

Princeton Environmental Institute, the center for environmental education, research, and outreach at Princeton University

Nearly 1,000 Attend the Two-Day Event

Food, Ethics, and the Environment Conference Successfully Educates and Inspires

The Food, Ethics, and the Environment Conference held at Princeton University over two days in November helped advance discussion of the question “What’s for dinner?” into the realm of complex, thought-provoking issues being considered by top scholars, scientists, government, advocacy



Peter Singer

groups, agriculturists, the media, and concerned citizens. Through a series of discussions and debates, the conference made clear that the question and its answers—meatloaf, salmon, pasta, or the myriad of other foods available—have profound implications on the environment, animal welfare, global warming, personal health, and the future of the planet.

Conference speakers included those on the forefront of the issue: authors Gary Nabhan, Marion Nestle, Michael Pollan, Eric Schlosser '81, and Peter Singer and representatives from NGOs (including the Humane Society of the United States and Environmental Defense), the McDonald’s Corporation, University food service providers, and interested campus organizations. Themes included the value of locally produced food; environmental costs of the domestic food industry; ethics and the lack thereof in agribusiness, meat and poultry production, and fish farming; corporate, government, and personal responsibility in food policy; and the right to know where ones food comes from and how it is produced.

The event was organized by the Princeton Environmental Institute and Peter Singer, the Ira W. DeCamp Professor of Bioethics at Princeton and

a member of PEI’s associated faculty and executive committee. The PEI conference was funded by Bert G. Kerstetter '66, as part of a series of events planned on ethics and the environment, with support from the University Center for Human Values and the Woodrow Wilson School’s Program in Science, Technology, and Environmental Policy (STEP).

According to PEI Associate Director Kathy Hackett, Kerstetter’s goals for the conference were threefold: to raise awareness that environmental issues are fundamentally ethical issues, to interest and engage a cross section of the University commu-



Marion Nestle

nity in discussions of these issues, and to create the potential for lasting impact on Princeton’s campus and in the broader community. “The scope of the conference, the broad audience demographic, and the numerous initiatives coalescing on campus suggest these goals were and are being met,” she said.

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Over 950 people from across the country attended the event, including representatives from more than 40 universities, scientific and agricultural organizations, government agencies, advocacy groups, the media, and the community at large. The conference consisted of lectures and question-and-answer sessions for each speaker, and, on the final day, a locally-grown, sustainable, gourmet lunch, prepared by Princeton Catering of the University Dining Services, was served to over 300 conference attendees.

Reflecting upon the conference, Singer said, "In planning the conference with PEI, we wanted to educate and inform the student body and the wider public about the ethical choices we face when we decide what we will eat. But we also aimed to encourage a movement towards more environmentally sustainable, animal-welfare friendly, fairly traded food on campus." What follows are highlights from the conference:

The Conference Begins: Thursday, November 16

Peter Singer

The conference kick-off on Thursday, November 16, began with remarks by Peter Singer and by award-winning journalist and author of *Fast Food Nation* Eric Schlosser '81. Professor Singer, who gained notoriety for *Animal Liberation*, published in 1975, and *Practical Ethics*, published in 1979, recently coauthored *The Way We Eat: Why Our Food Choices Matter*. He explained the critical importance of considering ethical food consumption and production. "No human act has a bigger influence on the planet than the way we produce our food," he said.

Singer provided an overview of modern factory farms and the inhumane treatment of the animals produced on them. He urged attendees to support

alternatives such as buying eggs from cage-free hens or purchasing grass-fed beef from independent farms. Because the fossil fuel used to transport goods contributes to global warming, Singer recommended buying locally grown foods in season and fair-trade products brought by ship rather than by air.

Eric Schlosser

Remarks by alumnus Schlosser focused on the "fast-food nation" that Americans have created. He discussed the history of food production in the United States from the development of synthetic pesticides, herbicides, and fungicides during World War II to the factory-farm system created to supply McDonald's and other fast-food chains.

"The food we eat has changed more in the last 30 years than it has in the last 30,000 years," Schlosser told those gathered. "The corporate 'values' that created the system, include economy, efficiency, speed, uniformity, and conformity. What is 'cheap'

for McDonald's is costly to citizens in terms of the environment, animal welfare, and human health." Schlosser expressed his belief that the solution needs to come from corporations and from government in the form of new policies and new criteria for subsidies because "personal change can only take us so far." He suggested that food com-



Paul Shapiro

PEI Sponsors Meeting to Facilitate Campus Food Initiatives

By Jeffrey Domanski

Representatives from Greening Princeton and Princeton Dining Services, faculty members, and members of the local community met with representatives from The Food Project the day following PEI's successful Food, Ethics, and the Environment conference.

