OBERLIN COLLEGE

ENVIRONMENTAL STUDIES PROGRAM

Annual Newsletter *Spring 2005*

Letter from the Acting Director

Roger Laushman

The Environmental Studies Program has had a busy year while Director and Professor David Orr has been on leave (look for two more books in the near future). Since Visiting Professor Ben Wisner was starting his three-year appointment to teach a Luce-funded seminar, we took advantage of his availability and experience; he taught David's sections of Environment and Society and Environmental Policy. We look forward to having Ben around for two more years, and he will offer additional courses with an international focus (see article on page12). David Orr's leave also provided an opportunity for Brad Masi (OC '93), Director of the Environmental Design and Inovation Center, to teach Sustainable Agriculture. So, while we always miss having David around, we were able to offer three of his classes, providing majors with excellent educational experiences.

The most exciting successes this year involved the 'younger' faculty. John Petersen was promoted to Associate Professor with continuous tenure, and Katy Janda was reappointed for three more years ('06-09) for her progress toward tenure. Their success means that they will both be on sabbatical in '05-06. The program will miss their teaching, advising, and active participation, but we know that John and Katy will return in '06 all the better for their time away.

The program continues to provide a wealth of interdisciplinary teaching as the fifth largest major on campus. Courses for the major are offered in 14 departments (Art, Biology, Chemistry, Economics, English, Environmental Studies, Geology, History, Math, Philosophy, Physics, Politics, Psychology, and Russian). Throughout this newsletter you will find evidence of student successes and program progress. We have an excellent group of graduating seniors, with four students earning honors for their research, and several others winning recognition and scholarships for environmental activities. Construction is moving along quickly (see Petersen's update) on the renovation of lab and office facilities next to the AJ Lewis Center. The project is funded by a generous gift from the Blank family (Danielle Blank '00), and the lab will provide the long-awaited addition of wet-lab research space near the Living Machine.

The program's success is also due in large part to the staff support from Administrative Assistant Bev Burgess, Lecturer/Facilities Manager Cheryl Wolfe-Cragin, and numerous students who generously give their time and energy to the program. Colin Gunn and Cara Kritikos were the student representatives to the program committee this year. My job as acting director was made much easier by these four people, and by the program faculty who make the commitment of years of participation, which is essential to maintain a vital program. I hope that David finds everything in working order when he returns to the directorship.

Environmental Policy Developments at Oberlin '04-'05

John Petersen

As reported in our last newsletter, in March of '04 the Oberlin College board of trustees voted to adopt a far-reaching environmental policy that addresses: campus energy consumption; building construction and operation; land management; transportation; and material procurement, use and disposal. This policy was developed over a period of three years by the Environmental Policy Advisory Committee (EPAC), a group composed of faculty, administration, facilities personnel and students appointed by College President Nancy Dye. Since the adoption of this policy, students, faculty, alumni, facilities personal and administrators have been hard at work on a number of important initiatives to promote timely and extensive implementation of this new policy. Key developments in environmental policy that have occurred during the last year are described below:

Formation of the Environmental Policy Implementation Group. In September of '04 "EnviroAlums", an Oberlin College Alumni affiliate group, met with a group of Oberlin College students to brainstorm on strategies to encourage rapid and extensive implement the college's new environmental policy (See Carl McDaniels article on EnviroAlums). Following this meeting, students formed the Environmental Policy Implementation Group (EPIG). Over the course of the last year EPIG has mobilized student support for environmental policy and at the same time has worked closely with the administration to establish priorities for implementation. Highlights of EPIG's many accomplishments include: the collection of over 1,000 Oberlin student signatures in support of rapid implementation of the new policy; regular meetings with president Nancy Dye (including an invitation to the president's house for dinner); a feasibility study to assess renovation options for dorms to make them more energy efficient; development of environmental education workshops for freshman orientation; an initiative to reduce the number of students bringing automobiles to campus; a feasibility study of a car-sharing cooperative for students; a proposal for the college to commit to purchasing hybrid vehicles for campus security; the development of a binder that catalogs student environmental initiatives. EPIG deserves considerable credit for advancing an agenda of environmental stewardship.

Campus sustainability coordinator position. "Oberlin College is seeking an energetic and entrepreneurial person to serve as a

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John Petersen, *Environmental Studies*
Benjamin Schiff, *Politics*
Harlan Wilson, *Politics*

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Oberlin Teams Win $75,000 EPA Sustainability Award and Honorable Mention

By Kelly Viancourt Photos by Paul R. Morigi May 19, 2005

Oberlin was the only liberal arts college represented in the winner's circle at the EPA's "People, Prosperity, and the Planet" student design competition. Against strong competition from major research universities like MIT, UC Berkeley, and University of Michigan, Oberlin College teams won one of the six $75,000 grants and received one of 14 honorable mentions.

Both groups took part in an exhibition of projects this week on the National Mall in Washington, D.C., which presented ideas for sustainability in agriculture, ecosystems, materials and chemicals, energy, resources, and water. "The originality and breadth of these projects demonstrates the high degree of innovation and environmental interest that exists on college campuses today," says Timothy E. Oppelt, acting assistant administrator for the EPA's Office of Research and Development. "These young students represent the scientific leadership of tomorrow."

The winning Oberlin team, lead by Associate Professor of Environmental Studies John Petersen, exhibited its low-cost data-monitoring and display system which generates real-time data on energy and water use in college dormitories. The team included Vladislav Shunturov '05, Kate Weinberger '06, Gavin Platt '06, Michael Murray '04, Chris Fry '05, Andrew Barnett '06, Courtney Epstein '07, Jacob Grossman '07, Roman Corfas '08, Lauren Dennis '08, Rebecca Derry '08, Callen Miracle '08, and Jenna Trostle '08. The group will use its $75,000 award to expand the system within Oberlin's residence halls-providing an easy way for students to monitor and interpret resource usage. (See www.oberlin.edu/dormenergy.)

"The premise of our research is that easily accessible feedback on resource use in buildings increases both awareness and motivation to act in ways that change attitudes, minimize resource use, and save money," Petersen says.

The second Oberlin team, lead by Assistant Professor of Environmental Studies Katy Janda and earning an honorable mention, included Stephen Merrett '05, Isabel Call '05, Loren Andreas '06, Andrew Prober '07, Julia Holland '07, and Lina Yamashita '08; community members Ben Ezinga '01 and Bryan Burgess of Burgess Electric; and Ian Warren, from Hampshire College. Janda's team exhibited a mobile community-scale biodiesel processor and converted 6 vehicles to run on straight vegetable oil, one of which they drove to the Mall for the exhibit. (See www.oberlin.edu/biodiesel.)

Members of Petersen's and Janda's teams are shown at right in the Biosiesel Oberlin distribution vehicle. (Clockwise from top left: Ben Ezinga, Katy Janda, Bryan Burgess, Julia Holland, Andrew Prober, Sam Merrett, Ian Warren, Gavin Platt, Isabel Call, John Petersen, Vladi Shunturov, Loren Andreas, and Lina Yamashita)

EnviroAlums at Three Years

Carl N. McDaniel '64, Chair, EnviroAlums

In May 2002, the Alumni Council approved the charter of a new alumni affiliate group, EnviroAlums. The purpose of EnviroAlums as stated in the charter:

> Oberlin is noted for being a community where unconventional ideas are tolerated and mainstream conventions are questioned. The wisdom of Oberlin maybe in its capacity for enabling unconventional ideas to find expression in actions and deeds. We believe Oberlin is in a unique position to focus higher education on the central question of the twenty-first century: How shall we create durable patterns of habitation in our global culture?
>
> Over the past three decades Oberlin has nurtured an environmental education agenda that under the leadership of first David Egloff [followed by Harlen Wilson] and then David Orr has gained prominence on campus and beyond. The Adam Joseph Lewis Center for Environmental Studies and its associated programs embody an unconventional idea: "All education is environmental education." We believe the Oberlin community has a unique opportunity to set a standard for environmental education, as well as a responsibility to seize this opportunity.

Each September during the Alumni Council weekend, the EnviroAlums' Steering Committee meets in Oberlin to elect officers and plan the coming year's activities. Many of the outreach activities are accomplished by individual members—sponsor January term internships, meet with alumni clubs and graduates, give talks and write articles, send letters to Trustees and administrators, and just advocate for Oberlin to be an environmentally responsible institution.

In June 2003 EnviroAlums and the Alumni Association co-sponsored a three day summer school titled "Climate Justice: What is Oberlin College's Role in Climate Change?" Amory Lovins, CEO of Rocky Mountain Institute and world renown energy expert, gave an inspirational opening address exploring Oberlin's challenge to be climate neutral. He

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New Environmental Studies Laboratory Takes Shape in an Old Building

John Petersen

Major renovation is underway to convert this turn of the century house into a state of the art teaching and research lab for the environmental studies program.

Over the last several months, the unassuming turn-of-the-century house to the west of the Adam Joseph Lewis Center has begun undergoing a major transformation. First the yellow vinyl siding was carefully removed and bundled for recycling. Next, loose lead paint was scraped from the exterior and collected for disposal. In the last few weeks, passersbys would also have noticed the removal of decrepit energy inefficient windows with new high-performance units.

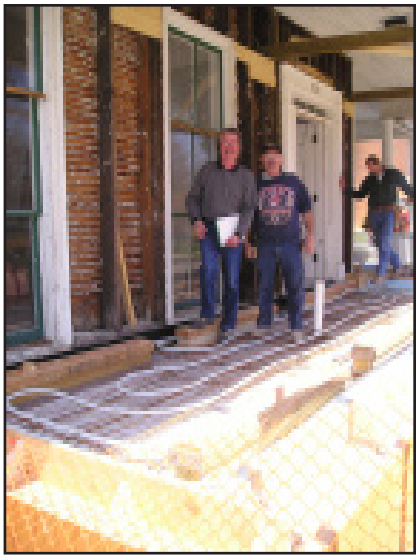
I confess to a particular degree of excitement in watching these changes because when the renovation is complete, the first floor of the building will become a teaching and research laboratory for the Environmental Studies program. In the last five years the temporary environmental science research lab has moved three times, awaiting the day when a more permanent space would we created. When renovations are complete, the downstairs will have a research lab for aquatic and terrestrial systems ecology, a teaching lab, a solar greenhouse, and a large storage area to service the environmental studies landscape. The laboratory will be used to support ongoing systems-level research on wetland restoration, ecological engineering for wastewater treatment, sustainable agriculture and watershed dynamics.

In addition to housing an analytical lab, the building itself will serve as an integral component of the environmental studies curriculum. As with the Lewis Center, the technologies and the design approaches are being selected so that they serve the educational mission of the program. Back when we were first considering our options for a new laboratory facility we debated the choice of tearing down this house and building a new structure, or applying the concept of "adaptive reuse". Since a principle goal was to develop a facility that could serve as an educational counterpoint to the design lessons embodied in the Lewis Center, we made the difficult decision to convert what was originally designed as a house and later converted to apartments into a combination of laboratory, storage and office spaces. Whereas the Lewis Center exemplifies relatively "high-tech", green architecture at the scale and aesthetic of a medium sized modern office or academic building, the Environmental Studies lab will provide opportunities for students and faculty to investigate green renovation of existing buildings a household-scale. To the local community, this project also showcases Oberlin College's willingness to preserve and enhance the historic character of the city while improving its own facilities.

A range of green features have been incorporated into both the renovation and analytical laboratory. For example, the porch on the south side of the building is being converted to a solar greenhouse space. In addition to the use of high thermal efficiency windows, the floor of the greenhouse has been designed with two feet of densely insulated concrete that will serve as heat storage. Both air and water can be pumped through this floor to selectively store and release trapped solar energy. The building will expand on the lessons of innovative waste treatment technology associated with the Lewis Center's "Living Machine" by showcasing a composting toilet, a waterless urinal and a duel-flush toilet. Additional insulation and caulking are being added throughout the building to reduce heating and cooling needs. Heating for the lab and office spaces will be provided by an energy efficient gas furnace. Hot water will be provided by an instant hot water heater. Rain water intercepted by the roof will be captured and stored for use in the landscape. All rooms will be equipped with ceiling fans to minimize the need for air conditioning. All of the cabinetry and countertops in the lab are salvaged materials from previous construction and demolition projects at Oberlin. Most of the design choices and technologies described here could easily be adopted by a homeowner.

The lab itself will emphasize the application of "green chemistry". For example, routine water quality analysis for dissolved nutrients will be conducted using an ion chromatograph. In contrast to many other analytical techniques, an ion chromatograph neither consumes nor produces substances that are toxic to humans or the environment. Further, the lab will rely on a recirculating hood device that uses a filtration system to clean the air, thereby minimizing energy intensive exhaust mechanisms and air pollution common in most laboratories.

The development of this permanent lab facility will significantly expand the opportunities for Oberlin students and faculty to engage in basic and applied research in environmental science.



College architect Leo Evans and construction supervisor Tony Iorillo stand atop the floor of the future environmental studies laboratory greenhouse. The tubes that are visible will be covered in concrete and will allow the floor to be used to store and release solar energy

Sustainability Coordinator." So begins the job announcement that will soon be advertised throughout the country. Oberlin's Environmental Policy Advisory Committee (EPAC) identified this position as a necessary step for implementation of the comprehensive environmental policy. However, until recently, funding has remained a crucial obstacle to moving forward with hiring. In the early spring of '04 EPAC met with Nancy Dye and received approval to work with Oberlin's Office of Sponsored Programs to seek grant money to support such a position. Then, in early April, president Dye indicated that she felt that a sustainability coordinator was such a high priority for the institution that she would use existing college funds to support the first year of this position while we continue to seek external grant support. The central role of the sustainability coordinator will be to oversee the implementation of the new environmental policy. The college is seeking a recent college or masters program graduate with experience in managing environmental projects. If you know of a promising candidate, please send her or him our way!

Green energy: In a previous newsletter we described the agreement that the college signed in the early spring of '04 to purchase "green electricity" from Oberlin Municipal Light and Power Systems (OMLPS). Green electricity is electricity that is generated in ways that minimize environmental damage and maximize environmental benefits. As a result of the agreement, delivery of green energy to Oberlin College began in June of '04. Since that time the college has purchased approximately 60% of its electricity from green energy sources, resulting in a 25% reduction in total greenhouse gas emissions attributable to Oberlin College. At the same time, as a result of this unique agreement, over $14,000 has accrued in the City of Oberlin's "Sustainable Energy Reserve Fund". The City of is currently considering proposals to use these funds to sponsor a wind energy feasibility study and to sponsor insulation of low-income housing within the town.

Environmental sustainability incorporated into Oberlin's long term Strategic Plan: Over the last year the College has undergone a comprehensive strategic planning process that has considered how Oberlin can build a stronger institution to meet the needs of the 21st century. This process successfully brought to light campus-wide concern for the environment as a core challenge for the coming century. Indeed, it was a member of the physics department, who first suggested environmental sustainability as one key theme for the strategic plan. A sustainability amendment proposed by Harlan Wilson was unanimously approved by the faculty. The final text on environmental sustainability incorporated into the Oberlin College strategic plan is as follows:

> **Rationale:** Oberlin is in a favorable position to be a national leader in promoting sustainability on and off campus. The college must continue to develop and promote its strengths in this area. Justifications for this include: the unprecedented environmental challenges our students will face in the future; the great importance attached by current and prospective students to efforts to achieve sustainability; the learning experiences afforded to students as a result of these efforts; and the continuing example Oberlin can set for other institutions, academic and otherwise.
>
> **Strategies**: 1) To seek to reduce the rate at which it contributes to the depletion and degradation of natural resources, to increase the use of renewable resources, and to consider other measures that can enhance the physical environment in which we live. 2) To the extent practicable, develop and implement state-of-the-art standards for building design, construction, and performance, and for land use, consistent with goals of energy efficiency and prudent resource use. 3) Work towards environmentally sound as well as aesthetically pleasing means of maintaining the physical plant, the landscape, and its surroundings. 4) Enhance and develop further opportunities for students and faculty to participate in the continuing 'greening' of the campus and the wider community through course work in various curricular areas, independent research projects, and community service.

A role for friends and supporters: We hope that the promising developments described above mark a turning point in the history of the College. The Oberlin community is justifiably proud of our institutions courageous moral leadership on issues of race, gender and labor during the 19th and 20th centuries. With your help, we have a unique opportunity at this moment to build on this tradition by becoming leaders in the movement towards responsible environmental stewardship in the 21st century. In an age when national environmental policy is moving us further from sustainability, Oberlin has the potential to serve as a model for a more optimistic vision of the future. Forward movement on this campus requires that alumni, parents and friends continue to support Oberlin when the institution moves in the right direction and express concerns when movements is slow or down a wrong path; your continued engagement is crucial to the process!

WASTE=FUEL: AFFORDABLE BIODIESEL FOR HEALTHY COMMUNITIES

Kathryn Janda and Stephen Merrett '05

Biodiesel is a clean burning alternative fuel, produced from domestic, renewable resources. Biodiesel contains no petroleum, but it can be blended at any level with petroleum diesel to create a biodiesel blend. It can be used in compression-ignition (diesel) engines with little or no modifications. Biodiesel is simple to use, biodegradable, and nontoxic. Compared to petroleum-based diesel, biodiesel has slightly higher nitrogen oxide levels, lower particulate levels and is essentially free of sulfur and aromatics (1).

Biodiesel can be made from either virgin vegetable oil or from waste vegetable oil by a relatively simple process called transesterification. Currently, large-scale corporations use virgin oil feedstock and sell their biodiesel for about $2.50/gallon. Such commercial manufacturers are able to navigate the considerable state and federal legislation governing biodiesel production and afford the licensing necessary for legal biodiesel sale. In contrast to these industrial facilities, many individuals in the US have built successful backyard-scale processors for private use. When made with the free feedstock of used vegetable oil, biodiesel can be produced for fifty-four cents per gallon(2), excluding labor costs. Small-scale producers largely fail to address issues of legislative compliance, operator liability, and fuel quality and are therefore are unable to legally sell biodiesel for on-road use. Thus, existing individual-scale operations have limited utility as a model for encouraging wider biodiesel use. This paper discusses early results of a pilot project to encourage wider biodiesel use through a mobile, community-scale biodiesel production system.

