



## ENERGY EFFICIENCY RIPENS

“Efficiency programs are *the vegetables*; renewables are *the dessert*” noted EPA Community Energy Challenge Coordinator Shubuda Kambl, in discussion with students in 11.946; the *Community Energy Efficiency Practicum* taught by Harvey Michaels. Michaels, who joined EPP last fall as Research Scientist and Lecturer, observes that the “vegetables” of energy efficiency are ripening, and becoming quite tasty across campus to students and faculty alike.

Since the article in the fall 2008 EPP eNewsletter about the beginnings of MIT’s research and education effort in efficiency planning, energy efficiency has emerged as a true resource strategy, with substantial support from national agencies and many states. DUSP students are taking a leadership role in examining the potential for large-scale deployment of energy efficiency created by utility funding models, carbon cap-and-trade, energy saving building codes, appliance standards, and green community practices.

“Think big, be bold, identify obstacles” encouraged Phil Giudice, Massachusetts Energy Commissioner in another 11.946 session at which he expressed great interest in the practicum’s efforts to design an approach to better enable communities to achieve deep energy efficiency. The practicum expands on Michaels’ fall class - *Enabling an Energy Efficient Society* - in which students developed resource planning skills and applied them to the design and analysis of innovative efficiency policy or business strategies.

“Communities may be the partners we need, since they can tap trusted local networks better than we can”, noted Practicum sponsor NSTAR’s Susan Haselhorst, which has also sponsored pilot community energy efficiency programs in Marshfield and Cambridge, MA. According to Michaels, “The practicum should provide informed guidance on the potential and methods of community-based energy efficiency, and utility and state leaders are anxious to see it”. “But

(continued on page 2 )

## THE MIT FACULTY ENVIRONMENTAL NETWORK FOR SUSTAINABILITY (FENS)

More than 70 MIT faculty members from all five schools have joined the Faculty Environmental Network for Sustainability. The FENS meets monthly. In the fall of 2008, the focus was on Environmental Literacy at MIT. This spring, the group has been trying to generate curriculum proposals that would create an undergraduate Environment and Sustainability Minor and a cross-campus Graduate Specialization in Environment and Sustainability.

Each month in the fall, three faculty members selected one method or concept they would add to a list that any environmentally literate graduate of MIT should know about. Among the topics presented were environmental justice, extinction, climate sensitivity, law and economics as competing paradigms, methods of evaluating disease clusters, human and natural climate forcing actions, tropical cyclones and climate, and the future of nuclear power. Faculty members were allotted 15 minutes and one page of prose to make their case. All of these materials are being incorporated into a wiki called Environmental Literacy at MIT.

(continued on page 2)

### Inside this Issue

Energy Efficiency Ripens .....	1
MIT Faculty Environmental Network for Sustainability .....	1
Urban Sustainability Success Initiative .....	3
EPP Faculty Dinner Series.....	4
Student Awards and Recognitions.....	5
Alumni News .....	5
Winds of Change.....	6
Books by EPP Faculty .....	7
MUSIC Update .....	10
Green Edge Speakers Series.....	14
Incoming EPP Students .....	15
MIT Student Studies Greensburg’s Color.....	16
EPP Alum James Milkey .....	17
EPP Alum Kathleen Merrigan.....	18
Maryland Climate Change.....	19
Sustainable Justice Development Round Table.....	20
Doctoral Thesis Summaries .....	20

## ENERGY EFFICIENCY RIPENS

(continued from page 1)

as well, this project provides a capstone opportunity for students to develop and analyze new policy ideas, and then compellingly present them to decision makers.”

The practicum members include students from Sloan and ESD along with a substantial number of DUSPers. Notably, NSTAR also funded this year’s Clean Energy business plan competition, which had 20 entries in the Efficiency category, where Michaels serves as a judge. “Students across campus see the enigma of energy efficiency as a frontier for sustainable opportunity, and believe they have the capability to be *impact players* early in their careers”, noted Michaels. Student-run meetings where Michaels has been asked to address this topic recently include the MIT Energy Club weekly series, the *ReGenerator* campus energy initiative, the March Energy Conference, and the April Sustainability Conference.

DUSP’s involvement in the MIT Energy Initiative (MITEI) continues to expand. “MIT can and should be a center of efficiency research that provides a foundation we need for policy to move forward”, recently noted Ralph Cavanagh of the Natural Resources Defense Council. Michaels, along with RA’s Eric Mackres and Stephen Samouhos, are examining the benefits of aggressive building efficiency policies on carbon emissions and energy prices, as part of the *Future of Natural Gas study* as encouraged by study advisory board member Cavanagh. MITEI seed funding has been extended to Judy Layzer for a new course on sustainability and to Carlo Ratti for MIT-wide energy benchmarking.

In addition, Jon Raab’s *Energy Policy* class is bringing efficiency-oriented policymakers to DUSP, while Phil Thompson is working with students to figure out how to use efficiency stimulus funds to create green jobs. A student-run effort by Uyen Le (and Co-Lab) is analyzing efficiency stimulus funds, which she presented to a recent MITEI faculty meeting on energy research funding sources. Elsewhere, DUSP has participated in efficiency elements of ESD’s MIT Portugal project (David Marks), the Media Lab’s Intelligent Infrastructure for Energy Efficiency Project (Neil Gershenfeld), and Richard Lester’s efficiency-focused Innovation Pathways Project (Industrial Performance Center).

## THE MIT FACULTY ENVIRONMENTAL NETWORK FOR SUSTAINABILITY (FENS)

(continued from page 1)

The curriculum proposals follow the current efforts on the MIT campus to establish an Energy Minor. This will be the first time that a new academic program has been created at the Institute that is not based in a single department. The FENS is hoping that the long and elaborate approval process for the Energy Minor will make it easier to win support for the undergraduate Environment and Sustainability Minor as well as for an inter-departmental Graduate Certificate in Environment and Sustainability. In both cases, students would be expected to complete three new cross-cutting classes and three classes in a sub-specialty such as Design and Management of Sustainable Systems, Water Resources, Environment, History and Culture; Green Chemistry; Marine Environment; Policy, Economics and Law. The list continues to grow as additional MIT departments, centers and programs decide how to bundle existing and possible new subjects.

In terms of campus-wide administration of the new undergraduate and graduate curricula, FENS is proposing that each Dean appoint a senior and a junior faculty member from their school to serve on an Executive Committee for the Environment and Sustainability Program (ESP). These ten faculty would elect a chair (one of the senior faculty members) and an assistant chair (one of the junior faculty members) for three years. The Executive Committee would (1) take responsibility for the content and teaching of the core subjects at both the undergraduate and graduate levels; (2) manage funds to cover teaching assistants assigned to help teach the core subjects; (3) oversee the listing of sub-specialties and the subjects covered in each sub-specialty; (4) ensure the availability of ESP faculty to serve as additional members of thesis and dissertation committees; (5) advocate for the addition of new subjects, new sub-specialties and the hiring of additional ESP faculty across the Institute; (6) support and provide funding for student activities organized by sustainability@MIT; (7) house a campus-wide lecture series each semester to draw student attention to ESP; and (8) maintain a web listing of all ESP faculty, classes and campus activities.

The FENS is in the process of creating a web site that will encourage students and faculty from across the Institute to help refine the curricula proposals. The FENS founder and manager at the moment is Professor Larry Susskind.

## JUDY LAYZER STUDIES URBAN SUSTAINABILITY INITIATIVE SUCCESS

---

Since January 2009, Professor Judy Layzer has been working with a small team of research assistants to launch her research project on the effectiveness of urban sustainability initiatives. The aim of the research is to determine what kinds of programs achieve the greatest environmental benefits, under what circumstances, and why.

The first phase of the project, which is funded with a seed grant from the MIT Energy Initiative (MITEI), asks: do cities' climate initiatives actually reduce their carbon footprints? To begin to answer that question, MCP1 Patrick Lynch has begun constructing a database with information on the main programs cities employ to reduce their reliance on fossil fuels, from green-building requirements to mass-transit enhancements. Meanwhile, Sarah Madden, also an MCP1, has been organizing and synthesizing research on the theoretical environmental benefits of urban landscape features. Over the summer, Professor Layzer will work with a larger team of research assistants to complete the data-collection protocol and begin gathering and analyzing information on 125 U.S. cities. While this first phase of the project focuses primarily on the carbon emissions of U.S. cities, over time the project will expand to include impacts on other local and regional environmental attributes—including aquatic systems, air quality, and biological diversity.

Professor Layzer will publish the results of the research as they become available on a Web page, to be launched this summer, devoted to urban sustainability research and teaching at MIT.

