

Higher Education and the Hudson River Valley: Meeting the Environmental Challenge

February 27-28, 2004
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Presented by

Environmental Consortium of Hudson Valley Colleges & Universities

Pace Academy for the Environment

Rivers & Estuaries Center on the Hudson

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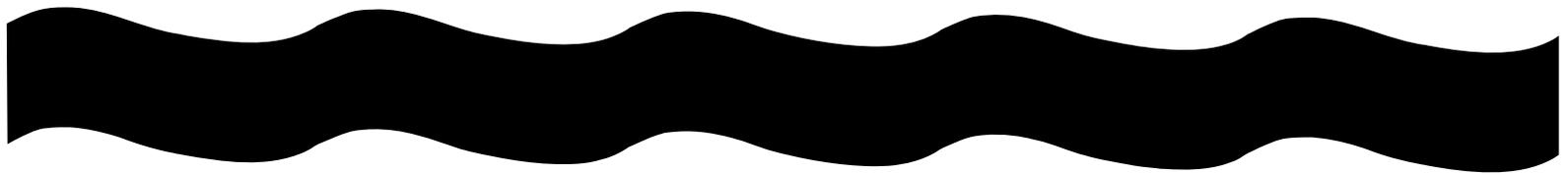


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Agenda

FRIDAY, FEBRUARY 27TH

- 8:30 am **Registration** - Coffee/Continental Breakfast
- 9:00 am **Keynote Address**
Governor George E. Pataki
- 9:30 am **Panel** - Defining an Environmental Role for Higher Education
- Moderator:
Dr. David A. Caputo
President
Pace University
- Panelists:
Professor Joanne Fox-Przeworski
Director
Bard Center for Environmental Policy
- Professor John C. Mutter**
Professor, Deputy Director
The Earth Institute at Columbia University
- Professor Roger Panetta**
Associate Professor
Chair of History Department
Marymount College of Fordham University
- Professor H. Daniel Peck**
Professor of English
Vassar College
- 11:00 am **Break**
- 11:15 am **Workshop Session #1**
- 12:30 pm **Lunch & Keynote Speaker**
Water and Energy Policy: Harnessing Science to Serve Society
Dr. A. Karim Ahmed
Director, International Program and Secretary-Treasurer
National Council for Science and the Environment
- 1:45 pm **Workshop Session #2**
- 3:00 pm **Break**



3:15 pm **Plenary Session** - Teaching Values: Should We? Can We?

Moderator:

Dr. Thomas H. Murray

President

The Hastings Center

Panelists:

Professor Robert L. Chapman

Associate Professor of Philosophy

Coordinator Environmental Studies Program

Pace University

Sister Brigid Driscoll

Coordinator

Rivers & Estuaries Center on the Hudson

President Emerita

Marymount College of Fordham University

Professor Stephanie Pfirman

Professor and Chair of Environmental Science

Barnard College

Professor Nicholas A. Robinson

Professor of Law

Pace Law School

Co-Director

Center for Environmental Legal Studies

4:30 pm **Roundtables**

What should be the environmental mission of Hudson Valley colleges and universities? How can a consortium help?

6:00 pm **Cocktail Hour & Displays**

7:00 pm **Dinner & Workshop**

Keeping the Dream: a Hudson River workshop with

Mr. Pete Seeger, Guest of Honor



SATURDAY, FEBRUARY 28TH

- 9:00 am **Breakfast & Keynote Speaker**
Congresswoman Nita M. Lowey
Co-Chair
Hudson River Congressional Caucus
- 10:00 am **Roundtables**
A message to the Governor: How the Rivers & Estuaries Center can help our institutions
- 11:30 am **Break & Birds of Prey Demonstration**
Mr. James Eyring
Assistant Director
Pace University Environmental Center
- 12:30 pm **Working Lunch**
Presentation of recommendations from roundtable discussions
- 1:30 pm **Closing remarks and future directions for the Consortium**
Mr. John Cronin
Director
Pace Academy for the Environment



Keynote Address

George E. Pataki, Governor of New York State



Photos by Joe Vericker, PhotoBureau, Inc.

Introduction of Governor Pataki by John Cronin

I started doing Hudson River work in 1973 and at that time, Nelson Rockefeller was the governor. You [Governor Pataki] were an advance man for Nelson Rockefeller, weren't you? I am now on my fifth governor and I can't tell you what a pleasure it has been to be a partner, as so many of us have been with this administration - and I mean a true partner. Many of you know the Governor's environmental achievements. One in particular, which would be a monument to any governor alone, is that since 1995, under Governor Pataki's leadership, New York State has preserved over a half million additional acres of open space in New York State, which I think is just an extraordinary achievement. But it doesn't stop there. Most of you have heard about the Environmental Quality Bond Act, you heard about the New York City Watershed Agreement, and the Governor's idea for a Rivers and Estuaries Center on the Hudson River. These were not issues that we brought to the Governor and asked him to do. These were not issues where we knocked on his door, made appointments, lobbied him and his staff and said these are great ideas, please do them. These were ideas that originated with Governor Pataki and he came and knocked on our doors and said are you going to join me in this effort? Are you going to help me campaign for these things, which the environmental movement in New York State has done? This latest initiative, the Rivers and Estuaries Center on the Hudson, promises to be one of the most important things that has happened environmentally in New York State. I won't go into detail about it because the Governor does a much better job than I, but the Governor has identified that higher education is the major, significant partner for the Rivers and Estuaries Center, for its future success and what it is going to mean to the Hudson River Valley and to the world at large. I want you to join me in welcoming not just the best environmental governor that New York State has ever had, but one of the top environmental political leaders in the country, Governor George Pataki.



Keynote Address

Thank you very much John and thank you for your kind words. Who would have thought that when Nick Robinson and I were sitting together in Columbia Law School that he would ever amount to anything? I certainly didn't [laughter]. Nick, thank you. It is always good to see you. He is not only working to make sure that the Hudson River and the Hudson Valley are clean, but he is working on international environmental issues as well. As for John Cronin, much of what has happened positively in this state over the course of those 30 years since 1973 when he started working in the Hudson River, is directly attributable to his leadership and his commitment. It is not every day that Time Magazine names somebody a hero of the world and John Cronin is one of those heroes. So John, thank you for all you are doing and for heading up our efforts with the Rivers & Estuaries Center.

I wanted to come here today because you are all aware that we are in the process of creating the Rivers & Estuaries Center in Beacon, New York and I think it is very exciting. We are at a turning point. A hundred years ago we lost access not just to the Hudson River, but to the rivers up and down this state and across the country. I remember growing up as a kid here in the Hudson Valley, in Peekskill, New York. You would look out and there was the River, but you couldn't get to it because the railroad had cut it off. It was the place for the sewage treatment plants and the dumps and the factories. Every now and then, you could get to the River, but you wouldn't want to because it was just so filthy. In fact, my grandparents lived right smack on the River in Verplank and I would go down there as a little kid in the summer and look at the River. It would be very hot and I couldn't understand why I wasn't able to go in the River. We had lost it not just from the standpoint of public access, but also from the standpoint of the health and safety of the River itself. Now we are at a unique point where we are moving from an industrial society to an informational age society. All across this state, not just in the Hudson Valley, but down under the bridges of Brooklyn and throughout the Erie Canal corridor and on the shores of Lake Erie in Buffalo, we have an opportunity to replace what had been treated as a backdoor - the place you look away from, where all the waste comes in and goes out and the raw materials come in - to a front door - a place of recreational opportunity, a place where we can study and learn about the ecology, and about communities of the world. And in the process, make it an economic engine because people want to come to a naturally beautiful spot. You know, they used to tour up and down the line in steamers to look at the Rhine. The Hudson is prettier and when it is cleaner, we are going to get ecotourism and tourists who just want to see the beauty of this River coming not just from New York State and this country, but from around the world. It is beginning and we have an opportunity to make it happen.

So as John said, we are preserving open space, we are imposing high standards - the highest in the nation - on air emissions and water emissions to make sure we do our part to clean up the water and the air in this region. We are reclaiming the waterfronts themselves. One which I am most excited about is when you go down to the west side of Manhattan and look at those dilapidated, decrepit piers that used to stick out into the Hudson River and you see the new park - I call it the Central Park for the 21st century - rising along the River that is not going to just include walkways and runways and green spaces, but islands out where the piers used to be that are going to be used for habitat. It is going to be enormously exciting. I have to tell you my first year as Governor in 1995 my offices were in the south tower of the World Trade Center and when I was coming down from Albany I would drive down the west side and look at all those horrible, rotting piers that were an embarrassment to New York City and New York State and I remember asking, "who owns all that?" I was told, "Governor, you do." It is the State of New York. I said, "who?" The State Department of Transportation owned virtually all of those decrepit, falling apart piers and we are replacing it with a park, and we want to do that up and down this river valley on both sides of the river. We have worked to reenergize the Greenway. Right now 201 communities are in the Greenway. We never expected to get that level of cooperation and support because people understand that the Greenway is something that isn't just imposed from above by the State, but comes and works from the community and will allow us to have the continuous walkways and continuity for visitors to come to the Hudson Valley, so they want to be here. At the last couple of years I have had the chance to go



out on the great Hudson River path where people kayak from all the way up in Albany down to the Battery of New York City, and one of the things we thought about was yes, we are going to have the Greenway Trail, but what about a water trail? So we worked to create a water trail where people in kayaks or small boats could go up and down the River and not have to go into some giant marina, but to just pull up on shore. Today we have 76 sites for that water trail up and down the Hudson and it is just going to get bigger and better so people who just love to get out on the River are going to have the chance to see one of nature's wonders in one of the most exciting ways possible. As we look to all of this, we know what we are doing from a political standpoint or from a philosophical standpoint, but we have to know what we are doing from a scientific standpoint. You have to know that what you are doing makes sense, not just from a standpoint of the economy or from common sense, but that the science behind it is sound. For so long we lost our rivers, we lost our estuaries because we didn't have the science or the political will to understand the science and implement programs that would adopt it. Now, that is one of the goals of the Rivers and Estuaries Center in Beacon, New York. We sat down a few years ago and thought about what the next step could be, not just by adding another park, important as that is, or restoring another wetland, important as that is, but by looking longer term at the health of the River, the health of the estuary, the relative impact to future generations. Woods Hole out in Massachusetts does this for oceanography, they do the research and it is a world-renowned institution that has had a profound positive impact around the world. So we had the idea: Why can't we do that right here for rivers and estuaries? We then came up with the concept of the Rivers and Estuaries Center.

I want to tell you a couple of the reasons why it is in Beacon. One, we wanted to utilize this as an opportunity to revitalize one of the older river towns so that the places that used to rely on the factories could now rely on science and tourism and quality of life and the information technologies to bring people here. We wanted to have it accessible by mass transit so that you don't have to get into the car to get there. From Midtown Manhattan you can get on the Hudson River Line and it is not only efficient and nonpolluting, it is one of the most beautiful rides you could ever see. There is another reason as well. We didn't want to locate it at a university center. We have great colleges and universities in the Hudson Valley from all the way down at the Battery where Pace has one of its campuses and NYU to up at the Troy Dam where RPI is, and we could have located it co-adjacent to one of those facilities, but we didn't want that because we don't want this to be a university or a college's research center. We want it to be all of yours. We want it to be one where everyone can be a part of it. I know you have representatives today from 28 different institutions of higher learning in the Hudson Valley. We want all of you to be a part of it. We are going to raise the capital and put in the funds so that we have the bricks and mortar. We are going to look for help to make sure we can find the equipment and the research - whatever it is that you need to do the research. But we are going to look to you to provide the scientists, to provide the researchers, to provide the students, to provide the energy to fill those buildings. That is why having you at this conference is so important. I see Sister Brigid Driscoll, who along with John Cronin was instrumental in heading up our Board and continues to serve an important role. I know we have David Caputo here. David, I have to thank you for the core role that Pace has played in this and today I am pleased to announce that we are going to have a higher education advisory council to make sure that all of you are involved as we set up the research protocols and hire the scientists and bring in the students at the Rivers and Estuaries Center. Pace and David Caputo are going to head up that coordinated effort - so David, thank you for all that Pace has done. Thank you for heading this [conference] up as well. This is first about science, then it is about applying that science in practical ways so that we can take the next steps to make sure the river is the cleanest and best it can possibly be. Then it is about taking that science beyond the Hudson Valley, beyond the estuary and the river that we love so much here in New York, around the country and around the world and applying the principles, applying the science, applying the lessons to other rivers and estuaries so that we can bring them back just as we are in the process of bringing the Hudson River back.

And probably more important than any of that...as I said, I grew up as a little kid and I looked out at the Hudson and asked my parents, why can't I go for a swim, it is hot. It is because it was polluted. Twenty years from now, thirty years from now, I want someone to bring their kid to the Rivers and



Estuaries Center in Beacon and have them meet some of the scientists, have them meet some of the teachers from your institution, have them meet some of the students who are working on internships or helping those research scientists and ask them how they made the Hudson one of the premier cleanest places in the world so that they become inspired not because of what they have seen and don't like to change the world, but because of what they see and they do like to help continue to change the world. What you do is going to be as important as anything that happens at this Center - educating students, motivating our young people to understand the importance of what we are doing and then giving them the skills to go forth and do it.

So I wanted to come this morning to thank David and to thank Pace, to thank John and Sister Brigid for what they have done for the Estuary center. I want to thank all of you and more importantly, to encourage all of you, to take this seriously because we do. It is a tremendous opportunity for your institutions, for your teachers, for your research history, your students, not just to learn, but to then teach and ultimately to change so that we can make this world, and not just the Hudson Valley, a place that is cleaner, healthier and more vibrant for generations we will never see come to this Valley. Thank you. God bless you. It is a tremendous honor that we have the chance to talk to you this morning. I appreciate it.

Concluding Remarks by John Cronin

Thank you very much, Governor. There are two people that I would like to introduce that are affiliated with the Rivers and Estuaries Center and are here today: Sister Brigid Driscoll served as coordinator of our advisory task force and continues to serve as a planning and program coordinator with the Rivers and Estuaries Center. I would also like to introduce Patti Dunne. Patti was just hired as our Administrative Assistant of the Rivers and Estuaries Center. We opened our first interim office at 199 Main Street in Beacon, New York, which has about 3,000 square feet of space. When we come away from this conference, hopefully with our plans for an environmental consortium of Hudson Valley colleges and universities, that space in Beacon will be able to serve as a meeting place for the consortium as well, since it is more centrally located in the Hudson Valley.

I do want to emphasize one point, which the Governor just whispered in my ear as he was leaving – although necessarily science is a central focus of a place like the Rivers and Estuaries Center – it is the application of those sciences to all manner of Hudson River issues. One of the issues that the Governor has been involved with intimately is that of PCBs on the Hudson and the plight of the commercial fisherman. As an example, a lot is being said about the PCB issue on the Hudson River and in many ways it has defined the last couple of decades on the Hudson River and it is a large problem. I was out at a National Science Foundation Conference in Minnesota not too long ago and I didn't speak. I was just part of the audience. There were a lot of researchers who gathered from around the country and over the course of two days, I counted the Hudson River being mentioned 13 times, and never by somebody from the Hudson River. The very first evening it was talked about in the introductory plenary session by a scientist from California and it proceeded that way for the next two days and not just about the science of the river, but about what the Hudson River represents to American history and to culture and those commercial fishermen are our only documented victims of the PCB issue. And why is that significant? Well, it is significant because they are part of the social fabric, part of the cultural fabric, part of the economic fabric of the Hudson River Valley and when I was a commercial fisherman there were still over a hundred commercial fishermen left on the Hudson River. This year...I think last season, there were 10 fishermen left? [Tom Lake suggested more like 30]. Well, with their hired hands there were probably about 40 fishermen left. There are probably only 10 active license holders left on the Hudson River. This is a C-change and those numbers are only going down. The next generation isn't going to come and that is a profound impact on the Hudson River - an impact on our culture and our social fabric and every environmental issue is complicated that way. The Rivers and Estuaries Center is going to be an interdisciplinary place where science certainly is a foundation, but also public policy and cultural-social economics and the social sciences as well.



Keynote Address

Congresswoman Nita M. Lowey

Good Morning. It is a pleasure to speak to you today. I would like to especially thank John Cronin, who as founder and director of the Pace Academy for the Environment has championed efforts to protect the Hudson River. This weekend's conference is a very important opportunity for all of us who care about the river.

From the earliest civilizations, people have relied heavily on lakes and other water bodies for transportation, communication, and strategic defense. While technological progress has diminished our apparent dependence on rivers, they continue to serve both functional and inspirational roles.

The Hudson River is distinctive in its grace and grandeur, and these qualities have been recognized throughout history. Frances Trollope, a 19th century British author and astute observer of American life, traveled down the Hudson from Albany to New York City in the 1830's. She had this to say:

Nothing could be more beautiful than our passage down the Hudson [River].... The change, the contrast, the ceaseless variety of beauty, as you skim from side to side, the liquid smoothness of the broad mirror which reflects the scene, and most of all, the clear bright air through which you look at it; The magnificent boldness of the Jersey shore on the one side, and the luxurious softness of the shady lawns on the other, with the vast silvery stream that flows between them, altogether form a picture which may well excuse a traveler for saying, once and again, that the Hudson river can be surpassed in beauty by none on the outside of Paradise.

In recent years, a fresh appreciation for the Hudson has emerged. Comprehensive studies of threats and protective strategies for the New York/New Jersey Estuary have been commissioned. In addition to the region's academic institutions, Riverkeeper, Hudson River Sloop, Scenic Hudson, NY PIRG, and Federated Conservationists of Westchester County are but a few of the environmental organizations that have aggressively expanded their efforts to protect the Hudson. And state and local environmental agencies have directed their regulatory efforts and financial resources to curbing air and water pollution entering the river.

The current passion for preservation stems, at least in part, from a heightened sense of the river's possibilities. For the greater part of the 20th century, dirty factories, power generators and public works vied for scarce shoreline property. Even as they delivered important economic benefits, their presence dramatically altered the Hudson's banks. These facilities marred – and at times destroyed - the majestic views that had inspired the Hudson River School of painting.

More than just the scenery changed on the Hudson during this time. The hazardous chemicals that seeped into the air and water made fishing and swimming impossible. Trash and floating debris threatened public safety. As access and opportunities for its enjoyment became increasingly limited, public perceptions of – and New Yorkers' relationship to -- the Hudson River changed dramatically. A dynamic, vital water body that had provided artistic inspiration, employment, and recreation receded from the public consciousness.

Attitudes towards the river, however, have undergone a profound shift over the last few decades. Conservationist concerns now figure prominently in public discussions about the future of the Hudson. As a senior member of the Appropriations Committee, I receive requests each year from municipalities eager to protect the Hudson. Whether the project involves wetlands restoration, habitat conservation, or cleaning up a polluted bay, safeguarding the Hudson for future generations has become a top priority.



The stakes could not be higher. The Hudson River reserve includes prime coastal wetlands at Piermont Marsh, Tivoli Bays, Stockport Flats, and Iona Island. One of the most diverse estuaries in the country, the Hudson provides habitat for 200 species of fish.

Conversations with my constituents have revealed more than a passing interest in protecting wildlife. A genuine desire to reconnect to the river has emerged. Projects that will help incorporate the Hudson into our daily lives are already in the works. Planned kayak and rowboat landings will provide thousands of boating enthusiasts with easy access to the river. Municipalities on both sides of the Hudson have developed ambitious waterfront revitalization plans. They have added transportation options from city centers to the riverfront and cleaned up or relocated industrial and public works facilities. An initiative spearheaded by the new federally-sponsored Hudson River Navigator and Yonkers promises to connect upstate farmers to downstate markets via the Hudson River. Governor Pataki has provided state funds to establish a Hudson River Water Trail stretching from Battery Park in the Village of Waterford to Battery Park in Manhattan. Over 200 communities in 12 counties are now members of the Hudson River Greenway, a state agency that provides planning and financial assistance for open space preservation and historical protection. I was pleased to have helped obtain over half a million dollars in federal assistance last year for their important initiatives.

In fact, I realized that the surging interest in the Hudson River extends well beyond the borders of my own district. Despite tight budgets, communities up and down the entire river are setting aside money in their budgets to protect their part of the Hudson. These municipal efforts to safeguard cultural, historical, and natural resources have often been undertaken independently rather than cooperatively. Local activities have not been integrated into a larger management plan for the Hudson River Valley that establishes clear priorities. And efforts by Members of Congress to secure federal dollars for historical and environmental conservation in the region have been uncoordinated.

To address these challenges, I recently decided to form a Hudson River Caucus with my colleague Congressman John Sweeney. A central focus of the caucus will be securing financial support for the Rivers & Estuaries Center, or REC. Biologists, water managers, and state and local environmental agencies need better data to anticipate and respond to potential threats. The REC, as we'll hear more about today, will collaborate with regional universities to integrate these issues into classroom curricula. Equally important, the REC will educate residents about the ecological and social value of the Hudson River and other estuaries. Preserving green parks and developing an integrated bike and pedestrian path network along the Hudson will likely be on our agenda as well. And we must address the rocky and treacherous shorelines that now conspire to limit public access to the river. I am proud to have obtained almost \$330,000 to restore several important stretches of Hudson River shoreline, and I will continue to fight for greater public access to the river.

Safeguarding the Hudson's rich historical legacy will be another caucus objective. The National Trust for Historic Preservation appropriately characterized the region as "a mix of scenery and history that is unmatched anywhere else in the country," and has listed the Hudson Valley as one of America's "Eleven Most Endangered Historic Places." The Hudson River's numerous historical designations entitle the region to grants through the Department of Interior's American Heritage Rivers, Scenic Byways, National Management Heritage Area, and Preserve America's Communities programs. Ensuring that these programs are fully funded—and that the Hudson River receives its fair share of available assistance – is imperative.

Ultimately, knowledge will be at least as valuable as financial support in achieving our shared goals. As world-class professors in the Hudson Valley, you have immeasurably improved our understanding and awareness of the river's historical and natural resources. The emerging public passion for protecting the Hudson is, to a large extent, an outgrowth of your work. We must continue to channel this energy and intellectual capital in developing innovative strategies to protect the river. The Hudson must be our living laboratory.



But your breakthroughs should not be confined to campuses and classrooms. As you identify emerging environmental threats – and develop bold strategies to address them—it is critical that information filters to local decision-makers. Whether deciphering complex environmental regulations, developing sprawl-reducing zoning strategies, or implementing clean-energy solutions, committed local leaders need your insights and technical expertise to be effective. Institutions like Marist College and the Pace University Land Use Law Center, which educates local officials on urban planning and pollution prevention, continue to play an indispensable role in this regard.

Our modern vision of the Hudson should and can be as majestic as Trollope's stirring portrait of the river from two centuries ago. Your work has laid the foundation upon which the renaissance of the Hudson will be based. I look forward to a renewed partnership with you in the coming years.

Thank you.



Panel:
Defining an Environmental Role for Higher Education



Photo by Joe Vericker, PhotoBureau, Inc.

Moderator:

Dr. David A. Caputo
President, *Pace University*

Panelists:

Professor Joanne Fox-Przeworski
Director Bard Center for Environmental Policy, *Bard College*

Professor Roger Panetta
Associate Professor, Chair of History Department, *Marymount College of Fordham University*

Professor H. Daniel Peck
Professor of English, *Vassar College*

Professor John C. Mutter
Professor, Deputy Director, the Earth Institute at Columbia University



Joanne Fox-Przeworski
Director, Bard Center for Environmental Policy, Bard College

The Hudson River is the birthplace of the modern environmental movement. But to many people, environmentalism means conservation and preservation – but not what might be called progress. And to many, still, environmentalism is considered an elite activity.

Indeed, for some in the Hudson Valley – as well as in many parts of the less developed world – environmentalism is considered a luxury item, something that one has to be able to afford. One of our tasks, it seems to me, is to help people understand that: environment is not something that can wait until it can be afforded. Rather, environment is something that can't afford to wait.

I don't believe that higher education has been largely uninvolved in Hudson's future state of the environment. After all, importantly, we're educating many of the Valley's future citizens...and they will be making decisions in the future that affect the environment.

Moreover, many researchers in our institutions in or near the Hudson Valley are actively seeking answers to why lakes are acidifying, why trees are suffering, what are the effects of land fragmentation, do current zoning laws preserve rural character? Is there a correlation between placement of waste dumps and bus depots and lower income populations, and what's the direction of causation?

Rather, my sense is that higher education has not been plugged into Hudson's future in a connected or integrated way. The Environmental Consortium offers us a chance to explore options for doing this. For example,

- Research might be better coordinated through joint research projects and shared protocols
- Community service opportunities might be better known through partnerships with local governments, businesses, and nonprofit organizations
- Many educational opportunities present themselves that would benefit from concerted efforts, for example, as public advocates – stressing the importance of environment protection legal standards and regulations, or as agents of integration, together examining a common theme that crosses county boundaries to put together a big picture of the current state of the environment

And, importantly, higher education has not been truly connected in terms of what has been called “integrated interdisciplinary” education. In other words, if we are to consider how higher education can become more involved in the future of the Hudson River environment, we will need to better integrate a range of different perspectives:

- What scientific and technological knowledge reveals about what's effective
- What economic analysis tells us about what's efficient and will motivate changes in people's behavior, how natural resources can be better “valued,”
- What laws and regulations can and cannot do
- What governance tells us is “fair

All of this need to be better understood in the context of viable options and translated into language that the public and policy makers can understand and deal with in an equitable way.



Our joint initiatives might empower members of the Environmental Consortium to act:

- As public advocates who can show how regulations and laws have benefited the public (Clean Air Act, Clean Water Act, Toxic Release Inventory, Right-to-Know Laws)
- As agents for accountability – examining together the state of the Hudson environment and implementation of existing safeguards
- As researchers to explore potential of local and state initiatives, especially those that attempt to fill in the gap when actions are not being taken on the federal level, (for example, carbon emissions standards)

Each of us IS involved in the Hudson Valley's future – it's the connectedness and integration that is perhaps missing. We have a great opportunity here to create a vision of how our individual efforts could have a magnified impact through concentration. I look forward to joining in this exciting venture.

John C. Mutter
Professor, Deputy Director, The Earth Institute at Columbia University

[Transcript not available]



Roger Panetta
Associate Professor and Chair of History Department, Marymount College of
Fordham University

“Re-forming Undergraduate Environmental Education”

President Caputo, thank you for the invitation to join with you and my colleagues on this panel in discussing the role of colleges and universities in undergraduate environmental education. This is a most important discussion.

In preparing for this conference I recalled the words of one of America's eminent folk philosophers Yogi Berra. In the middle of a tight pennant race Yogi told a New York newspaper reporter, “Its déjà vu all over again.” Have we been here before? Indeed have we been over the ground of environmental education so many times that is it has become so familiar it longer moves us or holds our attention? Was Yogi right?

As we got closer to the conference I was reminded of the words of another baseball philosopher/poet Dan Quisenberry, a right-handed relief pitcher for the Kansas City Royals in the late 70s and 80s, who when asked at the end of his career about plans for his future he responded, “Pretty much the same as today only longer.”

If there is any single primary objective for this conference and the collective expression of concern for the environment it embodies, it must be to assure us that Quisenberry was wrong and the future will be fundamentally different. Tomorrow cannot be the same as today. We are challenged this morning to examine our institutions, our curriculums and the content of our courses and the canon in our fields of specialization. We need to scrutinize not only what we teach, but also our relationships to the local, national, and global communities around us.

There are few areas of inquiry which have the same imperative as the environment and evoke in us such a deep and abiding emotional response. Yet if we listen to President Caputo's comments one can hear in his words the disappointment – the sense of an opportunity squandered, the failure to use our institutions to energize undergraduate environmental education. Is this true? Does it resonate in this room filled with so many faculty and administrators who have pioneered in creating programs in environmental studies? Yet President Caputo concludes “we are largely uninvolved.”

To understand the context of his comments we might re-examine the histories of the environmental movement and its origins in the counter culture of the late 1960s and 1970s. For the sake of our discussion this morning let us consider the environmental movement as part of larger reform effort that included civil rights and women's liberation. Taken together they constituted a kind of a trinity of reform. While sharing a common aspiration for change the histories of these three movements have diverged slowly over the last 20 years.

Environmentalism has not kept pace with the gains and success of civil rights movement and women's liberation marked by their institutionalization in the academy as African-American studies and Women's Studies. By institutionalization I mean more than the development of a program of study but fundamental changes in the canon of many disciplines in the humanities and social sciences.



A profound intellectual transformation was fueled by organized groups who felt excluded and oppressed and sought to correct years of the intellectual and political neglect. They constituted a lobby for change in the university and moved from the margins of specialty programs and new majors to full standing in the canon the agreed upon body of knowledge which shapes the character of undergraduate education. Indeed they helped to create a series of new narratives.

I would suggest to you this morning the environmental movement did not follow the same trajectory and as it veered off course it fell behind and never reached the full integration of its fellow travelers. This failure is the reason why we are here this morning and explains why I believe President Caputo is right.

Why the different path for environmentalism in the academy? The answer is many – let me suggest just a few:

1. Environmentalism suffered because it adopted the language of utopianism that not only seemed impractical, self-indulgent and at times exhibited a Luddite quality, but which frightened many and undercut its public support.
2. The environmental movement expended much of its energy on the anti-nuclear campaign.
3. Advocates failed to articulate environmental positions founded on solid science.
4. The subsequent fragmentation or dispersal of the movement into a series of national and international technical associations and agencies marginalized the grass-roots elements that under girded the initial movement. This heightened specialization left the general public with little or no access to this new emerging field of knowledge.

Today as educators and citizens we face a maze of environmental agencies and organizations – a daunting intellectual gauntlet which too often stands in the way of public participation and undergraduate education.

5. But most critical here is that unlike the African-American and Women's Movements, environmentalism had no equivalent constituency. Its advocates were, at best, surrogates for the environment and unlike racism and sexism with its social casualties its advocates could not raise the same plaintiff cry of injustice. This was not a movement that could argue for redress of grievances or compensatory entitlements. Rather it used the vocabulary of limits, self-discipline and at times served up a wholesale pessimism which all too frequently morphed into doomsday prophecies.

The end result of this divergent history is the continued marginalization of environmental studies in the academy and its under-representation in the canon of many of our disciplines.

How do we re-charge our efforts, restore the enthusiasm and reinvigorate the critical posture, the last of which is an essential element in any definition of liberal learning, which were the hallmarks of the environmental movement of the 60s and 70s?

I offer this morning a simple idea for the Consortium. My proposal aims to integrate environmental perspectives, forms of analysis and scholarship into the general education courses at each of our institutions by helping faculty in all disciplines to develop a more inclusive canon. This simple proposal seeks to expand the beachhead established by environmental programs many of which are represented in this room. It is time to leap forward to make up the lost ground I described above.



We recognize this morning that we need to move the environment to full membership in the disciplinary canon, the accepted body of essential knowledge; to full standing in the core curriculums of all our colleges and universities.

Today we all apply the litmus test of race and gender to our institutions and their programs of study. I propose a new test – one requiring a fundamental environmental literacy for all undergraduates. Literacy grounded in this river and this valley. We should aspire to help our students to see this place with new eyes. I hope we can come to understand that a good undergraduate education must engage all of us in the serious study of the environment.

If we can no longer afford to have tomorrow looked like today, then the place to begin is in our classrooms.



H. Daniel Peck
Professor of English, Vassar College

“Getting the News from Poems: The Role of the Humanities in Environmental Studies”

Everyone probably has noticed that the order of presentation for the five panelists is alphabetical. So it's purely accidental that I, as the spokesman for the arts and humanities, am speaking last, and--given the Governor's adjusted schedule--am the one most likely to be interrupted by his entourage. While it's accidental, however, this ordering could be made to speak to the marginalization of the humanities in environmental education, and this is exactly what I would like to talk about today—in relation to this very promising Consortium, and to the enormously ambitious River and Estuaries Center.

Let me begin with some words from the twentieth-century American poet, William Carlos Williams, who knew something about rivers—in his case New Jersey's Passaic, which flows through Williams's beloved Paterson, described in his epic poem of that title. But the following words come from a different poem by Williams, one titled “Asphodel, That Greeny Flower” (1962):

“It is difficult to get the news from poems yet men die miserably every day for lack of what is found there.”

These lines from Williams's poem* address, I think, the greatest challenge facing the humanities wing of higher education in considering its role in environmental studies. The difficulty of which Williams speaks is real, as I have been made aware in serving as the first director of Vassar's new environmental studies program. Our program is immensely strong in the natural and social sciences, as reflected by the numbers of participating faculty from these fields, and from the number of students focusing their studies in them. And beyond the numbers, I hope I will not offend any of my humanities colleagues by observing that most of the truly innovative teaching initiatives in our program have come from faculty in the natural and social sciences. Those of you who have signed up for the conference workshop titled “Linking Disciplines” will see later today how a Vassar chemist, Christopher Smart, and social theorist, Pinar Batur, integrated their perspectives in teaching a course about notable cases of environmental advocacy.

I don't mean to suggest that the humanities have been ignored or pushed aside in the area of environmental education. Rather, I want to focus on the way the humanities have lent *themselves* to a marginal role. Works of literature and art have, for the most part, been deployed in environmental education for what might be called inspirational effect. They have been used as glosses, illustrations, or metaphors for environmental ideas developed by the science and policy areas. A good example comes from my own field, literary studies, which through a new and potentially promising approach called ecocriticism has begun to form a relationship of literary study to the environment. But here too, for the most part, that relationship is secondary and derivative. An example is ecocriticism's embrace of ecology, itself a somewhat imprecise and evolving science, in ways that are even more imprecise—and which, as my friend Dana Phillips has pointed out, often reflect oversimplified and outdated notions of nature's harmony and order.**

On this same theme, we could note that some of the most important and trenchant works of environmental analysis coming from the humanities in the twentieth century were in fact written by scientists—Aldo Leopold in his extraordinary *Sand County Almanac* , and Rachel Carson in *Silent Spring* . These were scientists with a gift for writing, and one might say that writing itself became their interdisciplinary gesture as they reached for a broader public forum for their ideas. But the presence of such great books, and the gifted and versatile scientists who wrote them, doesn't get us



very far in thinking systematically about how the humanities could make a significantly original contribution to environmental education.

To be blunt, it seems to me that, for the most part, literature and art have been used in environmental study rather in the way that the Sierra Club calendar uses quotations from Thoreau: as gems or nuggets of well-spoken, ready-made environmental wisdom. The tendency to understand the humanities as cheerleaders or backup players can be seen in the reading lists of environmental literature courses all around the country. It's always the same books, which, in this context, take on the aura of sacred texts: Thoreau's *Walden* , John Muir's *My First Summer in the Sierra* , Terry Tempest Williams's *Refuge* , and so on--you yourselves can fill out the rest of the predictable syllabus.

These works, as they tend to be used and understood in environmental discussions, are designed to show how well they either anticipate contemporary ideas about environment, or how their discourses mirror those of current environmental issues. That they now form something of a "core" in environmental literary circles is both a good thing—they are, after all, great books—and also a bad thing, insofar as their canonical status and repeated pedagogical use tend to block the interrogation of other, less obvious texts that might lead us in new and important directions.

Now, to bring this matter home, I was delighted to see that in Governor Pataki's recent letter to college and university presidents, he speaks of "the [River and Estuary] Center's goals of interdisciplinary research, collaboration and education." In other words, it appears that there is a place for the humanities at this table, and the Governor has chosen just the right term to suggest how the humanities might make themselves pertinent: the word "interdisciplinary." Only, in my opinion, through ranging (and very difficult to achieve) interdisciplinary work linking humanities fields (such as art and literature) to one another, and in turn to the natural and social sciences, will we begin to see how richly the humanities might inform environmental research and education. Not as a decoration or an add-on, but as an integral player in environmental thinking. The interdisciplinary dialogue is everything.

This is the challenge for the humanities that I hope educators in the Hudson River Valley will take up in response to Governor Pataki's call for ideas and support. The kind of response I'm thinking of would go beyond calling up some good examples of environmental literature and art from the history of the Hudson River Valley. There are, of course, plenty of such examples. From the nineteenth century, one need only recall the Hudson River School painter Thomas Cole's dire warning about environmental degradation in his 1836 "Essay on American Scenery." Or, one could turn to James Fenimore Cooper's 1823 novel *The Pioneers* , the first authentically environmental novel in American literature, and a work, though it describes the settlement of Cooperstown—pretty far west in the watershed—that was written right here in Westchester County. But no, beyond referring to these rich and good examples of nineteenth-century artistic expressions of environmental awareness, I hope for the development of methodologies and approaches, interdisciplinary in character, that would deepen and complicate our understandings of the environment.

On the part of those scholars and teachers working at the intersection of the humanities and environment, this would mean a number of departures. One would involve less resistance to theory. Natural scientists studying, say, the chemistry of Hudson River water or the geology of the watershed would find it inconceivable to work with empirical observation alone, that is, without the armature of scientific theory. And social scientists studying, say, patterns of land-use or political responses to environmental issues around Beacon or Poughkeepsie would find it unthinkable to proceed without the ballast of theoretical understandings about demographics and social change. In contrast, many humanities scholars have, I think, been drawn to study of the environment partly as an *escape* from theory—particularly from what they regard as the over theorized discourses of deconstruction and other contemporary movements.



Up to a point, this suspicion of theory is a good thing. It asks the humanities to make a primary and experiential account of the environment, and is grounding in this good sense. But the downside is that such an account, made without the leavening influence of theory, can ultimately be narrowing. In such a narrow view, the environment is perceived as the “real” thing, somehow standing there beyond interpretation, and requiring only a good eye or ear to reflect and evoke it. Field experience is an essential aspect of environmental courses based in the humanities (and I have led students on many an outdoor trip), but there is also something we might call a field experience of the mind, and this kind of excursion needs deepening and refinement. Thoreau, in his great essay “Walking,” shows that he would have understood this point perfectly.

So long as we are working within what I have called a narrow frame of intellectual reference, the role of the humanities in studying the environment will be imitative and derivative. Such a role leads implicitly and inevitably to realism as the sole standard for the efficacious representation and understanding of nature. Yet, as Georgia O’Keeffe, who painted the upper reaches of our valley around Lake George so powerfully, famously said, “Nothing is less real than realism.” A more adventurous and experimental approach would acknowledge that systems of language and visual art, or music for that matter, do *not* correlate immediately or easily to natural systems, and that in order to bridge these systems interpretively some extremely deep and, yes, difficult, interdisciplinary work needs to be done.

These are some of the challenges that I see ahead, as we educators in the Hudson River Valley embark upon our great environmental adventure, which should be an adventure of thought as well as action. That the news is difficult to get from poems should not defeat our efforts. Instead, that very difficulty should be embraced, as we struggle to find ways of making the humanities ever more deeply relevant to the study of environment.

*These lines from “Asphodel, That Greeny Flower” are quoted from Part I of that poem, in *Selected Poems of William Carlos Williams*, intro. Randall Jarrell (New York: New Directions, 1969), pp. 150-51.

**See Dana Phillips’s new book, *The Truth of Ecology: Nature, Culture, and Literature in America* (New York: Oxford Univ. Press, 2003).

Question & Answer

Dan Peck: The course “Environmentalisms in Perspective” is the introductory seminar and it was actually intended in part to do exactly the opposite of what you were saying - which was to draw on the question of all the students’ prior assumptions about environment efficacy ... to undermine all of that and take them right back to some earlier point so that they could examine what they were doing from other perspectives. I think this is what we feel comfortable with. Peter [Stillman], would you want to add anything to that?

Peter Stillman: I wouldn’t have much to add to that, except that I do think one of the purposes is to try to make sure that if the students or the faculty are going to end in positions of advocacy, you want to make sure that it is a relatively sophisticated position, where you thought through the alternative. So we have some students and maybe even more faculty members who start with a kind of benign view of nature and want to return us to some kind of benign view of nature. We want to call that into question, so if the students end up with an advocacy position, they are much more sophisticated in where they stand.



John Mutter: I am not sure I quite understand the question, but one way to think about this is it is often the case that natural sciences will often identify the environmental problem, but the natural sciences can't solve the problem. The problem is often changing human behavior. So there is nothing fore with, but to combine the natural and social/political other sciences if your objective is to solve a problem. Very often the problem, the serious problems - problems I talked about - aren't defined in environmental terms. You know, climate is not the problem - infant mortality is the problem. Air pollution isn't the problem - maternal death is the problem. The weather isn't the problem - hunger is the problem. I think what we are gradually doing is redefining what the problem is and in doing that to encompass a greater number of contributors to the solution of the problem which cannot come out of the natural sciences. They can only be partly contributed to by the natural sciences and I am trained as a physicist and I am a seismologist.

Joanne Fox-Przeworski: Regardless of whether we are talking about environmental sciences or environmental studies, I don't really think it is the term that should bother us. I think that whatever we are going to do on the environment, we have to go back to the scientific basis of what the science tells us about the problem. I have to say that I am somewhat bothered by environmental studies graduates who don't have any science in their background and one hopes that they are talking to their science colleagues - the students who have engaged in science as a major - simply because, at least in the international work that I have been involved in, there is a real danger of getting environmentalists out there who don't have a background that is grounded, and by that I mean with either the scientific foundation that they have themselves been trained in or working together closely with someone who is trained in that science. I think we see that this lack of information or knowledge has done disservice to the environmental movement. All you have to do is think back to Seattle and the WTO - the statements at least that were quoted by environmentalists in many cases were simply ignorant and did a disservice to our movement. And that is why I think that the science has to be our basis that we take off from and that may just mean working closely with scientists to get their message out and help translate it. There are groups in New York State that are doing that. We're working very closely with NYSERDA. Our Center, the graduate program, was set up to make that translation between what the science tells us and how the policies can address some of the problems in the environment - and by doing that we need to understand the perspective of the economists sitting around the table...getting the economists around the table to tell us about what is efficient and what policies can change people's behavior. We need the emphasis to tell us what is fair, if it is not apparent, and the political scientists and the historians and the artists who tell us what are good ways to get out that message...and there are lots of different media. We are very pleased to have, for example, in our program and I know in many of yours, people who have trained in film and in communication skills because we desperately need them to get out the message in different ways and I remind you...you may remember the big concerts that Amnesty International had, about a decade ago, with Sting and a number of other pop stars. It caused a terrible stir when we on the board were asked to OK these stars going around the world giving concerts for human rights and very serious people were saying, but this isn't what human rights is about. These are serious, sober issues, horrible issues. We are dealing with people who are being tortured on a daily basis, etc. What? We are going to have singers out there? But that was a way to approach the young people and thinking about the right message is really part of our job, I think, as well. But that includes a scientific basis taking off from the right foundation.

John Cronin: I would like to try to connect this panel with this afternoon's panel by following up on Roger's remark. One of the things that distinguish the environmental movement from other successful progressive social movements in the United States is that we have not gone through a prolonged national, moral debate about the environment - like we did about child labor, suffrage, civil rights, the peace movement. In all of those issues, a prolonged moral debate took place. For example with child labor laws the debate went on for almost 60 years in the country before there was a change. Even in the temporary environmental movement, which typically dates back to Earth Day 1970 usually - just when it really blossomed as a major national issue - within five years we had already passed the largest body of environmental laws in the world; laws that would not have been signed or passed today, as a matter of fact. So we had extraordinary institutional success before we



ever engaged in the moral struggle that usually was seen through the illusion of social issues in this country. So it strikes me, that this is a frontier that we have yet to cross – the frontier of values and ethical thinking and the morality of environmental issues. This is a special goal for higher education. And although I agree that to a certain extent science has to be a core, values have to be a core too. We take for granted that values were a foundation when we talk about child labor, civil rights, suffrage, and human rights. We don't really take that for granted in the environment, because the work hasn't been done yet. So, my question is what is higher education's role in helping us cross that frontier? I direct this to anyone who wants to answer it. It will be a subject of this afternoon's panel as well.

Jill Schneiderman: I would be delighted to try to address that question. I am a geology professor at Vassar, and your question and comment, John, is interesting to me in relation to issues of science and advocacy. At Vassar, we are looking to get a National Science Foundation grant to develop a course on earth science and environmental justice. When I have spoken to other geologists about this, there is a hesitation because we are supposed to be scientists and we are not supposed to be advocates. So there is scary in trying to teach a science course that is embedded in questions of ethical considerations and considered exclusively theories of justice. On the one hand, you are scared of being accused of being an advocate, because science is supposed to be objective, and on the other hand, if this is a science course, how much science can you really do when you are talking about theories of justice. I think it just goes to show that we need to do both things. This is an old story of breaking down disciplinary boundaries. Speaking personally, as what I used to think must have been an oxymoron – I am feminist geologist and what that could possibly be? It has become clear to me that because I am a feminist geologist it is OK for me to embed my science in ethical considerations. I was really moved by the panel and particular remarks ... Dr. Panetta – your comments about how to you intensify environmentalism and how that movement is different for justice in areas of gender, liberation and civil rights. Also, Dr. Mutter, your comments moved me tremendously because I am for the first time going to teach a course on natural hazards. I now realize that I don't just have to talk about the spectacle of volcanic eruptions, but the issue of who is vulnerable to landslides. It is a really important question that needs to be addressed.

Marilyn Power: I would like to add to that comment. I am a political economist at Sarah Lawrence College. It's important to combine social sciences with sciences in formulating environmental policy. But the conventional use of cost-benefit analysis and standard economic understandings of efficiency are insufficient. Social scientists need to go beyond the immediate problem, and understand the economic, political, and social processes behind them. For example, when people are hungry, it's important to ask why they are hungry, to know what the appropriate policy response is. Are they hungry because they lack the appropriate agricultural technology--should science work at developing, for example, genetically modified seeds that will increase crops? Or are they hungry because they have been politically and economically disenfranchised--so policy should focus on empowering them? This is why we need to combine science and social science all in the same place from the very beginning, so that we can construct policy which addresses problems in all their complexity.

Roger Panetta: One of the themes running around this conversation is people talking about advocacy. Personally, I have placed an adjective in front of that – informed advocacy – and I have taken my role to rest on that side of the equation. I think it plays to the argument that I think we heard from the panel about methodologies that are rigorous and demanding. I am beginning to suspect that the advocacy argument has gotten to be a Trojan horse, which has kept us away from engagement with these issues. I think it is not advocacy, but informed advocacy and where do I fit in the two sides of that equation.

Andi Weiss Bartczak: I agree with some of the other speakers that we have got to understand science. Every citizen in this country must understand how science is done; what are the limits of science and how to talk to a scientist because people haven't a clue about what scientists do, what we know and how we know it. So I think one of the roles of higher education has to be that every



student that goes to college and every adult education consumer can become basically literate in science - not in chemistry, not in physics, not in biology - but in science ... in science that useful to the citizen, so that they have some idea of what is [fact or fiction]. I think that is something perhaps that higher education hasn't taken on as an obligation but part of our literacy is not just the classic authors, but it has to be a basic understanding of useful science. The courses that students have to take are too much. They learn what the majors learn and that is more than they need to know and they get turned off. So that is sort of my question to you folks. Has it changed since I was in school or are students in science taking first year chemistry and getting in over their heads and that is it for science for them?

David Caputo: From some of the points raised in this discussion already, in terms of the programs that are on various campuses, I think they have approached environmental issues and environmental studies in a very broad, integrated way. If we are going to be successful, it is critical that faculty who control local curriculums make sure there is this integration across all disciplines. This is important if students are going to have a thorough and deep understanding of environmental issues. It would seem to me that not having a strong science component, not having a science component that is integral, would seriously handicap an environmental program. This is perhaps a cause for individuals to work on back at their home campuses. There is a common tendency to put social sciences in at some point – the economist and the political scientist. I would agree with our colleague from Vassar that at times there also is a tendency to simply tack on a course or perspective from the arts or humanities instead of truly understanding what we're really talking about – which is an individual's visceral reaction to their environment. This is something that the cultural, humanistic, integrated approach would help us to understand...help us to realize the interrelatedness of environmental issues.

Lucy Johnson: [an anthropologist from Vassar] Our program at Vassar is explicitly environmental studies, but all students have to take an environmental science course to the 200 level so they have to get a pretty solid grounding in the sciences if they are going to major in environmental studies. We also encourage students to take courses in the humanities and in social sciences although we don't require all three areas, but we encourage it. So we definitely do not think that you can do either one or the other and be a rounded environmentalist.

David Caputo: The Governor has arrived. So, I want to thank the panelists and I want to thank [the participants] because I think you have really started the conference off on a very good setting in terms of raising important issues, which you are not going to resolve over the next day or day and a half, but hopefully you will get closer. In closing, the last thing I would like to ask you to do is go back to your campuses and talk with your administrative leadership as well as your faculty leadership and hold us accountable for these things. Ask us what we are doing on our campuses. Ask us what we are doing across the state to advance environmental issues and to deepen the understanding. If you don't ask the questions, there are very few people who will. I am sure that my colleagues will welcome the chance to talk with you about these issues.



Plenary Session: Teaching Values, Should We? Can We?

Moderator

Dr. Thomas H. Murray

President, *The Hastings Center*

Panelists

Professor Robert L. Chapman

Associate Professor of Philosophy, Coordinator Environmental Studies Program, *Pace University*

Sister Brigid Driscoll

Coordinator, Rivers & Estuaries Center on the Hudson, President Emerita, *Marymount College of Fordham University*

Professor Stephanie Pfirman

Professor and Chair of Environmental Science, *Barnard College*

Professor Nicholas A. Robinson

Professor of Law, *Pace Law School*, Co-Director, *Center for Environmental Legal Studies*



Robert L. Chapman
Associate Professor of Philosophy, Coordinator Environmental Studies Program,
Pace University

I want to thank John Cronin for inviting me to share my thoughts on the topic of teaching values with such a distinguished panel and audience; it is an honor to be with you today.

Allow me the uncommon liberty to momentarily change the title of this plenary session. This is no reflection on the original title and puts no obligations on the other panelists to adopt this strategy. I request your indulgence because I believe that reframing the question will provide a more focused approach to the overall topic of teaching values. The title I wish to recommend is "Are there particular values we want students to acquire over the course of their college education?" Framing the question in this way lessens the need to address those thorny issues in moral epistemology since, as you will see shortly, assume a particular methodology and a working definition of value.

I want to begin by making a standard distinction in values inquiry between intrinsic and extrinsic value. By 'standard' I in no way wish to suggest that this division has maintained the same significance throughout its history, which is another way of saying the difference between intrinsic and extrinsic is not analytic. The distinction is better viewed through a genealogical methodology that connects the present with a series of events stretching indefinitely back ("historical perspectivism"), the further back we go the less relevant the distinction. For example, there is little reason to believe that current attributions of value would have any place in ancient Mycenaean Greece. A genealogical account dissolves an appearance of unity, and in this case the appearance that there is a single distinction between intrinsic and extrinsic. (Geuss xvii) Not to despair this not a typical postmodern *post mortem* on knowledge but in this case, a reminder that in the area of values inquiry change although inevitable does allow stability.

The stability required for evaluation is furnished through the institutionalization of values while, at the same time, recognizing that it is the nature of social institutions to evolve through a series of overlapping contrasts. We are better situated now to address the question at hand, "Are there particular values we want students to acquire over the course of their college education?" The short answer is yes, but the acquisition of these values does not follow a standard educational format. It is here that the idea of the institutionalization of values becomes critical to our inquiry.

I understand by value something we believe is important and worthy of protection. No doubt protection can be realized in different ways. One of the more familiar means used to instantiate and perpetuate value is making them the center around which institutions are constructed. Since we are a group of professional educators it is not inappropriate to use as our example educational institutions.

The foundational values of educational institutions are intrinsic to the institution. They are the defining goals we wish to enforce and implement without which the institution would have no meaning or genuine purpose. I borrow a term and, shortly, an example from a highly regarded contemporary philosopher Alasdair MacIntyre: a "practice". MacIntyre defines a practice as, "...any complex form of socially established cooperative human activity through which *goods internal to that form of activity are realized in the course of trying to achieve those standards of excellence which are appropriate to, and partially definitive of, that form of activity, with the result that human powers to achieve excellence, and human conceptions of the ends and goods involved, are systematically extended.*" (MacIntyre 175. Italics added)

To understand how a practice fits into an institution, imagine the game chess (MacIntyre's example). Assuming someone wants to learn how to play chess they must be introduced in the course of their training to those values that are intrinsic to the practice of chess. In realizing these values the



participant (student) will in time possess those (intrinsic) goods (excellences – virtues) necessary to succeed at chess. What are some of those goods: patience, creativity, strategic imagination, analytic skills, etc. Are these values taught? No and Yes!

In a traditional sense no. Lecturing, laboratory assignments, research papers all presuppose just those values necessary to successfully undertake educational activities. They are the preconditions, the enabling features that provide access to the educational goods. Yet in another sense these values are taught or, better, imparted through exemplification. Often the faculty is the primary model for such values but, in truth, they are merely vehicles expressing the intrinsic values of the institution. What are values that are intrinsic to the practice of education? I suggest, unoriginally, a high regard for truth, patience in the pursuit of knowledge, tolerance of ambiguity and uncertainty as a central part of the human experience, and a type of procedural justice (fairness) in the evaluation of the merits bestowed on scholarly work. (Recently William Cronon has emphasized the ability to connect ideas from different disciplines as intrinsic to education.) These values, I believe, are the very ones that permit students to express their freedom and to construct an informed worldview that includes their role as citizen in a putative democratic society.

Now we can answer the question put to this panel, 'should we, can we teach values?' No! Those who advocate teaching values frequently neglect the intrinsic – extrinsic distinction. Citizenship, social and personal responsibility, and those ethical precepts that underlie these concerns are one and all extrinsic to the practice of education. A clear expression of this confusion is evident in those institutions with a curricular requirement of forced community service. I support various types of experiential learning; every student should have access to courses and research with a community service component. This type of pedagogy is indispensable especially in a period of advanced turmoil that we are living through today with the following proviso, students must have the choice. Instead of concerning ourselves with the task of making students 'better people', whatever that means, we should encourage them to take responsibility for their education. This will only be accomplished when they recognize the intrinsic goods of education.

(I believe the recent proliferation of plagiarism is a symptom of our failure to instill in students the values intrinsic to education. If someone is interested only in getting a wealth producing job, financial independence, fame and power—all of which are extrinsic to education and can be achieved in many other ways—then why shouldn't they cheat.)

However, what we do teach, if we are at all successful, are the skills necessary to implement the values intrinsic to education, which in turn should, hopefully, lead to a life of fulfillment and well-being.

I will conclude my presentation with a question (nested in many questions) containing a formidable challenge, 'Is Environmental Studies as a program a philosophy of education?' It seems to me that the pedagogy of disciplinary instruction is inadequate for the daunting complexities presented by environmental issues. Some prominent environmental educators claim that disciplinary thought is an obstacle to personal wholeness (character development) since it often removes the person from responsibility for his/her actions because action is too narrowly contextualized. Failure to consider the consequences of actions within a broader interconnected system (ecosystem) is surely one of the tragedies of our time. Unfortunately there is no shortage of examples demonstrating this lack of moral vision; the most obvious examples are consumer behavior—purchasing a Pakistani rug created by child slave labor or a vehicle that gets five seconds to a gallon, etc. More sinister still are those values embedded in our system of entitlements: an atomistic conception of rights and personal liberty. Is possessive individualism implicated in a disciplinary understanding of the world? A system of rights based on negative liberty has little patience with or regard for the possibility of inherent public attachments, community is, for them, contractual in the most legalistic sense of the term, thus inimical to communal responsibility.



If it is the case, as Wendall Berry argues (Berry 349 – 355) that our ecological crisis is a crisis of character and, as David Orr states (Orr 98), disciplinary knowledge is irrelevant to the quandaries of our time, then maybe character formation and an active connection to social problems are essential goals for higher education. Maybe?

Whether or not a move toward a pedagogy of interdisciplinary and transdisciplinary instruction changes the intrinsic goods of the practice of education is a question worthy of considerable attention and one I hope would occupy this consortium.

Thank you for this wonderful opportunity to discuss these important issues with you today.

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Sister Brigid Driscoll Coordinator, Rivers & Estuaries Center on the Hudson, President Emerita, Marymount College of Fordham University

I want to state from the beginning that, as you can tell from my resume, I don't approach this as a scientist or an environmentalist, although I have certainly worked now for several years with the environmental community. Rather, I approach the topic as an educator. And so what I am going to talk about is values in education and, more specifically, values in relationships.

I had completed all of my formal education, my undergraduate work, my doctoral degree and many years of teaching, when I picked up a book that really changed my attitude toward teaching and education. A sociologist educator, a Quaker, named Parker Palmer, wrote it; the title of this book is *To Know as We Are Known: A Spirituality of Education*. Although my own background has something to do with spirituality, I was stunned by the title 'a spirituality of education'. What he pointed out is that for much of our modern educational history and tradition we dealt with 'the knower' (how we know), 'the known' and the relationship between them. Essentially what that suggests is more or less a divorce been the knower and then known. Palmer points out that there is something really wrong with this; that, prior to the Enlightenment, knowing people relied less on observation and logical analysis, but much more on subjective faculties like emotion and faith and truth. In doing that, theories of knowledge did not hold the world at arm's length to be manipulated or owned, but rather made the knower an integral part of the known world. However, a modern divorce of the knower and the known has led to the collapse of community and accountability and the relationship between the knower and the known, the known self and the known world. Even though contemporary issues of knowing, no longer consciously divorce the knower from the known, still I believe that this is the institutionalized tradition that at least my education and the education of many people I know inherited.

The next major influence in my thinking about this took place just about ten years ago through reading a Catholic feminist theologian, Elizabeth Johnson, CSJ who talked about a similar divorce of relationships. What she pointed out is that, while we trace this attitude proximately to the philosophers of the enlightenment, who perceived and argued for the first time in history that the self as the knower is separate from the known, separated from all the things that are objects of



knowledge, this epistemology has earlier roots. What she pointed out -- and this is where I hope to talk about the relationship to the environment-- is that the roots of this dominant form of western rationality --simply called hierarchical dualism -- was first articulated in Greek philosophy. Yet it manifests itself today, not just as a philosophy, but also in the ecological crisis we face, and in our understanding of relationships of human beings among themselves as well as in our understanding of the relationship of human beings with God. It traces back a long time.

Let me summarize what I think that many of you know very well to make this point. Essentially, hierarchical dualism is a pattern of thought that divides reality into two separate and opposing spheres, and then having separated them, assigns a greater value of one of them than the other. The two spheres as we know are spirit, which is the transcending principle and associated with activity, autonomy, reason, mind, soul, infinite, and then matter, the principle of imminence, which is identified with passivity and dependence and limitation and finiteness. And of the two, the spirit is valued more highly because matter is seen as an entrapment to be controlled for the sake of the spirit. So these two aspects of reality are separate--spirit and matter. They are not equal, but rather one is dominant over the other.

The implications anthropologically are the assertions that, in man, the self was a soul embodied, the soul being far more permanent and closer to divinity, so meant to rule over the flesh. Further, the spirit, and I think many people have heard this since the feminist movement began, spirit is equated with the masculine principle and matter with the feminine principle. So when spirit dominates over matter, we have an immediate translation of this dualism into social structures of domination and subordination.

There are ecological consequences as well. The earth is matter, the antithesis of the spirit. And so the implied hierarchy of man over woman and slave and any others who are not the intellectual male, extends also to nature. It is interesting to remember that nature is very often symbolized as female as in 'mother earth'; we even talk about the rape of the earth! But here again the ecological consequences are the domination of man over matter, man over the earth, man over the environment. So it is not a big step from that brief, sweep of history of Greek thought and hierarchical dualism to conclude that the rational mind is the essential self, and that matter and universe and nature stand over against the mind as objects to be explored and mastered.

That brings to the floor the question of our relationship to the earth, of which there are, as Elizabeth Johnson suggests a number of models: the model of 'kingship', a more benevolent model of 'stewardship', and a third model --the one we think about least but is the ideal model--'kinship'. We come from the earth. We are related to the earth. The earth is the matrix of our life. The only appropriate relationship is that of kinship, not kingship, not even stewardship.

And finally, this dualism shapes the classical doctrine of God, depicted as the epitome of the masculine half of the dualistic equation. God is identified with this male dominating spirit, the other, the holy. Uncontaminated by matter, utterly transcendent over the world, unrelated to the world, are not affected by it. And this, I think is at the heart of the very dangerous relationship that is a consequence of really holding onto such dualism; because the Creative Spirit, in truth, signifies the presence of a living God, active in this historical world drawing near, caring for, and loving all of creation..."the birds of the air, the fishes in the sea, the plants of the earth, and saying it is good". This is not a God that is separated from the universe that is looking down remotely, manipulating, observing, but according to many religious traditions such as my own, belief in the creative spirit implies we are dealing with the presence of God creating every day, and recreating, and ruling, and causing to flourish, the earth, the matter, the environment which we cherish, which we come from and with which we are in kinship.

Out of this history of dualistic philosophy we need --and this is what I believe is the relevance to education -- we need a vision that does not stratify into superior and inferior, into spirit and matter,



into rational and material, but rather we need to develop and put forth and hold up for our students relationships of mutuality at every level. Mutuality that promotes the community of equals, male and female, such as is really being explored, promoted and developed by feminist philosophers. We need a flourishing of life, a relationship to the earth, to the world, to matter that is not kingship, not even stewardship, but rather kinship -- remembering that the creative spirit is God present and active in the world. For me, that conclusion makes the genocide...the ecological genocide that we have seen over the recent past such a terrible sin...(there is no more appropriate word)...to really believe in the creative spirit active within our world; to allow ourselves to continue to do to the earth what we have done is nothing less than a terrible violation.

I believe it is really important to think this through with students and I am heartened by something that I came across recently, just the past couple of months. [The Higher Education Research Institute at UCLA](#) informs higher education professionals every year what they should think and know about our students -- what they do, how they act, what they believe -- has undertaken what I think is a phenomenal transformation in our culture. They are doing a national study of college students' search for meaning and purpose, and naming it 'Spirituality in higher education'. It comes from the fact that...let me just read a little bit of this to you..."higher education research institute is conducting a major new program of research to track the spiritual life of students during their college years. It is building on an abundance of anecdotal evidence suggesting there is a growing interest on college campuses to reassert the significance about spirituality and religion as a core component of a liberal arts education...and the study employs a multi-institutional. Longitudinal study to identify trends, patterns, principles of spirituality and religiousness among college students". What the study hopes to do is "to generate empirically based insights on the trends, patterns and principles of spiritual growth during college years; to involve and engage colleges and universities interested in expanding and enhancing opportunities for college students to grow spiritually and religiously, and to widely and disseminate their findings to all their stake holders".

There is a real relationship between that study of students' interests in spirituality and religion, and the perspectives that we as educators should be promoting about our relationship with our world, and our environment. We need to raise those questions with our students so they are not left, as I was until 20 years ago, with not having reflected throughout the course of my entire formal education on the reality of my kinship with the universe.

Thank you.

Stephanie Pfirman
Professor and Chair of Environmental Science, Barnard College

As an environmental scientist I would like to return to some of the issues that we talked about this morning and link them with how we address teaching environmental values in our environmental science classes. Thinking back to the discussion this morning, some of the issues raised were ethics, values, decision making, and behavior – all of which have one thing in common: they all deal with *people*. This shared element is very important when you start thinking about integrating the issues into a science class. This concept might seem obvious, but I would like to conduct a survey to demonstrate my point. How many people teach environmental science? [Several participants raised their hands] Now how many of you who teach environmental science incorporates the human experience in your environmental science classes? [The same individuals raised their hands] Basically all of you do because you are teaching environmental science which is related to *people*. But how many of you actually completed a Ph.D. thesis that had people involved in some way? Did any of you? [No one raised their hand] So you can see my point. Most of us are now faced with teaching environmental science by incorporating the social context, and yet we didn't do it this way in our Ph.D. work. Consequently, this is now a personal journey that we have undertaken to transform ourselves and recognize the importance of establishing links between science and society.



For some of us, this transformation comes because of civic activism or because your kids get involved in school and you start seeing how science is taught to them and you want to have an impact, so you broaden your horizons. For other people, you are hired into an environmental science department and you are supposed to start teach, for example, oceanography and you feel like you need to explain to your students the link between oceanography and society at large. For others still, you might simply see it as an opportunity to delve into something topical and interesting, so you incorporate current events into your teaching by reading the newspaper and asking how it relates to your science. But if you go back to how we were trained, and if you think about when you took classes in fluid dynamics or geophysics or paleontology or evolution, *people* were not part of it. In fact, during that part of your education, *people* were considered to be something that you wanted to get away from in order to have effective research controls and to get away from human influence. In my own case, I went up to the Arctic and I researched surging glaciers. Nobody was interested in them back then, except a handful of scientists. After that experience, I came back and I ended up working for the House of Representatives where they were very interested in how you could link science to society -- making for a very interesting transition going from the wilds of Spitsbergen (east of Greenland) down to Washington, D.C.

As John Mutter said this morning, one of the reasons why it is important to engage our environmental students in the societal aspects of scientific study is to understand the solutions. However, as raised earlier in the audience, it is also important to have the human side because the problems are different when you look at them from the perspective of people. For example, climate change is a scientifically interesting problem, but sea level rise and its impacts on the coastal communities is important from the human perspective as well as having the science piece connected with it.

I have spoken with a lot of environmental scientists about how they incorporate social aspects or values in their teaching and typically they do it through case studies. For instance, a meteorologist might talk about smog as well as the structure of the atmosphere, and as soon as you discuss smog it is an easy transition to environmental justice. Someone teaching energy resources might teach about nonrenewable energy, which then leads to issues of intergenerational equity. If you teach oceanography, you might talk about fisheries and then segue into a discussion of personal versus collective rights and responsibilities.

The challenge we face as scientists originating in our own disciplines is, how do we handle this? How do we handle a variety of opinions and a variety of approaches? You don't have the strict controls that you like to think that you have when you are doing the science. My observation from talking with colleagues, sitting in on classes taught by others, and team teaching, is that there is a variety of approaches. Some environmental scientists take the approach of Bush-bashing in class, where they ridicule Bush or whoever happens to be in the current administration. Others, however, approach it from the opposite extreme and present as much information on both sides as possible, playing the devil's advocate. In my opinion, both of these approaches are problematic.

As we discussed this morning, if you go too far in either direction, you risk not taking responsibility for what is going on in the classroom. If you only ridicule the administration and you don't explain the specifics, then the students can't make their own reasoned and informed choices – they are simply reacting to your opinion. Although this concept might now seem obvious to many of the people who are in this room, as scientists we were not academically trained to consider and present societal nuances and values. As undergraduates, we might have had a few general education classes that dealt with these kinds of issues in a formal way. But since then, the primary venue for talking about values is in conversations with colleagues or friends rather than in a more formal setting, and often people translate that into the classroom without reflecting on it.

On the other side, if you try too hard to be neutral – I believe “radically neutral” was the term used this morning – and provide lots of information, then you risk confusing the students and not letting them see the forest through the trees. I have actually seen this happen in a class that was taught



about climate and climate change. The person who was teaching it was so good at explaining the uncertainties that at the end of the lecture, the students really didn't know if the earth was warming or not (for those of you who are not into climate, there is pretty good evidence that the earth is warming). The real question to be addressed is: what is *causing* warming? The students in this class were so confused about all the uncertainties explained to them that they weren't even sure about the trajectory of the warming. Therefore, I feel that we need to be certain to return to the overall picture instead of getting lost in the details.

Since much of this was discussed this morning and we are short on time, I will now go immediately to proposing an idea I have for this group. This idea is a follow-up to what was said earlier about internships, which are great experiences for students. I am a child of the Hudson – I grew up in Poughkeepsie, New York. One of my internships was at Marist College where I looked at the influence of power plant effluent. It was because of that experience that I decided to become an environmental scientist. I became so fascinated by the ice formation on the Hudson that I wound up studying environmental science in the Arctic rather than on the Hudson – we should think about the Hudson as an analog for other environments too.

My proposal goes beyond internships to linking science, in a real way, with humanities and the social sciences along the Hudson. I propose that we establish a summer field school that essentially travels along the Hudson. In fact, I was even thinking while the Governor was speaking this morning that we might actually use the water trail with kayaks! The course would take students from the Adirondacks down through the mid-Hudson and end maybe at Barnard College or even Long Island so that they would experience the whole ecosystem, including the social, cultural, and physical landscape. Such a course could last eight weeks and at the end we would have eight or more case studies. I have found that this type of place-based learning is how students really understand how to incorporate their training in environmental science with the social sciences and humanities. Additionally, as they examine communities and case studies, they start to recognize and mature their own values.

I propose that we develop a set of case studies from an interdisciplinary and inter-institutional approach. This would be good for us as faculty members, researchers, and people along the Hudson because it serves as a focal point for us to come together and get to know each other. The case studies could deal with a variety of topics: energy, landscape evolution, wetlands, sewage treatment (always a hot topic), and reservoirs, to name a few. As a side note, I suggest that at our next meeting we don't need to have [commercially bottled] water because New York water is great.

We have seen incredible things happen when students are brought together for an extended period of time and they develop a cohort of people that create synergy. For example, we used to send our students to Biosphere 2, and although that is unfortunately not available anymore, the students came back saying that after the experience they felt empowered knowing that there were students at other institutions that felt the same way they did. They kept in touch after they returned. With this shared summer field school, we could not only serve the students' needs, but also get ourselves together and move beyond our borders to share resources that will benefit students and faculty, alike.

Thank you.

Nicholas A. Robinson

Professor of Law, Co-Director Center for Environmental Legal Studies, Pace Law School

[Transcript not available]



Question & Answer Session

Tom Murray: This panel was just terrific. The speakers had a great deal to say and they managed to say it in a very short amount of time. The point of doing that was to have a little time for questions. So, I will ask John Cronin if we could now take a few minutes to take questions from the audience.

John Cronin: Yes.

Tom Murray: Questions from the floor? I will simply act as traffic cop here. If anyone wishes to make a comment or ask a question, please volunteer. All I ask is that you identify yourself and speak up so that everyone can hear you.

Audience Member 1:(did not identify himself): I am going to raise some issues [related to] the spiritual side of the matter. I understand and I sympathize with the purpose of bringing back a sense of kinship with nature, but I think that we need to be more polytheistic or perhaps at least Trinitarian about this issue. Kinship with nature is something that may occur at some, you might say, special level of teaching, but the fact is that the way we live today, it is impossible without some very special discipline, to cultivate a sense of kinship with nature. We live in an increasingly technical and technicalized environment. I would put an element of caution against over emphasizing this spiritual notion of kinship at the expense of the stewardship. We must be stewards. We must take the responsibility for what we know because nature itself is not going to do that for us. In some ways we created the problem and it falls upon us, you might say, to rise to a higher understanding and see by our actions how to correct that problem. So I just wanted to suggest that this not be phrased as an either / or situation. Instead, I think the kinship moment allows us to become more, you might say, responsible stewards. But, I wouldn't put them as a necessarily either / or type of thing. And then one more comment - I am sorry to talk so much - but one more thing to the first gentleman. I just wanted to comment since this is my own hobbyhorse, about the idea of the transformation of environmental studies and whether the universities take it up. I think the deeper issue that we need to understand more and more in this 21 st century is that universities themselves and university teachers are, themselves, part of the environment and that we need to see ourselves as not just acting through the institution of the university - that is the compartmentalization that is so dominant in our lives. If we see ourselves as "I am an academic and I am here to bring knowledge or to do this research" but also we must see ourselves more ecologically embedded, not only in our institutions but individuals in our community. I think then we are able to create a much more dynamic relationship between our educational institutions and the larger needs of our environmental concerns.

Tom Murray: I will take those as two comments. Does any feel obliged to respond? You are welcome to say something.

Brigid Driscoll: I just appreciate the comment. I do, however, think that stewardship still implies it belongs to us and we will take care of it. It is a mentality.

Tom Murray: Actually, the [official] definition of a steward is a person who cares for another's property or goods and is the agent of that other.

Jill Schneiderman: Thank you all for your comments. Sister Driscoll, I really appreciated what you had to say and it means a lot to me. I read a book recently called *Feminism and Ecological Communities: An Ethic of Flourishing* by a feminist philosopher named Chris Cuomo and I respectfully disagree with this gentleman and agree with you about the issue of kinship. My question to you is that as an educator who would advocate the abdication of hierarchical dualisms - the flip side of that is having to use perhaps what Dr. Murray would call the cleaver of values, which would be to expose systems of oppression and manipulation and domination, in which you go from this sort of rarified notion of kinship to this bludgeoning tool of exposing domination, can be a very polarizing



thing in a classroom – so I wonder if you would extend your remarks a little bit further in that direction...unless it is too much to go into at this point.

Brigid Driscoll: What I asked for at the end is that we really consider the relationships among human beings and be very conscious of the dominate-subordinate existence. It has been there for thousands of year. I think we have to raise students' consciousness that it is not appropriate, and to get at the heart of what it means to be spirit over matter. And I think the same thing extends to the earth in terms of: Do we own it? What do with it? How do we master it? How do we subdue it? This is all exaggerated language, but what I am calling for is a flourishing of relationships, of the environment, and of the awareness of the ongoing creation that is before us all the time. It is metaphorical. It is ideal, but I think it is a mentality that is a big improvement over what we have lived with for a long time.

Speaker: When you were speaking, Sister Driscoll, an image that came into my mind is something that I played recently in my class of core curriculum college writing and western civilization is a few minutes of a documentary called *In The Light of Reverence* . It depicts the plight of several different Navajo and other Native American tribes. At one point a Hopi tribal council member is explaining how his people believe that they are the cloud people - they are the clouds and they are the rain and they live on Earth and they become part of our waters and our rivers and our oceans and when they die, they become mist and they go up and they rejoin the clouds. I parallel this with a section from Ken Burns' *West* documentary showing the settlers, the pioneers that actually believed that during this 20-30 year period in our 19 th century when there was wetter weather out in the plains they believed that it changed because they were there. I just thought that idea very much crystalizes what you were saying. In the Hopi tradition, they are the known and the knower - there is no separation between those two. In this frontier spirit, which is still our dominant culture, we are brainwashed into having the audacity to think that we can actually control the weather...that the pioneer movement actually created a shift in the rains...that is how important the *plow* is. And I think that some of this is what you get to at the heart of what you are saying in a new kinship. I wanted to share that with you all. But my question to anybody on the panel is why aren't Native American Studies more a part of this movement and a part of environmental education?

Nicholas Robinson: There are actually three levels of government in the United States: Federal, State and Tribal. Tribal government is acknowledged as a form of government, it exists and it is based not just on the dominant societies laws from Congress, but on the customary traditions of those tribal communities. The fact that we don't acknowledge three levels of government in our society is our blindness, not the indigenous peoples.

Tom Murray: I noticed that each panelist threw out a challenge to you, and I hope it was heard. It is late in the day and people get a little weary. Bob Chapman threw out the challenge of thinking very seriously about whether doing this in an interdisciplinary fashion is the right way to go. I will now throw in my two cents. There is a wonderful book by Mikhail Bulgakov called *The Master and Margarita* ... [transcript unavailable]

Larry Bridwell: I have taken students on field trips and I think the summer program is a terrific idea. You can take advantage of universities with surplus housing during the summer. I would I like to see you get international students to come and join the Hudson River students. I know I've taken John Cronin down to River in Brazil. It would be wonderful to bring students from Brazil up here during the summer to join American students to talk about the common kinship and humanity that we all share on the entire planet.

Tom Murray: Well, I frankly can't think of a better way to end this session and unless anyone else can, I think we should thank the organizers and thank the panelists.



Roger Panetta: I wanted to go back to Tom Murray's last point in which he said we shouldn't let good ideas die and for us this is a very critical moment in the conference because it is a chance, I think, to form and shape the Consortium. It is a chance to own the Consortium and we apologize that it is coming at 5:00 in the afternoon. We feel that there is a really important moment here of crystallization. You are filled with ideas, you are energized by those ideas and we just ask you for another hour. In that time we are looking to distill all the things we have heard today and in those roundtables we encourage you to go to, we are hoping to come up with two things: 1. A statement of mission - what do you think we should be doing as a consortium (good words to hang onto to help you with that are *hope* and *aspiration*) and, 2. A series of strategies - how do we fulfill that hope and that aspiration? We have been talking about Stephanie's idea, but I know there are many ideas out there. We are not so concerned if the lists get mixed up. We want to encourage you also to sign up for the organizing committee and for the development of the consortium's agenda. So this is your opportunity, and I think it is a rare one in higher education, to own something. So, I encourage you to go to the roundtables for just another hour and then we will refresh you. Thanks.



Workshop Sessions

Greening the Campus

Science and Technology on the Hudson

History and Culture

The Life of the Hudson: Using Natural History to learn about our Community

Linking Disciplines

Marist College Digital Archive Outreach

Policy and Law

Sustainable Careers

Health and the Environment



Greening the Campus

Session Co- Presenter:

Carmela M. Federico

Program Manager

New Jersey Higher Education Partnership for Sustainability (NJHEPS)

Session Co- Presenter:

Lee Paddock

Director of Environmental Law Programs

Pace Law School

Lessons Learned from NJHEPS

Description: This workshop will briefly review EPA's audit reporting policy and how it affects academic institutions. Additionally, a representative of NJHEPS will discuss various initiatives such as the Greenhouse Gas Action Plan Project. Participants will engage in a discussion about what the region's colleges and universities are doing with respect to both compliance and greening issues, and recommendations on how to advance campus greening among the consortium membership.

- Climate Change Challenge----members of NJHEPS were challenged to reduce greenhouse emissions from their campuses by 50%
- It is very helpful to have the resident of each institution name a lead faculty member for the greening initiative and also name a staff member as the sustainability coordinator
- The Dodge Foundation has been a significant funder for NJHEPS
- Energy and green design has been the focus of NJHEPS's work
- NJHEPS has produced an "energy toolkit"
- Walter Simpson of SUNY Buffalo can be of assistance on greening issues
- Two key resources are EPA's Project Warm (formalizes carbon credits) and the LEAD program from the U.S. Green Buildings Council
- Procurement and curriculum issues have been more difficult but progress on both issues is occurring
- Redefining Progress is also a helpful resource—rprogress.org
- Reporting under the Global Reporting Initiative should be explored
- NJHEPS is a membership organization with a small full time staff—having staff to do research and provide technical assistance is very important
- NJHEPS uses technical teams drawn from member institutions
- NJHEPS occasionally provides some small grants to member organizations to help them hire local interns
- Dilemmas—should greening be project based or focused on cultural change issues (like full cost accounting). The energy work is a little of both? Should you focus on early adopters or on more systematic change among all or most of the institutions?

Suggestions:

1. Look at paper use/printing by students. Iona has done some work on this issue. Questions can include copy pricing, margin changes. There is a helpful CitiGroup case study on paper use



2. Rely initially on NJHEPS as a resource in figuring out what we can do
3. Identify ways that students can be involved
4. Examine the NJHEPS as a potential model for the consortium
5. Put greening success stories on the consortium web site
6. Sponsor a greening workshop for consortium members perhaps with NJHEPS and National Wildlife Federation. Look at paper, vehicles, energy, materials, etc.
7. Look at the Rutgers example of leveraging group purchasing power
8. Share course syllabi on campus ecology
9. Hold a greening committee meeting at Vassar's new "green" environmental studies building

A thank you is graciously extended to the [National Wildlife Federation](#) for providing complimentary copies of *Ecodemia* , *Green Investment* , *Green Return* , *State of the Campus Environment* , and *Higher Learning for a Higher Purpose* (video) for the workshop participants.

Health and the Environment

Session Presenter:

Karim Ahmed

Director

International Program

Secretary-Treasurer

National Council for Science and the Environment

Session Facilitator:

Rachel Grob

Associate Dean of Graduate Studies

Sarah Lawrence College

Description: How can we identify and assess environmental health risks in the Hudson Valley, and what standards of verification and/or burden of proof do we use in determining human health impacts? What are the advantages of a case-by-case regulatory approach versus a generic precautionary principle? This workshop will take up these and related themes, inviting participants to share their perspectives both on the topics themselves and on how these critical issues can and should be addressed at/by institutions of higher education.



History and Culture

Session Presenter:

Fran Dunwell

Coordinator

Hudson River Estuary Program
NYS Department of Environmental
Conservation

Session Facilitator:

Roger Panetta

Associate Professor and Chair of History Department
Marymount College of Fordham University

Description: The workshop will focus on how the natural environment of the Hudson River estuary has influenced our history and culture and how this affects the river and our heritage today. Opportunities for institutions of higher learning to use historical and cultural information to inform our understanding of the river today will be explored.

The Life of the Hudson: Using Natural History to learn about our Community

Session Presenter:

Tom Lake

NYSDEC Hudson River Estuary Naturalist

Description: The workshop will focus on how, by observing and understanding the natural history of Hudson Valley flora and fauna, we can learn about our community and our role in its stewardship.



Linking Disciplines

Session Presenter:

Christopher Smart
Chair of Chemistry
Vassar College

Session Facilitator:

Pinar Batur
Director of Urban Studies
Vassar College

Description: How can multidisciplinary teaching on the environment allow us teaching collaboration between the disciplines and across campuses? Topics in this workshop will include the connections between teaching and research, the course intersection method, parallel course teaching between the campuses, and how to establish a teaching support for faculty, such as workshops on teaching the environment, building a syllabi bank for the study of the Hudson Valley, and developing a program in intercampus guest faculty exchange.

Marist College Digital Archive Outreach

Session Presenter:

John Ansley
College Archivist, Special Collections Librarian
Cannavino Library
Marist College

Session Facilitator:

Christopher Pryslopski
Program Director of
Hudson River Valley Institute
Marist College

Description: Key data describing the special resources of the Hudson River Valley are not readily available to residents, to students, or to visitors in a comprehensive or coordinated way. The Hudson River Valley Institute's Digital Library and Portal Site meets that challenge. The Digital Library contains a collection of heritage sites, documents, organizations, lesson plans, and related links to guide you through the Valley. Its content and portals are designed to draw people--electronically and physically--from around the world to the Hudson River Valley to experience its scenic, cultural, economic, and historic resources.



Policy and Law

Session Co-Presenter:

Nicholas A. Robinson

Professor of Law

Pace Law School

Co-Director

Center for Environmental Legal Studies

Session Co-Presenter:

Joanne Fox-Przeworski

Founding Director

Bard Center for Environmental Policy

Description: The Law and Policy Workshop will focus on different ways that higher education institutions could collaborate in exploring environmental law and policy issues in the Hudson Valley. The intention is to recommend parallel and joint activities that would involve Hudson Valley colleges and universities in joint teaching, research, and engagement of students in environmental activities in their respective institutions, communities and/or households. Specific attention will be given to two areas:

- Activities to support local and regional governments in implementing laws and policies, such as the Greenway, that protect environment and natural resources in the Hudson Valley region; and
- Local actions that further the goals of international laws and policies to protect the environment, for example, reduction of greenhouse gas emissions.

Increasingly we have come to realize that it is rare to find an environmental issue that's purely local. And I believe we have a role in helping people see the connections.

In New York State, we point to NO_x and SO_x pollution from emissions from Midwest power plants.

- Yet we learn that the Inuit people in the Arctic suffer from accumulation of toxic chemicals from human activities in America, Europe, and Mexico.
- And we are perhaps surprised to read that Florida is out of compliance with the Clean Air Act, especially in summer, because of dust from Sahara

Local actions can further goals of international laws by calling call attention to effects of GHG build-up, for example, carbon emissions

Several states have developed their own climate change programs:

- For example, Massachusetts has placed a cap on C emissions from six older plants.
- New Hampshire is the first state to legislatively impose carbon cap on fossil fuel burning plants.
- California has required GHG emissions reductions for vehicles produced after 2009.
- Thirteen states have some form of mandatory renewable energy production.

And on the regional level, some promising initiatives are occurring.



- California, Oregon and Washington have formed a partnership to reduce GHG emissions on the west coast. They are pledging to buy more hybrid cars, energy efficient appliances, and non-diesel generators.
- New York State joined with 13 other states + Wash DC in an

“Emergency motion to stay” from US Circuit Court of Appeals for DC to block overhaul of CAA New Source Review permit program.

- New York State plus nine midAtlantic and northeastern states are proposing a regional cap and trade for CO2 from power plants.
- New England Governors and Eastern Canadian Premiers have created a climate action network.
- Local governments are voting in alternative energy budgets: Croton-on-Hudson, Red Hook, Tivoli, and Pine Plains...

These initiatives raise the question of what we as members of an Environmental Consortium might do to raise consciousness, and the level of activity, in legislation and policies that have local import and international significance.

Sustainable Careers

Session Presenter:

Melissa Everett

Executive Director

Sustainable Careers Institute

Session Facilitator:

Michelle Land

Program Coordinator

Pace Academy for the Environment

Description: Too often, innovative programs designed to link the campus with community and environments lose steam due to the perception that they are not "practical" as paths of career preparation. In fact, opportunities to promote a more sustainable economy exist in every industry and every workplace. But students rarely learn about more than a few of them, and this deficiency influences their sense of what is "realistic." This workshop session will explore workplace and career development issues related to sustainability, and approaches to campus career services that support sustainability in higher education.



Science and Technology on the Hudson

Session Co-Presenter:

Robin E. Bell

Senior Research Scientist

Lamont-Doherty Earth Observatory of Columbia University

Session Co-Presenter:

Sandra A. Nierzwicki-Bauer

Professor of Biology

Rensselaer Polytechnic Institute

Director

Darrin Fresh Water Institute

Session Facilitator:

Stuart L. Belli

Associate Professor

Vassar College

Description: This workshop will provide an overview of the Riverscope project being designed as a major component of the Rivers and Estuaries Center on the Hudson and other emerging science on the Hudson. The discussion will focus on efforts to link higher education with the cutting edge science and technology.

The initial research project of the Rivers and Estuaries Center on the Hudson, “River scope” that is being conducted by researchers at LDEO and RPI and funded by EPA, as well as a complementary research project funded by NSF “River net” will be described. River scope is a pilot project that will use advanced instrumentation and emerging methodologies to capture the river's dynamic processes. Primary goals include; real-time (near) water chemistry monitoring using a vertical profiling system; tracing the ecosystems, using SF6 tracer and zebra mussel veligers detection; and following the sediments, using acoustic Doppler current profilers (ADCP's). The River net demonstration project will explore the use of moored sensor and autonomous underwater vehicle technologies to obtain a better understanding of spatial processes along the river. Three specific applications of distributed sensing and monitoring, the initial case studies for these projects, will be presented:

- Thermal plumes (power plants)
- Zebra mussel migration
- Transport of contaminated sediments

The overarching goal is to create a sensor network, database and visualization environment to support research modeling, simulation, education and outreach, in support of policy and management.



Keynote:
A. Karim Ahmed

“Water and Energy Policy: Harnessing Science to Serve Society”

Dr. A. Karim Ahmed

Director, International Program and Secretary-Treasurer
National Council for Science and the Environment

[Transcript not available]



Displays

Columbia University

The development of the Renewable Energy technology called In-Stream Hydro, which is currently supported by NYSERDA along with Columbia University, SUNY Maritime and Bard.
Presented by Brian Yanity

The Hudson River Museum

Museum's environmental exhibit "Hudson Riverama", Museum newsletters, school program brochures, and Hudson River Teacher Training fliers.
Presented by Yvette Jones

The Hudson River Valley Institute at Marist College

Journal of regional studies and general information about the Hudson River Valley Institute
Presented by Christopher Pryslopski

Iona College

Environmental Research, Programs and Activities at Iona College
Presented by Joseph Stabile

Polytechnic University

Polytechnic University: Engineering a Green Environment
Presented by Konstantinos Kostarelos

Queens College

Stratigraphic Expression of the Turbidity Maximum and Evidence for Short-Term Climate Change from Estimates of Paleosalinity in the Hudson Estuary Between 6 and 2 ka
Presented by Stephen Pekar

Rivers & Estuaries Center on the Hudson

Presented by Patricia Dunne

Sarah Lawrence College

Building Green: The Heimbold Visual Arts Center, *Presented by Judith Schwartzstein*

State University of New York at New Paltz

Newly approved Environmental Science Program at SUNY-New Paltz.
Presented by Al Konigsberg

Vassar College

EPA funded research: A GIS-based environmental inventory of the mid-Hudson Valley.
Presented by Jill Schneiderman

Vassar College

Crossing the Lawn with C.P. Snow: A Course-Intersection Approach to Teaching the Relationship of Science and Public Policy
Presented by Pinar Batur and Christopher Smart together with Stuart Belli, Christopher Roellke, and Susan Kuyper



Roundtable Session Report:

A Message to the Governor:
How the Rivers & Estuaries Center Can Help Our Institutions



What should be the environmental mission of Hudson Valley colleges and universities? How can a consortium help?

During the two-day conference, participants engaged in roundtable discussions about the mission of a Hudson Valley environmental consortium and how the Rivers & Estuaries Center on the Hudson can assist in fulfilling the mission. The following is a summary of the roundtable findings.

Questions Addressed:

- What should be the environmental mission of Hudson Valley colleges and universities?
- How can a consortium help?
- How can the Rivers & Estuaries Center help?

A Consortium mission statement drafted by the conference planning committee was provided as a starting point for discussion:

The mission of the Environmental Consortium of Hudson Valley Colleges & Universities is to mobilize higher education's commitment and resources in order to foster a mutually enhancing relationship between nature and society.

Participants reformulated the language to recommend that the Consortium shall promote and support involvement with the Hudson Valley environment, in three broadly defined areas: **faculty support and development student opportunities; and outreach/public education**. Furthermore, in fulfilling its mission, the Consortium shall strive to create knowledge, communicate knowledge, and coordinate knowledge.

In each of the three broadly defined areas, all four roundtable groups overlapped in their ideas to a large degree. Utilizing the three broadly defined areas of focus, the resulting goals and actionable items are summarized below.

1. Faculty support and development

- Scholarly activities
- Research (e.g., projects for Hudson Valley; central data bank of research)
- Policy
- Collaborative and Interdisciplinary
- Teaching development
- Teaching collaborations (e.g., space for sharing information and communication, web site, case studies data bank, listserv, syllabus bank)
- Shared resources (e.g., data bank of existing resources – both institutional and faculty specific; libraries; Rivers & Estuaries Center space, research vessel)
- Knowledge/expertise transfer (e.g., faculty seminars, Hudson River Scholars, Distinguished Speaker series)
- Encourage self-reflection
- Communication Among Ourselves
- Listserv
- Conferences (with opportunities for networking)
- Website
- Greening the campuses



2. Student opportunities

a. Research (e.g., projects for Hudson Valley)

- Fieldwork
- Internships / shadowing
- Class meetings (e.g., guest lecturers)
- Regional sustainable careers fair
- Cross-institutional access to courses
- Summer field course on the Hudson River
- Virtual course
- Scholarships

3. Outreach/Public Education (teaching and research)

- Community workshops and partnerships
- Information sharing with wider community of stakeholders
- Identify local problems and use collaborative efforts to solve
- K-12
- Government involvement (e.g., what do they see as upcoming challenges)
- Network outside of academia (e.g., artists, attorneys, government officials)
- Connections with other estuaries
- In-service courses
- Consortium produced newsletter or journal

A few ideas were uniquely created at each particular roundtable. They are outlined individually.

1. A Pete Seeger Prize for scholarship on the Hudson which will involve multiple disciplines such as art, music, chemistry, geology, ecology, biology, performing arts, folk arts, demography, and political economy.
2. Small colleges have special issues that need to be addressed. Administrators must be convinced that there are benefits to allocating resources to the Consortium. Faculty needs permission to spend time as well as money on this project. A well-established program with clear, concrete projects would facilitate this process. Engaging administrators will be important.
3. Consciousness of the region: What will be the geographical range of the Consortium's involvement? Defining the range of the "Hudson" (i.e., not just the River, but the Valley) will be a particular challenge since characteristics will depend on a given community's perspective.
4. Contextualized science. Science education should be more inclusive, such as a heightened ecological awareness of all students.
5. A major goal of the Consortium should be a synergy between education, research, and the regional community.
6. "Retooling the canon"



Keeping the Dream: A Hudson River workshop with Pete Seeger

To Everything (Turn, Turn, Turn)
Turn)
under Heaven
A time to be born, a time to die
A time to kill, a time to heal

There is a season (Turn, Turn, Turn)
under Heaven
A time to build up, a time to break
A time to dance, a time to mourn
to gather stones together



There is a season (Turn, Turn,
And a time for every purpose,

A time to plant, a time to reap
A time to laugh, a time to weep
To Everything (Turn, Turn, Turn)
And a time for every purpose,

down
A time to cast away stones, a time

To Everything (Turn, Turn, Turn)
There is a season (Turn, Turn, Turn)
And a time for every purpose, under Heaven

A time of love, a time of hate
A time of war, a time of peace
A time you may embrace, a time to refrain from embracing

To Everything (Turn, Turn, Turn)
There is a season (Turn, Turn, Turn)
And a time for every purpose, under Heaven

A time to gain, a time to lose
A time to rend, a time to sew
A time to love, a time to hate
A time for peace, I swear it's not too late



Birds of Prey Demonstration

Mr. James Eyring
Assistant Director
Pace University Environmental Center

On Saturday, February 28, 2004, the conference ended with a presentation of birds of prey by James Eyring, Assistant Director of Pace University Environmental Center. With a view of the Hudson River and glorious weather, participants watched as James flew Delta, a Lanner Falcon, and Bonnie, an American Kestrel.



James Eyring is the Assistant Director of the Pace University Environmental Center located in Pleasantville, New York. The Environmental Center has developed an excellent reputation for offering quality programs to the university and local schools. Students of all ages come to learn from James about a variety of topics such as studies of wildlife, birds of prey, woodland study and farm animal study.



Appendix A: Speaker Biographies

Dr. A. Karim Ahmed, Ph.D.

At present, Dr. Karim Ahmed is Director of International Program at the *National Council for Science and the Environment (NCSE)* in Washington DC, where he serves as the Secretary-Treasurer of its Board of Directors. He is also the founder and President of the *Global Children's Health and Environment Fund (GCHEF)*, a non-profit international organization also based in Washington, DC, specializing on children's environmental health issues in developing countries.

As a leading environmental scientist, Dr. Ahmed is an international expert on the adverse impacts of global and regional environmental pollution on adults and children and in the evaluation of public health risks of toxic substances, pesticides and hazardous wastes. Dr. Ahmed was Senior Fellow and Deputy Director of the Program on Health, Environment and Development at the *World Resources Institute (WRI)* in Washington, DC (1997 - 99), where he led major policy-related studies on the global effects of environmental degradation and climate change on human populations and sustainable development.

For fourteen years (1974 - 1988), Dr. Ahmed was Research Director and Senior Staff Scientist at the *Natural Resources Defense Council (NRDC)* in New York City, where he directed an international program assessing the impact of air and water pollutants, toxic substances and hazardous materials on global and national environment. At NRDC, he also administered an international fellowship program for the training of environmental professionals residing in developing countries. On leaving NRDC in 1988, Dr. Ahmed was a senior executive at two environmental consulting organizations. He was Principal and Director of Environmental Health Assessment at *ENVIRON Corporation* in Princeton, NJ (1988 - 1990), and was Principal and Director of Research and Assessment at *Science and Policy Associates (SPA)* based in Washington, DC (1992 - 1997).

Over the past thirty years, Dr. Ahmed has served on a number of high level advisory committees and scientific/technical panels of national and international government agencies, expert bodies and scientific institutions. They include the Environmental Protection Agency, Department of Energy, National Institutes of Health, National Academy of Sciences, National Science Foundation, Congressional Office of Technology Assessment, the United Nations Environment Programme, United Nations Conference on Science and Technology for Development, United Nations Industrial Development Organization, World Health Organization, United Nations Children's Fund (UNICEF), World Bank, etc.

In addition to his area of speciality in the environmental sciences, Dr. Ahmed has been engaged in a number of projects related to the interaction of science and religion. With Professor John Haught of Georgetown University, Dr. Ahmed established the *Georgetown Center for the Study of Science and Religion (GCSSR)* in 1996 as an academic institute that fosters interreligious dialogue on issues related to fundamental scientific discoveries and applications within the context of the world's major religious traditions. In conjunction with the Library of Congress, the National Academy of Sciences, the American Association for the Advancement of Science, and the Center for Muslim-Christian Understanding at Georgetown University, Dr Ahmed helped convene a major symposium on *Islam, Science and Cultural Values* that was held at the historic Jefferson Hall, Library of Congress in Washington DC on October 9, 2003.



Dr. Ahmed has authored numerous publications, including technical books, monographs, scientific papers and articles in the fields of environmental health, biochemical toxicology, risk assessment/risk management and on issues related to environmental sciences and public policy. His published books include *Respirable Particles: Impact of Airborne Fine Particulates on Health and the Environment* (Ballinger Press, 1979) and *Pills, Pesticides and Profits: The International Trade in Toxic Substances* (North River Press, 1982). More recently, Dr Ahmed has explored the human rights dimensions of environmental policy issues in a comprehensive report prepared for the American Association for the Advancement of Science entitled, *Environmental Protection, Public Health and Human Rights: An Integrated Assessment* (April 2003).

Dr. Ahmed obtained a *B.Sc.* in Physics and Chemistry (*with highest honors*) from the University of Karachi, Pakistan in 1959 and a *Ph.D.* in Physical Biochemistry from the University of Minnesota in 1969, where he was elected to *Phi Lambda Upsilon* and *Sigma Xi*. He has conducted basic research in protein chemistry and molecular biology with Dr. John Edsall at Harvard University's Biological Laboratories (1963 - 1965) and was a post-doctoral Research Fellow with Dr. Ellis Benson at the University of Minnesota Medical School's Department of Laboratory Medicine and Pathology (1969 - 1971).

Dr. David A. Caputo

David A. Caputo became the sixth president of Pace University on July 17, 2000. As chief executive officer, he leads a dynamic, diversified, and comprehensive university serving more than 14,000 students in undergraduate, graduate, professional, and specialized programs on seven campuses in New York City, Westchester County and the Hudson Valley.

During Dr. Caputo's tenure, Pace, founded in 1906, has underscored its commitment to being an educational leader in business, law, education, nursing, computer science and the liberal arts and sciences. Pace's part-time MBA program and environmental law program are recognized among the nation's finest. Last year, five Pace graduates were awarded prestigious Fulbright Fellowships. Dr. Caputo has led initiatives to establish Pace's Center for Downtown New York, the Pace Poll, a new partnership with the National Actors Theatre, and the recently launched Pace Academy for the Environment. Plant improvements include new student residences and educational facilities in New York, a fitness and recreation center in Pleasantville, and the New York State Judicial Institute in White Plains.

A member of Phi Beta Kappa, Dr. Caputo has authored or co-authored five books and more than 50 articles, book chapters, and research notes. He serves as co-chair of the New York State Regents' Professional Standards and Practices Board, on the board of the National Association of Independent Colleges and Universities, and on the Council of Presidents of the Association of Governing Boards of Universities and Colleges. He is an active member of Project Pericles, an initiative designed to increase civic responsibility on college campuses.

Dr. Caputo is the recipient of a Senior Fulbright Chair appointment at the University of Bologna, a National Science Foundation Faculty Fellowship, a Lilly Endowment Fellowship and a Visiting Fellowship at Princeton University's Woodrow Wilson School of Public and International Affairs, and served as a Visiting Scholar at Harvard University's Center for Population Studies. He received his B.A. in Government from Miami University (Ohio), and his M.A. and Ph.D. in Political Science from Yale University. Prior to his appointment at Pace he served for five years as president of Hunter College, the largest college in the City University of New York system.



Professor Robert L. Chapman

Robert Chapman is Associate Professor of Philosophy and University Coordinator of the Environmental Studies Program at Pace University, NY, where he teaches courses in philosophy and environmental studies. He is also the Edward J. Mortola Scholar in Philosophy.

Professor Chapman, who received his B.A. from College of New Rochelle and his Ph.D. from Fordham University, was involved in the initial design of the Environmental Studies major and has been teaching in the program since its inception.

For the past few years, Professor Chapman has been teaching Environmental Ethics, Philosophical Perspectives on Technology, and various interdisciplinary courses. Two recent examples are Environmental Studies: Economic, Ethical and Political Perspectives, taught with economics professor Ghassan Karam, and Philosophical and Literary Perspectives on the Environment, taught with English professor Walter Levy.

Professor Chapman has published numerous articles and given presentations in environmental philosophy. