OBERLIN COLLEGE

ENVIRONMENTAL STUDIES PROGRAM

Annual Newsletter *Spring 2004*

Environmental Leadership in Higher Education

The United States has never had a more determined anti-environmental President ever. As a result of White House indifference and hostility to the environment, we have opted out of the Kyoto Accord, developed no coherent energy policy to wean us off fossil fuels and stabilize greenhouse gases, lowered enforcement standards for air and water pollution, backed off enforcement of pollution laws and away from creative approaches to protecting land and threatened species, and on and on and on. The administration's goal is to dismantle as much of the environmental laws and regulatory system as possible before the public catches on and wises up. Much of this has occurred on Friday afternoons, too late to include in the evening news or below the radar screen where it is no news at all. It is a travesty of democracy. In the meantime the lives of our young and the federal budget are allocated to fight wars without end, purportedly to combat terrorism but in reality for control of the Middle East and its oil reserves. If the major export of the region was, say, kumquats would we be there in force? I doubt it.

Against this backdrop, higher education is more important than ever. The 3700 colleges and universities of this country are a significant part of the economy and of the moral economy of the nation. If Congress dawdles on climate change, as it has done, we can act. If the leadership of the U.S. lacks the wit and foresight to develop farsighted energy policies, we can do that on our own campuses and build a national movement toward a saner future than that in prospect. If Congress dismisses the large and growing body of science on the importance of biodiversity and the protection of natural systems, we can step in to create markets for sustainably harvested and ecologically certified products. In these and other cases, we can help to fill the leadership vacuum in Congress and the White House.

In this regard it is significant that Trustees of Oberlin College recently adopted unanimously an environmental policy that includes the long-term goal of climate neutrality among other things (link to policy at www.oberlin.edu/envs and see archive for April 23,2004). The devil, of course, is in the details of administration and good policy still requires vigorous and smart execution. But the college has taken a big step toward minimizing and eliminating environmental costs and financial costs, as well.

Environmental education, educating and enabling a constituency of thoughtful, competent, and dedicated professionals, is now more important than ever. To that end our curriculum has flourished because of a core of dedicated faculty teaching superb courses and sponsoring important research across the social science, natural sciences, and humanities. For their part environmental studies students and recent graduates are engaged in positive activities that range from starting a biodiesel demonstration, designing the lab facility to be developed adjacent to the Lewis Center, developing an $11 million downtown building, organizing the Cleveland Green Building Coalition, and starting a 70 acre organic farm and restoration project, now in its fourth year.

Looking to the future, the environmental studies lab facility is still moving forward as are plans for a second large photovoltaic array to cover the parking lot. Student projects also include plans to extend inputs to the Living Machine by taking wastewater from adjacent buildings, developing a memorial amphitheater dedicated to John Tillman Lyle, and continuing to refine the data display and web site—the best for any high performance building I've seen.

And then, there are the people here, who make all the difference in the world. In staff and faculty news—John and Nancy are now the proudest of parents and Lily is really something to be proud of! Bev's husband, Everett, and son, Bryan, are forming a father-son PV installation company. Katy and Ted settling in at a country home at the edge of town. Cheryl and Dan are landscaping their new energy-efficient log cabin in Birmingham. Heather and Mark are doing all the work on a total renovation of their future home in Oberlin.

Finally, all of us thank you for your support, encouragement, and kindness.

David W. Orr . . .

Environmental Studies Program
Oberlin College
Adam Joseph Lewis Center for Environmental Studies
122 Elm Street, Oberlin, OH 44074
(440) 775-8747
(440) 775-8946 (fax)
www.oberlin.edu/envs
www.oberlin.edu/envs/ajlc
bev.burgess@oberlin.edu (email)

Environmental Studies Staff:

David Orr, PhD, *Professor & Program Director*
John Petersen, PhD, *Assistant Professor of Environmental Studies*
Kathryn Janda, PhD, *Assistant Professor of Environmental Studies*
Heather Elmer, *Intern*
Bev Burgess, *Administrative Tech II*
Brad Masi, *Executive Director, Environmental Design Innovation Center*
Cheryl Wolfe-Cragin, *Facilities Manager/Lecturer*

Environmental Studies Program Committee:

David Orr, *Chair, Environmental Studies*

David Benzing, *Biology*
James Casteleiro, *student*
Cheryl Wolfe-Cragin, *Environmental Studies*
Mary Garvin, *Biology*
Sylvestre Gaudin, *Economics*
Karla Parsons-Hubbard, *Geology*
Dennis Hubbard, *Geology*
Kathryn Janda, *Environmental Studies*
Roger Laushman, *Biology*
Laura Moore, *Geology*
Michael Murray, *student*
Scott McMillin, *English*
John Petersen, *Environmental Studies*
Benjamin Schiff, *Politics*
Ellen Stroud, *History*
Harlan Wilson, *Politics*

TABLE OF CONTENTS

This newsletter is printed on recycled paper.

Globalization verses Localization: Perspectives from Asia and North America

Sue Angell

Growing up in an era of environmental consciousness, Hanni Meurdter '06 learned to "reduce, reuse, and recycle" at a young age. While spending a year in Hong Kong, however, she noticed that people there seemed to approach environmental issues in a way different from that of most Americans. Meurdter wasn't able to reconcile these differences until she participated in a recent winter-term project titled "Globalization versus Localization: Perspectives from Asia and North America."

"What surprised me the most was learning how much of my knowledge about the environment was U.S.-based," Meurdter says. "I had no idea that people in other parts of the world would have so many different ways of coming at this subject."

Danforth Professor of Biology David Benzing says reactions like Meurdter's were the impetus behind this particular winter-term project, which was funded by a grant from the Henry Luce Foundation and which received logistical support from the Shansi Memorial Association and the Office of Sponsored Programs. Benzing, along with Associate Professors of Environmental Studies Kathryn Janda and John Petersen, organized and delivered the short course.

"The goal of this project was to create a learning environment that would foster social and intellectual interaction between equal numbers of visiting Asian students and their Oberlin College peers," says Benzing. "The project allowed students to have a multicultural exchange of ideas with people their own age, and to learn firsthand how other nations deal with environmental issues and make environmental policy."

The three-week project was centered in the Adam Joseph Lewis Center for Environmental Studies and included lectures, demonstrations, discussions, and field trips. Faculty members from a number of disciplines were on hand to discuss subjects relating to the current environmental crisis, including climate change, water resources, renewable energy, sustainable land-use practices, urban sprawl, and environmental justice.

D. Winfred Thomas, a senior lecturer of botany at the American College in Madurai, India, joined Benzing as co-director of the project. As a former Shansi visiting scholar, Thomas' familiarity with Oberlin as well as with the American environmental movement, helped him mediate cultural differences between the project's participants.

"An Oberlin student's perception of environmental issues is very different from that of an Asian student," Thomas says. "But if you bring these students together, they can discuss the differences and share their knowledge with each other. This direct exchange of information is more valuable in the long run than anything they can learn from a book."

For Amaranth Razu, this project was an eye-opening experience. Razu, an undergraduate student from India, initially viewed the project as an opportunity to visit the United States. But after attending several lectures, she realized that the subject matter hit close to home.

"As I listened to the speakers, I began to understand what it meant to be in sync with the environment," says Razu. "I also realized that India contributes to the problem of global pollution through its local policies. I've decided that I want to return home and teach the members of my community about these problems."

Yang Fangyi, a student from the People's Republic of China, was excited that the project included visits to the Ecological Design Innovation Center (EDIC) and the Green Building Coalition, two local non-governmental organizations (NGOs) committed to promoting environmental justice and ecological sustainability. Fangyi volunteers at an NGO near his hometown in China.
"I am interested in the environment and NGO development in America," Fangyi says. "I think the focus of NGOs in America, on technology and green building techniques, is something that could be very useful in China."

Both Benzing and Thomas believe that the students' participation and enthusiasm have made the project a success, and they hope students will share what they've learned once they return to their home countries.

"Each participant has a mission to return home and organize their friends or family members for a short-term action," Thomas says. "Maybe that's all they'll do with this new knowledge, but some of the students have told me that they are now considering options for more eco-friendly careers."

Benzing adds: "This information may not apply directly to each participant's future career, but it is an important part of a liberal arts education. Studying how these issues relate to each other is a good example of how an interdisciplinary curriculum can make people more sensitive to the various issues that are shaping our future."

Oberlin alumni launch East College Street Project

• Can Oberlin alumni make a difference in keeping the town of Oberlin a thriving community that continues to attract and nurture students who attend OberlinCollege?

• Can a small town, faced with the prospect of being surrounded by Wal-Mart and other big box developments, capitalize on its assets and maintain a vibrant local economy?

• Can issues of affordable housing, economic development, and sustainability be addressed not as isolated variables but simultaneously and holistically?

These are just some of the important questions that three recent Oberlin alumni with ties to the Environmental Studies program have set out to answer through their work on the East College Street project (ECSP). And by their ability to leverage funds from the public, private and philanthropic sectors, the answer is a resounding yes.

The ECSP is the redevelopment of a three acre brownfield in the heart of downtown into a sustainably designed, mixed-use building providing much-needed, affordable housing and new commercial space in downtown Oberlin. It will contain approximately 65 residential units and 13,000-20,000 square feet of commercial space, enough for four or five new establishments. The total investment will be between $11 million and $13 million.

What first surprises you most about the project is not its sheer ambition, or the effect it will have on the Oberlin community, but the ages of the principals involved in the project. Sustainable Community Associates, the development firm behind the East College Street Project, consists of Naomi Sabel, Class of 2002 and Joshua Rosen and Benjamin Ezinga, class of 2001.

"Our Oberlin education had given us these very strong ideals about social justice, and like a lot of recent graduates, we were looking for a challenge to tackle. We had all worked in town as students, and we knew that many of the social problems you find in big cities were right here in Oberlin," said Ezinga.

As for feeling daunted by taking on such a large project at such a young age, Rosen offers, "We thought the best opportunity to understand what it takes to rebuild communities is through implementation. That's where the lessons are, getting in the ground, trying things. We often find ourselves lamenting that we didn't know then what we've since learned, but the alternative was learning this stuff in an academic setting and talking about a lot of things which we may never get to experience first hand and might not ever happen anyway."

The ECSP's program revolves around 3 main focuses – affordable housing,downtown revitalization, and green building.

The focus on creating a mixed-income building stems from Oberlin's high demand for affordable housing, and unusual concentrations of both very high and very low wage earners. Over one-third of Oberlin renter families are cost-burdened (i.e., paying more than 35% of their income for rent and utilities), making housing one of the most critical needs facing the community. "What I think will be unique and important about the development is the integration of affordable housing into a neighborhood in such a way that the subsidy is invisible. Subsidized and unsubsidized housing units are of the same design and are evenly disbursed through the development" says Naomi Sabel.

Keeping downtown Oberlin vibrant in the midst of mega-malls is another key component of the ECSP. A report commissioned by the City of Oberlin in 1998 characterized the first block of East College Street as a commercial dead zone. Within this marginal commercial area are an abandoned Buick dealership, a fast food restaurant, and a house that contains the Jack Knight Dry Cleaners and student rentals. These structures stand out as underutilized space, ill-suited to attracting vibrant businesses to downtown Oberlin. The redevelopment and environmental remediation of those properties will bring foot traffic and a sense of stability and new possibilities to this block, serving as a commercial anchor and encouraging neighboring reinvestment. Plans include retail space that will add jobs, goods, and services to the local economy and fill the local needs.

Following the lead of the Adam Joseph Lewis Center, the ECSP will seek ways to minimize waste and energy use and employ clean, renewable-source materials and energy throughout design, construction, and operation. The ECSP will be one of the first developments in the United States to demonstrate how green design and intelligent planning can benefit people of moderate incomes by substantially reducing their utility bills and providing a higher quality living environment close to jobs and services.

"The Environmental Studies program and the AJLC taught us how to think about sustainability, and its relevance goes far beyond the academic setting. We're trying to take the lessons of the AJLC and apply them tothe set of problems that face small towns" says Naomi Sabel.

Ezinga adds that, "I hope over time this building will continue to contribute to the education of future Environmental Studies students by serving as a case study of the concepts they see in class: the economics of downtown redevelopment versus sprawl, the politics of changing land uses, the chemistry of bioremediation of an old gas station. We're fortunate to be where we are, facing the challenges we're facing, and there are a lot of lessons that I hope we can communicate to students from this experience."

To date the ECSP has raised $2,600,000 in equity, $500,000 in government funding and $1,500,000 in philanthropy. Bank financing accounts for the rest of their costs. Once fundraising is complete, the team hopes to break ground in late 2004 for an opening in the first quarter of 2006.