In addition to her urban sustainability research, Professor Layzer will be spending the summer finishing up her book manuscript *Freedom, Efficiency, and the Environment: How Conservatives Have Influenced U.S. Environmental Policy*. She will also be working on the third edition of her book, *The Environmental Case: Translating Values Into Policy*. In addition to updating the existing book's existing cases, she is adding four new ones: Hurricane Katrina and reconciling social and environmental resilience; Cape Wind and the challenges of alternative energy development; the Chesapeake Bay Program and multi-state ecosystem-based management initiatives; and Three-Mile Island and the future of nuclear power. MITEI is funding the development of two of those cases—Cape Wind and Three-Mile Island—as part of its support for Professor Layzer's new undergraduate course on the Politics of Energy and the Environment. This course, to be taught in Spring 2010, will be part of the Institute's proposed Energy Minor.



## EPP Faculty Dinner Series (2008-2009)

---

The Environmental Policy and Planning Group faculty hosted a series of evening faculty presentations this year. The goal was to create a setting in which the faculty could learn more about each other's work.

**Anne Spirn**, Professor Landscape Architecture and Planning, presented a summary of her work in Mill Creek, Philadelphia. Anne notes:

Injustices occur when human law and social practice ignore natural processes and when those who plan, design and build the city focus on a neighborhood's problems and fail to recognize its resources. The story of the Mill Creek neighborhood in Philadelphia illustrates these themes. Mill Creek is shaped by all the processes at work in inner-city America. It was laid waste by the flow of water and capital, and by the violence of redevelopment and neglect. Known locally as 'The Bottom', Mill Creek is one of many such 'Black Bottoms' in the US. They are at the bottom, economically, socially and topographically. Here, harsh socio-economic conditions and racial discrimination are exacerbated by health and safety hazards posed by a high water table and unstable ground. Landscape literacy is a means for recognizing and redressing those injustices through urban planning and design and community development, just as verbal literacy was a cornerstone of the American Civil Rights movement of the 1950s and 1960s.

**Sam Warner**, Visiting Professor of Urban History, asked us to look at an off-beat article by environmental journalist, Jenny Price, entitled THIRTEEN WAYS OF SEEING NATURE IN L.A. A FEW NEW METHODS FOR THE OLD PRACTICE OF USING LOS ANGELES TO THINK. It appeared in *The Believer*. Here's an excerpt:

L.A. County spreads out over 4,084 square miles. It is the second largest U.S. metropolis (after New York) by size and population: more people live in the entire four-county greater Los Angeles area than in each of the least populous forty-two states. L.A. ranks as the largest U.S. industrial center and hosts the nation's busiest port. I live in a world Valhalla for wealth and consumerism. The nearly incomprehensible quantity of people's connections to nature in L.A. could mobilize a light infantry of nature writers. And all this nature is of such critical importance because these connections—how we use and move and transform nature here—entail enormous consequences for places in the U.S. and throughout the world.

Sam helped us think about what we mean by nature, especially in urban settings.

**Larry Susskind**, Ford Professor of Urban and Environmental Planning, presented a draft of the paper he has written with a team of students enrolled in his fall doctoral tutorial on Green Technology Innovation. The paper is entitled, "Green Technology Innovation -- Why the Usual Approach Won't work (written with Kathy Araujo, Zahir Dossa, Mehul Jain and Jason Jay). The paper reviews the traditional three-stage model of innovation (i.e. invention, development and diffusion) and the subsequent distributed innovation model pioneered by Eric Von Hippel. It then looks at the public policy intervention model which assumes that government can and should influence invention, development and diffusion in various ways. Finally, the paper explores the idea of public entrepreneurship networks (PENS) – a model that combines distributed innovation and public policy intervention to encourage "green technology innovation" at a scale sufficient to move us toward global sustainability. In the PENS model, public entities play more diverse roles, serving as user-innovators themselves and engaging across sectoral lines to ensure that public needs are met. PENS tap the tacit knowledge of the private sector, civil society and all levels of government.

**Harvey Michaels**, Energy Efficiency Scientist and Lecturer, presented his views on the *The Future of Energy Efficiency*. In particular, Harvey looked at four efficiency-related research topics under consideration at MIT:

1. Proposed Overall Efficiency Agenda in the MIT Energy Initiative
2. An ongoing examination of Efficiency as part of the Future of Natural Gas Study
3. A proposal on the consumer side of Smart Grid.
4. The NSTAR-funded Practicum on the Potential of Utility-Community Partnerships for Efficiency

The very lively discussion that followed Harvey's presentation underscored the interest of the EPP faculty, not just in energy-related policy questions in general, but in energy efficiency in particular.

**Jim Wescoat**, Aga Khan Professor of Architecture, presented his work on Indo-Islamic garden waterworks conservation. Jim explained that India and Pakistan are both revising their national cultural policies. He described efforts in both countries to the extent they bear upon landscape heritage

(continued from page 4)

conservation. Cultural policies have historically had limited connection with environmental and socio-economic policy at any scale -- national, regional, or local. Arguably, these patterns of policy fragmentation have aggravated the scope and progress of landscape heritage conservation. Jim examined these challenges using a three-fold model of Indo-Islamic garden waterworks conservation encompassing: 1) waterworks conservation; 2) water resources conservation; and 3) what he calls the conservation of water experience. We used the example of the Mughal-Rajput water systems of Nagaur, Rajasthan to help clarify. Jim's paper concludes by asking whether and how integrated approaches to conservation design can contribute to more integrative approaches in policy design; and conversely, how more comprehensive approaches to policy design might help guide landscape conservation practice in South Asia.

**Chris Zegras**, Ford Career Development Assistant Professor of Transportation and Urban Planning, presented a paper examining the relationships between the built environment (BE) – both “neighborhood” design characteristics and relative location – and motor vehicle ownership and use in a rapidly motorizing, developing city context: Santiago de Chile. He's trying to figure out the extent to which dwelling unit density, land use mix, street design, and proximity to public transportation stations play a role in determining household motor vehicle ownership. A vehicle choice model suggests that income dominates the household vehicle ownership decision, but also detects a relationship between several built environment characteristics and a household's likelihood of car ownership. The paper then turns to the question: what role does the built environment play on household automobile vehicle kilometers traveled (VKT)? A second model, directly linked to the ownership model, suggests a strong relationship with locational characteristics like distance to the central business district and Metro stations.

Obviously, the EPP faculty is interested in a wide range of topics. The more we can know about each other's interests, the more effectively we will be able to guide students to the right faculty members to help them pursue their interests.

## STUDENT AWARDS AND RECOGNITIONS

**Leanne Farrell and Eric Mackres** received Travel Grants from MISTI carry out internships in Cape Town, South Africa over IAP, where they worked with the African Centre for Cities at the University of Cape Town on a climate change planning initiative for Western Cape Province.

**Leanne Farrell and Eric Mackres** won a case study competition for a piece they co-wrote on sustainable development policy and resettlement practices in the mining sector.

**Nah Yoon Shin** received a CIS (Center for International Studies) Summer Study Grant to support her research proposal “Resolving Environmental Disputes at U.S. Military Bases Overseas.”

**Manju Amerasinghe** received the Lloyd and Nadine Rodwin International Travel Fellowship and a Public Service Centre Grant to cover her expenses in relation to her field work for her thesis on “Study of the Factors Affecting the Sustainability of Community Managed Rural Water Supply Schemes in Sri Lanka.”

**Isabelle Anguelovski** received the MIT-Spain award this year for her dissertation field work in Barcelona.

**Anna Bromberg** received the Emerson Travel Grant for her thesis research in Greensburg, Kansas.

**Kathy Araujo** received a Martin Fellowship for 2009-2010. The award recognizes her research on national planning and innovation in renewable energy systems as well as work to strengthen advanced, sustainability-focused coursework at MIT.

---

## ALUMNI NEWS

### Tina Rosan Appointed To Temple University Faculty

The Environmental Policy and Planning Group is pleased to congratulate Dr. Tina Rosan (DUSP PHD 2007) on her recent appointment as Assistant Professor of Environmental Sustainability at Temple University's Department of Geography and Urban Studies in Philadelphia. Tina was also offered an Assistant Professorship at the University of Colorado, Denver in the Department of Planning and Design but decided to stay on the East Coast.

Way to go, Tina!

### Beaudry Kock Wins Hydrology Award

Please join EPP in congratulating doctoral student Beaudry Kock for winning the Outstanding Student Paper Award for a presentation he made at the American Geophysical Union Annual Meeting in San Francisco. Beaudry presented the research he is doing, funded by the U.S. Bureau of Reclamation, on collaborative modeling approaches to water management. AGU is one of the premier earth science societies and this award is highly competitive.

What do the recently adopted financial stimulus package, President Obama's Earth Day speech and the Environmental Policy and Planning Group in DUSP (DUSP-EPP) all have in common? Among probably a few answers: all support the scaling up of wind power.

- The Recovery and Reinvestment Act, signed into law February 17, 2009 (also known as the \$800 billion stimulus package), put into place new agency-level responsibilities and resources to drive innovative national strategies which include: renewable energy, energy efficiency and smart grid development.
- Two months later on Earth Day, President Obama declared "a new era of energy exploration," as he announced offshore renewable energy guidelines from an Iowa-based wind turbine tower manufacturing plant. Talking from Newton, Iowa, a town which is 'retooling' with green jobs, President Obama issued the new Outer Continental Shelf leasing framework, while underscoring the feasibility of wind power and its use in other regions of the world.
- Specific to DUSP-EPP, members of the group, like Jenny Edwards, Kathy Araujo and Larry Susskind, have recently been conducting research and advancing the dialogue on wind power in a number of key forums. In terms of major events, four key ones were held across MIT and Harvard campuses in March and April to challenge experts on what it will take for countries with strong wind potential to tap the clean, local co-benefits of this renewable energy.

In March 2009, the wind power discussion began on the MIT campus with a workshop for about 30 policy scholars, examining the differences, strengths and weaknesses of European and US wind policies. The March 16th policy event was organized by a campus-wide team of students and faculty from Engineering Systems Division (ESD), the Center for Energy and Environmental Policy Research (CEEPR), DUSP-EPP and Sloan School of Management, helping to set the stage for a wind panel talk which followed at the 2009 MIT Energy Conference.

On March 17th, Professor Larry Susskind, head of the DUSP-EPP Group, moderated a wind panel discussion with Karl Rábago, former Deputy Assistant Secretary at the US Department of Energy and Texas Public Utility Commissioner; Gerardo Gonzalez, Technical Advisor and Industrial Engineer with Red Eléctrica de España; and Michael Metzner, Chief Financial Officer of First Wind, on "Wind Power Generation: What Will it Take for Sustainable Growth at Scale?". The panel was managed by another campus-wide team of students representing DUSP-EPP, ESD and Sloan School of Management.

Following Spring Break, MIT hosted its first (and what may well prove to be the nation's first) Offshore Wind Week, March 30th-April 3rd. This flagship, wind power-focused week included seminars, a sold-out day of expert presentations, a reception and poster

session, as well as a visit to the Hull, Massachusetts wind turbine. Offshore Wind Week was organized by the MIT Wind Sub-Community with DUSP-EPP student support and sponsorship by the MIT Energy Initiative, NRG Systems, the Massachusetts Technology Collaborative, North American Wind power, and Vestas. The event provided a forum for a critical exchange of ideas on offshore wind technology between students, faculty, policymakers and industry.

Finally, DUSP-EPP co-sponsored a discussion on "The Future of the Offshore Wind in the US," with Jim Gordon, CEO of Cape Wind Associates LLC, at the Harvard Kennedy School on April 21st. Mr. Gordon's talk on the eve of President Obama's Earth Day release of offshore guidelines provided insight into lessons learned from the first large scale, offshore wind project proposed in the US. Other co-sponsors included the Harvard Kennedy School of Government Biotechnology and Sustainability class, Harvard Kennedy School of Government Energy & Environment Professional Interest Council and MIT Energy Club Wind Sub-Community. The Cape Wind event completed the widely-attended series of constructive, wind power discussions with strong interest being expressed for more such events in the year ahead.

Broadly, the American dialogue on renewable energy is changing. Countries, like Germany, Spain, Denmark and Iceland are leading with energy-environmental strategies, which reduce the ecological footprint and support energy self-sufficiency. The US is capable of joining such ranks. Moreover, colleges and universities are uniquely positioned to examine how to effectively meet this objective. DUSP's Environmental Policy and Planning Group is doing its part with research and cross-cutting events to develop solutions for more sustainable energy and environmental pathways.



## Books by EPP Faculty

---



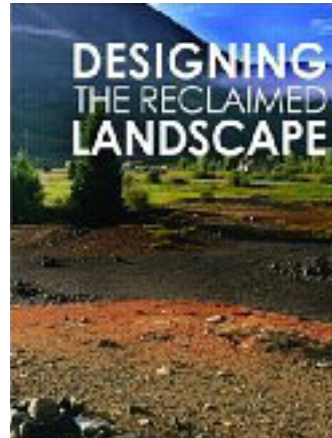
**Judy Layzer**

**Natural Experiments**

**Publisher:  
MIT Press  
2008**

Scholars, scientists, and policymakers have hailed ecosystem-based management (EBM) as a remedy for the perceived shortcomings of the centralized, top-down, expert-driven environmental regulatory framework established in the United States in the late 1960s and early 1970s. EBM entails collaborative, landscape-scale planning and flexible, adaptive implementation. But although scholars have analyzed aspects of EBM for more than a decade, until now there has been no systematic empirical study of the overall approach. In *Natural Experiments*, Judith Layzer provides a detailed assessment of whether EBM delivers in practice the environmental benefits it promises in theory. She does this by examining four nationally known EBM initiatives (the Balcones Canyonlands Conservation Program in Austin, Texas, the San Diego Multiple Species Program, the Comprehensive Everglades Restoration Plan, and the California Bay-Delta Program) and three comparison cases that used more conventional regulatory approaches (Arizona's Sonoran Desert Conservation Plan and efforts to restore Florida's Kissimmee River and California's Mono Basin).

Layzer concludes that projects that set goals based on stakeholder collaboration, rather than through conventional politics, are less likely to result in environmental improvement, largely because the pursuit of consensus drives planners to avoid controversy and minimize short-term costs. Layzer's resolutely practical focus cuts through the ideological and theoretical arguments for and against EBM to identify strategies that hold genuine promise for restoring the ecological resilience of our landscapes.



**Alan Berger**

**Designing the Reclaimed Landscape**

**Publisher:  
Routledge  
2008**

The past decade has been witness to a resurgence of interest in ecologically sustainable thinking about the design and management of reclaimed, post-industrial landscapes. As a result, landscapes that previously were not considered fit for habitation are now being rehabilitated and redeveloped for new uses. This book intends to describe new thinking about landscape, which applies new techniques to the task of transforming outdated and disused post-extraction landscapes through design. Since, in the USA alone, there are nearly 500,000 abandoned mines in need of reclamation today, this is a real and pressing issue for landscape designers and this will be the first in-depth guidance on the subject. Drawing on the work of the well-known Project for Reclamation Excellence at Harvard's Graduate School of Design, the book outlines latest design thinking, theory and practice for landscape planners, landscape architects and designers, and others interested in maximizing the future potential of reclaimed land.



**Lawrence Susskind  
and Larry Crump**

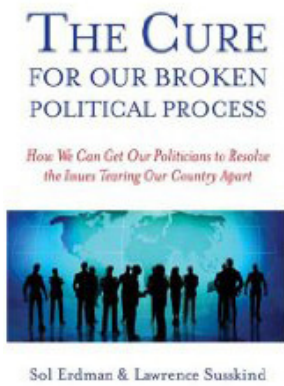
**Multiparty Negotiation  
(Four Volume Set)**

**Publisher: Sage  
2008**

Multiparty negotiation is a rapidly developing but complex field whose literature is scattered across a broad range of disciplines and sources. This four-volume collection consolidates this knowledge by bringing together classic works and cutting-edge papers from law, international politics, organization studies and public administration.

## Books by EPP Faculty

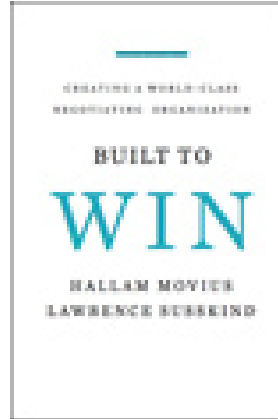
---



**Lawrence Susskind (with Sol Erdman)**

**The Cure for Our Broken Political Process**

**Publisher: Potomac Books, Inc. 2008**



**Built to Win: Creating a World Class Negotiating Organization**

**Hallam Movius and Larry Susskind**

**Publisher: Harvard Business School Publishing**

**2009**

Record numbers of Americans fear that our political process is broken—for good reason. Our nation faces unprecedented challenges, yet our politicians spend most of their energy attacking one another. All the while, no one in public life has offered a practical way to neutralize the bitter partisanship that paralyzes Washington.

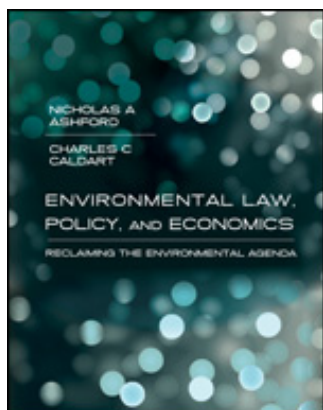
The Cure for Our Broken Political Process fills that void. The authors show exactly how concerned citizens can get politicians from all camps to negotiate genuine solutions to the most vexing issues. Sol Erdman and Lawrence Susskind base their case on their thirty years of experience in resolving political conflict.

The Cure begins with hard evidence that our country could work out practical solutions to nearly every major issue that now divides us, solutions that all sides could support. Why, then, don't our politicians seek out those solutions? The authors debunk all the accepted explanations and then uncover the real reason. By telling the story of a concerned citizen who runs for Congress, the book shows that two basic features of our elections virtually compel politicians to bicker endlessly over major problems. So, as long as our elections work as they do today, our lawmakers will keep on fighting, leaving the critical issues unresolved.

The authors then spell out how to redesign elections so that politicians would win only if they produced useful results—only if they negotiated practical solutions to pressing problems. The book concludes with a step-by-step plan proving that ordinary citizens have the power to bring about these changes. To anyone who fears that our country's future is in peril, The Cure offers a realistic path to a political process they can genuinely believe in.

Companies that consistently negotiate more valuable agreements in ways that protect key relationships enjoy an important but often overlooked competitive advantage. Until now, most companies have sought to improve their negotiation outcomes by sending individuals to training workshops. But this new groundbreaking book, using real-world examples from leading companies, shows a more powerful and less expensive way to achieve in “Built to Win”, authors Susskind and Movius argue that negotiation must be a strategic core competency. Drawing on their decades of training and consulting work, as well as a robust theory of negotiation, the authors provide a step-by-step model for building organizational competence. They show why the approach of training and more training is a weak strategy. The authors also describe the organizational barriers that so often plague even experienced negotiators, and recommend ways of overcoming them. “Built to Win” explains the crucial role that leaders must play in setting goals, aligning incentives, pinpointing metrics, and supporting learning platforms to promote long-term success. A final chapter provides practical how-to tools to help you start your own organizational improvement process. This book will be invaluable to CEOs, senior-level managers, HR business leaders, human resource professionals, sales and purchasing.

## Books by EPP Faculty



**Nicholas A. Ashford and Charles C. Caldart**

**Environmental Law, Policy, and Economics  
Reclaiming the Environmental Agenda**

**Publisher:  
MIT Press  
2008**



**Anne Spirn  
Daring to Look:  
Photographs and  
Notes from the  
Field by Dorothea  
Lange**

**Publisher:  
University of  
Chicago Press  
2008**

The past twenty-five years have seen a significant evolution in environmental policy, with new environmental legislation and substantive amendments to earlier laws, significant advances in environmental science, and changes in the treatment of science (and scientific uncertainty) by the courts. This book offers a detailed discussion of the important issues in environmental law, policy, and economics, tracing their development over the past few decades through an examination of environmental law cases and commentaries by leading scholars. The authors focus on pollution, addressing both pollution control and prevention, but also emphasize the evaluation, design, and use of the law to stimulate technical change and industrial transformation, arguing that there is a need to address broader issues of sustainable development.

Environmental Law, Policy, and Economics, which grew out of courses taught by the authors at MIT, treats the traditional topics covered in most classes in environmental law and policy, including common law and administrative law concepts and the primary federal legislation. But it goes beyond these to address topics not often found in a single volume: the information-based obligations of industry, enforcement of environmental law, market-based and voluntary alternatives to traditional regulation, risk assessment, environmental economics, and technological innovation and diffusion. Countering arguments found in other texts that government should play a reduced role in environmental protection, this book argues that clear, stringent legal requirements—coupled with flexible means for meeting them—and meaningful stakeholder participation are necessary for bringing about environmental improvements and technological transformations.

Near the end of her career, Dorothea Lange lamented, “No country has ever closely scrutinized itself visually. . . . I know what we could make of it if people only thought we could dare look at ourselves.” Lange, however, did look, unflinchingly turning her lens on the despair, degradation, and greed unleashed by the Great Depression, and her photographs for the New Deal’s Farm Security Administration have become the defining images of that time, capturing a country and a people on the brink of cataclysmic change.

But the iconic images we all know don’t come close to telling the whole story. Lange viewed her photographs as part of sequenced narratives, contextualized and enriched by her descriptive captions—without which, she wrote, “half the value of fieldwork is lost.” *Daring to Look* presents never-before-published photos and captions from Lange’s fieldwork in California, the Pacific Northwest, and North Carolina during 1939. Lange’s images of squatter camps, benighted farmers, and stark landscapes are stunning, and her captions—which range from simple explanations of settings to historical notes and biographical sketches—add unexpected depth, bringing her subjects and their struggles unforgettably to life, often in their own words.

When Lange was dismissed from the Farm Security Administration at the end of 1939, these photos and field notes were consigned to archives, where they languished, rarely seen. With *Daring to Look*, Anne Whiston Spirn not only returns them to the public eye, but sets them in the context of Lange’s pioneering life, work, and struggle for critical recognition—firmly placing Lange in her rightful position at the forefront of American photography.

# MUSIC UPDATE SPRING 2009

---

## VISIT BY USGS LEADERS

USGS leaders visited MIT on February 19, 2009 to continue to learn about the extent of MUSIC activities. This is a follow-up to the two-day visit last October. The USGS contingent headed by Bryant Cramer, Associate Director for Geography, included Ione Taylor, Chief Scientist for Geography, Carl Shapiro, Senior Advisor for Science, Decisions, and Policy, Jonathan Smith, Coordinator for the Geographic Analysis Program, Richard Calnan, Senior Advisor for International Affairs, Steve Faulkner, Biological Resource Division research scientist, and Ronnie Best, Coordinator, Greater Everglades Priority Ecosystems Science. The daylong visit included a meeting with DUSP chair, Amy Glasmeier to glean her perspectives on MUSIC within context of the evolving changes in the department. The group focused on learning more about the Everglades and Lower Mississippi Valley projects. MUSIC has been in existence for five years and the cooperative agreement that established it ends August 31, 2009. These visits are in preparation for establishing a new five-year cooperative agreement between MIT and USGS.

## PERSONNEL

### *Cyndy Carlson*

Cyndy Carlson is a guest-in-residence at MUSIC for spring semester 2009. For ten years, Ms. Carlson worked as a water resources engineer, assisting communities and governmental bodies to plan and implement stormwater, combined sewer, and other environmental projects in the United States, Middle East, and Singapore. Ms. Carlson returned to school in 2007 to pursue a doctorate degree, investigating sustainability and resiliency in communities - including aspects of the built environment, social capital and public health. She is a Sustainability Fellow at the University

of New Hampshire and a Senior Fellow with the Environmental Leadership Program. With MUSIC, Ms. Carlson is modeling the changes in hydrology and hydraulics that are expected under various climate change scenarios in the City of Somerville MA, as well as helping to identify the drivers that impact stakeholder selection of various stormwater management techniques.

*Juan Carlos Vargas-Moreno, Assistant Director*  
**December, 2008 MUSIC's Assistant Director lectures in the "Specialist Meeting on Spatial Concepts in GIS and Design" University of California, Santa Barbara.**

Juan Carlos Vargas-Moreno was invited to participate in a 30-world Specialist Meeting to explore the future of the integration spatial concepts in GIS and Design. The meeting was organized by Prof. Michael Goodchild (Chair, University of California, Santa Barbara and Director, Center for Spatial Studies) and the Environmental Studies Research Institute (ESRI-GIS World Leading Company). This specialist meeting originated in discussions over the potential of integrating design more fully into GIS, and over the development of curriculum in spatial thinking. The central question might be posed as "To what extent are the fundamental spatial concepts that lie behind GIS relevant in design?" or "To what extent can the fundamental spatial concepts of design be addressed with GIS?" or perhaps "Is it possible to devise a curriculum designed to develop spatial thinking in both GIS and design?" Juan Carlos lectured in the integration of GIS and Design through participatory design and planning methods technologies. Other speakers include: Mike Batty (Center for Spatial Analysis, University College London), Fritz Steiner, Dean, School of Architecture, University of Arizona; Jack Dangermond, CEO, ESRI; Ervin, Stephen and Carl Steinitz, Harvard University, Lee, Kun University of Seoul, Sara Fabrikant, University of Zurich, Stoltz, Ron, Director School of Landscape Architecture, University of Arizona.

---

(continued on page 11)

## **March 2009 MUSIC's Assisting Director, Juan Carlos Vargas-Moreno lectures in the International Alternative Futures Workshop in Sardinia, Italy.**

Mr. Vargas-Moreno has been requested by two European Universities to lead the efforts around the integration of Methods of Design and Participatory Planning with GIS&T (Geographic Information Systems and Technologies), during this international workshop. The goal of the workshop is to study and prepare a proposition to the government of Sardinia around the different alternatives futures of the regional Cagliari (The major metro area in the south of Sardinia) in the integration of housing development, conservation, and decentralized renewable energy production for sustainable landscape development. The workshop includes PhD Students from Italy and Germany as well as a array of public officials from the Italian Government. Mr. Vargas-Moreno forms part of the International Scientific Committee for the Alternative Futures Planning Studies for the Metropolitan Area of Cagliari, Sardinia.