Biodiesel Oberlin (BO) is a group of community members and Oberlin College professors, staff, and students that received funding through EPA's "People, Prosperity, and the Planet" (P3) student design competition to create a new, community-scale production method for biodiesel fuel. We have designed, constructed, and are testing a biodiesel production system that (1) requires no fossil energy input, (2) travels to, involves, and educates the community members it serves, and (3) ultimately makes this renewable fuel available to and affordable for potential users.

The first step in our process is collecting used vegetable oil (UVO) from local restaurants. BO has been certified to collect raw rending material (i.e., used vegetable oil) by the Ohio Department of Agriculture. Our collection vehicle is a 1986 F-250 pick-up truck that has been converted to run on straight vegetable oil. After collection, the oil is filtered, using gravity and four 55-gallon drums connected in series. It then undergoes transesterification, a five step process: heating, adding chemical reactants, mixing, settling, and separation. Ultimately, we intend to generate the 120 degrees necessary with a solar thermal system. We estimate that our process requires about 16.6 MJ of heat per batch, based on an average starting temperature of 60 degrees F. The energy for mixing comes from pedal power. We have welded reclaimed bicycle parts together to an impeller driven by a recumbent-style cyclist. The processor is capable of creating 73.4 gallons of biodiesel per batch.

We have installed the processor in a trailer drawn by the tow vehicle described above. Together, these elements create a mobile biodiesel processing facility that is designed to run exclusively on waste vegetable oil and human power. We are testing a consumer cooperative model that will enable a balance of fuel quality, price, and legislative compliance. Interested community members obtain workshares of the fuel by taking part in its production, resolving licensing issues. If this initial phase of the project proves successful, we plan to hire a small staff to produce biodiesel to be sold for off-road consumption (at a cost of about $1/gallon). Community members who wish to provide the time and pedal power to make their own fuel will continue to be able to do so for about one quarter of the price of conventional diesel fuel.

Every batch of UVO biodiesel produced off-the-grid could offset fossil fuel use in three ways. First, it will replace 90% of petrodiesel use through direct substitution. Second, it displaces fossil fuels embodied in the production of petrodiesel (ranging from 10% to 120%). Third, when compared to other biodiesel production methods, our planned process will further reduce the fossil fuels that would have been used in the biodiesel production process itself (ranging from 10% to 30%). Although we have yet to achieve our goal of complete offgrid operation, we consider the potential effects of a fully renewable fuel production process in a paper we will present at the 2005 International Solar World Congress. In addition to considering the energetics of fuel production itself, recycling used oils locally also has the benefit of reducing diesel use in waste oil transportation.

Of the 600 gallons of filtered oil produced to date, 400 gallons were consumed as straight vegetable oil in on-road vehicles. The remaining 200 gallons of filtered oil were turned into 200 gallons of biodiesel and approximately 30 gallons of glycerin. Although the glycerin is biodegradable, students and faculty in the Oberlin College Art Department are currently testing its utility as soap for brushes.

We have had four successful test users for our biodiesel fuel from February 2005 to date. Chris Fox Construction Company used 100 gallons of B100 in its "Wood Mizer" diesel wood mill and Bobcat_loader. BO member Sam Merrett used 55 gallons of B100 in his 1998 VW Jetta for testing and travel. The BO Ford F-250 consumed 30 gallons of B100 for local waste oil collection. Finally, 15 gallons of biodiesel were added to about 60 gallons of #2 fuel oil to make a B20 biodiesel blend, and this B20 blend was burned in a fuel oil furnace.

Biodiesel pollutes less than petrodiesel, but it does not decrease vehicle miles traveled or change development patterns. Although we recognize that a substitute fuel can only do so much, we have demonstrated that used vegetable oil (UVO) biodiesel can be produced with a minimum of fossil fuel inputs. Coupled with educational initiatives, we believe biodiesel can play a critical role in bridging the gap between a petroleum-based economy and a sustainable one. Although the environmental benefits and economic costs of our system are favorable, there are some aspects of our community-scale batch processing system that merit further discussion. It would be unrealistic, for instance, to assume that everyone in the nation would want to ride a bike and take part in the production of his/her own fuel. We have been able, however, to make good use of the physical capital of college students, teenagers, and cycling enthusiasts to show we can utilize all of the waste grease from the Oberlin community. Our goal is not to displace every drop of diesel fuel used in Oberlin; our goal is to ensure that all of the used grease in Oberlin displaces the consumption of petroleum diesel fuel. Our experience to date suggests that other small communities – particularly those with educational institutions – are well suited for and interested in adopting our model and learning from our experience. We are capable of supplying biodiesel at about half the cost of conventional diesel and biodiesel, even if we include labor costs. Further, our analysis shows that our design uses less fossil energy than other biodiesel production methods and has accordingly lower environmental impacts. A conservative estimate suggests that used vegetable oil biodiesel made with minimal fossil fuels can offset 110% of the energy cost of a gallon of petrodiesel. We estimate that our efforts to date have displaced 660 gallons of petrodiesel. Compared with petroleum diesel, biodiesel increases nitrous oxide levels by 5-10%, but releases 78% fewer lifecycle carbon dioxide emissions and 70% fewer unburned hydrocarbons.

Through a combination of new initiatives and enhanced, continuing activities, we are now attempting to maximize the benefits of community-scale biodiesel production by expanding our work at the local and regional levels, as well as transferring our processor design

First, we hope to expand our work from a local to a regional scale. We attracted the interest of regional business and renewable energy organizations. In meetings with the Lorain County Chamber of Commerce and Green Energy Ohio (Ohio's leading non-profit organization dedicated to promoting sustainable energy policy and practices in the state), we have developed a plan to increase the scale of our 70-gallon mobile batch processor to a 1,000-gallon stationary batch processor while maintaining the goal of off-grid energy production. We have discussed this project idea with managers of Ohio Byproducts, a Cleveland-based grease collection company that could implement larger-scale biodiesel production in Lorain County.

Second, we wish enhance our existing community-level initiative within the City of Oberlin to better demonstrate the opportunities for producing renewable fuels renewably. Technical enhancements to our existing processor will include implementing an evacuated tube solar thermal system for heating and a photovoltaic system for pumping and lights. Additional development at the community level will include using a bay from a local auto shop to perform diesel to straight-vegetable-oil conversion workshops and serve as a center for alternative fuels. We also expect to expand public demonstrations of the mobile biodiesel processor at future College (e.g., commencement) and community events (e.g., vintage auto show).

Third, we will share our experience beyond the borders of Oberlin by demonstrating our processor to the many other colleges and universities in Northeast Ohio and by adapting it for a developing country. In collaboration with Oberlin Shansi and two colleges in Maduai, India. (The American College, and Lady Doak College), we will pilot our processor as a means of meeting some of the need for renewable affordable, environmentally friendly fuels in rural India.

We would like to thank the U.S. Environmental ProtectionAgency for its support through grant number SU831897. We would also like to thank the more than 45 students and community volunteers who have worked on this project to date. Additional funding for this project was provided by a grant from the American Public Power Association and by contributions from individuals. Although the research described in the article has been funded wholly or in part by the U.S. Environmental Protection Agency's People, Prosperity, and the Planet (P3) program, it has not been subjected to any EPA review and therefore does not necessarily reflect the views of the Agency, and no official endorsement should be inferred.

REFERENCES

(1) http://www.biodiesel.org/resources/biodiesel_basics/
(2) http://www.homepower.com/files/HP93_32.pdf?search=biodiesel%20scott

Environmental Studies Students Organize Dorm Energy Competition

Kate Weinberger '06

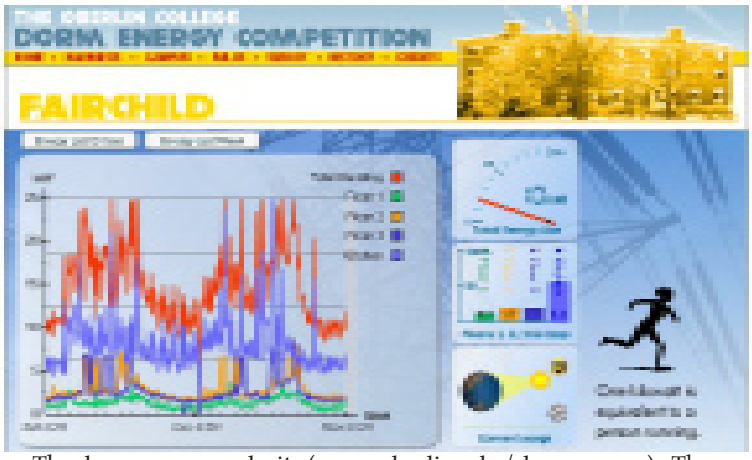
This spring, a group of Environmental Studies students attempted to bring issues of energy use and the environment to the attention of the Oberlin campus by organizing the 2005 Dorm Energy Competition. During the competition, which lasted from March 10th to March 24th, students in all of Oberlin's dorms, program houses, and housing co-ops were encouraged to reduce consumption of electricity and water.

The idea for competition came from Climate Justice, a student group that promotes awareness of climate change issues on campus. Members of Climate Justice organized a dorm energy competition in April of 2004. This year, Climate Justice collaborated with faculty and students in the Environmental Studies Program to improve upon last year's event.

