So where exactly will Princeton make the biggest impact and achieve the aggressive goals outlined in the Sustainability Plan? Will it be with sexy-tech? Or through the grit of unseen innovation and the tackling of tough intellectual and social-behavioral puzzles? The answer is, of course, all of the above.”

—Shana Weber

Did you know?

Princeton gives a green light to efficient bulbs, other technologies

As part of campus energy conservation initiatives, Princeton is studying and implementing cutting-edge lighting solutions.

Three new buildings are now lit by LED bright white fluorescent lamps, which should be more efficient (saving 25-30% of energy use compared to the old) than the traditional fluorescent lamps that contributed to our progress. This venue alone will save the University $50,000 per year, improving the energy performance in less than three years.

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just give up meat for one day a week,” and “Suburban families should agitate for a carbon tax.” On February 12, Dr. David Suzuki, scientist and environmentalist, the co-founder of the David Suzuki Foundation and host of the Canadian show The Nature of Things, challenged his Princeton audience to do more to save the environment. During his crowded lecture called “Sustainability, the Real Challenge,” Suzuki discussed the global environmental crisis and suggested simple changes every person can make to contribute to the solution.

Dr. Suzuki’s visit, which was presented by the Princeton Canadian Club, the Canadian Studies Program and the Princeton Environmental Institute, began in the afternoon at Forbes College with a question and answer session with Dr. Suzuki and Princeton’s Professor Michael Oppenheimer fielding questions, and was followed by an evening lecture by Suzuki in McCosh 50.

Canadian undergraduate Kyle Hagel ’08 invited Suzuki to Princeton and raised the funds to make his visit possible by meeting with various groups on campus. In keeping with the sustainable theme, Kyle searched for a hybrid taxi to bring Suzuki to Princeton from La Guardia Airport (he finally found one in New York City). And to commemorate Dr. Suzuki’s visit to Princeton, Kyle, a varsity hockey player, presented Dr. Suzuki with a special gift: a Princeton hockey jersey emblazoned with “Suzuki” on the back.

Kyle was motivated to issue the invitation because he hoped Dr. Suzuki could raise very effective. If we can get one million Canadians to sign the challenge, and agree to do three things, (we already have over 300,000 signatures) we could take them to any politician and get them to do anything. However, even if all Canadians did this it would not be enough. We need more leadership from corporations and government.”

On the Carbon Tax “Suburban families should agitate for a carbon tax. The U.S. must start using taxation creatively. If you live in suburbia, move back to the city. As the price of oil skyrockets suburbia is going to be too expensive to live in. We have built a way of life off cheap oil and it won’t last.”

Green Corporations and Politicians “I don’t want to have to compliment a corporation for being green – it should be a part of the way we live. Those values should be part of the way we are – then who we elect won’t matter.”
awareness on campus of the global threat of human-induced climate change. Kyle said, “Suzuki’s most important message was urging people to fundamentally change the way they live. This means changing the way we eat, the way we move around, and the way that we view economic growth. The most powerful part of his talk was probably when he related a story from many years ago when he was protesting against clear-cut logging in British Columbia. An opponent said to him, ‘Suzuki, the only way that tree has value is if you or somebody else purchases it.’ That was an epiphany for David. He realized that the only way we value goods in services is how they contribute to economic growth. This person didn’t take into account the services that this tree provides: releasing thousands of gallons of oxygen into the atmosphere every year, its roots structuring the soil so it doesn’t erode, releasing gallons of water back into the atmosphere via transpiration, and providing a habitat for other organisms.”

It quickly became clear to Kyle that Dr. Suzuki’s lecture had inspired and motivated the audience. To illustrate this point Kyle explained, “Almost the entire men’s hockey team attended the lecture, including our Coach Guy Gadowsky. The next day, right in the middle of practice, Coach called a team meeting where he led a discussion for 15 minutes. He asked the guys what they thought of the talk, what they thought the most important points were and what we could do to improve the situation. Coach was extremely impressed with Suzuki and I can say that the meeting in the locker room was the first of the sort that I’ve experienced in four years here. It just goes to show you how much of an impact Suzuki had on the audience.”

Geosciences Professor Tullis Onstott speaks with David Suzuki at Forbes College. Photos: Carol Peters

“Economists think that nature is an externality; they think the economy can grow forever. When are Americans going to ask how much is enough?” —David Suzuki

Globalization “With globalization we don’t know how our actions affect the world. We think we work to make money, we buy what we want, and use it. Globalization means the economic impact is hidden from these transactions. We buy a brand and that’s all we think about. Farmers understand the weather and how it affects their lives. In the city all of that is foreign. We think the economy delivers these services.”

Teaching Children “I ask children questions like, ‘Where do you think your water comes from?’ ‘Where does the sewage go?’ I explain to them that their water comes from Lake Ontario and the sewage goes into Lake Ontario, too. Of course they are always shocked by this. Most children don’t even understand that meat is the muscle of an animal.”

An Intergenerational Crime “In my opinion, if the so-called leaders we elect turn their backs on science, they are deliberately committing a crime against future generations. I call it an intergenerational crime. I encourage students to see if there is any legal recourse for this type of crime. How do you hold people accountable for this [climate change]?”

On Scientific and Technological “Fixes” “Scientists don’t have all the answers either. For example, they want to pump CO, into the earth without knowing how it will harm bacteria deep in the Earth. We don’t know how those bacteria might support us, so we don’t know what we might be destroying. We knew nothing about the impact of radiation when we dropped the bomb on Hiroshima, and look what happened?”