The goals of the meeting were for The Food Project to review the prog-

ress of a campaign it has launched at universities and colleges nationwide and for Princeton University community members to determine how they can use the Boston-based organization's expertise to build on information gleaned from the conference to further sustainability initiatives on campus.

Rowan Dunlap '06, one of four

High Meadows Fellows* currently working at The Food Project, is among those organizing its *Real Food Campaign*, an undertaking designed to promote college and university food systems that prioritize high-quality, healthful, and more socially responsible food choices. As an organization, The Food Project is focused on building strong intergenerational communities centered on the creation of environmentally sustainable



Gary Nabhan

panies pay for the health- and environmental-related costs their current policies and practices impose on society and that the idea of an individual's "personal responsibility" should not let these corporations "off the hook."

Thirteen speakers and panelists participated in the second day of the PEI conference, which took place on November 17 from 9 a.m. until 5:45 p.m. A selection of the participants' comments follow in the order they appeared at the conference. To view video of individual conference sessions, please go to PEI's website at <http://www.princeton.edu/WebMedia/>.

Marion Nestle

Marion Nestle, professor of Nutrition, Food Studies, and Public Health at New York University and author of *What to Eat* and *Food Politics*, emphasized the influence of marketing, advertising, and politics on individual food choices.

Gary Nabhan

Nabhan, director of the Center for Sustainable

Environments at Northern Arizona University and the author of *Coming Home to Eat: The Pleasures and Politics of Local Food*, admonished attendees to choose local over imported or nonlocal organic foods for a range of environmental, health, philosophical, and spiritual reasons. He discussed the impact of transporting food across long distances in terms of added cost, the consumption of fossil fuels and increased CO₂ emissions, and the negative effects on taste and nutrition. "Buying local is a great way to fight the absurd food system and invest in one's community."

Rebecca Goldberg

Rebecca Goldberg '80, senior scientist with Environmental Defense (ED), spoke about the environmental impact of food choices on oceans and the seafood industry, global warming, and treatment of animals.

Goldburg, an expert in public policy issues



Rebecca Goldberg '80

concerning food production, described the paradox of fish farming: "It increases the seafood supply but causes water pollution and the spread of parasites among farmed and wild fish and is inefficient."

Paul Shapiro

Paul Shapiro, director of the factory farming campaign at the Humane Society of the United States, spoke about farm-animal welfare and discussed the immense suffering of factory farm animals, citing the use of gestation crates, veal crates, and battery cages. He urged the audience to buy cage-free poultry and eggs. *Continued on next page*

community-based food systems.

One facet of The Food Project's campaign is an effort to develop a uniform system to rate the environmental sustainability of institutional food purchasing decisions. Stuart Orefice, Princeton's director of Dining Services, was impressed by this system. "Dining Services is planning to use the metric designed by The Food Project so that we can create realistic goals and measurements

with respect to the sustainability of our purchases. We are thrilled to be one of the first schools to participate in this project," he said.

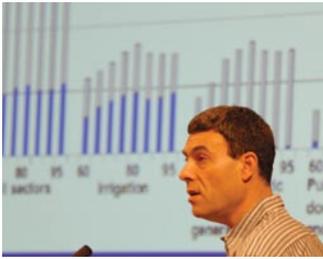
Other food-related initiatives on campus include efforts by Greening Princeton to establish an organic herb garden at Forbes College and institute a farmer's market on campus. For more information, check the Greening Princeton website at <http://www.princeton.edu/~greening> and/or the

Dining Services website at <http://facilities.princeton.edu/dining/>.

*The High Meadows Fellowships are selective, paid, two-year fellowships for graduating Princeton seniors to work at The Food Project and Environmental Defense. The program is sponsored by the High Meadows Fund, in cooperation with the Pace Center at Princeton University.

Gidon Eshel

Gidon Eshel, assistant professor of physical oceanography and climate at the University of Chicago, is well known for advancing arguments quantifying the effects of human dietary choices on greenhouse gas emissions. He surprised attendees with the revelation that food choice may have a greater impact on global warming than automobile choice.



Gidon Eshel

Michael Pollan

Michael Pollan, the Knight Professor of Journalism at the University of California-Berkeley and author of *The Omnivore's Dilemma*, appeared onstage alongside Bob Langert, Vice President of Corporate Citizenship and Issues Management at the McDonalds Corporation. Pollan acknowledged that eating ethically as an omnivore can mean different things to different people. He suggested that the range of issues at stake, including energy, animal welfare, land use, global warming, and worker's rights, make it difficult to reach a unified theory of ethical eating. He concluded by urging the audience to "Know what you are eating. How did it find its way to your table? What did it really cost in terms of sacrifices of life and labor?"