Oberlin College – from zero to 60 on green energy

By John Petersen

As our newsletter goes to press, Oberlin College is in the final stages of negotiating a contract with Oberlin Municipal Light and Power System (OMLPS) to purchase greater than 60% of the total electricity consumed on campus from environmentally "green" energy sources. This agreement, which has been several years in the making will amount to a 25% reduction in total greenhouse gas emissions attributable to Oberlin College. To our knowledge, the agreement between Oberlin College, OMLPS and the City of Oberlin is unique in tying the cost of green energy purchases to energy reductions on campus and in the establishment of a "Sustainable Energy Reserve Fund" to encourage further

continued on page 12

Oberlin trustees adopt sweeping environmental policy

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 use, transportation and material use by the college. This policy was developed by the Environmental Policy Advisory Committee (EPAC) composed of faculty, administration, facilities personnel, Oberlin City officials, students and alumni appointed by College President Nancy Dye. Oberlin College is likely to be the first institution to adopt "climate neutrality" as a long-term goal. Climate neutrality is the condition in which an institution has no net release of greenhouse gasses into the atmosphere (i.e. it removes a quantity of greenhouse gas equal to what it emits). Other highlights of the policy include a call for increased use of native species and decreased use of pesticides in the landscape, new buildings that meet Leadership in Energy and Environmental Design (LEED) criteria, transportation measures that encourage walking and bicycling and discourage use of personal automobiles, and purchasing and disposal choices that reduce material flows and encourage material recycling. The energy section of the policy is designed to both reduce energy use on campus and to shift to energy sources that minimize environmental impacts. The decision to purchase green energy (see story above) is a first step in implementation of the new policy. You may find a link to the policy at the Environmental Studies web site at www.oberlin.edu/envs.

The members of EPAC who produced this report are: Fran Baumann, former Chair of Oberlin City Council; David Benzing, Danforth Professor of Biology; Norman Craig, Emeritus Biggs Professor of Chemistry; Andrew Evans, Vice President for Finance; Sal Filardi, Associate Director of Facilities Planning and Construction; Rebecca French, student, OC '04; Sylvestre Gaudin, Assistant Professor of Economics; Carl Gerber, OC alumnus '58 and former senior adviser at the US Environmental Protection Agency; Claire Jahns, OC alumna '03; Richard Morgenstern, OC alumnus '66, former EPA and Resources for the Future; David Orr, Distinguished Professor of Environmental Studies and Politics and Director of Environmental Studies; John Peterson, Assistant Professor of Environmental Studies and Biology; Debbie Schildkraut, Assistant Professor of Politics; Bill Skinner, Emeritus Professor of Geology; and Caroline Turner, student, OC '04.

The Last Refuge: Patriotism, Politics, and the Environment in an Age of Terror

by David W. Orr
(Island Press: 2004)

Although the Central Intelligence Agency could find no evidence for it, nearly two years after the event 70 percent of Americans reportedly believed Saddam Hussein was involved in the destruction of the World Trade Towers. Nearly the same percentage believed weapons of mass destruction were used against American troops in Iraq. Large numbers of Americans, otherwise well-versed in the details of their professions, their options as consumers, and the intimate lives of celebrities, seem befuddled when it comes to politics. We are the most media-saturated but among the least informed people on Earth.

This is no accident. Increasingly, we are ruled by a plutocracy, distracted by the entertainment industry, and frequently misinformed by an increasingly concentrated news media that puts the pursuit of market share above telling the whole truth. And, part symptom, part cause, we have state legislatures and a Congress with many members who haven't read widely, thought deeply, or imagined much beyond their own pecuniary gain. The result is a leadership vacuum on the big issues of our time that is now filled with lobbyists for the rich and powerful who talk the language of populism while doing all in their power to undermine real democracy. And not least, we have an unelected president who asserts his right to subvert the Bill of Rights at home and wage preemptive war abroad as he sees fit.

The present administration asserts American-style democracy as the answer to problems in Iraq, but democracy at home is in tatters. The surest sign is the growing gap between what the public wants and what it gets. In the election of 2000 the combined vote for Al Gore and Ralph Nader was "the greatest popular-vote majority for the center-left since 1964." (1) But what we got instead was the most reactionary and closed administration in memory.

But the effect extends far beyond the results of national elections. Polls consistently show that most Americans do not want dirty air or water, but some well-connected industries do. Most Americans do not want poisons in their food, but agribusiness and chemical companies do. Most Americans would prefer not to run the considerable risks of climate change, but a few extremists do. Most Americans want health care coverage for everyone, but the health care industry does not. Most Americans do not want assault rifles on their streets, but the leadership of the National Rifle Association does. Most Americans do not want our nation to ignore old friends and allies and act as a global bully, but a few fantasize about empire in the "new American century." A sizeable majority of Americans would like us to get to the heart of what ails us and remove money, once and for all, from the political process, but a few do not. None of us specifically voted for any of these things and few would support them given the truth and better alternatives, of which there are many. But for the time being, the few are in control, and the consequence has been steady rollbacks of the protections of our rights and our environment.

The democratic processes that are supposed to connect the public will to government policy are broken and the reasons are not hard to find. There is, first, a marked decline in public accountability. In the Eisenhower years, for example, the revelation that a presidential advisor had received a Vicuna coat was sufficient to force his resignation. By comparison, George W. Bush asserts, "I'm the commander–see, I don't need to explain–I do not need to explain why I say things. That's the interesting thing about being the president. Maybe somebody needs to explain to me why they say something, but I don't feel like I owe anybody an explanation." (2) Louis XIV never said it better. Accountability, however, is a two-way street. Those entrusted with public office should intend to be accountable and they should be held accountable by an alert citizenry that demands authenticity, honesty, and transparency in the conduct of the public business.

Second, by a well-funded campaign of denigration we've been led to devalue the public and political in favor of free markets, free trade, and a devil-take-the-hindmost kind of individualism. Economics of the worst kind has become a kind of secular religion for many on both the left and the right of the political spectrum. They believe that markets and free trade will fix virtually all of our public and political problems–if only we get government off our backs. Markets certainly can do some things, but if they do anything for children, grandchildren, communities, democracy, parks, environmental quality, climate stability, biological diversity, public health, literacy, fairness, justice, peace, democracy or the long-term, it is purely accidental. Without regulation and direction they will sell assault rifles or Bibles, poisons or vitamins, Humvees or hybrids, pornography or art–whatever the highest bidders want. And without a sense of irony, those much devoted to unfettered markets conveniently overlook the fact that billions are spent for advertising and billions more to lobby for tax breaks and subsidies. The free market, much admired in theory, is not and never has been entirely free. At its extreme, the idea is a fraud. Markets, as Adam Smith knew, have always and everywhere required the restraints imposed by stable communities, rules, regulations, laws, and decent law-abiding people who honor contracts. The mania for free markets will someday be seen for what it is: a curious intellectual aberration but with destructive consequences for real people and real places.

Government, on the other hand, was created to advance larger aims and protect those things that should not be sold in any market, ever. If some things should not be sold, it follows that government, the guardian of those things, should not be up for sale either. But it is. Extremists, now in control of the White House, Congress, the Courts, and much of the media, want to go further to repeal the hard-won social, environmental, and economic gains of the twentieth century and abort the idea that we, as citizens working through representative institutions, might do many things better in the twenty-first century. Those in control intend to turn the clock back to a more brutal time and run government as if it were a business, exactly which business they do not say. Is it Enron? Or Worldcom? Or Global Crossings? Or Arthur Andersen? Or maybe it's Halliburton, experts in extracting lucrative military contracts and avoiding scrutiny.

Market fundamentalism and the denigration of the political, however, would not have been possible without a great deal of confusion about the meanings of words we use to describe our political life and public choices. George Orwell once warned that the subversion of society begins with the corruption of its language. Words such as "conservative," "liberal," "patriotism," "taxation," "public," "government," and even "Christianity" have been twisted and distorted by those who stand to gain much from public perplexity. The angry fulminations and garish nonsense of the likes of Rush Limbaugh, Bill O'Reilly, Ann Coulter, and Grover Norquist serve as a smokescreen for a new generation of robber barons and the grand larceny now under way. Their carefully crafted veneer of angry populism is sheer demagoguery aimed to exploit fears endemic to a rapidly changing society. Intending to distract us, they are pillaging our children's future. American politics has seldom been nastier or nuttier, and talk-show thuggery is assumed to be the only way to conduct public dialogue.

There are nonetheless deeper and more positive currents in American life. Opportunity, capability, ingenuity, idealism, innovation, and good-heartedness are still evident across the nation. Creativity is flourishing at the grassroots of American society. And we can do things no other generation could do. But looking to the horizon, the political, social, and economic topography grows steeper and more treacherous. We will soon see the mounting consequences of climate change, the loss of biological diversity, toxic pollution, the breakdown of entire ecosystems, rising population, growing poverty, terrorism, ecological refugees, political instability, and new diseases for which we have no good remedies. Rather than deal with these issues in a timely and systematic way as common sense would suggest, we've done a quarter-century equivalent of an Australian "walk about," in which delay, denial, and dereliction became the norm in our national politics. We now have to move quickly from fossil fuels to renewable energy and must establish sustainable practices in agriculture and forestry, rebuild entire habitable cities, construct an ecologically viable transportation system, protect biological diversity, create sustainable communities, safeguard air and water quality, eliminate toxics,and not least, distribute wealth fairly within and between generations. These, however, are not separate or separable things, but are rather part of a larger

Atrium Data Display and New AJLC Web site near completion

In previous issues of the newsletter we have discussed the sophisticated system that has been under development for monitoring, analyzing and displaying data on the ecological performance of the Lewis Center. Over 150 environmental sensors are installed throughout the building and landscape. Every minute these sensors collect data on everything from energy production by the photovoltaic array, to energy use by all major equipment, to water recycling in the building and landscape, to the metabolic activity of the Living Machine; the AJLC is likely the most monitored green building in the U.S. Over the last year Michael Murray ('03), Vladislav Shunturov ('04), Gavin Platt ('05) and intern Heather Elmer ('97) have been hard at work on refining the display component of the system and we are on the cusp of making public an all new web site that features easily interpretable historical and instantaneous data (take a peak at the beta version of the web site at: www.oberlin.edu/ajlc). We also have a gigantic new plasma screen mounted in the atrium of the building to display instantaneous building performance data to visitors and occupants. Our goal is to make the flows of energy, cycling of matter and the interactions between the built and natural environments visible and easy for the general public to interpret. The premise of this work is that real-time feedback on ecological performance increases awareness, connectedness to place, and motivation to act. New feedback of this type may be a necessary prerequisite for facilitating a more sustainable relationship among humans, technology and the natural world on which we depend.

The Last Refuge:

continued from page7

pattern. They require us to understand the connections between how we provision ourselves with energy, food, and shelter and issues of economic prosperity, fairness, security, and democracy.

Are we up to the multiple challenges of building a sustainable society and helping to lead the world in better directions than those now in prospect? Time will tell, but I believe that we are and that doing so fits with our best traditions. It will require that we get our own house in order, which is first and foremost the political task of rebuilding our country's democratic foundations and the atrophied habits of citizenship. The unfinished business of America is to extend and deepen our ideas of equality, positive freedom, decency, nonviolence, and commonwealth– a transformation that will one day temper individualism with the acknowledgement of our obligations and responsibilities; replace the extractive/consumer economy with a truly prosperous economy that protects the natural capital of soils, forests, and biotic diversity; extend and broaden the idea of representation to include future generations and the larger web of life.

Like the American Revolution, this transformation will require people who know in their bones that automatic obedience to power is merely subservience, that there can be no such thing as cheap patriotism, and that democracy begins not when everyone is in agreement, but rather when one person stands up to disagree. Real patriots know that we are bound together by a Constitution and the principles of justice, decency, and fairness. They know patriotism is about building decent and prosperous communities and protecting the soils, forests, water, and wildlife as the rightful legacy of our children and theirs. And they know the ancient truths that violence in all of its forms is wrong and ultimately self-defeating, that health, holy, healing, and wholeness are one and indivisible.

In Irish folklore the salmon is regarded as the wisest of creatures because it knows how to find its way home. That, in a way, is our challenge. Can we find our way back to a future in which our best traditions, highest values, and a sense of connection with place and posterity prevail? This book is dedicated to three pioneers of that future– practitioners of politics practices as the art of visionary leadership. And because of them and thousands of others, some far-off day those looking back on our time will see this as our finest hour.

Honors Research

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

Rebecca Brooke, with the guidance of David Orr, Ellen Stroud, Sylvestre Gaudin, and Harlan Wilson, completed a project entitled "Property Rights and Public Values: Land Conservation in the North Woods of Maine". The North Woods of Maine are the largest remaining piece of wilderness in the eastern United States. Unsustainable land use and fragmentation of the forest is now threatening the land health of this region. This project addressed the property structure that allows this land degradation to occur and discussed how changes in property rights can aid conservation efforts.

Michael Murray, under the direction of John Petersen and Kathryn Janda, examined photovoltaics in "Payback and Currencies of Energy, Carbon Dioxide and Money for a 60 kW Photovoltaic Array". Photovoltaics (PVs) are a promising technology for providing energy while alleviating environmental problems such as global climate change associated with conventional electricity generation. But there are a number of practical and theoretical problems with widespread PV deployment. This project focused on the 60 kW PV array on the roof of the Lewis Center to analyze the financial and environmental payback of a solar electric installation.