## **ACTION-RESEARCH PROJECTS**

### ***ArkAgent: Arkansas Modeling Project***

Beaudry Kock, MUSIC researcher supported by the US Bureau of Reclamation, continues to work on his integrated simulation tool, with the intent of supporting more sustainable water resources management in the lower Arkansas Basin of Colorado. His work focuses in particular on the difficult problem of elevated salinity in the basin, which reduces crop yields, damages local economies and devastates the riparian environment. In the last year, he has been working with stakeholders to improve how decision makers and their decision dynamics are represented in the model; he's also been collaborating with Colorado State University researchers to complete a salinity simulation tool. This tool will be coupled with Beaudry's existing work, allowing the integrated model to simulate the salinity implications of farmer and municipal utility decision making over a decadal time scale. During the summer of 2009, Beaudry will be completing work with stakeholders on improving the model's quality and making it accessible to the wider

basin community. He will also be running simulation experiments to test out different institutional options for improving the long-term sustainability of the lower Arkansas water system.

### ***Chesapeake Bay—A Collaborative Simulation Process and Toolkit for Building “Coast-Smart” Communities in Maryland***

MUSIC, in partnership with the Maryland Department of Natural Resources, the Consensus Building Institute and NOAA is creating a multi-party negotiation simulation that is aimed at helping coastal communities in Maryland begin conversations on how they can adapt to the impacts they will face from climate change and become “Coast Smart”. After interviewing several dozen stakeholders in the Chesapeake Bay, MUSIC Interns Nathan Lemphers and Evan Paul have created a simulation that will be showcased at a high level event for around 200 coastal leaders in Annapolis, MD on April 27<sup>th</sup>. While much of the debate and action in the United States on climate change has centered around mitigation (reducing greenhouse gas emissions), far fewer discussions have taken place on how to best adapt to the impacts of climate change, such as sea level rise, more frequent and severe storm events, changes in seasons and hydrology, and other effects. This simulation is designed to begin these difficult conversations in a format that brings stakeholders together around common goals.

### ***Building Adaptive Capacity in Nearshore Ecosystems in Maine***

#### ***Local knowledge in the Gulf of Maine***

Activities really ramped up this spring for the Penobscot Bay Local Knowledge Study. Conducted in the heart of Maine's working coast, the study seeks to document a major change in local herring fishery management from the point of view of the fishermen themselves. In the summers of 2007 and 2008 mid-water trawling was halted in mid-coast Maine. Reports from fishermen suggest that the ecosystem response has been almost immediate and positive. Scientists deny such a possibility as scientifically impossible.

(continued on page 12)

Documentation of this management change presents a unique opportunity to incorporate local knowledge into our understanding of marine ecosystems. This spring I interviewed eight non-trawler herring fishermen and three lobster fishermen. The semi-structured interviews were combined with a cognitive mapping exercise. The mapping exercise allows me to explore the value of local knowledge.

This project comes at a particularly appropriate time in Maine fisheries management. The Midcoast Fishermen's Association, in conjunction with the PEW Charitable Trust, filed a lawsuit against the National Marine Fisheries Service for failing to protect the spawning grounds of depleted groundfish from the impacts of mid-water trawlers. When weighing the testimonies of fishermen, industry, and science, perhaps the judicial system will find value in local fishermen's knowledge.

### ***Everglades Restoration—Addressing the Challenge of Climate Change Through Strategic Habitat Conservation: A Stakeholder-based Approach***

The spring semester began with the development of a series of workshops and field interviews in Southern Florida including water, land use and climate change conservation planning at the state and federal level and authorities. During the visit, the team also held a one-day workshop with the "USFWS EcoTeam". The Eco-Team is formed by all USFWS Refuge Managers, plus the project leaders of the Fisheries and Birds programs for the region. Other guests included in the workshop were representatives from USGS, the National Park Services as well as regional ecology and conservation consultants. The meeting has a objective the exploration of an initial set of issues and its interrelationships in the management of Trust Resources. Also, through a series of workshops and sessions including group participatory mapping and cognitive mapping expanded groups of stakeholders were identified.

Upon the return of the team back to MIT, subsequent analysis of information and data captured during the field visit was developed. Following and for the rest of the duration of the

semester the team has concentrated efforts in 5 areas of investigation

1. Creation of a GIS simulation urban growth model that simulates and its implication in potential traditional conservation investments
2. Policy research in Conservation Efforts Florida
3. Research on Non-Governmental Organization and its role in potential conservation efforts in an era of climate change.
4. Agriculture, land use dynamics and the implication of Climate Change.
5. Prototyping of a support system for the management of water-ecosystems relationships.

The team is currently preparing for a series of workshops that will be held in Southern Florida's west coast in which for the first time the "expanded-stakeholder group- will develop the first set of assumptions for climate change scenarios in early June, 2009.

In order to prepare for this, the team is currently developing a series of literature reviews, synthesis reports, expert consultations and surveys.

### ***Guidance Tools for Planning and Management of Urban Drainage Systems under a Changing Climate***

This research is conducted with Paul Kirshen, Principal Investigator, Tufts University/Battelle, Kenneth Strzepek, Co-PI, University of Colorado, and, funded by Sector Applications Research Program of OGP, US NOAA

The objective of the proposed research is to investigate effective responses for urban water managers to the challenges of drainage management in conditions of a changing climate and start to build the capacity to respond. Case studies are being done in Somerville MA and Aurora CO. Research includes downscaling to determine changes in storm runoff under climate change, using a risk framework to evaluate adaptation options, and, because climate change adaptation is locally based, conducting a stakeholder assessment.

The assessment is being carried out by MUSIC Intern Kim Foltz with the support of MUSIC Visiting Scholar Dr. Olivier Barreteau and MUSIC Visitor Cyndy Carlson. In addition, Dr. Barreteau is using Agent Based Modeling to better understand the response of individual stakeholders to drainage problems under climate change in Somerville.

The Somerville Stakeholder Assessment Objectives include: Identify appropriate stakeholder groups, Evaluate stakeholders' perceptions and understanding of stormwater management and climate change, Assess current practices in stormwater planning, Understand opportunities and barriers in planning adaptive stormwater management systems, Explore attitudes toward risk and uncertainty

There have been approximately 30 interviews with stakeholder groups over four months. They include: City government and administration; State agencies; Regional agencies; Federal agencies; Businesses and developer; Residents; Community Organizations

These are the preliminary stakeholder assessment findings: Climate change widely accepted as phenomenon that will affect Somerville; Little consideration of climate change adaptation – generally, and specifically in stormwater planning; Street-level flooding frequent occurrence – general understanding and acceptance that existing infrastructure is well over capacity; Little public understanding of link between stormwater management and public/environmental health; High demand for increased open space in Somerville; Potential to link open space planning with integrated stormwater management system; Need to quantify risk; Insufficient incentives for Low-Impact development; Little institutional accountability for stormwater (compared to drinking water and sewage); NPDES Phase II and TMDL studies prompting change in regulatory/permit environment; Stakeholders generally perceive each other favorably as potential partners in planning.

*Offshore Wind Farms: Adaptive Strategies to Achieve Sustainable Energy in the Face of Changing Climate*

Jennifer Edwards and Larry Susskind have completed two short papers. One is entitled "State Ocean Planning

and Off-shore Wind Development" It summarizes efforts in Maine, Massachusetts and Rhode Island to put off-shore wind development in the context of on-going integrated ocean planning efforts and examines the underlying conflicts between efforts to promote (and control) the development of off-shore wind energy and the desire to engage the public in a broader examination of state-level ocean management policy.

The second paper is entitled, "The Potential Role of Technology Development

Projects in Clean Energy Planning: The Case of Off-Shore Wind." Jenny and Larry conclude that the best way to win public support for off-shore wind energy projects is to make it easier to pursue carefully designed demonstration projects. Although demonstration projects can themselves be controversial and raise some of the same concerns as full-scale installations, a transparent, flexible joint fact-finding approach to data collection and assessment can address most of these concerns.

Both papers are accessible through the MUSIC web site (<http://scienceimpact.mit.edu>)

A handful of temporary, adaptable, educational installations that can be constructed in the near term can inform long-term public decision-making. Although demonstration projects themselves may be controversial and raise some of the same concerns as full-scale installations, a transparent and flexible joint fact finding approach to data collection and assessment can address these concerns. Ultimately, the quickest way to develop offshore wind energy is to turn the tide of public support strongly in favor of this approach to providing renewable energy. The best way to do that, from our standpoint, is to make it much easier to pursue carefully designed demonstration projects.

***Assessing Ecosystem Sustainability and Vulnerability to Climate Change in the Lower Mississippi Valley***

Tijs van Maasackers continued his dissertation research on the uses of USGS-science within the NGO-community in the Atchafalaya Basin, and intend to pursue this work through the summer. He connected

with the environmental advocacy community in the Atchafalaya Basin, and they are looking to develop additional projects together. In addition, he started to conduct preliminary research on wetland restoration in the Netherlands, focusing on a region known as the "Biesbosch". He will compare this area with the Atchafalaya. This system has been at the center of a dispute over the management of one of the key flood protection measures in the Delta-works, the Haringvlietssluis. Tijs is currently developing a paper looking at the role of flooding and institutional responses to those events in this region.

Based on responses from The Nature Conservancy, U.S. Fish and Wildlife Service, and Ducks Unlimited to issues that land owners prioritized when deciding to enroll in the Wetland Reserve Program, Anna Bromberg, the intern working on the project, developed a survey to collect information on landowner priorities and their socioeconomic characteristics. She will produce an analytical report on the results of the survey.

### **Cities and Climate Change**

As part of the Global Climate Change Collaborative (G3C), the MIT-USGS Science Impact Collaborative (MUSIC) and TNO, the Dutch applied science organization, are initiating the Cities and Climate Change project. Rotterdam and Miami, Florida will be the first case studies. Both of these cities will be threatened by rising sea level, salt water intrusion, and more frequent and intense storms that will exacerbate coastal and nearshore processes. TNO and MUSIC are planning a five-year collaboration around the Cities and Climate Change project through a Letter of Agreement between USGS and TNO. The French environmental organization, Cemagref, and the British Geological Survey also intend to partner with MUSIC through USGS as the project develops. The planning for the project is in the concept stage; this document lays out the broad and general concept the details of which will be specified in a work plan to be developed jointly with the partners.

USGS scientists, other agency scientists, MIT faculty and students, and TNO researchers will initially staff the project beginning in September 2009. TNO is providing funding to EPP doctoral student, Todd Schenck to work on the project. We propose that some research staff will be exchanged between locations (MIT, Florida, the Netherlands) for periods of time ranging up to a few months.

### **PROPOSALS**

#### **NATO**

Scott Carlin, Associate Professor of Geography at C.W. Post College, and Jan Adamowski, Assistant Professor at McGill University, have joined Clive Lipchin, Director of the Arava Institute, Israel, to complete the proposal to NATO for a Global Climate Change Conference (G3C) at the Arava Institute tentatively planned for February 2010.

This year, the EPP luncheons were organized around the theme of the "Green Edge," and featured individuals and organizations advancing sustainability in creative, unusual, and effective ways. The speakers ranged from Boston community leaders, such as Roseanne Foley, President of the The Dorchester Environmental Health Coalition, a community-led network of individuals, businesses, institutions and non-profits dedicated to promoting the environmental, social and economic benefits of living sustainably in Boston's largest and oldest neighborhood, to recent MIT PhDs, like Daniel Enderton. Mr. Enderton defended his PhD in Climate Physics and Chemistry Program in the Department of Earth Atmospheric and Planetary Sciences at MIT and is currently the Executive Director of the Sustainable Energy Revolution Program (SERP). SERP is the network of renewable energy research activities at MIT developed through the MIT Energy Initiative. The flagship program is in solar energy technologies, with growing programs in bioenergy, wind, geothermal and waves/tidal as well as the complementary areas of storage, grid and materials.

Early highlights included David Cash, the Massachusetts Assistant Secretary of Policy in the Executive Office of Energy and Environmental Affairs, and Andrew Brown, the founder of the New Amsterdam Project, which was chartered in 2006 to replace internal-combustion vehicles in North America with human powered vehicles to help build stronger, more resilient, more self-reliant communities. Mr. Cash discussed the development and implications of the slew of sustainability and energy bills that Massachusetts passed over the summer, including The Green Communities Act, The Oceans Act, and The Green Jobs Act. Mr. Brown addressed the experiences and ideas that inspired him to create the New Amsterdam Project (now Metro Pedal Power), which provides regularly scheduled pick-up and delivery human-powered trucking services for businesses and organizations such as dry cleaners, caterers, schools, florists, and markets throughout the Boston and Cambridge Area.

Prof. Robert Costanza, Gordon and Lulie Gund Professor of Ecological Economics, the University of Vermont, presented a talk, "The global recession as an opportunity to create a sustainable and desirable future". Prof. Costanza advocated using the current financial crisis as the setting in which shift about a different way to make natural resource management decisions and value ecosystem services. Essentially he set forth an idea that valuation of ecosystem services be incorporated with calculations of the value of social capital gained or lost into assessments of public policy choices.

Other speakers included: Joshua Hassol, President and CEO of the Cambridge Energy Alliance; Stephanie Moura, Executive Director of the newly formed Massachusetts Ocean Partnership; Sarah Das of the Woods Hole Oceanographic Institute; Arthur Petersen of the Netherlands Environmental Assessment Agency; Olivier Barreteau of MUSIC/Cemagref, Timmons Roberts of The College of William and Mary; Amy Smith of MIT's D-Lab and the Department of Mechanical Engineering.

# INCOMING EPP STUDENTS

---

**Andrea Christenson** joins the MCP program from the Midpeninsula Regional Open Space District, a land conservation agency on the San Francisco peninsula, where she has worked as a planner for the past three years. Prior to this, she spent two years as an Associate in the environmental practice of an expert services firm. She received her BS in Earth Systems from Stanford University in 2004.

**Tyler Rikert-Corson** received his B.A. from Williams College, where he majored in geoscience and completed the Williams-Mystic Maritime Studies semester program. Since college he has taught English in China, worked as a native language tutor in Colorado public schools, and conducted conservation easement monitoring for The Nature Conservancy in Colorado. He is studying Chinese in Taiwan this spring and will return to The Nature Conservancy for the summer.

**Kate Dineen** joins the MCP program from the Alliance to Protect Nantucket Sound, a non-profit environmental organization best known for its vocal opposition to the Cape Wind proposal. Prior to delving into this national green-versus-green debate, she worked as an Assignment Editor at an ABC news affiliate in Western Massachusetts. Kate graduated from Williams College in 2005 with a B.A. in English.

**Maricarmen Esquivel** joins the MCP Program. Maricarmen received her S.M. from the London School of Economics. Maricarmen received her B.A. in Economics from Georgetown University.

**Elisha Goodman** joins the MCP Program from a homestead in Hawaii where she co-founded two non-profits, Hawaii SEED and Hawaii GEAN. As a grassroots community organizer and agricultural policy advocate, Elisha worked to enhance food security in Hawaii and partnered with Native Hawaiians to protect their indigenous intellectual property rights. As a Board Member and President of a third non-profit, Hawaii Organic Farmers Association, Elisha lobbied the legislature and represented the organic industry in policy meetings.

**Ian Gray** joins the MCP program from Ceres, Inc. where he worked as a Development Associate. Ian received his B.A. from Brown University.

**Deborah Lightman** joins the MCP program from the University of Waterloo's Water Policy and Governance Group, where she is researching Canadian water governance initiatives. She completed a B.Sc. in Environment and Health at McGill University.

**Stephen Lloyd** has spent the last three years at Ecotrust, a non-profit based in Portland, OR, where he worked as a GIS Specialist in support of projects that enable economic, social, and environmental prosperity. His work has revolved primarily around marine planning processes in California and Oregon and salmon conservation issues throughout the North Pacific. Stephen holds a B.A. in Mathematics and Environmental Studies from Tufts University.

**Amanda Martin** joins the MCP program from the U.S. Bureau of Land Management where she worked as a Botany, Conservation and Land intern. Amanda received her B.A. from Harvard University.

**Vanessa Ng** joins the MCP program after nearly 2 years of work experience with a reinsurance brokerage firm, where she was responsible for helping to develop loss models for industrial catastrophes. She completed a BA in International Studies from the University of Chicago in 2007 with a bachelor's thesis examining environmental fallout from the Three Gorges Dam project.

**Todd Schenk** is entering the PhD program directly out of DUSP's Masters program, where he is focusing on climate adaptation, consensus-based decision-making and food security. Todd is originally from Canada, but spent the five years prior to coming to MIT working for the Regional Environmental Center in Budapest, Hungary. At the REC, Todd managed a course on governance for sustainability for civil servants from across Central and Eastern Europe, and worked on granting and capacity building projects targeted towards non-governmental organizations.

**Joshua Sklarsky** joins the MCP program directly out of DUSP's Undergraduate program. Josh's work experience includes working with Sentech and the U.S. Department of Energy.

**Stephanie Stern** has spent the past five years working in energy efficiency in the San Francisco bay area, first for Strategic Energy Innovations, a non-profit in Marin, and currently for Energy Solutions, a private consulting company in Oakland. She holds a BA in biology and studio art from Wellesley College.

**Shoko Takemoto** joins the MCP program. Shoko holds a B.A. in International Studies and Environmental Studies from Macalester College in St. Paul, MN. After graduating from college, she interned at an environmental NGO in Washington D.C. before returning home to Japan, where she has been working as an environmental consultant in Tokyo for the past two years. She works on renewable energy and clean development projects with the private and government sectors in Japan and Southeast Asia.

## MIT STUDENT STUDIES GREENSBURG'S COLOR

---

This article has been reprinted from The Pratt Tribune

When Anna Bromberg, a graduate student from Massachusetts Institute of Technology, decided to do her master's thesis on how Greensburg made its decisions to go Green she discovered the town had already been working on green projects.

"I was impressed that Greensburg was working on these issues before hand," Bromberg said. "That's something I didn't know before I came here."

Bromberg is in the second year of her master's program. Her major is urban planning and she specializes in environmental policy and planning. Greensburg provided her with the perfect opportunity to witness how those plans and policies are made in real life.

"I wanted to learn how the town decided to implement some of these ideas. I wanted to learn how this happened," Bromberg said.

One of her professors selected the topic and the department is excited that she accepted the challenge. Bromberg wrote a proposal and got a grant to come to Greensburg. She spent nine days interviewing people and was pleased with the cooperation.

After so many others had asked so many questions, Bromberg was concerned that people might be sick of interviews and it might be hard to get her information. She worried they might not respond to the outsider from the east coast.

She was surprised and pleased the way the people responded.

"People have been so nice to spend time with me," Bromberg said. "Everyone was so generous with their time. The people are amazing. It's very inspirational."

She did some preliminary research in the fall of 2008 and watched the Planet Green television series about Greensburg.

Then she came to Greensburg for one-on-one field research. Her first impression of Greensburg was one of sadness. There were so many damaged trees and foundations without houses.

She quickly learned how fast weather changes in Kansas as she began her research. One day she was riding through Greensburg on a bicycle in 60 degree weather and then it turned very cold. She had left Boston with two feet of snow on the ground.

People were very responsive to her questions. She was able to talk to a lot of community leaders and learn the procedures.

She was impressed how the community rose to the challenge and did a phenomenal job of implementing the Green programs especially under the conditions in Greensburg. This is a trail and the nation will be interested in this for years to come, Bromberg said.

Ultimately Bromberg wants to use the lessons she learned in Greensburg to help the environment and learn what to do and what not to do.

"I want to understand what happened here (in Greensburg) then help others in the same situation," Bromberg said.

Bromberg plans to have everything written up for her masters in April and do her master's defense in May so she can graduate in this spring.

The finished master's document will be available though Bromberg. Contact her at [brombera@gmail.com](mailto:brombera@gmail.com) to make arrangements to get the document.



## EPP ALUM JIM MILKEY SWORN IN AS ASSOCIATE JUSTICE OF THE APPEALS COURT

## EPP ALUM JIM MILKEY WINS EPA AWARD

Members of the Governor's Council on Wednesday unanimously confirmed the long-time chief of the Environmental Protection Division in the state Attorney General's office to the state Appeals Court. James Milkey, best known for successfully arguing a case against the Environmental Protection Agency in front of the U.S. Supreme Court, will replace retiring Judge William Cowin. Councilors also interviewed a Bristol County attorney Gov. Deval Patrick nominated for the state's Superior Court. Councilor Carole Fiola, who presided over nominee Thomas McGuire's hearing, said he is the first person Fall River in 37 years to be appointed to the Superior Court. The last person was McGuire's uncle, James McGuire. "I'm very happy with the administration for that," Fiola told McGuire. "You are exactly the kind of judge we look for." As corporation counsel for the city of Fall River, McGuire dealt with an Indian gaming casino proposal and a multi-million dollar case against a landfill operator, along with establishing Hope House, a facility for AIDS patients. McGuire said he applied for the judgeship with "some trepidation," but ultimately an interest in a job change won out. "It would be great way to spend the rest of your career," he said. His nomination drew support from former Fall River Mayor Ed Lambert and Superior Court Judge Robert Kane.

This article has been reprinted from  
<http://www.wickedlocal.com>

Assistant Attorney General James Milkey was recently nominated to be a judge on the Massachusetts Appeals Court. He also was nominated by his wife for another honor: this merit award "for his work over the last 25 years in environmental law." James, who headed the AG's environmental protection division, is best known for a few specific cases and EPA agrees his work deserves this lifetime achievement honor. Most notably, in 2007, Jim won a case challenging the federal government's refusal to regulate emissions of greenhouse gases. EPA has since reversed its position and embraced the court's ruling. In 1990, Jim also convinced the state supreme court that Proposition 2-1/2 did not excuse municipalities from complying with environmental standards. And in 1994, Jim convinced the First Circuit Court of Appeals to break with the New York court and allow Massachusetts to adopt "the California Motor vehicles emissions standard." Most importantly, perhaps, Jim built the Environmental Protection Division of the Mass. Office of the Attorney General into one of the premier environmental protection organizations in the country.

This article has been reprinted from: <http://www.epa.gov>



## EPP ALUM KATHLEEN MERRIGAN APPOINTED DEPUTY AGRICULTURE SECRETARY

---

President Obama has tapped Kathleen Merrigan, an academic and former congressional aide who helped write federal organic food-labeling rules, to be deputy agriculture secretary. The White House announced the pick yesterday, drawing cheers from food-safety advocates, who have pushed for more stringent labeling regs.

"Merrigan will bring an excellent perspective to a number of troublesome labeling issues now before the agency," Jean Halloran, Consumers Union's director of food policy initiatives, said in a statement. Among the matters that need to be addressed, she said: loopholes in the current "grass fed" standard, lack of uniformity in meat marketing claims, defining "raised without antibiotics" label claims, and weaknesses in the current definition of "naturally raised."

Merrigan, 49, director of the agriculture, food and environment program at Tufts University, helped develop the Organic Foods Production Act of 1990 as a staffer on the Senate Committee on Agriculture, Nutrition and Forestry. The law created national standards for organic foods and a federal program to accredit them. From 1999 to 2001, Merrigan served as administrator of the U.S. Department of Agriculture (USDA) Agricultural Marketing Service (AMS), which oversees the agency's organic program.

Consumer's Union, which publishes Consumer Reports magazine, sent a letter to Agriculture Secretary Tom Vilsack earlier this month complaining that the "naturally raised" standard finalized during the Bush administration was "very limited," because it allowed meat from animals treated with antimicrobial, growth-promoting drugs known as ionophores to carry the label. It asked the agency to define the term "raised without antibiotics," which has previously been interpreted to allow the use of ionophores.

"While most consumers believe that this claim means no antibiotics or antimicrobial drugs were administered, there is in fact no standard for the term," the letter says. Consumers Union also called for Vilsack to close what it says is

a loophole in "grass fed" standards AMS set in 2007 that allows producers to apply to another arm of USDA, the Food Safety and Inspection Service (FSIS), for permission to use the grass-fed label without meeting the AMS guidelines. Those standards require meats labeled "grass fed" to come from animals fed 99 percent grass, and for them to be given access to pasture during the growing season versus being fed dry grass or hay indoors.

A spokesperson for FSIS said Wednesday that producers or companies making claims that their products are 100 percent grass fed should meet the AMS standard. "However, as a matter of policy, FSIS does not restrict companies to only being 100 percent grass fed," he said. They can list other grass-fed values on their label, he said, if the agency has signed off on documents backing their claims.

This article has been reprinted from <http://www.scientificamerican.com/blog>



Image of Kathleen Merrigan/Melody Ko, courtesy of Tufts University

Since last fall, Nathan Lemphers and I have been working with Larry Susskind, David Plumb at the Consensus Building Institute (CBI), and several partners with Maryland's Department of Natural Resources to design and organize a statewide negotiation simulation on coastal climate adaptation for this April. The purpose of this game was to help Maryland coastal stakeholders incorporate the projected impacts of climate change into their local planning and policy decisions.

Maryland has already been hit hard by storms and has been losing coastline to erosion and subsidence. The future impacts of climate change are likely to threaten their coastline, water supplies, and other common assets in even more far-reaching and profound ways. Homes and other private property are unlikely to be insurable under these conditions. The State has realized these challenges and was one of the first states in the country to dedicate a portion of their climate action plan to adaptation. This top-down directive helped set the stage for a bottom-up strategy necessary to get coastal communities to tailor their own responses to climate adaptation. Our game sought to provide a model for this type of multi-level decision-making on adaptation.

Over the fall, Nathan and I interviewed local stakeholders to identify the locally relevant issues at play, possible policy responses, and the different perspectives on the costs and benefits of those options. We found that in many ways the tensions faced around these issues are many of the same dilemmas facing planning and policy-making more broadly – how to strike the right balance between individual freedom and collective decision-making, between incentives and requirements, and between present and future concerns. However, these traditional tensions were complicated by the uncertainty created by something as scientifically complex as climate change.

After compiling this research into a game and testing it several times, we began recruiting stakeholders from Maryland's coastal communities to go through it. On April 27 in Annapolis, we had more than 130 coastal stakeholders participate in the event, including mayors, county commissions, environmental advocates, emergency managers,

business leaders, developers, and Maryland state officials. We had partnered with Maryland's Mediation and Conflict Resolution Office (MACRO) to recruit nearly 30 mediators to facilitate tables of participants at the event. The Secretary of Maryland's Department of Natural Resources and the Mayor of Annapolis helped kick off the event and several news outlets filmed participants going through the game (one clip here - <http://wjz.com/local/sea.level.2.995688.html> ).

Participants at the event have said that it helped them to both learn about the policy choices they face and the diversity of perspectives among stakeholders on those choices. Many of the participants now want to take the game back to their communities and use it to engage others in thinking through these issues. CBI and the Maryland Department of Natural Resources will be supporting them in doing so.