The most prominent addition to this year's competition was the availability of real-time electricity-use feedback to some of the competing dorms. With help from a research grant from the U.S. Environmental Protection Agency's P3 Partnership, Vladi Shunturov, an honors student in Environmental Studies, and his advisor, Assistant Professor John Petersen, installed wireless sensors in Harkness and Fairchild that measure and display electricity use by floor. Students were able to access this real-time data on the internet and on computer monitors in public spaces. The premise of the P3 research is that easily accessible feedback on energy and water use in buildings increases both awareness and motivation to act in ways that minimize resource use.

A number of other students also played key roles in the execution of the competition. A group of students from Petersen's Environment and Society class were largely responsible for publicizing the competition and creating educational materials that focused on energy consumption issues. Also of note are several students who received private reading credit in the Environmental Studies Program for their work on the project, including Gavin Platt, Garrett Miller and Chris Fry, who collaborated on the technical and artistic aspects of the project, and Kate Weinberger, who worked on the organizational effort.

Vladislav Shunturov (left) completed an honors research project focused on creating a wireless system for monitoring and displaying energy use in Oberlin dormitories. College electrician Art Fruner (right) installed the current transducers that measure energy use in Fairchild dormitory.



The dorm energy web site (www.oberlin.edu/dormenergy). The premise of an EPA funded research project is that real time feedback on resource use changes attitudes and reduces consumption. Residents of Fairchild dormitory reduced their energy use by 56% during the two week dorm energy competition

Overall, students saved 68,500 kWh of electricity and 20,500 gallons of water during the two-week competition compared to the previous two weeks. This amounts to a cost savings for the college of $5,380 in utility bills for these two weeks and decreased emissions associated with reduced energy use of 148,000 lbs of CO_2, 1,360 lbs of SO_2 and 520 lbs of NOx. Fairchild dormitory, the winner in the energy category, reduced its electricity use by a whopping 56%. The results of the competition provide evidence that when students are made aware of their resource consumption they make personal choices that result in dramatic savings.

Full competition results can be seen at http://www.oberlin.edu/dormenergy.

Back Row: (left to right) Gavin Platt, Jacob Grossman, Callen Miracle, Lauren Dennis, Garrett Miller, Vladi Shunturov, Jenna Trostle. **Front Row:** (left to right) Rebecca Derry, Andrew Barnett, Assistant Professor John Petersen, Roman Corfas, Kate Weinberger, Courtney Epstein.

argued with data and examples that efficiency is cheaper than fuel (see www.rmi.org). Talks by faculty, students, administrators, and alumni were followed by break-out and whole group discussions considering Oberlin's role in climate change. The participants agreed Oberlin should adopt an aggressive plan to achieve climate neutrality as soon as possible and many participants wrote letters to President Dye and Trustees advocating this agenda.

At its March 2004 meeting, the Oberlin Board of Trustees approved the most comprehensive and visionary environmental policy adopted by any college or university in the United States including the goal of climate neutrality. Oberlin College Environmental Policy (EP) (http://www.oberlin.edu/presidnt /environment.html) was developed over the past several years by the Environmental Policy Advisory Panel (appointed by President Nancy Dye). Although the Trustees unanimously approved EP, they made no financial provisions for its implementation.

At its September 2004 meeting, the EnviroAlums' Steering Committee strongly endorsed the implementation of EP. A resolution to President Dye and Trustees—approved by EnviroAlums' Steering Committee and signed by 146 alums—presented the case for implementation of EP and "respectfully request[ed] that President Nancy Dye advocate, as a priority, for funds to implement EP and that the Trustees at their December 2004 meeting approve an aggressive fund raising campaign for implementation of EP." Independent of EnviroAlums, environmentally concerned students gathered over a thousand student signatures on a similar resolution in Fall 2004 that they presented to President Dye and Trustees. These and myriad efforts by numerous members of the Oberlin Community have resulted in Oberlin beginning to raise funds for a sustainability coordinator whose charge will be to implement EP.

EnviroAlums is making an effort to have alums be aware of Oberlin's EP and the importance of implementation. Various EnviroAlums are working with regional alumni representatives to have alumni club programs on Oberlin's environmental programs and EP.

At reunion weekend on Saturday, May 28, 2005, EnviroAlums organized with two cluster classes (54, 55, 56 and 64, 65, 66) a symposium, "Social Justice and the Environment: Oberlin & Beyond." and a follow-up discussion, "Strategy Meeting to Maximize Oberlin's Commitment to Its Trustee Adopted Environmental Policy." The symposium features Terri Swearingen, winner of the Goldman Environmental Prize for environmental activism in recognition of her leadership in challenging and changing how the United States manages toxic waste, and John Petersen, class of 1988, systems ecologist, and Environmental Studies faculty. The symposium will be facilitated by Carl McDaniel '64 and the follow-up discussion by Belden Paulson '50.

"All education is environmental education." We will only satisfactorily resolve the numerous challenges before us, if we work together. Consider joining EnviroAlums and help Oberlin seize the opportunity to help lead the world in the quest to create durable patterns of habitation.

STUDENT INITIATIVES IN CAMPUS SUSTAINABILITY

Meredith Dowling '06 & Steven Wong '05

For years, Oberlin students have been hard at work developing projects for a more sustainable campus, but since Oberlin's Board of Trustees adopted the new Environmental Policy in March of 2004, students have been inspired to make this policy reality. In addition to the Environmental Policy Implementation Group (EPIG) mentioned in the "Environmental Policy Developments" article, the Recycled Products Co-op Center (RPCC), and the College Recyclers are two groups that have done significant work to advance environmental initiatives over the course of the year.

The College Recyclers have been restructuring Oberlin's recycling program to separate the paper out of the waste stream and recycle it through a program called Paper Retriever, which would have the added advantage of paying the College for its waste paper. In addition to managing the day-to-day tasks that make the recycling program run smoothly, the College Recyclers orchestrate the Big Swap that occurs at the end of each semester, finding new owners for the many items that students no longer need. They also gather single-sided paper from campus computer labs making it into free notebooks and collect packing peanuts for reuse. One of the most exciting things the Recyclers have been working on this semester is the creation of an Eco-Purchasing Committee.

The idea for an Eco-Purchasing Committee came about as part of the college's push to become sustainable, as is evident in the recently passed Strategic Plan. The Eco-Purchasing Committee will be responsible for reviewing the college's purchases and finding more sustainable alternatives to ecologically harmful products. A group of students interested in promoting sustainable principles and practice on campus are in the process drafting a code to include standards of sustainability that all products will be judged against. As the reviewing of the college's purchases will be very time-consuming, an intern will be hired to research current products and alternatives. The form of the code will be largely modeled after the existing anti-sweatshop code (available online at http://www.oberlin.edu/newserv/stories/purchasing_policy.html). Parallel in purpose to the Anti-Sweatshop Committee, we plan to join forces under a single Purchasing Committee which will refine the college's purchasing choices in the direction of sustainability and social responsibility.

The idea for the Recycled Products Co-op Center came out of a private reading conducted by three environmental studies students on issues surrounding recycled paper. The RPCC just got started this semester and has already found lots of support and enthusiasm from students and academic departments. They collect used office supplies around campus and make them available for reuse on campus. The RPCC is currently purchasing its first bulk orders of recycled-content paper and other products, which will be resold at cost to the community.

This has been a busy year for students involved in seeking implementation of Oberlin's Environmental Policy. The future of student involvement in policy-related initiatives looks promising, as enthusiasm for this work among students is continually growing.

REVIVING THE LEARNING AND LABOR TRADITION

Environmental Studies Professor John Petersen establishes wetland plants in one of the experimental wetland research cells that he uses to teach about restoration ecology.

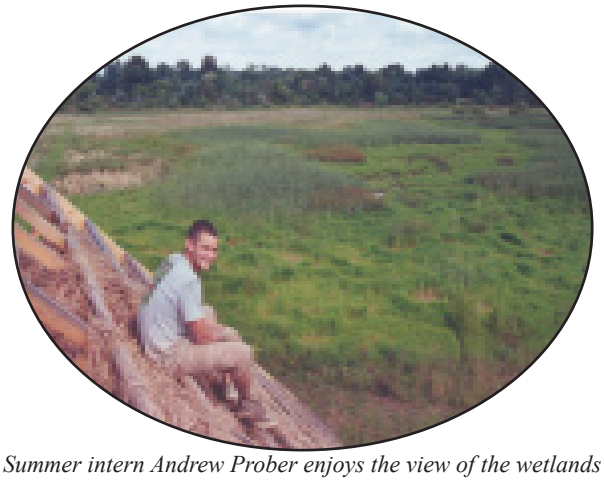
Students apply earth plasters to a farm office designed by students in David Orr's Ecological Design seminar in 2003.

Professor of Biology David Benzing investigates recently seeded wetland plants with Ohio State University graduate researcher Josh Smith.

Liberal Arts and Agriculture: A Perfect Mix

The Environmental Studies Program at Oberlin strives to provide students with an ability to integrate a variety of disciplines into the creative resolution of environmental challenges. The George Jones Memorial Farm offers an opportunity for integrated environmental learning. The Jones Farm is a 70 acre farmstead located one mile from the Oberlin campus. The Jones Farm is operated by the Ecological Design Innovation Center (EDIC), founded in 2001 by Oberlin alumni Brad Masi. The farm supports a variety of activities that involve students and faculty at the college, including: a small-scale organic farm, food waste composting operations, wetland and meadow restoration, strawbale building construction, and public school education. The farm allows students to move concepts of sustainability into practice, providing enduring lessons for building a more sustainable culture.