Sustainable business was the topic of **Elise Rindfleisch's** project, "Corporate Sustainability in the Cosmetics Industry: Implementation and Comparative Analysis of the Aveda Corporation and The Body Shop International" under the direction of David Orr, Dennis Hubbard, and Sylvestre Gaudin. She examined the triple bottom line of sustainable business, its implementation in two progressive corporations and the broader implications of these findings.

David Orr, Kathryn Janda, and Cindy Frantz sponsored **Julia Salinas's** work " on "Balancing Product and Process: An Assessment of Community Participation in the Cleveland EcoVillage Project." Julia's project examined the planning and implementation of an urban revitalization project in Cleveland and followed how community participation factored into the outcome. Based on original research including document review, survey research, and interviews, Julia found only about half of the existing residents surveyed in the Cleveland EcoVillage were aware of the project and its goals. Julia's work articulated the challenges inherent in a non-profit organization, superimposing its good intentions onto an existing neighborhood. It also provided recommendations for improving the balance between process and outcome.

Additionally, **Caroline Turner**, Department of Biology candidate for honors, examined nitrogen dynamics in the Living Machine under the direction of John Petersen. The Living Machine is a greenhouse-wetland treatment system, an alternative to conventional wastewater treatment that utilizes complex ecosystems to carry out wastewater treatment. Greenhouse-wetland systems are designed to remove nitrogen from wastewater without relying on chemical additives. Caroline analyzed inorganic and organic nitrogen concentrations in the Living Machine with the goal of improving understanding of nitrogen dynamics in greenhouse-wetland systems. To measure organic nitrogen she modified the persulfate oxidation digest, an environmentally benign alternative to the traditional Kjeldahl analysis, for application to the Living Machine.

RECENT PUBLICATIONS

David Orr's new book *The Last Refuge: The Corruption of Patriotism in the Age of Terror* was published by Island Press this year. *The Nature of Design* (Oxford, 2002) will be out in paperback this summer. The tenth anniversary edition of *Earth in Mind* (Island, 1994) will also be published this year.

Katy Janda co-authored an article that appeared in *Proceedings of the American Council for an Energy-Efficient Economy 2002 Summer Study*. She also a co-authored a chapter that will appear in a book published by Routledge Press.

John Petersen's:

Petersen, J.E. and Englund, G. In review. Dimensional approaches to designing experimental ecosystems: A practitioners guide with examples

Murray, M.E. and Petersen, J.E. 2004. Payback and currencies of energy, carbon dioxide and money for a 60 kW photovoltaic array. Proceedings of the American Solar Energy Society.

Petersen, J. E. W.M. Kemp, et al. 2003. Multiscale experiments in coastal ecology: Improving realism and advancing theory. BioScience. 53:1181-1197

Petersen, J.E., London, N. 2003. First in flight, last in wetland restoration? (A case study examining the science, economics and politics of wetland development and mitigation for use by environmental educators). National Center for Case Study Teaching in Science, University at Buffalo, State University of New York. http://ublib.buffalo.edu/libraries/projects/cases/ubcase.htm.

Off the Grid: Biodiesel Production

Sue Angell

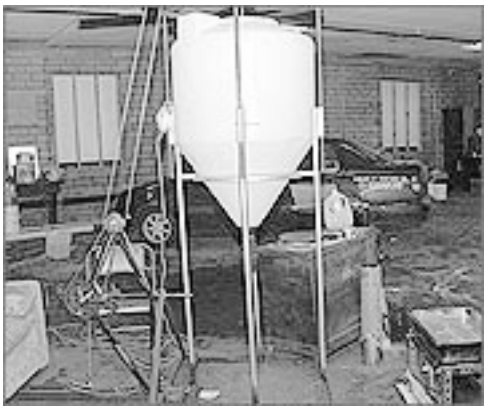
March 8, 2004 – To the uninitiated, "biodiesel" might sound like a futuristic fuel source. In fact, nothing could be further from the truth, as four students set out to prove with their winter term project, "Off the Grid: Biodiesel Production."

The students—Stephen Merrett '05, Colin Gunn '06, Nate Anderson '06, and Mike Ialeggio '07—designed and built an 85-gallon processing tank to convert vegetable oil into the clean-burning, alternative fuel known as biodiesel. Although many different types of these fuel processors already exist, this one is set apart by the fact that it runs "off the grid."

"Off the grid' means that we're not connected to local utilities suppliers'," Merrett says. "Because we are making a renewable fuel that can be used in place of fossil fuels, we wanted to design a process that did not rely on the electricity that is generated from burning fossil fuels."

"It would be easier to do this if we used electricity to run the processor," adds Anderson, "but that would negate the point of this project."

To keep their project off the grid, Merrett, Gunn, Anderson, and Ialeggio looked to the Oberlin Bike Co-op for an ingenious solution. Using discarded materials from old bicycles, they constructed a pedal mechanism that is attached—by way of an intricate set of chains and gears—to the blade inside the processing tank. With this innovation in place, members of the group were able to pull up chairs and sit comfortably while mixing the concoction inside the vat into a usable fuel source.



How exactly does vegetable oil convert into something that can power a diesel engine? First, you need vegetable oil—and a lot of it. Merrett, Gunn, Anderson, and Ialeggio collected oil from Dascomb's kitchen fryers to produce their initial batches of biodiesel. Their first order of business, however: straining the oil to remove remnants of food.

"Straining the oil isn't a particularly appetizing process," says Merrett, "but using waste oil closes a recycling loop in the community. By taking something that has been used and turning it into something that can be used again, we avoid wasting our resources."

All photos by Danielle Indovino '06

Once the oil is strained, Ialeggio heats it with a Babington burner. Other members of the team, meanwhile, place a mixture of methanol and lye into the processing tank, then mix it for approximately 15 minutes. Once the oil heats to 135 degrees, it's pumped into the processing tank. Students take turns pedaling the processor, which in turn catalyzes the chemical reaction that converts the oil into biodiesel.

"It takes about one hour of steady pedaling to produce this reaction," Gunn says. "But that's more or less an estimate. If you pedal faster, it probably would get done faster."

Once the pedaling is done, the mixture is left to settle. Approximately eight hours later, the transformation is complete and, according to Merrett, "you have a usable batch of biodiesel that can be put into any unmodified diesel engine, including cars, trucks, tractors, or lawnmowers." With all the hype about hybrid cars and lower-emission gasoline, why bother with biodiesel? Simple, says Merrett. "Biodiesel doesn't release sulfur oxides into the air, and it cuts down on the particulate matter released by diesel engines," he says. "Not to mention the fact that it can decrease our dependence on oil. Think about it—farmers can produce food for local restaurants, then use waste oil from those same restaurants to power their farm machinery. In this loop, the farmer produces the liquid fuels required for operation, increases local air quality, and saves money in the process. Everybody wins!"