For more information on Dr. David Suzuki and The David Suzuki Foundation, please go to www.david suzuki.org.
The aspen glitters in the wind
And that delights us.

The leaf flutters, turning.
Because that motion in the heat of August
Protects its cells from drying out. Likewise the leaf
Of the cottonwood.

The gene pool threw up a wobbly stem
And the tree danced. No.
The tree capitalized:
No. There are limits to saying,
In language, what the tree did.

—Robert Hass

On February 21, Robert Hass, UC Berkeley Professor of English, former U.S. Poet Laureate, and winner of the 2008 Pulitzer Prize for Poetry (for Time and Materials) gave a poetry reading at the Princeton University Art Museum auditorium. The event was sponsored by the Department of English, Princeton Environmental Institute, Program in Creative Writing, Committee on Public Lectures, and University Center for Human Values. Above is from the poem “The Problem of Describing Trees” found in Time and Materials by Robert Hass. Copyright © 2007 by Robert Hass. Photo: ©istockphoto.com/Laura Pallotta
**Interview: Professor Christina Paxson**

**Princeton’s Health Grand Challenge Aims to Solve Complex Global Health Problems**

By Carol H. Peters

Professor Christina Paxson is the Hughes-Rogers Professor of Economics and Public Affairs at the Woodrow Wilson School of Public and International Affairs, and the Director of the school’s Center for Health and Wellbeing. In addition, she is the Director of the University’s Health Grand Challenge, launched in 2007. Her fields of interest include economic development, applied microeconomics and health. Her research in development economics has been concerned with saving and consumption behavior, the consequences of demographic change for saving and growth, and the measurement of poverty and inequality. She is currently researching income gradients in children’s health outcomes, income inequality and mortality, racial differences in health outcomes, and the relationship between economic status and child abuse. PEI News interviewed Professor Paxson to explore how the University’s Health Grand Challenge will impact both the campus and the world.

**PEI:** What collaborations do you hope to develop through the Health Grand Challenge?

**CP:** The Health Grand Challenge is currently focused on infectious disease, and a number of research projects are already underway. Some of these are inherently interdisciplinary. For example, Professor Winston Soboyejo, from Mechanical and Aerospace Engineering (MAE), is planning a project that will develop low-cost water filtration systems that can be manufactured locally, in African communities, and used to reduce infectious disease. The students who work on this project will have to integrate engineering, on the design side, with scientific knowledge about water-borne infections, with the social science and policy tools needed to implement and evaluate the project. Other projects are more squarely discipline-based, but we hope to provide opportunities for those working on these different projects to interact and learn from each others’ experiences.

**PEI:** How do you hope to inspire your students through their work with the Health Grand Challenge?

**CP:** The students who work on the Health Grand Challenges research projects will carry these experiences forward into their careers and will learn that solutions to problems of infectious disease require input by people working in numerous areas. We need to draw on the work of laboratory scientists and on-the-ground health care professionals, as well as lawyers, human rights advocates, policy-makers and business people. Last year, I taught a section of a freshman economics course that looked at health in developing countries and the role that economic policy can play in improving health. Some of these students were excited by the idea that economic tools can be used to improve health outcomes. It would be great to see these students involved in Grand Challenges projects and, eventually, working on health-related topics for their senior theses.

**PEI:** Do you anticipate that your research and teaching and that of your colleagues will change as a result of the particular focus of the Health Grand Challenge?

**CP:** We will be doing much more team-teaching across departmental lines. This has already started to happen. The interesting thing is that the faculty members involved in teaching and developing these courses seem to be having a lot of fun. I imagine their enthusiasm will rub off on the students they teach.

**PEI:** What new courses and teaching collaborations are you planning for the Health Grand Challenge? What courses and research are already underway?

**CP:** A new undergraduate course called “Infection: Biology, Burden, Policy” was taught this spring by Professors Adel Mahmoud (Senior Policy Analyst, Woodrow Wilson School and Molecular Biology, and Lecturer with the rank of Professor in Molecular Biology), Tom Shenk (James A. Elkins Jr. Professor

“Through the Health Grand Challenge, Princeton aims to unify and leverage the independent efforts of departments across the University to solve an array of complex global health problems.”
in the Life Sciences, Molecular Biology), and Burt Singer (Charles and Marie Robertson Professor of Public and International Affairs, Woodrow Wilson School). It was intended to illustrate the cross-cutting problems of infectious disease in a manner that is compelling to students from a variety of disciplines. We are also planning a course on epidemiology, which will provide students interested in health issues with some tools that are essential for the study of health, and another on global health and health policy. This second course will, like the “Infection” course, be interdisciplinary, integrating science and medicine with social science and policy.

PEI: How does the Health Grand Challenge increase Princeton’s work in the service of all nations?

CP: “Global health and infectious disease” is commonly perceived as a set of issues unique to less developed countries, but this subject has implications for all nations worldwide. Through the Health Grand Challenge, Princeton aims to unify and leverage the independent efforts of departments across the University to solve an array of problems that are vital to the health and well-being of all nations.

In July of last year, amidst the tranquility that descends upon the Princeton campus during the summer, a Grand Challenge was percolating. The Grand Challenges Selection Committee sent out an email to Princeton’s 1,500 faculty members. It announced new funding and requested submissions for research proposals that would be interdisciplinary, involve undergraduate researchers in the field, include a teaching component and would address one of the issues encompassed by the new Grand Challenges initiative—Energy, Development and Health. Many faculty responded, and Grand Challenges is pleased to announce the awarding of several proposals for the 2008-2009 academic year.

As specified by Grand Challenges, New Investigator grants were awarded to faculty who are approaching global issues from very different disciplinary focuses. For instance, Emily Carter, the Arthur W. Parks ’19 Professor of Mechanical and Aerospace Engineering and Applied and Computational Mathematics, will use Grand Challenges seed money to design new materials for harvesting solar energy, a new area of research for her. Professor Carter has also developed a course in conjunction with Professor Sigurd Wagner of Electrical Engineering on solar energy conversion. This will be offered in the fall 2008 semester and will teach students how to make informed decisions on the use of solar energy as well as to understand the sizing, design and cost of solar conversion systems.

Also awarded a New Investigator grant was Joao Biehl, Associate Professor of Anthropology, who will investigate the aftermath of HIV/AIDS treatment rollouts in resource-poor settings, based on Brazil’s model leadership in the efforts to universalize access to AIDS therapies in the mid-1990s. Biehl’s primary research goals are to chart the emerging global networks (comprised of governmental, NGOs and industry players) that are developing around AIDS technology and delivery, and to uncover the new health policies and medical realities emerging in the wake of treatment rollout in select African and Latin American/Caribbean countries.

In addition to the New Investigator
complex global health problems. Princeton can also play an important role in the development of global health leaders by sparking students’ interest in the area and, through coursework and independent research opportunities, showing them how they can make a difference within their chosen careers.

**PEI:** What is/are the most significant impact(s) you’d like to see the Health Grand Challenge have on the global community?

**CP:** The Health Grand Challenge will contribute in two ways. First, by producing excellent science that will help us understand the determinants of the spread of disease and develop novel ways of preventing and treating different diseases, as well as by developing effective ways to implement the scientific tools we have. (The implementation is important: for example, children around the world still die from measles despite the existence of a very effective vaccine.) Second, by training a group of undergraduate and graduate students who will go on to careers where they can continue their work on health. Some of the international collaborations we hope to develop, with exchanges of knowledge and people between Princeton and elsewhere, will also help build up the base of expertise in countries that really need it.

Grants, Grand Challenges also awarded Seed Grant monies to a variety of projects for further development.

Assistant Professor of Politics **Evan Lieberman** was awarded funding to develop a project to study how various governing “authorities,” be they local governments, international NGOs or traditional healers, allocate resources and energies to curb the spread of disease and to explore how these actors interact in halting disease. Professor of Mechanical and Aerospace Engineering **Winston Soboyejo** will explore the effects of ceramic water filters on the health and wealth of a community in Africa in which the filters will be made by local people within a community-based enterprise. Professor Soboyejo will employ a combination of fluid mechanics, materials science and biological techniques to study the filtration and pathogen killing mechanisms. Both Professors Lieberman and Soboyejo’s research is representative of the types of projects receiving Grand Challenges funding. A host of other seed projects that have received funding through the initiative are detailed on the Grand Challenges website at [www.princeton.edu/~gcseeds/research.htm](http://www.princeton.edu/~gcseeds/research.htm).

In providing both New Investigator and Seed Grant funding, Grand Challenges is creating a research framework at Princeton and beyond where students can gain hands-on research experience while contributing to solving the grand challenges facing their generation.

**New Investigator grants were awarded to faculty who are approaching global issues from very different disciplinary focuses.**
2007 Colvin Winners Nathan Crumpton and Jonah Wagner

Colvin Award Funds Senior Thesis Research in Tanzania, South Africa and India

By Carol H. Peters

In May 2007, undergraduates Nathan Crumpton and Jonah Wagner were named co-recipients of the 2007 Becky Colvin ’95 Memorial Award. The award was established in 1995 by Dr. and Mrs. Robert Colvin in honor of their daughter Becky, an Ecology and Evolutionary Biology major who was dedicated to field ecology and environmental studies. Each year, the fund supports environmental field research projects associated with the recipients’ senior thesis. This year’s winners and their research are described below.

Nathan Crumpton ’08

PEI: What inspired you to conduct the research you did?

NC: Although I didn’t decide to apply for the Colvin Fund until the deadline was nearly upon me, I’m definitely glad I did. I’m earning a certificate in Environmental Studies, and I figured it would be an apropos choice. My research was inspired by a trip to Tanzania during the summer after my sophomore year. I had just completed four semesters of Swahili and was anxious to use it in the field, and one of the opportunities was in a hospital in Dar Es Salaam. Little did I know that my thesis experience would start then, but after developing a relationship with the doctors at the hospital, they invited me back for more formal research related to my thesis, which I was able to do with the help of the Colvin Fund.

PEI: What is the goal of your project?

NC: As a sociology major, my research aims to find the differences between the normative assumptions and practiced realities of the Tanzanian anti-retroviral program for its HIV/AIDS patients. In essence, it’s an attempt to disentangle some of the social problems associated with caring for people with AIDS. The task is made more challenging by the fact that there are a number of cultural and structural differences between the fairly western treatment regimes and the local Tanzanians. Most of my time was spent in the VCT (voluntary counseling and testing) centers, observing the nurses as they carried out their daily duties. A lot of time was spent in the counseling center, listening in Swahili to the problems that patients had with the medicine and how the nurses were trying to resolve them.

PEI: Did you need to change your goals once you began your research?

NC: I did have to change some of my research goals. One thing I had in mind was the use of data from a viral-load counter, which is an accurate way of telling how far along a patient’s AIDS has progressed or regressed, but the machine was not operating. (At another hospital I visited, they had a new viral load counter, but had run out of reagents for it.) Naturally though, this was a much bigger detriment to the patients than to me, as this machine can give very specific diagnostics and thus could help greatly in treatment.

PEI: What were your most important findings?

NC: My initial finding is that money and awareness of AIDS are not the biggest impediments to more efficient treatment, but rather structural and behavioral factors such as poverty level (eg: even if the treatments are provided for free, some ARVs require a refrigerator, which patients may not have at home) or polygamy (as it’s legal for a Muslim man to have up to four wives). The idea behind this research is to give local context to a global pandemic, and then see how the findings can be used to improve treatment. There is no “cookie-cutter” solution to this pandemic, at least not yet, and if I can help elucidate one small facet of the problem then I’ll find satisfaction in my thesis.

Outside the hospital, a plant pot was painted with AIDS awareness in mind. The public display is an attempt to promote awareness and reduce the stigma associated with the disease.

Photo: Nathan Crumpton
Jonah Wagner '08

PEI: What inspired you to undertake this research? How long have you been interested in this subject?

JW: I have had a longstanding interest in water as a policy issue that began in my freshman year of college. After reading several articles my sophomore year debating global water management techniques – especially pertaining to the intersection of public and private sector management – I became very interested in finding the source (or sources) of differing opinions on the subject.

PEI: What is the nature of your research? Please describe the specific work you did to gather data.

JW: The core of my research was personal interviews with experts and government officials in the field of water policy. I established several contacts in India and South Africa before my arrival and used referrals from those individuals to get in touch with many others. I conducted about 20 interviews in each country, some with multiple interviewees. I also spent many hours doing primary source research in University libraries in Pretoria and Delhi.

PEI: Did you need to restructure your project description once you were on-site?

JW: Yes, in fact this was one of my first tasks once I arrived. My initial research question was designed to explore the impact of privatized water management on urban water access in the developing world. However, after contacting several water sector specialists in Pretoria, I discovered that ‘privatization’ as a term is almost meaninglessy broad. Investigating the relative choices Johannesburg made with respect to water management and pricing – as compared to Hyderabad – was a much more approachable and relevant topic for research.

PEI: What aspects of your project proved to be the most challenging?

JW: India posed far more problems than South Africa, both in terms of contacts and in terms of available data. While in South Africa, individuals would speak to me at length about their various projects and interests, government officials in India would spare on average about 5-10 minutes of their time for my questions. In addition, the validity of the hard data and statistics I collected in India is highly questionable, as water usage measurement is one of the areas in which urban Indian infrastructures are very weak. I will have to estimate much of the data using studies done by other scholars.

PEI: What does your research reveal?

JW: While water access in Johannesburg and Hyderabad differ dramatically today, the former being far superior to the latter, it appears that a considerable chunk of this dichotomy can be explained by relative management choices over the last decade or so. Water pricing reform and innovation in Johannesburg transformed (and is still transforming) a system plagued by distribution inequities and failing infrastructure beginning in the late 1990’s. While some reform has been attempted in Hyderabad’s distribution network, the overall system still suffers from the same problem of inadequate funding and unreliability as it has since India’s independence. Although my conclusions are not yet set, it appears that there are important, applicable lessons that Hyderabad can draw from Johannesburg’s experience.

PEI: Who (or what) will benefit the most as a result of your research or findings?

JW: The policy implications of my findings are aimed at reforming Hyderabad’s water management system over the next decade or so, but I am not sure what impact my paper will actually have on government policy. I think the methodology of my study may prove to be my biggest contribution to the field, because, as to my knowledge, no water management/pricing papers have been written using one city’s example to explicitly and singularly inform the policy analysis of another.

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— Jonah Wagner, '08

Jonah Wagner ’08 in West Godavari with a team of construction-workers-in-training, a part of the Byrraju Foundation’s efforts to improve rural employment. Photo: Jonah Wagner
Alumnus Profile

Compton Fellow Alexander Nees ’06 Spearheads Restoration of Rare Native Forest in New Mexico

By Carol H. Peters

In May 2006 when Compton Fellow Alex Nees ’06 arrived at The Cottonwood Gulch Foundation in Thoreau, New Mexico to lead the restoration ecology project he proposed, in a sense he’d come home. “The Gulch,” as Alex calls it, is an experiential education/outdoor adventure camp that he attended as a camper and later as a counselor. Alex points to these summers, when he explored central Colorado and northern Utah on camp trips, that sparked his interest in and commitment to land preservation and conservation.

“During the last few years, The Gulch had become committed to restoring its native forest. However, they lacked funding and expertise. I wanted to help, so in the spring of my senior year, at Professor Dan Rubenstein’s suggestion, I applied for a Compton Fellowship,” Alex explained.

As a Compton fellow, Alex planned to work with his Compton mentor (and Gulch naturalist) Arch McCallum, to restore The Gulch’s 540-acre, native riparian forest of cottonwoods and willows, native shrubs and wildflowers. One of the rarest forests in the continental United States, the forest around The Gulch had been decimated by years of livestock overgrazing.

Alex felt well prepared to apply for the Fellowship because of the varied educational experiences he had undertaken as an undergraduate through PEI and as an Ecology and Evolutionary Biology (EEB) major. Alex took a class on tropical biology in Panama with Professors Steve Pacala and Dan Rubenstein, and was also inspired by a course on conservation he took with Professor David Wilcove. As a junior, PEI awarded Alex the Becky Colvin ’95 Field Research Award. This enabled him to do research for his senior thesis in Southwestern Utah the summer after his junior year (Please see the article about Alex on page 6 of the spring 2006 issue of PEI News).

As Alex explains, “Through the EEB course I took in Panama I discovered I love doing fieldwork, and this course taught me how to do that. The experience I gained doing fieldwork for my senior thesis was crucial, especially falling on the heels of the Panama course. While the research I did for my senior thesis was very different from the work I did at The Gulch, it provided me with a lot of background, and the confidence to do something by myself. I was able to convince the Comptons I was capable of pursuing the Fellowship because I had done these things.”

Alex knew The Gulch was unique because it had not been farmed since 1934, when the foundation bought the land for use as a summer camp. Just lightly used for firewood, it was in better shape than some of the surrounding forest. However, Alex had some formidable challenges to overcome to complete this restoration project.

Challenges

As Alex explained, “The corridor was invaded by Rocky Mountain Juniper. Juniper is a

“If all goes well, both species will be healthy and hybridize, the hybrid will take off and that will solve the problem for the next 80 years.”

—Alex Nees ’06

From left to right: Tanya Giesbrecht and Alex; Riparian forest before juniper removal; Riparian forest post juniper removal; Shrub planting in the potato field with Tanya’s fourth grade class; Alex reseeding the potato field with native grasses; Tanya’s fourth grade class collecting and classifying macroinvertebrates in the stream.

Photos: Alexander Nees
high elevation species that likes water. Cows eat cottonwood and willows so under grazing pressure the junipers can grow. They have thick roots, disperse lots of seeds, and eventually grow so large and dense they crowd out the understory, so new cottonwood cannot grow.

“In addition, the big cottonwoods, which were 80 to 100 years old, were dying and needed to be replaced. Cottonwoods are sexed (females make cotton), but they have a sterile hybrid. It took awhile for me to figure this out. The hybrid never makes cotton. There are two species of cottonwood in the area, the Freemonts and the Narrow Leafs. These two can hybridize successfully but the hybrids are sterile. The Lanceleaf is the hybrid. They never seed but, similar to the willow and aspen, they can reproduce by risom underground – the branches can root when they fall into water.

“We also had to overcome a critical water shortage. The spring on the property did not flow as much as it used to. The underlying sandstone aquifer was becoming depleted at the same time a new power plant was drawing from the aquifer, and a local rancher just put in irrigation center pivot rigs to grow alfalfa. Also, many huge junipers were growing in the stream bed, soaking up a lot of the water that was formerly available to the cottonwoods.”

The Solution

“The solution took a ton of thought but turned out to be quite simple. We just needed to cut the junipers out by hand using a chain saw. Fortunately, we came up with a chemical-free solution: we cut the trunk, and then cross hatched it, because when it’s all chopped up it cannot regenerate. The water gets in and rots it. In the future, we will use these trunks for pillars that can support roofs. We also burned the trunks last winter, chipped a lot to use for mulch and compost and used the mulch for padding for a climbing wall. With their teacher, Tanya Giesbrecht, fourth graders from a local elementary school helped us put down the mulch.

“While we cut out a massive amount of juniper, we left enough to maintain the canopy to keep the ground wet for the new plantings. We also left a few of the biggest trees, as removing them would be damaging to the environment because we would need to use trucks to haul them out.

“Once we removed the juniper, we planted 60 or 80 cottonwoods, keeping the number to this amount because they are expensive and need to be watered. We planted both species because it still was not clear which species would thrive in this area. If all goes well, both species will be healthy and hybridize, and the hybrid will take off and that will solve the problem for the next 80 years.”

Alex was very pleased with the way the fellowship year turned out, both for The Cottonwood Gulch Foundation and for himself. Alex reflected, “The work I did through the Compton Fellowship was much more difficult than anything I had done before, as there were no other biologists around to bounce ideas off of. All the energy and ideas for the project had to come from me, and I soon realized how little I know! This experience also taught me how change gets made in the real world. I had to work with the Environmental Protection Agency and the Forest Service, among others, and I needed to understand the legal framework through which I had to work to get things done. It was an extremely rewarding experience, and now I'm really looking forward to graduate school.”
EI welcomed renowned oil exploration scientist, Dr. Ian R. Vann, as the first BP-Vann Visiting Fellow in September 2007. Dr. Vann recently retired as British Petroleum’s Group Vice President for Exploration and Long-Term Renewal, where he was responsible for directing BP’s global exploration effort. Established by BP and PEI, the BP-Vann Visiting Fellows program was named after Dr. Vann to honor his work in the oil exploration field. The fellows program will enable senior BP executives and research scientists to come to Princeton to engage with students and faculty.

During Dr. Vann’s time at Princeton, he developed and taught ENV 311—The Business of Oil and Gas: A Global Perspective, a course created with the premise that petroleum has driven much of the evolution of modern society and underpins the transition to an increasingly globalized world. The twenty-one undergraduate and graduate students who enrolled in the course came from a wide range of disciplines and studied the complex history of the oil sector and assessed its possible future developments. As Eugene Franco, a Geosciences major from the class of 2008, pointed out, “Ian’s class was extraordinarily informative. He provided unique and unparalleled insights into the oil and gas business that only a person of his breadth and depth of experience could provide. Even though the class was composed of a wide array of students, from geoscientists to politics majors, Ian managed to break down the relevant information so by the end of the semester we were familiar with the science, business, and politics of the oil and gas industry. On the whole it has been one of my favorite classes at Princeton.”

Dr. Vann designed practical assignments to demonstrate the complexity of decision-making in this field. One such assignment put students in charge of an oil company deciding whether or not to go ahead with production on an oil field in Angola. To frame the considerations, students used a detailed Production Sharing Contract model which included a number of uncertain parameters to weigh, such as future oil prices, the actual production profile, and capital and operation costs. Students were also asked to account for the political situation in Angola.

While at Princeton, Dr. Vann also participated in the Oil, Energy, and the Middle East lecture series, a joint effort among PEI, the Department of Near Eastern Studies and the Siebel Energy Grand Challenge. Dr. Vann presented a seminar entitled “Can we make sense of Middle East oil reserves?” In his lecture, Dr. Vann discussed the current understanding of oil reserve accountability. He explained the factors that affect oil recovery and described new techniques used for enhanced recovery. Dr. Vann’s lecture related these efforts to the economics and politics of production in the Gulf and elsewhere. It presented some of the nuances in risk perception between national and international oil companies and the implications for reserve accountability.

Testaments to Ian Vann’s participation on the Princeton campus were numerous and glowing. As Nick Crumpton, a sociology major in the class of 2008 explained, “Dr. Vann taught one of the most comprehensive and enlightening courses of my undergraduate career. His extensive first-hand experiences in the private sector transcended the boundaries of typical classroom academia by giving us a much more intimate perspective of how the ‘business of oil and gas’ really works.”

—Nick Crumpton ’08
The Center for Biocomplexity (CBC)

Ford Ballantyne, postdoctoral researcher, has accepted an assistant professor position in the Department of Ecology and Evolutionary Biology at the University of Kansas in Lawrence, beginning in August 2008. He will continue to study ecosystem dynamics using both theoretical and empirical approaches. Luca Giuggioli, postdoctoral researcher, has accepted an assistant professor (lecturer) position in the Bristol Centre for Complexity Sciences at the University of Bristol, beginning in September 2008. His position will be split between the Department of Engineering Mathematics and the School of Biological Sciences. Simon A. Levin, George M. Moffett Professor of Biology, Professor of Ecology and Evolutionary Biology, was elected a foreign member of the Istituto Veneto di Scienze, Lettere ed Arti. He will be inducted in May 2008.

The Cooperative Institute for Climate Science (CICS)

Cooperative Institute for Climate Science (CICS) researchers Isaac Held (GFDL/NOAA Senior Scientist and Lecturer with rank of Professor in Geosciences/AOS) and Gang Chen (now at the Massachusetts Institute of Technology, formerly an AOS graduate student; his advisor was Isaac Held) have documented an increase in the eastward propagation speed of midlatitude cyclones in the Southern Hemisphere. The midlatitude surface westerlies have been observed to shift polewards by several degrees of latitude in the past 20-30 years. This remarkable change in atmospheric circulation has numerous implications, ranging from Australian drought to carbon dioxide uptake in the Southern Ocean. While models of global warming predict a poleward shift, the observed shift is much larger than anticipated. It has recently emerged from climate models at several centers, including NOAA’s Geophysical Fluid Dynamics Laboratory, that the ozone hole in the Southern Hemisphere stratosphere is likely responsible for a part of the observed displacement.

In earlier theoretical work, Held and Chen had described a mechanism through which an increase in this propagation speed would push the midlatitude storm track and westerly winds polewards.

PEI Faculty News and Awards

D. Graham Burnett, Associate Professor of History wrote Trying Leviathan: The 19-Century New York Court Case That Put the Whale on Trial and Challenged the Order of Nature (Princeton University Press). In March 2008 it received the New York City Book Award from the New York Society Library.

Ignacio Rodriguez-Iтурbe, the James S. McDonnell Distinguished University Professor of Civil and Environmental Engineering, was named to the Pontifical Academy of Sciences in December 2007. In October 2008 he will be formally inducted into the academy by Pope Benedict XVI.

Robert Socolow, Professor of Mechanical and Aerospace Engineering, was named by The National Academy of Engineering to The Grand Challenges for Engineering Committee, which will identify the greatest challenges and opportunities for engineering in the 21st century. The international committee will announce its findings in September 2008.

David S. Wilcove, Professor of Ecology and Evolutionary Biology and Public Affairs, wrote No Way Home: The Decline of the World’s Great Animal Migrations. Published by Island Press, it was released in October, 2007.
Dr. Paul (Pal) Pepo spent the spring 2008 semester at Princeton as a Visiting Professor of Geosciences and the Princeton Environmental Institute. Dr. Pepo joined PEI from the University of Debrecen, Hungary where he serves as Professor and Head, Department of Agrobionotechnology and Plant Sciences in the School of Agricultural Sciences. He earned his B.Sc, M.Sc and Ph.D from the University of Debrecen, Hungary and has an MBA in economics.

Dr. Pepo was the environmental minister of the new center-right coalition that came to power after the May, 1998 elections in Hungary. Along with his colleagues, he created the new waste management strategy and law for Hungary, extended the territory of protected areas and natural parks, and dramatically increased the governmental financial support to environmental investments. He has done considerable research on plant genetics, breeding, biotechnology and production with special regard to their environmental aspects. He aims to improve environmental awareness through education and promotion of U.S-Hungarian collaborations while broadening and deepening his professional and academic knowledge here in Princeton.

Dr. Pepo’s commitment to environmental challenges regarding policy and natural resource management, regional problems, environmental protection and waste management earned him a Fulbright Fellowship (for the second time). This Fellowship is awarded by The Council for International Exchange of Scholars (CIES) Fulbright Visiting Scholars Program. This spring, he taught ENV 314 – Environmental Policy and Natural Resources in Eastern European and the European Union as a part of the ENV Program. Geosciences Professor and Chair Bess Ward was his official faculty host. PEI News recently interviewed Dr. Pepo about his time at Princeton.

**PEI:** What types of collaborative links are you hoping to form through your time at Princeton?

**PP:** The high quality research across all academic areas here inspired me to foster links between the University of Debrecen and Princeton. The second half of my time here was dedicated mainly to creating connections for collaborative research with Princeton University. I think the Princeton Environmental Institute has had a major impact in creating public awareness on various aspects of climate change and represents a major advance in scientific knowledge towards finding the best solutions for it. Professor Bess Ward helped a lot with my stay here and her enthusiasm for environmental science, research and teaching has captivated me. Furthermore, I contacted the Environmental Protection Agency here in Trenton which is doing excellent work on site remediation, lead toxicology and the environmental behavior of mercury. I think there are a wide variety of areas we can find as possibilities for our collaboration. As a research university, the University of Debrecen facilitates cooperation between the business sector, local government and the national government in regional and transnational education, research and development programs.

**PEI:** Please describe the ENV course you taught.

**PP:** The course I taught covered environmental protection policies and strategies for the new Europe focusing on Central-Eastern Europe and the European Union. We discussed economic development and its impact on the environment and environmentally-related health concerns. Emphasis was given to the European challenges related to legal regulation instruments and institutions of implementation. I emphasized global environmental challenges and possible local responses to it in terms of prevention and protection. I dealt with the most critical issues in our very vulnerable region, such as waste management, greening of agriculture and genetic manipulation. I shared my knowledge of the increasing importance of biodiversity...
conservation and rural development and enhanced my lectures with images of Hungarian national parks. I also discussed the severe environmental problems in Hungary/Central Europe and the steadily improving environmental performance in my country.

**PEI:** What were some of the messages you most wanted to communicate to students?

**PP:** There are enormous changes going on in social, economic and political life in Hungary. This country and the other Central European countries seem to be "exotic" countries for students. Neglect, mismanagement, and overuse of the environment and its natural resources were among the many unfortunate byproducts of the centrally-planned economies during the soviet era. Heavy industrial activity characteristic of the soviet occupation period took a formidable toll on both the region’s population and its environment. I wanted to create a better understanding of my country and to bring a little more knowledge, a little more reason, and little more interest in the newly joined European Union countries to my students. I think it’s important that American people understand what is happening in Hungary and how important it is for Hungarians to protect our vulnerable democracy, freedom and prosperity along with our environment.

**PEI:** Did you enjoy your stay at Princeton?

**PP:** I really enjoyed my stay here in Princeton which is one of the country’s most historic communities. It is fascinating to walk down paths where George Washington walked and to know that three other presidents – Madison, Wilson and Cleveland – lived here. World-renowned scientists Albert Einstein and Robert Oppenheimer made the town their home. Notable Hungarian immigrants who lived in Princeton include Eugene Paul Wigner, a professor of theoretical physics for thirty-three years at the University who shared the Nobel Prize for physics in 1963 for his principles governing the interactions of atomic nuclear particles. Another Hungarian, John von Neumann, was a professor both at the University and the Institute for Advanced Study. This world-famous mathematician contributed enormously to the fields of computer science, game theory and theoretical physics. So you can feel the history all of the time in Princeton.

**PEI:** What did you miss the most about Hungary?

**PP:** I missed my family very much. My daughters are also studying at different universities in Budapest. American people may not know that we have an extremely difficult situation in Hungary. The existing Hungarian government is an unpopular post-communist one which is often described by independent sources as having a high corruption rate. Now it is clear that they have failed to reform the economy and to take the necessary steps to meet the public’s needs. In order to create changes in the scientific sphere as well, Hungarian universities need closer collaboration with U.S. universities.

**PEI:** What did you enjoy the most about teaching at Princeton?

**PP:** I found all of the students attending the ENV314 course to be highly qualified, knowledgable and seriously committed to environmental issues. I think the European approach of environmental protection and nature conservation is of significant interest to the university students. This course allowed the students to make comparisons between the U.S. and European experiences and practices. I really enjoyed my teaching here in Princeton because of my creative students and their open-minded way of thinking. They have been really excited to know more about the European Union and the new member states. For me, this is also a driving force behind the possible educational exchange between our universities. My teaching here was one of my greatest experiences in Princeton.

“Neglect, mismanagement, and overuse of the environment and its natural resources were among the many unfortunate byproducts of the centrally-planned economies during the soviet era. Heavy industrial activity characteristic of the soviet occupation period took a formidable toll on both the region’s population and its environment. I wanted to create a better understanding of my country and to bring a little more knowledge, a little more reason, and little more interest in the newly joined European Union countries to my students.”

—Pal Pepo

Hungarian Parliament Building in Budapest, Hungary. Photo: Pal Pepo
On December 6, 2007, Gidon Bromberg, an Israeli expert in environmental diplomacy, spoke about water, peace and security issues in the Middle East. During his lecture, “Solving Intractable Problems: Lessons Learned from Environmental Peacemaking Efforts in the Middle East,” Bromberg stated, “Through grassroots environmental efforts we can create a constituency for long-term peace in the Middle East. These countries must share water, and sharing water builds confidence and trust between Israelis, Palestinians and Jordanians. This trust fosters a deeper building of a common vision to comprehend what the future will look like. The peace effort cannot just be top down from the leaders. It must come from individuals and communities as well. We need to awaken and empower the majority to believe in a common future.”

Bromberg is particularly interested in working with the region’s youth, as he believes they are the Middle East’s greatest hope for an environmentally sustainable and peaceful future.

The Director of Eco-Peace/Friends of the Earth Middle East since 1994, Bromberg has spoken before the U.S. House of Representatives International Relations Committee, the U.N. Commission for Sustainable Development, and the European Parliament. In 2007, Bromberg was invited to join the prestigious East West Institute’s International Task Force for Preventative Diplomacy. Bromberg’s community peace building program, “Good Water Neighbors” has built a network of Israelis, Palestinians and Jordanians that it is now used as a model around the world. Fiercely committed, Bromberg has worked on some of the most critical environmental issues in the Middle East, including sharing water, saving the Dead Sea, and developing solar energy. To achieve his goals, Bromberg works with governments, the international donor community, UN agencies, local communities and children.

In closing his lecture, Bromberg remarked, “In the midst of conflict, people can feel helpless. We must empower children so they see that they can help, that they can make a difference. Children have helped us harvest rainwater for their school, and because of their efforts, the school has water every day. In the past, four out of six days they had no running water. Now six out of six days they do. This [type of work] is so important because of the ‘spoilers’ — the people who say peace will never happen. We need to expand the pie of peacemakers. We have now trained youth on composting and water harvesting. When I’ve returned to their communities I’ve seen that they have become leaders. This is so important for building a future constituency. It builds cross-border awareness which can lead to peace.” For more information on Friends of the Earth Middle East, please see www.foeme.org.
Winter 2007/Spring 2008

September 24, 2007–April 29, 2008
“Oil, Energy and the Middle East” Lecture Series

Seven lectures beginning September 24, 2007 and ending April 29, 2008. This series was sponsored by Princeton Environmental Institute, the Department of Near Eastern Studies and the Siebel Energy Grand Challenge.

December 6
Gidon Bromberg, Director of Eco-Peace/Friends of the Earth Middle East

January 7
Sir Nicholas Stern, London School of Economics, author, Stern Review Report, speaks on “The Economics of Climate Change: Risk, Ethics and a Global Deal”

January 31
Kim Smith, Visiting Professor, PEI and The Center for African American Studies, speaks at D&R Greenway in Princeton.

February 5

February 8
Environmental Justice Film Series, “In the Light of Reverence”

February 12
David Suzuki, David Suzuki Foundation, lectures on “Sustainability: The Real Challenge”

February 21
Robert Hass, Former U.S. Poet Laureate, Poetry Reading

February 22
Environmental Justice Film Series, “Homecoming: Sometimes I am Haunted by Red Dirt and Clay”

February 26–May 7
“Inside the Intergovernmental Panel on Climate Change” Lecture Series

Six lectures beginning February 26 and ending May 7. This lecture series was funded by the Siebel Energy Grand Challenge and the Program in Science, Technology and Environmental Policy of the Woodrow Wilson School.

April 11-12
2008 Woodrow Wilson School Spring Colloquium: Grand Challenges

April 18
China and the Environment: The Challenges Ahead, Solutions and Future Research

April 28-29
Environmental Justice Conference “A Different Shade of Green: Race, Place and Environmental Justice.” Sponsored by PEI and The Center for African American Studies. PEI
Faculty Transitions

PEI Welcomes New Faculty

Kelly Caylor, Assistant Professor of Civil and Environmental Engineering. Caylor specializes in Environmental and Water Resources Engineering and Ecohydrology (the interface between plant ecology and surface hydrology), savanna ecology, surface hydrology, landscape ecology, and ecological modeling.

Anne A. Cheng, Professor of English. Cheng specializes in race studies and psychoanalytic theory and works in twentieth-century American literature, with special focus on Asian American and African American literatures.

PEI Bids Farewell

Professor Kim Smith, Currie C. and Thomas A. Barron Visiting Professor in the Environment and Humanities at the Princeton Environmental Institute and Visiting Associate Professor in The Center for African American Studies. Smith will return to Carleton College in June.

Fall 2008 ENV Courses

PEI will offer the following exciting classes in the fall. For a complete listing of fall courses, including ENV cross-listed courses, please go to www.princeton.edu/sites/pei

Certificate Program in Environmental Studies

Fall 2008 Course Offerings

ENV201A and ENV201B (ST) Fundamentals in Environmental Studies: Population, Land Use, Biodiversity, and Energy (Core) – L. Hedin, D. Wilcove, E. Zerba

ENV305 Topics in Environmental Studies: Building American Style: Land-Use Policies and Rules (Social Science Cognate) – F. Popper, D. Popper

ENV307 Agriculture and Food: A Foundation for Living (Social Science Cognate and Energy Grand Challenge) – X. Morin

ENV309 Historic American Gardens and Designed Landscapes: Art Meets Environmentalism (Humanities Cognate) – W. Barksdale Maynard

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Princeton, New Jersey 08544-1003