The game will be available free of charge at [maryland.coastsmart.org](http://maryland.coastsmart.org) by the end of May. We are encouraging communities in Maryland and across the country to use it as tool to raise awareness about the real challenges our local governments face from a changing climate, and to demonstrate the value of a facilitated negotiation. We received funding for this effort from the National Oceanic and Atmospheric Administration (NOAA) and are in conversation with several other states about possibly adapting the game to be used in their states.

---

## **Sustainable and Just Development Round Table**

This semester, a group of EPP students launched a new department-wide lunchtime forum, called the Sustainable and Just Development Round Table. Made possible by funding from EPP and the DSC, this entirely student-led seminar series provided a unique space for open, interdisciplinary dialogue among students from all program groups about the complexities of achieving sustainability and social justice in the context of specific issues or scenarios of students' choosing. Volunteer student facilitators led a total of seven Friday lunch sessions, spanning a wide array of issues, including engagement and dispute resolution in South African mining, the human right to water, and the ethical issues surrounding climate-change induced resettlement. Facilitators included seven EPP students (Leanne Farrell, Eric Mackres, Nathan Lemphers, Ingrid Heilke, Kim Foltz, Todd Schenk and Anna Josephson), as well as several students from other program groups (John Arroyo, Bernadette Baird-Zars, Andrea Betancourt, and Lakshmi Sridaran). Given the level of interest the Round Table series generated across the department, there is high hope among students that it will be able to continue next fall!

## EPP Doctoral Dissertations

---

Reflecting and building on current broader projects and initiatives in the Environmental Policy and Planning group, doctoral students are working on a wide array of planning challenges, theoretical questions, and geographical areas. Their dissertations span across several environmental challenges in the United States, Middle East, Latin America, and Europe: mitigation of and adaptation to the impacts of climate change, sustainable management of scarce water resources, and the improvement of environmental and health conditions in marginalized urban neighborhoods. Using a policy, behavioral economics, or sociology lens, their research examine the institutional mechanisms, policy processes, and community-building work that regions, sectors, cities, and neighborhoods are developing to tackle those long-lasting environmental problems.

### Nancy Odeh

#### **Title: Towards improved partnerships in the water sector in the Middle East: A case study of partnerships in Jordan's water sector**

##### Abstract:

My dissertation focuses on the use of public-private partnerships (PPP) in the water sector in Jordan, a Middle East pioneer with respect to experimenting with different approaches to delivering water services in both cities and rural areas. Jordan's efforts to decentralize water services began in the late 1990s at the prodding of the World Bank. A management contract was awarded to a private consortium to operate and maintain Amman's water system.

One major stumbling block has been finding the right organizational and legal arrangements. In this inquiry, I selected four cases that vary in terms of the institutional arrangement which I hypothesize impacts the effectiveness of partnerships. These were (i) the Greater Amman water supply and wastewater services management contract; (ii) the Northern Governorates Water Administration Managing Consultant contract; (iii) the water

user cooperatives in the Jordan Rift Valley; and (iv) the Red Dam Cooperative for Agricultural Water Reuse in Wadi Mousa. I selected four indicators to assess effectiveness: water quality, sustainability of the water supply, affordability and financial arrangements, and efficiency of the water services.

My initial expectations were confirmed: institutional arrangements did have a significant impact on partnership effectiveness. The factors that appear to have the most impact are the contracts, the structure of governance arrangements, and the legal context. Contracts embodying clearly defined targets are deemed crucial in ensuring accountability to customers receiving water services. However, sufficient flexibility in order to allow for a considered review and possible adjustments of initially set targets is also important. Contracts must also allow the service provider adequate autonomy to operate effectively. Second, in the case of governance structures, it is those which encourage consistent and inclusive participation of partners in decision-making and information sharing that bring a positive effect to bear on PPP arrangements. And third, relevant laws and regulations need to enhance accountability to customers in urban partnerships, and farmers as irrigation water users through cooperatives in rural partnerships. My findings also suggest that failure to implement knowledge transfer and the impact of troublesome historical relationships and events can thwart even well designed partnerships in the water sector.

This spring, I defended my doctoral dissertation, titled "Towards improved partnerships in the water sector in the Middle East: A Case Study of partnerships in Jordan's water sector". I am indebted to my excellent supervisor, Professor Larry Susskind and my two other committee members, Professors Philip Khoury and Paul Kirshen.

---

## EPP Doctoral Dissertation Proposals

---

**Rachel Healy**

**Title: Changing Policies / Existing Agencies**

Proposal Abstract:

Starting in the late 1990's, when cities such as New York and Boston began to adopt climate mitigation policies focusing on reducing greenhouse gas emissions, local agencies were tasked with implementing new policies, including alternative energy production, energy efficiency, and waste processing. More recently, these cities have adopted climate adaptation policies that require local agencies to respond to impending climate change impacts such as rising ocean levels and variability in water supply.

New policies and ideas often face challenges to being integrated into agency regimes. There is also a wide variation in how agencies frame and implement these policies. Theories of public policy and institutional and organizational change suggest that problem conceptualization, organizational dynamics, and operational contexts all play important roles in shaping the various forms implementation takes. Understanding how ideas are developed and practices implemented within organizational and operational contexts is essential to achieving long-term policy goals. However, while climate change policies are being developed in these cities, exactly how implementing agencies have adjusted to new policy mandates is not yet fully understood.

In my dissertation I will investigate the following question, "How do agencies respond to – interpret, normalize, and implement – policy mandates that require changes in practices?" I will look at how citywide mandates promoting responses to climate change are, or are not, advanced and integrated into the agendas and operations of municipal agencies. The case of climate change policy implementation gives us an opportunity to see how local agencies respond to new and unfamiliar mandates. Therefore, this research will shed light on an important portion of the policy process – policy implementation -- with which public policy, planning, and governance experts are now grappling.

**Beaudry Kock**

**Title: Agent-based modeling of incentive structures in water quality trading markets for more sustainable water resource systems**

Proposal Abstract:

The western United States is dominated by hydraulic societies. These are social-hydrologic complexes characterized by large populations, diverse water uses, and a reliance on extensive water storage and delivery infrastructure. Rising salinity levels in many hydraulic societies threaten the long sustainability of such systems. Institutional mechanisms have been proposed as one way to address such non-point source pollution, but the success of these institutions depends at least in part on how water user incentives are structured. Designers of market institutions typically assume that water users will respond best to purely monetary incentives. However, recent work in behavioral economics suggests this is erroneous, and may in fact be counterproductive when trying to foster more sustainable behavior on the part of water users.

Through close collaborative work with stakeholders in the Arkansas Basin of Colorado, I construct an agent-based

simulation model which captures both hydrologic dynamics and stakeholder decision-making in one particular hydraulic society of the American West. I use this model to compare traditional neoclassical models of stakeholder behavior, with more empirically-grounded behavioral models that depict water users as possessing both other-regarding as well as self-interested motivations for participating in a salinity reduction program. I show that varying our assumptions on stakeholder behavior can lead to dramatically different outcomes for hydraulic sustainability, and I explore the use of environmental and social information in encouraging other-regarding behavior within the water quality trading market.

**Isabelle Anguelovski**

**Title: Reclaiming Space in Marginalized Urban Neighborhoods: A Comparative Analysis of Community Environmental and Health Demands in the Global North and South**

Proposal Abstract:

Over the last decade, cities in the developed and developing world have witnessed increased incidence of residents in historically marginalized neighborhoods claiming greater access to environmental and health benefits. In their demands, neighborhoods have focused on accessible green and recreational spaces, community gardens and farmers' markets, walkable and bicycable communities, and improved waste management. Even though such demands for neighborhood improvements are often considered legitimate by decision-makers and planners, communities of color and low-income neighborhoods are faced with great challenges to affect the decisions being made. To date, the environmental justice literature has focused mostly on the environmental injustices themselves and the mobilization of communities against "brown" contaminating facilities. Furthermore, traditional environmental justice research in cities, and urban social movement research more broadly, have paid little attention to how community strategy development and interactions with decision-makers to address environmental justice issues are affected by the collective identities and sense of space of local urban neighborhoods and their interpretation of the local political and institutional contexts.

My dissertation will answer the following question: How do collective identities and sense of space shape the strategies and tactics that urban low-income and minority neighborhoods use to gain greater access to environmental and health benefits? I will build my research around four critical and emblematic case studies of neighborhoods in four large and diverse cities (Barcelona, Boston, La Habana, and Lima), which have faced and mobilized against similar challenges of marginalization and environmental degradation. Through this study, I hope to improve our understanding of the dialectic between mobilization – as influenced and shaped by community identity – and community identity used as political strategy, which will allow me to build stronger connections between social movement research, urban research on community identity, and environmental justice scholarship. By accounting for how strategic responses to environmental degradation contribute to the construction of democratic spaces in neighborhoods, the findings will also contribute to policy-relevant knowledge on the types and structures of participation and mobilization that allow vulnerable communities to gain influence on planning decisions in a variety of political and socio-economic contexts.