Volunteers, including faculty, students, and townspeople, raise a cross beam for a timber frame constructed entirely of lumber sustainably harvested from the site.



Summer intern Andrew Prober enjoys the view of the wetlands at the farm after stuffing a roof with straw insulation.

PHOTO JOURNAL OF THE GEORGE JONES MEMORIAL FARM

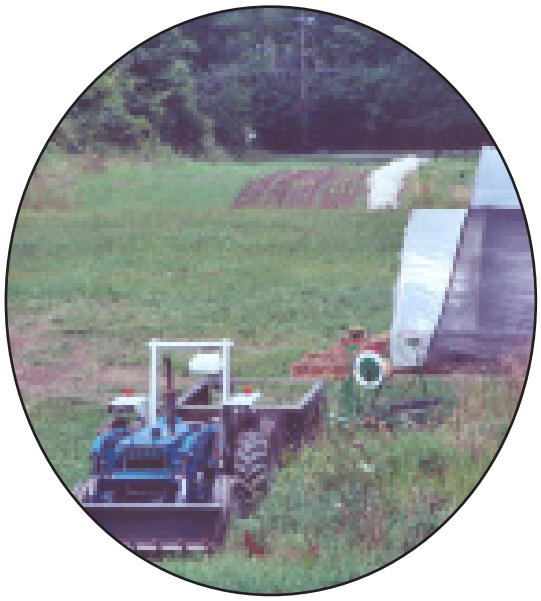
Assembled by Brad Masi, '93

Ashley Robinson, one of the summer farm interns picks lettuce greens for the farmers' market.

Ducks were introduced to the farm in 2004. Support from Heifer International will provide an expansion of livestock operations and training programs starting in 2005.

About the George Jones Farm

The George Jones Memorial Farm is a tribute to the life and teaching career of Oberlin College botany Professor, George Jones. Jones inspired college students and townspeople alike with his quiet passion for natural history, ecological stewardship, and organic gardening. . The lessons of the Jones Farm extend into the greater Northeast Ohio region. EDIC organized the Northeast Ohio Foodshed Network to increase connections between farmers and markets in Oberlin and Cleveland. EDIC's City Fresh program is improving food access for low-income inner-city Cleveland residents through a market garden training program and local food distribution centers. Find out more about EDIC



A panoramic view of the farm as seen from the roof of the farm office.

Farm apprentice Hanna Wheeler assists with a school visit as a part of a farm curriculum designed by local public school teachers.

Sara Waterman (OC '03) dunks logs with 4-H children as a part of a private reading on mushroom cultivation.

Petersen Hosts Alumni Association's Vermont Fall Biking Adventure

Friday, September 30 - Sunday, October 2, 2005

This tour takes us into the most rural part of Vermont, an area that has changed very little over the years, and one that provides a delightful landscape of rolling hills, farmland, high forests, and grand views of Jay Peak and surrounding mountains. For those with the energy, an optional side trip to the quaint Canadian town of Frelighsburg makes this an international adventure!

Our "home-base" will be the handsome Black Lantern Inn in Montgomery. This white-pillared brick inn was built in 1803 as a stage stop, and has been welcoming travelers ever since. Bob and Deb Winders are your friendly hosts, and you will delight in the airy and comfortable rooms, the tap room warmed by a soap stone stove, and Deb's superb food that she serves in the low-beamed dining room. Montgomery is rightfully famous for its six historic covered bridges. Two of these are just a leisurely stroll from the inn's front porch, we pass two more on our cycling routes, and we often visit another where it crosses the West Hill Brook at a discreet picture-perfect swimming hole.

Our cycling takes full advantage of the lovely location. We ride through wide valleys following rural roads, and take a side trip to the shores of lovely Lake Carmi. We parallel the river as we cycle the Missisquoi Valley Rail Trail, and enjoy a wonderful mix of sunny farmland, shaded forest and quiet wetlands. An attractive option takes us into Canada (bring your driver's license!) and the historic Village of Frelighsburg. We pass along the foothills of Mount Pinnacle and cycle through extensive apple orchards and farms. We picnic by the Missisquoi River near the town of Richford, and take a breathtakingly beautiful ride through South Richford, passing through Fuller Covered Bridge as we arrive back in Montgomery. And we make sure your day leaves time to relax in the inn's hot tub and to enjoy distant the views over Hazen's Notch. This tour is ideally suited for the beginning or intermediate cyclist - as several route options exist based on your ability and interests.

Our faculty host on this adventure will be Dr. John Petersen, Assistant Professor of Environmental Studies and Biology, who will discuss with us recent developments in the environmental policy of Oberlin College and how they relate to issues of social equity, student activism, international treaties, the Antarctic ice shelf, and, of course, the fall colors in Vermont! John is a very delightful and engaging speaker who also happens to enjoy cycling.

To find out more about this trip or to register prior to August 1, 2005, please visit www.bikevt.com/oberlin.

Ben Wisner Explores Global Environmental Issues

The Environmental Studies Program is pleased to host Visiting Professor Ben Wisner for three fall semesters through 2006. Students have the opportunity to focus on global environmental issues through a series of three upper level courses entitled Disaster Risk Reduction (2004). Food Security (2005), and Challenges of an Urbanizing World (2006).

Wisner began work in rural Tanzania in 1966, writing his PhD dissertation on how households cope with drought in eastern Kenya (1978). During the late 1960s, 1970s, and 1980s he worked in many parts of Africa on questions concerning wood fuel and rural energy, water and sanitation, drought, flood, community health and food security. During this period he taught at University of Dar es Salaam , Eduardo Mondlane (Maputo , Mozambique), Sheffield , ETH-Zurich, Rutgers , UCLA, Wisconsin-Madison, The New School for Social Research. He took up a position as Henry R. Luce Professor of Food, Resources and International Policy at Hampshire College (Amherst , MA) in 1987, leaving to become Director of International Studies and Professor of Geography at California State University at Long Beach in 1996.

Wisner retired from full time teaching in 2000, and engages in research and consulting from bases in the Environmental Studies Program at Oberlin College, Ohio, as well as the Development Studies Institute, London School of Economics, and the Benfield Hazard Research Centre, University College London. He is was vice chair of the Earthquakes and Megacities Initiative from 1997-2002, and is vice chair of the Commission on Risk and Hazards of the International Geographical Union (IGU) as well as a full member of the IGU's Task Force on Megacities. Recently he completed a review of urban disaster for UNESCO (http://www.unesco.org/most/isscreport.htm). He also served as a senior technical editor for UNDP's 2004 report, Reducing Disaster Risk: A Challenge for Development (http://www.undp.org/bcpr/disred/rdr.htm) and as co-author/editor of Environment and Health in Emergencies and Disasters, a volume of guidelines published by the World Health Organization (2003) (http://www.who.int/water_sanitation_health/hygiene/emergencies/en/). Wisner is currently advising the United Nations (ISRD) on the thematic portion of the World Conference on Disaster Reduction to be held in January 2004.

He was co-author of *At Risk: Natural Hazards, People's Vulnerability, and Disasters* (London: Routledge, 1994) and lead author of its 2 nd edition (2004); author of *Power and Need in Africa: Basic Human Needs and Development Policy* (London: Earthscan, 1988), and numerous refereed papers, book chapters, and reports. He is also co-founder, with Dr. Maureen Fordham, of the web site devoted to social aspects of disaster management, RADIX: www.online.northumbria.ac.uk/geography_research/radix .

Wisner's current research includes patterns and opportunities for coping with drought in Kenya 's arid and semi-arid lands (a follow up to his work there 1971-76), adaptation to climate change in Tanzania , and floods in Mozambique.

The World Conference on Disaster Some Big Questions for Kobe and Beyond

Ben Wisner

The Challenge of Disaster Risk following the Asian Tsunamii

Disasters like the Asian tsunami just after Christmas 2004 – a catastrophe that killed more than 220,000 people, displaced 5 million in 11 countries — are not natural. The extreme natural events such as the earthquake that generated the tsunami are natural. But disaster risk is compounded by many other factors. One should ask why people weren't warned. Why were some many people unaware of tsunami risk? And now, after the event, why do national and local governments exclude local people from recovery planning? Why, indeed, are there reports of people returning to find that property speculators have occupied and claimed their house plots? Above all, one has to ask why so many people lived on a coast not only exposed to tsunamis but to much more frequent storms. The answer lies in the effect of the global economy, especially rich country agricultural subsidies that have undermined the viability of small scale farming in the interior of the affected countries. Violent conflict also has driven people from the interior to coastal settlements. Tourism is the "pull" that has reinforced these "pushes," and the result has been a hemorrhage of rural people into coastal towns and cities.

The World Conference on Disaster Reduction took place, as many U.N. conferences do, ten years since another conference, 11 actually because the host country, Japan, wanted this follow up to the Yokohama conference on disasters to coincide with the tenth anniversary of the Great Hanshin-Awaji earthquake that devastated Kobe and surrounding in 1995. The Yokohama meeting was, in turn, marked the midway point of an entire U.N. decade devoted to disaster risk reduction (1990-99). One would think that after all this activity, there would be little more to do or say. Unfortunately, little that had gone on before got at the root causes of people's vulnerability to hazards, and world wide, efforts had been long on rhetoric and institution building, short on concrete implementation.