Bob Langert shared details of progress being made within McDonald's to improve its practices, including waste reduction, its refusal to use genetically modified potatoes, and its purchase of sustainable seafood. Langert said the greatest challenge facing McDonald's is how to wield influence on indirect suppliers such as slaughterhouses and ranchers.

From Rhetoric to Reality: Lunch

A luncheon of environmentally sustainable foods served on November 17, was an integral part of the conference. The menu reflected the moral, philosophical, ethical, and environmental issues at the center of the conference and demonstrated that a lunch of delicious, environmentally sustainable, and ethical food choices could be served by the University to a crowd of nearly 320. The menu, with the exception of one of the desserts, was vegan.

Eating at Princeton

Students and Dining Services Lead the Way to Ethical Menus

Of particular significance to local attendees was the concluding session, "Eating More Ethically at Princeton University." The session featured John Turenne, president and founder of Sustainable Food Systems, and Stuart Orefice, director of University Dining Services at Princeton. They were joined by a panel of students and others engaged in the issue.

Drawing from his experience designing and implementing Yale University's sustainable food program, Turenne explained that the high cost of offering a sustainable food program may require that diners accept a more limited menu and favor "quality over quantity." For a sustainable food program to be successful, he said, "People at the highest levels of a university must be invested in it."

Orefice reviewed changes that Princeton has already implemented in its dining services program including the use of local over organic produce, fair-trade coffee, antibiotic-free and cage-free poultry and eggs, and ocean-friendly seafood.

The session concluded with a panel featuring Katy Anderson '08 and graduate student Nathan Gregory, both members of Greening Princeton, who spoke about the progress in adapting new practices and initiatives at the University including an organic garden. Presentations by William Andersen '81, founder of the Phoenixville Farmers' Market and the Charlestown Farm Center, and Anim Steel, associate director of Boston-based The Food Project rounded out the panel.



Members of the Session V panel, from left: Anim Steel, The Food Project; graduate student Nathan Gregory, Greening Princeton; Kathryn Andersen'08, Greening Princeton; and William Andersen '81, Phoenixville Farmers' Market and the Charlestown Farm Center.

Michael Celia: Focusing on the New PIIRS/PEI African “Water” Project

PEI News spoke with Professor Michael Celia, chair of the Department of Civil and Environmental Engineering (CEE), about a new and profoundly important project titled “Water, Savannas, and Society in Sub-Saharan Africa” that he and his colleagues are spearheading within PEI and the Princeton Institute for International and Regional Studies (PIIRS). Celia first assumed a leadership role at PEI in 1998 when he became director of the Certificate Program in Environmental Studies, a position he held until 2003. In addition, he taught PEI’s introductory environmental studies course, ENV 201, for nearly a decade. Celia received his Ph.D. from Princeton in 1983.

PEI: Please describe the African “water” project.

MC: The project began in July 2006 with significant funding from the Princeton Institute for International and Regional Studies (PIIRS) as part of its new Interdisciplinary Research Initiative Project. It is being led by professors Ignacio Rodriguez-Iturbe [CEE], Dan Rubenstein [EEB], Jennifer Widener [Politics and International Affairs, WWS], Margaret Martinosi [Electrical Engineering], and me. The project combines field research with computations and theory, and focuses on the central role that water plays in the water-limited ecosystems of the African savannah. Our field research is centered at the Mpala Research Center in Kenya. We are measuring a variety of hydrological and ecological variables while also examining local political structures and their impacts on overall ecosystem health and sustainability. Overall, we are trying to understand the central role that water plays in regulating these important systems.

I envision this project as a long-term effort, involving hydrologists, engineers, ecologists, political scientists, and others. There are also a number of Kenyans working at the site. Through the Grand Challenges initiative at PEI, I hope that others at the University will join the project, including colleagues from the humanities and social sciences. This is one of the large environmental problems for which we must include areas that go beyond science and engineering.

PEI: The three-year funding from PIIRS will cover graduate fellowships, visiting fellowships, and research expenses. What will the PEI funding support?

MC: PEI’s financial support has enabled us to conduct a search for a junior faculty member in CEE who will be directly related to the water in Africa initiative. We expect to hire someone who will be directly involved in the research and who will be able to teach at Mpala. We also hope to give CEE students the opportunity to spend a semester in Africa. This will enable our students to participate in an experiential learning component that had not been available to them previously. PEI is also providing the administrative support for this project. Overall, as chair of the CEE department, I am very excited that CEE, PEI and PIIRS are closely aligned on this project and that the engineering school is an active participant in the overall Grand Challenges initiative. These problems represent outstanding opportunities for new research and new teaching, and I am thrilled to be part of these efforts.



Professor Michael Celia

PEI: What makes the Grand Challenges initiatives exciting for PEI and CEE?

MC: CEE addresses big problems across a range of topics dealing with both the man-made and the natural environment. The problems identified in the Grand Challenges initiative coincide with many of the activities already underway in CEE, and they also share a common philosophy in terms of integrated research and education. In CEE we have an outstanding hydrology group, so the water-related problems in the Grand Challenges naturally fit within CEE. The hydrology group also plays a significant role in the Carbon Mitigation Initiative, so that we have ongoing interests in the energy problem. The Grand Challenges problems are important on a global scale. They offer outstanding research opportunities and they will offer educational opportunities at the graduate and the undergraduate levels. I believe they will excite both students and faculty and that the solutions we develop can ultimately have important societal consequences. At a University, we couldn’t ask for better projects.

PEI Student Internships Provide Real-World Experience in the Environmental Field

By Molly Jamieson '08

I spent last summer as an intern at the Environmental Protection Agency (EPA) headquarters in Washington D.C., where I worked in the Environmental Fate and Effects Division of the Office of Pesticide Programs. I had never before had any particular interest in pesticides, but I accomplished more in the nine-week internship than I imagined possible. By the time the internship concluded in August, I had



PEI-funded summer interns Molly Jamieson '08 (left) and Kim Bonner '08.

never answered a phone or made a photocopy. Most importantly, I learned firsthand about the scientific and political collaboration required when making decisions about environmental policy that I am certain will influence the remainder of my time at Princeton and my career after graduation.

My experience was made possible by the PEI Internship Program, which provides grants to students who have obtained unpaid internships at environmental organizations. Most summer positions for students at nonprofits, which include most environmental organizations, are unpaid, and for many students, an unpaid summer job is not a realistic option. The PEI Internship Program allows students to pursue jobs that meet their interests regardless of the pay.

I worked side-by-side with my supervisor Arty Williams, associate director of the Environmental Fate and Effects Division. My supervisor wanted to make sure that I left with a sense of accomplishment as well as a sense of how the place works, how decisions are made, how interactions between lawyers and scientists proceed, and what the challenges are.

Eighteen of my classmates and fellow undergraduates also received funding for environmental internships through PEI. Kim Bonner '08 spent last

published documents in the *Federal Register*, created maps with GIS data for the EPA website, written a bilingual brochure to be delivered to every pesticide distributor in California, and

summer as an intern for the energy subcommittee of the U.S. House of Representatives. She worked on the Energy Research, Development, Demonstration, and Commercial Application Act of 2006, which was introduced to the House in late July.

When discussing her summer experience, Bonner said, "As I observed the slow process of constructing the bill, revising it, and voting it out of the committee, I gained an appreciation for the persistence and knowledge of the energy subcommittee staff, but nothing could have prepared me for the political reality I experienced. Some bills speed through committee and the House floor while others, arguably more beneficial for the American public, languish in subcommittees."

PEI summer internships are also available to Princeton students interested in working with local environmental organizations. Two summers ago, I had one of these internships at the Stony Brook Watershed Association in Pennington, New Jersey. There, I assisted the head of the River-Friendly Program, which helps local businesses, golf courses,

The PEI Internship Program allows students to pursue jobs that meet their interests regardless of the pay.

and residents manage their properties in environmentally-responsible ways.

Another local environmental internship sponsored by PEI is with D&R Greenway Land Trust. It enables students to pursue interests in land preservation and stewardship. This past summer, Michael Duane '07 worked as an intern for D&R. As Duane explained, "My primary responsibilities were to identify properties with invasive species problems that were still manageable, plan and develop strategies for eradicating the invasive species, and then execute these plans. Additionally, on two D&R properties, one old growth forest and one early successional field, I mapped the incidence of Rose Rosette Disease (RRD), a disease that is slowly infiltrating New Jersey and affects multiflora rose, one of the most noxious and invasive weeds in the area."

For the summer of 2007, the

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PEI Research and Center News

PEI and BP Establish BP-Vann Visiting Fellows Program

Princeton University and energy giant BP (formerly British Petroleum), a principal funder of the Carbon Mitigation Initiative, have established the BP-Vann Visiting Fellows Program within PEI. The program, a novel executive-in-residence program, will give a few BP researchers and executives the opportunity to work closely with Princeton faculty and students in areas of common interest. Scheduled to begin in the fall of 2007, the program will broaden the relationship between Princeton University and BP and encourage future collaborations. On November 16, 2006, top BP executives



Tony Hayward, BP's chief executive of exploration and production; Princeton University President Shirley Tilghman; and Vivienne Cox, BP's executive vice president, gas, power and renewables and integrated supply and trading.

Vivienne Cox and Tony Hayward presented University President Shirley Tilghman with a \$1.2 million gift to establish and fund the program. As part of their visit, Cox and Hayward took part in meetings and attended faculty presentations on topics including

climate change, the carbon cycle, biofuels, and U.S. climate policy.

CICS/GFDL

Thomas Knutson, a research meteorologist at the Geophysical Fluid Dynamics Laboratory (GFDL), recently participated in the development of a Statement on Tropical Cyclones and Climate Change. This statement was developed, discussed, and endorsed at the World Meteorological Organization's (WMO) Sixth International Workshop on Tropical Cyclones, which was held in San Jose, Costa Rica, in November 2006. Knutson and **Stephen Garner**, lecturer with the rank of professor in geosciences and atmospheric and oceanic sciences, have been modeling the 1985–2005 period to simulate and understand decadal changes.

Thomas Delworth, research scientist at GFDL, gave a briefing on Capitol Hill on the impacts of natural variability and trends on hurricanes.

In related news, **Gabriel Vecchi**, research scientist at GFDL, and **Brian Soden**, associate professor of meteorology and physical oceanography at the University of Miami, have submitted a paper to *Geophysical Research Letters* describing a consensus among The Intergovernmental Panel on Climate Change (IPCC) models demonstrating that during the twenty-first century, vertical shears will be more unfavorable for Atlantic and East Pacific hurricane development.

Center for Biocomplexity (CBC)

Postdoctoral Fellow **Joshua Weitz** has been named assistant professor at Georgia Tech. He will remain a key member of the Fundamental Laws of Biology project sponsored by the Defense Advanced Research Projects Agency (DARPA), the central research and development organization within the U.S. Department of Defense. Weitz studies the evolutionary ecology of microbial and viral communities and problems in biological networks.

Maciej Boni '99, most recently with the Stanford Genome Technology Center, will begin a joint postdoctoral fellowship with Resources for the Future, working on problems of antibiotic resistance.

Postdoctoral Fellow **Luca Giuggioli**, joins the DARPA project to work on understanding ocean ecosystems. In particular, he will be involved in analysis and interpretation of metagenomic data and the development of ecosystem models that address the spatiotemporal dynamics of the ocean biota.

Postdoctoral Fellow **Samuel Flaxman** has begun a Sci-Tech Fellowship and will investigate theoretical approaches for linking ecological and evolutionary dynamics of ecosystems. His particular focus is on how these dynamics produce ecosystem structure and functioning and on how evolution shapes the robustness of ecosystem functioning to environmental perturbations.

In Memoriam

Edward I. Stiefel, professor of chemistry and a PEI associated faculty member, died on September 4, 2006, of natural causes. Stiefel joined Princeton University in 2001 after retiring from ExxonMobil and was the first holder of the Ralph W. Dornte Chair, a distinguished visiting lecturer position with rank of professor. Stiefel was a vibrant participant in the teaching and research missions of Princeton. His arrival on campus followed a distinguished career in chemical



and biological sciences both in academia and industry that was highlighted by several achievements.

For the full text of the memorial prepared by **G. Charles Dismukes**, professor of chemistry; **John T. Groves**, Hugh Stott Taylor Chair of Chemistry; **Michael H. Hecht**, associate chair, chemistry department; and **Thomas G. Spiro**, Eugene Higgins Professor of Chemistry; with input from **Russell Chianelli**, director of the Materials Research and Technology Institute, University of Texas, El Paso, please go to <http://www.princeton.edu/~chemdept/news/Memorium.html>

Internships *Continued from page 6*

PEI Internship Program will once again offer Princeton University students the chance to participate in environmental internships nationwide. The summer internship program allows students to both give and take substantively from environmentally-focused enterprises. Upon returning to campus in September, students can collaborate as a group of experienced environmentalists with enhanced perspectives that motivate and inform their discussions and create a call to action that has the potential to reach far beyond the boundaries of the Princeton campus.

For more information on PEI's internship program, visit the PEI website at <http://web.princeton.edu/sites/pei/>.

PEI News is published three times a year by the Princeton Environmental Institute, Guyot Hall, Princeton University, Princeton, NJ 08544-1003
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