The students demonstrated their bicycle powered mixer in the AJLC on March 21, 2004 to a crowd of students, faculty, staff, and community members. The broader vision behind the bike-powered biodiesel processor is a

continued on page 13

Gorn Prize Winners

The Environmental Studies Program Committee is pleased to announce that seniors Avery Book, Katie Daigneau, Michael Murray, and Caroline Turner share the Joyce Gorn Memorial Prize for 2004. 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.

Avery Book co-directs the Youth Energy Project (YEP!). Using energy issues as a basis for lesson plans, YEP! brings Oberlin College students into local high school and middle school classrooms to help teach classes ranging from remedial math to home economics. Since its inception in 2002, the Youth Energy Project has grown steadily under the leadership of Avery and his co-conspirators; it now has between 20 and 30 members and is taught as an ExCo. That YEP! has grown in terms of student involvement is good; that it has grown in terms of community partnership is phenomenal. YEP! has been able to forge continuing bonds with several different teachers, the local electric utility, church groups, and even a local bank. Using the issue of energy as a touchstone, Avery has successfully created a coalition around an issue that is still largely invisible to the general population, in an environment where most odds are against his success.

Katie Daigneau graduated in December 2003 with degrees in Biology and Environmental Studies. Last summer, Katie worked with Katy Janda as a Mellon Research Assistant. She helped organize the *Agents of Change* training workshop directed by Janda here at the Lewis Center from August 8-10, and she completed a thorough and insightful research paper on technologies and information that could reduce student resource consumption in dormitories. Katie actively sought new directions for the material, mastered the social science literature on feedback mechanisms, and tracked down experts working in this area for consultation.

Michael Murray has made significant contributions to developing the monitoring and display system for the Adam Joseph Lewis Center and to analyzing the ecological performance of the center. Within the larger college community, Michael has worked to develop and promote strategies for reducing and offsetting greenhouse gas emissions. On his own time he conducted a comprehensive analysis of money and energy that could be saved by closing dorms during winter term. More recently he has calculated a carbon budget for all of OSCA and worked to encourage this student organization to enter into an agreement with the Chicago Climate Exchange to achieve carbon neutrality (see below).

Caroline Turner is a Biology major, but has exhibited a strong commitment to the environment throughout her time at Oberlin. She has been involved in Living Machine operations and research since her freshman year at Oberlin and has taken a leadership position in laboratory analysis of the system. She has also been an active participant in the Environmental Policy Advisory Committee for the last two years. In addition, she has been active within student groups promoting environmental stewardship.

OSCA Combats Climate Change

The Oberlin Student Cooperative Association (OSCA) voted in May to join the Chicago Climate Exchange (CCX), a multi-sector and multi-national market for the reduction and trading of greenhouse gas emissions. OSCA is the first student group in the nation to join CCX, whose members include corporations, municipalities and other colleges and universities. CCX administers the world's first international marketplace for the reduction of greenhouse gas emissions, a policy tool currently being implemented in Europe to combat climate change. As an Associate Member, OSCA will quantify the annual indirect greenhouse gas emissions associated with its electricity, natural gas and steam purchases from the college. OSCA will then purchase the carbon dioxide reductions on the CCX marketplace equal to its indirect emissions, thereby becoming "climate neutral." Michael Murray '04, member of the student group Climate Justice which led the CCX effort, said that getting Oberlin College to join wasn't possible at this time. "We knew the administration wouldn't go for it yet, so the next best thing was to approach OSCA, which represents one-fifth of the student body," he said. While Oberlin lags behind other institutions such as Tufts University, which is a full member, Murray said that OSCA's action may nevertheless be a catalyst for change. "We'll certainly play a role in opening the door for other groups to join CCX."

Oberlin College – from zero to 60 on green energy

continued from page 5

environmental benefits within the local community. This fund, to be administered by the City of Oberlin, will be used to sponsor household energy conservation, tree planting and renewable energy projects that benefit Oberlin town residents.

Prior to this agreement, the bulk of electricity purchased by the College has been generated by burning coal. Coal is the most damaging fossil fuel in terms of both health and environmental effects. Burning coal releases more climate changing CO_2 per unit of electricity generated than any other fossil fuel. According to a comprehensive assessment conducted by the Rocky Mountain Institute in 2000, activities at Oberlin College are responsible for the release of approximately 50,400 tons of CO_2 per year into the atmosphere. This amounts to 17 tons of CO_2 per student per year – higher than other institutions as a result of Oberlin's location in the coal belt. Coal combustion also releases sulfur dioxide and nitrogen oxides which are responsible for acid rain and smog formation. Additionally, coal releases substantial quantities of mercury and radio nucleotides into the environment. According to a frequently cited study by ABT Associates (1999), coal power releases lung-damaging particulates that are responsible for 30,000 premature deaths in the U.S. each year. In addition to problems associated with combustion of coal, mountain top removal mining operations irreparably damage ecosystems and threaten downstream communities. Coal is bad stuff!

Beginning in the summer of 2003, Oberlin College will purchase all of the 13,000 MWh of green energy that is currently available through the local utility. This green power will offset 12,600 metric tons of CO_2 per year from coal-fired power. The college will pay OMLPS a premium of $2 per MWh above the current cost of $70 per MWh. The total annual cost of green energy will be $25,700 (approximately $9 per Oberlin student). Oberlin College plans to finance this purchase through energy conservation measures instituted on campus. The college currently spends approximately $2.4 million per year on energy (electricity, natural gas and coal for heating). Funding the new agreement will require measures that result in slightly more than a 1% reduction in the College's current energy expenditures.

What is "green" electricity, where will Oberlin's green energy come from?

Green electricity refers to electricity that is produced in ways that minimize environmental damage. Sources of green energy include renewables such as solar, wind, hydroelectric, wave, tides, biomass, as well as salvaged resources, such as landfill gas. Electricity is different from other consumer products in that what matters is how it is produced; the product itself is not distinguishable based on source. The electricity "grid" - the network of consumers and power generation facilities- is interconnected, so it is difficult to know for certain where power consumed at a given location is generated. When an institution like Oberlin agrees to purchase 100 kWh of green power from a utility, the institution is in effect agreeing to pay to have 100 kWh of green energy delivered onto the grid. From an environmental perspective, it does not make much difference who actually consumes the electricity after it is delivered to the grid.

Consumers pay a premium for green electricity. A major reason for this is because the negative environmental and health effects of electricity generated with fossil fuels are not included in the price of the electricity, rendering it artificially inexpensive. Under current market conditions consumers generally pay less per kWh for coal power than for less damaging forms of electricity generation. "Green attributes" or "green tags" are a popular means of marketing green power. In a green tag sale, the power from a green source is not physically delivered to the customer, but the environmental benefits are assigned to that customer. To avoid double counting, only the customer who purchases the green tag has the right to claim ownership and receipt of the associated green energy that is delivered onto the grid.

Oberlin College's electricity comes from a publicly owned utility. OMLPS has small gas- and oil-fired generation facilities within the city, but the bulk of the utility's electricity is derived from coal-fired power plants located outside of Oberlin. However, two of OMLPS's sources can be considered "green". 4% comes from a long-term contract with Energy Developments Inc., which operates a facility that recovers gas from a local landfill to generate electricity. 10% comes from a hydroelectric plant located on the Ohio River in Belleville, West Virginia, of which OMLPS owns a share. For the past several years, OMPLS has sold the green tags associated with these two facilities to "Green Mountain Power", a national firm that markets green electricity to consumers in other parts of the country who are willing to pay a premium (green energy has not been

marketed in Oberlin). As a result of the sale of these attributes to Green Mountain Power, the college and other electrical consumers within Oberlin have been using electricity that is in effect greater than 90% attributable to coal.

The electricity that Oberlin College is agreeing to purchase from OMLPS is "Green-e" certified. This means that an independent non-profit, the Center for Resource Solutions, verifies that production of this electricity meets environmental standards and is only being claimed by one purchaser. Nationally, there are many instances in which the environmental costs of hydroelectric facilities, such as drowning ecosystems and destruction of fish habitat, outweigh the benefits of this form of renewable energy. The hydro plant from which Oberlin will obtain energy is located on the Ohio River in Beltseville West Virginia. It received a high environmental rating because it is a "river-run" facility, which means that no land area was flooded to store water, and because no migratory fish species were impacted by its construction. The Landfill gas plant is located at a BFI facility located just outside of Oberlin, and is generating electricity with gas that had previously been flared without capturing useful energy content.

Major environmental benefits of the agreement:

In the spring of 1999 Oberlin college adopted an apparel purchasing policy that AFL-CIO president John Sweeney has referred to as, "probably the strongest anti-sweatshop agreement of any college or university in the United States." The college's decision to purchase green energy can be seen as a parallel effort to use purchasing power to make a powerful statement on the issues of environmental responsibility. The shift to green electricity will significantly reduce Oberlin College's contribution to the environmental and human damage caused by using coal as an energy source. In addition to being the right thing to do, purchasing all of the available green energy from OMLPS compels Green Mountain Power to meet their green energy needs through other sources, thereby expanding the market for green power. The most creative aspect of the agreement is the creation of a Sustainable Energy Reserve Fund can be used to bring about a number of ecological and economic benefits to the local community. Weatherization of low-income houses, for example, decreases energy use and allows residents to shift financial resources from energy to other needs. Finally, the college's decision to purchase green energy provides education opportunities associated with selection and implementation of energy conservation measures and generally stimulates discussion on critical local, regional and global environmental issues.

The green energy agreement emerged from discussions between the Oberlin College Environmental Policy Advisory Committee (see adjacent article on environmental policy) and Oberlin Municipal Light and Power. A variety of students and student groups, including "Climate Justice," were instrumental in driving home the importance of energy and climate change issues to the committee and to the Oberlin community. Many of the student activists involved graduated in spring of '02 and may be learning this news for the first time – Oberlin sends you a hearty thanks for your efforts!

Off the Grid:

continued from page 10

community-scale, affordable, renewable fuel production facility. Toward this end, a group called "Biodiesel Oberlin" has been formed, which includes Merrett, Gunn, Anderson, Ialeggio, as well as other students such as Mendon Kelrick '05. To date, several faculty members (including Albert Matlin (Chemistry), John Scofield (Physics), and Kathryn Janda (Environmental Studies)) have supervised members of Biodiesel Oberlin in their efforts. Students in several ENVS classes have contributed to ongoing research and Sam Merrett plans to do an honors project exploring the feasibility of community-scale biodiesel in 2004-05. The idea has merit: Sam Merrett recently received a $4000 grant from the American Public Power Association to explore the use of biodiesel as a source of renewable power for backup electricity generation. Sam's application for this grant was sponsored by Oberlin Municipal Light and Power System and Environmental Studies faculty member Kathryn Janda.

Environmental Studies Department Guest Speakers 2003-2004

Peter Nicholson OC'91 and Rick Sanford OC'02 led a workshop entitled "Sustainable Design: Creatively evolving current practices, institutions, and systems toward sustainability." They have been working in Chicago for the past few years setting up the Chicago chapter of the global O2 network, also known as Foresight Design Initiative. This organization works on a number of projects including eco-office assessments and ecological design competitions.

Rosalyn Johnson OC '87 hosted a dinner at which she shared her thoughts on pursuing a successful environmental career. She has held jobs in private, non-profit, state, research, and federal sectors. Currently she works for the U.S. Environmental Protection Agency under the Bush Administration.

David Beach gave a presentation to the Environment and Society classes. He is the founder and director and EcoCity Cleveland. For the past 20 years, he has been a prominent writer, editor and community activist in Greater Cleveland. He has been a member of many local and regional planning projects, and he speaks frequently on bioregional sustainability, urban sprawl and transportation planning to community groups and university classes.

Eva Hauserova gave a talk entitled "The Experiences of an East-European Feminist." She is a prolific writer, publicist, and eco-feminist from the Czech Republic and is a founding figure of the Gender Studies Center in Prague. Her name has become synonymous with the evolving Czech feminist movement and a number of emerging environmental lobbying groups. Eva has also become a leading figure in the Prague science fiction community.

Vic Oeftering, Technical Services Superintendent, OMLPS, lectured on "The Grid and What Went Wrong"in Energy and Society, Vic discussed how and why Oberlin's municipal utility was one of the first to recognize there was trouble brewing in August 2003 and to provide power after the August 2003 blackout.

Marc Rosenbaum gave a talk entitled "Energy Use in Buildings and Federal Energy Policy." He is a licensed professional engineer in mathematical engineering and HVAC and LEED accredited professional. Marc is the principal and founder of EnergySmiths, an integrated design consulting service and has won several awards, including sustainable design awards, ASHRAE technology awards and an AIA Earth Day Top Ten award. He has been published in a variety of periodicals and is a frequent speaker on sustainable design.

Fritjof Capra, Ph.D. lectured on the work detailed in his most recent book, *The Hidden Connections*. Fritjof is a physicist and systems theorist. He is the founding director of the Center for Ecoliteracy in Berkeley and is the author of several international bestsellers including *The Tao of Physics* and *The Web of Life*.

David Grimes and Dune Lankard spoke on the "Fate of Prince William Sound and Native Peoples." David Grimes is a musician, storyteller, wilderness guide and former commercial fisherman in Cordova, Alaska. Following the 1989 Exxon oil spill, he has become one of Alaska's primary citizen activists in Alaska. David is an adopted member of the Eyak Indian Nation. Dune Lankard is an Eyak from the Eagle Clan in Cordova, Alaska. He grew up in one of the last fishing families in the region. Dune became a fulltime activist after the Exxon oil spill.

AS WE SEE IT: Photography from Lens to Lewis Center. A photography gallery opening reception featuring the work of local artists: Linda Grashoff, Brad Masi, and John Seyfreid.

Dave Cooper is an environmental activist from Lexington, Kentucky. **"Bo" Webb** is a resident of the West Virginia coalfields who lives below a huge proposed mountaintop removal mine. They presented a slideshow on the "Hidden Destruction of the Mountains of Appalachia."

Michael Bobker 'OC 73 lectured on "Performance Contracting for Building Energy Services." Michael has been working in and analyzing New York City buildings for over 25 years, in capacities such as community organizer, boiler mechanic, adult education instructor, energy auditor, engineering manager, and energy services company principal. His expertise includes building mechanical and electrical systems, especially boilers and heating, energy analysis and audits, retrofit technologies including small-scale cogeneration, and turnkey construction.

He is presently the Director of Strategic Planning for the Association for Energy Affordability, a not-for-profit technical services organization that works with a network of community organizations providing weatherization and energy efficiency services to low-income communities. He is also part of a project team for the New York State Energy Research and Development Authority (NYSERDA) that is piloting market transformation for adoption of building performance "retro-commissioning" (RCx) practices in NYC commercial buildings.

Jim LaRue lectured on moisture issues in new home construction. Jim has had 25 years of experience in home rehabilitation and he is currently a consultant to the Cleveland Green Building Coalition

Ted Steinberg, Professor of History and Law at Case Western Reserve University spoke on "American Green: The Quest for the Perfect Lawn, 1945 to the Present." He has written widely in American Environmental History. His most recent book was nominated for the 2003 Pulitzer Prize in History and won the 2002 National Outdoor Book Award in the Nature/Environmental category. His works include:*Nature Incorporated: Industrialization and the Waters of New England; Slide Mountain, or The Folly of Owning Nature: Acts of God: The Unnatural History of Natural Disaster in America; Down to Earth: Nature's Role in American History.*

Steven Strong, President, Solar Design Associates, presented a visual overview of solar electric architecture using examples of projects from Europe, Japan, and the U.S. His talk "Sunlight is Life: The Dawning of Solar Electric Architecture" wove technology, politics, and social policy together with humor and vivid graphics to (1) clearly demonstrate that renewable energy is ready here and now, and (2) help define a path to a sustainable energy future in a post-petroleum world.

Steven Strong is a renowned designer of building-integrated photovoltaic systems. Over the last 25 years, he has designed dozens of homes and buildings powered by solar electricity. In 1984, working with New England Electric, he completed the world's first PV-powered neighborhood in central Massachusetts. In 1996, he worked with Olympic village architects to power the 1996 Summer Games in Atlanta with solar electricity using the world's largest roof-top PV power system. He has represented the US on the International Energy Agency's expert working group on Solar Electricity in the Built Environment for the past eight years and has served as an advisor on energy and environmental issues to three Governors, eight US Senators and four presidential candidates as well as a number of electric utilities. Past projects include the PV array on the Adam Joseph Lewis Center and three solar systems on the White House. He is currently involved in the design of a PV array to cover the AJLC parking lot.

"Our Place on the Planet" was a highlight of the semester with four public environmental events:

Screening and Discussion of her film "Blue "Vinyl" with Award Winning Filmmaker Judith Helfand. A toxic comedy look at vinyl, the world's second largest selling plastic. With humor, hope and a piece of vinyl siding firmly in hand, Peabody Award-winning filmmaker Judith Helfand and co-director Daniel B. Gold travel from Helfand's hometown to America's vinyl manufacturing capital and beyond in search of answers about the nature of polyvinyl chloride (PVC). The film was nominated for two Emmy Awards (2003) "Best Research" & "Best Documentary". Winner, Documentary Excellence in Cinematography Award, Sundance Film Festival (2002). The event was co-sponsored by Environmental Studies Program, Gender and Women's Studies, Cinema Studies, OPIRG and Climate Justice.

Learning From the Living Machine included an introduction and tour of the Lewis Center's ecologically engineered wastewater treatment facility. Student operators provided fun, games, and prizes as the culmination of the *Waste = Food for Thought campaign*.

Oberlin College's Green Energy Purchase: A Panel Discussion Oberlin College recently agreed to purchase 60% of the campus's electrical energy from "green" sources through our local power company. Panel members included John Petersen, Assistant Professor of ENVS and Biology; Steve Dupee, Director, Oberlin Municipal Light & Power System and Eric McMillion, Facilities Superintendent, OC. The event was sponsored by Environmental Studies Program and Climate Justice.

Lonnie Thompson, Distinguished Professor, Ohio State University Dept. of Geological Sciences gave a lecture on "Rapid Climate Change: Past, Present & Future." The event was sponsored by the Environmental Studies Program and Climate Justice.

Oberlin College
Environmental Studies Program
Adam Joseph Lewis Center for Environmental Studies
122 Elm Street
Oberlin, Ohio 44074-1502

Congratulations 2004 ENVS Major Grads!

May '04 Graduates

Phoebe Beierle
Sarah Benjamin
Alexandra Berger
Avery Book
Christina Bosch
Rebecca Bowe
Rebecca Brooke
Alyson Dame
Zola Ezekiel
Sara Fanucchi
Brooke Furge
Aviva Glaser
Lauren Goshen
Lyrica Hammann
Samee Khan
Sarah Kipp
Michael Kramer-Duffield
Michael Krasilovsky
Abraham Kruger
Michael Murray
Ben Newhouse
Elissa Papendick
Elise Rindfleisch
Jennifer Rushlow
Julia Salinas
Emily Schildkrout
Brian Schundler
Adam Sorkin
John Stevens-Garmon
Samuel Sytsma
Gregory Teves
Sara Waterman

December '03 Graduates

Josephine Archibald
Lindsay Baker
Kathryn Daigneau
Sarah Darley
Timothy Haineswood
Benjamin Herold
Kala Hildebrand
TyAnn Lee
Alexandra Malmude

May '04 Minor Graduates

Rebecca French
Kate Merrick
Laura Schuetze
Madeleine Stern
Evelyne White-D'Amico