The negotiated nature of the formal output from Kobe inevitably forced it down to the lowest common denominator. It did precious little to address good governance in any but vague generalities. Neither did it address the collateral damage of economic globalization or violent conflict. After very hard negotiation with the U.S. delegation, to everyone's surprise climate change was actually addressed directly in the outcome documents. Despite lively discussions in the so-called "public forum" – walled off and segregated from the "inter-governmental (aka political) process," the program of action did not materially affect the obstacles that face innovative civil society groups and local governments as they try to innovate and address disaster risk in a decentralized manner. The program of action misses the opportunity also to link the Kobe outcomes to poverty eradication as laid out in the Millennium Development Goals (MDGs), to date the only truly global consensus framework humanity has for sustainable development. It gave only lip service to the MDGs. The approach of the Kobe meeting with respect to knowledge and communication, whilst broad in discussion, was one-sided in outcome, privileging the hard ware and top down transmission of warnings without providing resources for increased public hazard awareness "from the bottom up."

Above all, there were neither targets set for U.N. member nations to reach, nor agreed indicators of success, nor new funds made available. There was lots of rhetoric but not much to be held accountable to.

Tsunami Victims: Unplanned Guests at the Conference

There was, of course, a call for a tsunami warning system in the Indian Ocean, and special sessions were organized to hear from representatives of the affected countries. This was appropriate and well meant. However, as the successful Bangladesh cyclone warning system shows, the technology is not effective if it cannot connect with the people. In Bangladesh over the past 15 years deaths from cyclones have been radically reduced by a system of warning that involves 30,000 trained Red Crescent volunteers who carry warnings house to house. This and the construction of elevated, concrete community cyclone shelters have saved many lives.

A warning system for tsunami would have to get the warning to those who are exposed to (on the mud flats, in the small villages, in the shanty towns, in the rebel held areas), and it must give them a viable option for shelter or evacuation (get to the cyclone shelters in Bangladesh's case). A technical fix is not enough. Nor will it be enough to include a token anthropologist or sociologist in a team of earth scientists and experts in information and communications technology (ICT). While much discussed "awareness" is of course culturally and linguistically colored, "culture" is by no means the only "social" issue early warning designers must take into account. Effective warning also involves human rights and governance as well as requiring an understanding of the livelihood

Continued on page 14

economics of the poor (excluded and marginal).
A serious international attempt to deal with the root causes of disasters has to address the following dozen questions – ones that were not even put to delegates officially, although in panels and in the corridors there were echoes of these "big" questions.

Questions Concerning Our Understanding of Disasters

1. Governance and respect for people's rights. Good governance leads to concern for the right to life with dignity. Isn't this the basis of all disaster mitigation? Just look at Haiti for an example of what appalling governance can do to disaster vulnerability. With no government in place, Somalis are highly vulnerable to drought and, in fact, many thousands of coastal Somalis were affected by the tsunami. In neighboring Kenya and Tanzania the government was able to warn most coastal dwellers.

2. Globalization & disasters. Economic globalization that follows the neo-liberal model, seeks to externalize risk (external from the corporation that is). It's not that corporations act immorally, they act amorally, but in the process people are attracted into low wage jobs and crowded in shanty towns and in coastal cities. "Free trade" was discussed in the regional consultation on Central America that took place during the Kobe meeting. The impact of free trade agreements on poor and marginal social groups was said to be the number one risk factor in the region. Delegates agreed that the impact of free trade on the disaster vulnerability and resilience of these groups needs to be monitored closely, and increased vulnerability must be counter balanced by social protection. Can economic globalization be re-thought and "tamed" so that people do not suffer increased disaster risk in the process?

3. War & disasters. Where there is war, there is little chance of building resilience against disaster. In Aceh, Indonesia, Sri Lanka, Sudan, Colombia and many other places, for many people today, war — or at least violent unrest — is the norm. Internally displaced people fleeing war in Colombia, Congo, Sudan, and elsewhere live in conditions that make them vulnerable to disaster. You can't wait for it to end of conflict before mitigating against disaster, so where are the models and approaches to deal with this? Does a "window of opportunity" open up after a disaster that might allow conflicts such as those in Aceh and Sri Lanka to be finally resolved?

4. Climate change: Rising sea levels and more extreme events such as cyclones and other storms mean more disasters: no way round it. The Netherlands is going flat out to adapt to this reality, but where else is adaptation to climate chance taking place fast enough? Climate change is intensifying the hazards that affect human livelihoods, settlements, and infrastructure. Climate change is also weakening the resilience of livelihoods in the face of constant and increasing/shifting hazards. New hazards such as human, livestock, and plant health hazards are appearing. Population movements in response to climate change may also result in new exposure to hazards and to increased vulnerability. Furthermore, climate change can increase vulnerability to unrelated, non-climatic hazards.

5. Urbanization. Most population growth today is in urban areas. Moreover, this growth is primarily in the shanty towns of urban areas. Many of these rapidly growing cities are on tropical and sub-tropical coasts where sea level rise effects them — where they are exposed to storms and possibly tsunamis. How can urbanization be guided to minimize vulnerability to such hazards? Mega city urbanization also puts very large number of people at risk to earthquakes. How can the risk be reduced rapidly in Tehran, Istanbul, Mexico City, Addis Ababa, Manila, and other large cities facing earthquake hazard?

Questions Concerning Possible Ways Forward

6. Local initiatives and innovations. What are the obstacles that face civil society and local government in expanding important successes in "bottom up" disaster risk management? Where can the necessary financial and other essential resources come from? How can initiatives "from below" negotiate sub-national and national bureaucracies? As we write the national government in Zimbabwe has begun to de-register any NGO working in that country that talks about or works on human rights. Oppression and abuse of civil society activist is not compatible with disaster risk reduction, but this "elephant in the room" was politely not mentioned at the Kobe conference.

7. Meaningful and effective local participation. How can local initiatives and citizen participation in planning escape capture and control by dominant political elites, who have been quick to appropriate the language of "participation" and "people centered" planning, while giving up no control or resources to civil society? The same may also be said of the discourse of women's rights, where in some countries "big men" have actually launched "women's NGOs" in order to profit from overseas development money.

8. Knowledge and communication. What is the role of knowledge, early warning and communication in risk reduction? What are the obstacles to implementing what science already tells us? Jeanne Johnson, director of the

Tsunami Museum in Hilo, Hawaii, did a MA thesis in risk communication at University of Hawaii. She found that without communications in place 96 people died in Hilo's 1946 tsunami. Sixty-one still died in 1960, in another large tsunami, despite the existence by then of warnings via radio, television, sirens, and the police. Clearly public awareness and other social issues are also important—not just the information and communications technology (ICT).

9. Merging risk reduction and development. At the moment considerable effort is going into programs worldwide to reduce poverty, increase child survival, expand access to clean water, etc. These efforts are part of a global commitment to implementation of a set of goals agreed by the U.N. General Assembly in 2000. Thus they are called the Millennium Development Goals (MDGs). Without identifying specific links between disaster risks reduction and the manner in which these MDGs are being pursued, a key opportunity for concrete implementation is going to be missed. The Kobe conference should have asked how these MDGs can be implemented in a way that simultaneously addresses risk reduction. In fact, is it possible to achieve these goals without attention to risk reduction? What are the precise links between opportunities for risk reduction and the manner in which currently the goals are being implemented? (One example: some 100 million children of school age are to be absorbed into the school system. However, who is looking at the hazardousness of the school locations and schools themselves where these new students will find themselves?)

10. Global alliances of disaster-affected peoples. There is great power in the sharing of suffering and outrage. For example, tsunami victims from 10 countries or earthquake victims in Turkey, Japan and California coming together to lobby for better and more people-focused governance. Can the World Social Forum and other new people-focused institutions be made to see this as a priority? In order to gain political momentum within the parliamentary agendas and local city council priorities of member nations, disaster risks reduction has to have the grass roots credibility and passionate lobbying that characterizes social movements that advocate for the interests of children, the environment, people living with HIV / AIDS, the landless and homeless. Lessons can certainly be learned from the sociological study of these other parallel social movements. But study alone will not create a movement that asserts that social protection from natural hazards is a human right.

11. Women's crucial role in disaster reduction. How can the potential of women as proactive agents of disaster reduction be acknowledged and fully utilized? Women and children may suffer more in disasters, but women should not be stereotyped as "victims." Women have a large contribution to bring to disaster risk reduction and local resilience. They have knowledge, skills, and relevant capacities and experiences. This has been very well documented, but women's contributions are often ignored. Women's role in creating a culture of safety and in preparedness and mitigation was acknowledged in several of the panels during the Thematic Session and in events organized in the Public Forum. NGO and other civil society representatives brought forward examples of women's positive contributions and leadership role. The Gender and Disaster Network was represented in Kobe and launched a "Broadsheet" of recommendations to be born in mind during tsunami relief and recovery operations.

12. Full national accountability and transparency. Given that the final documents produced by the WCDR did not include targets, timetables, or indicators of success in implementing the "framework" for disaster risk reduction, what steps can be taken to ensure that nations actually take the Hyogo Framework for Action seriously and move concretely to implement it?

It now looks as though the U.N. will propose to the annual meeting of its Economic and Social Committee (ECOSOC) templates for the kinds of specific risk reduction targets member nations should create. Then nations would have one year to formulate their own along these general lines and report back to ECOSOC in 2006. Typically a target would be the sort of statement that mandates, say, protection 10% of unprotected schools and hospitals each year for the next 10 years. Accountability, then, may not have been totally bypassed by the Kobe meeting.

Conclusions

Like the curate's egg, the WCDR in Kobe was good in parts. With the human tragedy of the tsunami in everyone's mind, business as usual was disturbed. Civil society intervened in the technical sessions and penuries, and lobbied the drafting committee. Indeed, even before tsunami, there was a growing weariness even on the part of some U.N. officials with the long procession of world conferences, dedicated decades, and summits that have served up rhetoric. Increasingly it is dawning on the political and economic elite that violent conflict, the increasing impact of poverty, natural and technological hazards, and climate change may combine to bring down the neo-liberal

Gorn Prize Recipients

The Environmental Studies Program Committee is pleased to announce that seniors Rachel Cohn, Shoshana Friedman, Stephen (Sam) Merrett, and Vladi Shunturov share the Joyce Gorn Prize for 2005. The Gorn Prize was established as a memorial to Joyce Gorn, Oberlin College graduate of 1973, who had been active in environmental pursuits at Oberlin and Cornell University where she attended graduate school prior to her death from cancer in December of 1978. The fund was established by her parents and friends to recognize meritorious work on an independent or extracurricular project related to Environmental Studies.

Rachel Cohn has spent numerous hours developing and implementing laboratory procedures for analyzing water from the Living Machine wastewater treatment facility of the AJLC. She was also one of the student leaders who organized the student Living Machine operators through weekly meetings and communications. Rachel participated in tours and other educational activities for visiting school groups and Oberlin students.

Shoshana Friedman spearheaded efforts to promote environmental education at Eastwood Elementary School in Oberlin. She organized and helped lead a student reading/practicum in environmental education there this year, and is working with other Oberlin students to design and construct an Outdoor Classroom at Eastwood for hands-on nature education. She was also a student representative on the Environmental Policy Advisory Committee for three semesters.

Stephen (Sam) Merrett co-founded the Youth Energy Project (YEP) in 2002 to foster participatory learning and energy studies at Oberlin High School. In 2003, Sam co-taught an ExCo to introduce other OC students to this practice. To date YEP! has brought over 30 OC students into public school classrooms in courses as diverse as remedial math, geometry, and home economics. YEP! has forged bonds with several high school teachers, the local electric utility, church groups, and even a local bank. In 2004, YEP! also developed an action-oriented branch, known as the Youth Energy Squad (YES!) which organizes high school students to weatherize low-income homes using donated materials from home improvement stores.

Vladislav (Vladi) Shunturov has put an enormous amount of time and effort into developing the graphical component of website and lobby display for the Adam Joseph Lewis Center. The AJLC website is widely viewed by a broad audience that includes national and international visitors as well as Oberlin students (we know this because, among other things, Vladi developed a program to track the geographic location of site visitors' computers). View the website at www.oberlin.edu/ajlc.

AWARDS

The following environmental studies majors were elected to the Phi Beta Kappa honors society:

Ting-Fong Lee
Environmental Studies

Lisa Anne Sloane
Environmental Studies

Elvira Widrig Miller
Environmental Studies/English

Shoshana M Friedman
Environmental Studies/History

Sam Merrett won a Swearer Student Humanitarian Award from Campus Compact, which recognizes àve students each year nationally for outstanding public service and provides ànancial support toward their continued efforts to address societal needs. Sam also received the 2005-06 Compton Mentor Fellowship to support his proposal to develop a community center for alternative fuels in conjunction with Biodiesel Oberlin.

Vladislav Shunturov was elected to the Sigma Xi Science honors society. Vladi also received a $2,500 Ohio Academy of Science Environmental Science & Engineering scholarship for his senior year of studies at Oberlin.

RECENT PUBLICATIONS & GRANTS

Katy Janda:
Janda, Kathryn B., and A. von Meier. 2005. "Theory, Practice, and Proof: Learning from Buildings that Teach." In Sustainable Architectures: Critical Explorations of Green Building Practices in Europe and North America, Simon Guy and Steven A. Moore, Eds. Routledge/Spon Press. pp. 31-50 (Refereed Venue)

Janda, K., and A. von Meier. 2004. "The Role of Quantitative Data in Building Success" Proceedings of the American Council for an Energy-Efficient Economy 2004 Summer Study. Volume 7, "Human and Social Dimensions of Energy Use: Trends and Their Implications" ACEEE: Washington DC. pp. 7.135-7.146. (Refereed Venue)

Janda, K. 2004. "Beyond Architecture: Real Buildings, Real People." in Solar 2004 Proceedings of the American Solar Energy Society Annual meetings. pp. 663-668 (Abstract Refereed)

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Environmental Studies Department Guest Speakers 2004-2005

Grey "Gringoyo" Berger, a community filmmaker from Mexico, screened a film and spoke about film making. His films explore social and environmental issues in Mexico, especially the migration of people and ideas throughout the Americas.

Belden Paulson (OC'50) spoke on "Future Studies: Sustainable Living and Alternative Communities." Bel was the recipient of the Alumni Association Distinguished Achievement Award for his work toward sustainable culture. With the experimental community he created - the High Wind Association, as well as through the University of Wisconsin, he teaches and demonstrates holistic, alternative approaches to stewardship. He has also served on the Educational Task Force of the President's Council on Sustainable Education.

Joel Kovel, author, actor and psychiatrist lectured on "The End of Capitalism or the End of the World?" Kovel was the Green Party candidate for the U.S. Senate from New York in 1998, co-authored the Ecosocialist Manifesto, and is editor of the scholarly journal Capitalism, Nature, and Socialism.

Sonia Shah (OC'90) is an independent journalist whose work appears in The Nation, The Progressive, Salon, and elsewhere. Her new book Crude: the Story of Oil, follows oil's rise from prehistoric formation to indispensability in modern life. She wove together the social, economic, international, and environmental issues of everyday life and extraordinary power, which have shaped humans use and misuse of oil.

Aaron Godwin spoke to the "Practicum on Ecological Design of the Lewis Center" class.
Vic Oeftering (Oberlin Municipal Light & Power) spoke to the Environment & Society class.

Professor Fisher of the history department led a mini course on Ecology and Equity. The course explored comparative environmental histories on a global basis through discussions and lectures. Mr. Fisher had planned to co-teach the course with Dr. Ramachandra Guha, a prominent writer, scholar and educator from India. Unfortunately, US border officials inexplicably denied Mr. Guha entry in to the US.

Geologist Professor Orrin Pilkey and Artist Mary Edna Fraser recently published a book entitled "A Celebration of the World's Barrier Islands," to draw public attention to humans' destruction of these islands. During three days in Oberlin they lectured on barrier islands from a scientific and artistic perspective, and Fraser spoke on collaborative batiks and exhibited her original silk batiks. Their presentation was organized by the Geology department, and co-sponsored by the Environmental Studies department and other departments and funds.

Dr. Betsy Hartmann is the Director of the Population and Development Program at Hampshire College and a long-time activist in the international women's health movement. She gave a lecture titled "Are Poor Women Destroying Planet Earth? An Assessment of the Environmental Security Debate and its' Links to the 'War on Terror'"

Artists from the Oberlin Community were featured in "A Sense of Place," an art exhibit in the Environmental Studies Center Atrium. Included were works of sculpture, painting, photography, and more, inspired by the artists' surroundings in and around Oberlin. The exhibit was coordinated by Environmental Studies major Anjuli Munjal '05.

A multimedia DVD and slideshow presentation "Protect Wilderness: Overcoming Threats to America's Wildest Public Lands" was given by Nathan Small of the New Mexico Wilderness Alliance. The New Mexico Wilderness Alliance is taking the case to preserve Otero Mesa and create a sane energy policy.

Christopher Cook, OC' and an independent journalist and author, lectured on "Fixing Food: Recipes for Disaster and Change." He read from his recent book Diet for a Dead Planet: How the Food Industry Is Killing Us.

Bradford Swing, OC '83 lectured on "Politics and Process: Developing the City of Boston's Energy Policy." He is the director of energy policy for the Boston Mayor's Office of Environment and Energy.

Rebecca French, OC '04 gave a lecture entitled "Benign by Design: Green Chemistry as a Tool for sustainability" from her experience as Intern at the Green Chemistry Program at the office of Prevention, Pesticides and Toxic Substance at eh US EPA in Washington, DC.

Dr. Anne L. Cohen, of the Department of Geology and Geophysics at the Woods Hole Oceanographic Institution, is a leading expert on the effect of climate change on corals. She spoke about "Coral Skeletons: A Window on Climate Change Past, Present and Future."

David Beach of EcoCity Cleveland was guest lecturer for the Environment & Society class. He spoke on Eco City Cleveland's regional planning efforts.

Riki Ott, PhD recently published Sound Truth and Corporate Myths: The Legacy of the Exxon Valdez Oil Spill. Her presentation "Lingering Effects of Oil on Public Health and the Environment" brought to focus the hazards of oil to humans and aquatic or terrestrial ecosystems, and the inadequacy of current risk assessment and remediation regulations.

Jim LaRue of the Cleveland Green Building Coalition was guest lecturer in Janda's Fundamentals of Building Performance class.

Sister Mary Schrader was a guest speaker in John Petersen's Environment & Society course.

HONORS RESEARCH

This academic year four Environmental Studies seniors undertook honors research projects in a wide range of topics.

Shosona Friedman completed a project entitled, "The Social Hydrologic Cycle: Children, Education, & Three Kinds of Nature in 19th Century Transcendentalist Thought," sponsored by T.S. McMillin, David Benzing, Beth Blissman, and Harlan Wilson

Ting Lee's work entitled, "The Role of Perception of Water in Transboundary Environmental Politics: Environmental History of Dongjiang (East River) Water Supply to Hong Kong," was under the direction of Michael Fisher, Kathryn Janda, and Laura Moore.

Stephen Merrett's project, "Community-Scale Biodiesel: An Affordable, Renewable Resource," considered the feasibility of a community-scale biodiesel processor. In collaboration with other students and as part of a grant funded by the Environmental Protection Agency's "People, Prosperity, and the Planet" student design competition, Sam designed, built, and tested a mobile human-powered biodiesel processor. Sam's thesis investigated the energetics, costs, and benefits of this processor. Sam will present his work at the 2005 International Solar Energy Society meetings in August, and it will be published in the ISES proceedings. Kathryn Janda, John Petersen, and Albert Matlin sponsored his work.

Vladislav Shunturov completed a project, "Socio-technical Feedback for Improving the Environmental Performance of Buildings: Developing & Testing a Wireless Datalogging and Display System Designed to Reduce Water & Energy Consumption", sponsored by John Petersen, Kathryn Janda, and Albert Borroni.

Janda, K., M. Roth (OC '06), and J. Petersen. 2005. "Is More Solar Always Better?" Proceedings of the International Solar Energy Society (ISES) Solar World Congress in Orlando, FL (August 8-12 2005).

Merrett, S. (OC '05) and K. Janda. 2005. "Waste=Fuel: Affordable Biodiesel For Healthy Communities." Proceedings of the International Solar Energy Society (ISES) Solar World Congress in Orlando, FL (August 8-12, 2005).

$10,000, U.S. Environmental Protection Agency People, Prosperity and the Planet (P3) grant, "Community-Scale Biodiesel: An Affordable, Renewable Resource" P3 team members: Kathryn Janda, students Loren Andreas, Andrew Prober, Sam Merrett, Lina Yamashita, Julia Holland, Isabel Call and community members Bryan Burgess and Ben Ezinga

David Orr:
"Ecological Design and Education," in Jules Pretty et al. (eds), Sage Handbook on Environment and Society. Beverly Hills, Sage, 2006.

"Death and Resurrection: The Future of the Environmental Movement," Conservation Biology (forthcoming).

"Ecological Literacy," Earthscan Reader in Sustainable Agriculture. Jules Pretty (ed). Reprinted from Ecological Literacy (SUNY, 1992).

"The Dangers of Education," Independent School (Spring, 2005). Excerps from Earth in Mind (Island Press, 1994).

"Foreward" To Andres Edwards, The Sustainability Revolution. (New Society Publishers, 2005).

"Armageddon v. Extinction" Conservation Biology (March, 2005).

"Foreward," Nancy Jack Todd, A Safe and Sustainable World: The Promise of Ecological Design. Washington: Island Press, 2005.

"Orr's Laws," Conservation Biology (December, 2004).

John Petersen:
J. Petersen. 2005. Oberlin College – from zero to 60 on green electricity. Accepted for publication in Proceedings of Greening of the Campus VI, Sept 15 - 17, 2005, Ball State University, Muncie, Indiana (only abstract peer reviewed).

Shunturov, V., J. Petersen, K. Janda, G. Platt, K. Weinberger, M.E. Murray. 2005. Does providing dormitory residents with feedback on energy and water use lead to reduced consumption? Assessment of the effect of different resolutions of feedback. Accepted for publication in Proceedings

of Greening of the Campus VI, Sept 15 - 17, 2005, Ball State University, Muncie, Indiana.

Petersen, J.E. and Englund, G. In press. Dimensional approaches to designing experimental ecosystems: A practitioners guide with examples. Oecologia. Special eddition devoted to Spatial Scaling issues in Ecology

$10,000, U.S. Environmental Protection Agency People, Prosperity and the Planet (P3) grant, "A Visual Feedback System for Improving the Environmental Performance of Buildings and Institutions" P3 Team members: John Petersen and students Vladi Shunturov, Gavin Platt, Jacob Grossman, Callen Miracle, Lauren Dennis, Garrett Miller, , Jenna Trostle, Rebecca Derry, Andrew, Roman Corfas, Kate Weinberger, and Courtney Epstein

$75,000 U.S. Environmental Protection Acency People, Prosperity and the Planet (P3) grant. "Developing and Assessing the Impact of a Socio-Technological Resource-Use Feedback System for Improving the Environmental Performance of Buildings and Institutions". This is "Phase II" funding of the grant described above. Faculty on this grant will include John Petersen, Cindy Frantz (psychology), Katy Janda, and Steve Mayer (psychology. Student team members include Kyffin Dolliver, Apo Dyankov, Chris Fry, Garrett Miller, Gavin Platt, Vladislav Shunturov and Kate Weinberger.

$10,000, Ohio Foundation for Independent Colleges, "Development of a System for Real-Time Energy Performance Feedback as a Mechanism for Engaging Students in Campus Energy Management"

Ben Wisner has the following book coming out in September: 2005 – 1st editor with C. Toulmin, R. Chitiga, eds. Toward a New Map of Africa. London: Earthscan (2005, replacement for Earthscan's 1985 Africa in Crisis, in press).

Additional publications:
2005 – (in press) Theme co-editor (with Kent Mathewson) on work on J. M. Blaut, Antipode 37(5), November 2005.

2005 – (contract signed, forthcoming) Lead author & Lourdes Meyrelles, Allan Lavell, and Victor Ruiz, chapter on the effectiveness of warning during the 2004 hurricane season in the Caribbean (comparison of Cuba, Haiti, Dominican Republic, Jamaica, and Grenada). World Disaster Report 2005. Geneva: International Federation of Red Cross and Red Crescent Societies.

2005 – "Isn't It All Politics? The Politics of Policy Formation." In: R. Gerber and J. Salter, J. eds., Civil Care and Security Studies. Armidale, Australia: Kardoorair Press \t "l" http://www.kardoorair.com.au/
2004 – "Urban Social Vulnerability to Disaster in Greater Los Angeles." In: S. Sassen, ed., Human Settlement Development. On-line Encyclopedia of the Life Support Systems. Paris: UNESCO \t "l" http://www.eolss.net/E1-18-toc.aspx .

2004 – "Sustainable Cities: A Minimum Agenda." In. R. Seidler & K.S. Bawa, eds., Dimensions of Sustainable Development, Chapter 7. On-line Encyclopedia of the Life Support Systems. Paris: UNESCO \t "l" http://www.eolss.net/E1-46B-toc.aspx .

2004 - "Assessment of Capability and Vulnerability." In: G. Bankoff, G. Frerks and T. Hilhorst eds., Vulnerability: Disasters, Development and People, pp. 183-193 London: Earthscan.

2004 –Two entries for Encyclopedia of International Development, ed. T. Forsyth ("Natural Disasters" & "International Decade for Natural Disaster Reduction"). London: Routledge.

2004 – 1st author with P. Blaikie, T. Cannon, I. Davis, At Risk: Natural Hazards, People's Vulnerability and Disasters. 2nd edition. London: Routledge, 2004.

2004 — Future urban disaster component of Ambiguity and Change: Humanitarian NGOs Prepare for the Future. A report prepared for: World Vision, CARE, Save US, Mercy Corps, Oxfam USA, Oxfam GB & Catholic Relief Services. August, 2004 \t "l" http://famine.tufts.edu/pdf/ambiguity_and_change.pdf .

2004 — Reducing Disaster Risk: A Challenge for Development. Geneva: UNDP \t "l" http://www.undp.org/bcpr/disred/rdr.htm (Editorial team member 2001-2004, providing synthesis of disaster/ development linkages worldwide and compilation of case studies).

ALUMNI PUBLICATIONS

The history of the Environmental Studies Program and information on David Orr may be found in the Ecological Design chapter of Carl N. McDaniel's (OC'64) book *Wisdom*. A review of Carl's 2004 book may be found at www.speakeasymagazine.org/article104.html.

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Congratulations 2005 ENVS Major Grads!

May '05 Graduates

Laura Bellows
Graham Bier
Megan Bomba
Bruce Comings
Jonathan Cummings
Katherine Cummings
Lincoln Dominie
Shoshana Friedman
Kristina Hendricks
Jaime Johnson
Ting Fong Lee
Jennifer Mellen
Stephen Merrett
Elvira Miller
Lindsay Miller
Shannon Morris
Anjuli Munjal
Chelsey Norton
Paul Park
Alyssa Robb
Brian Roche
Will Sheppard
Vladislav Shunturov
Lisa Sloane
John Waugh
Robin Weeks
Marisa Wilson

December '04 Graduates

Sara Fanucci
Robert Stenger
Scott Turner

May '05 Minor Graduates

Rachel Auerbach
Cara McKibbin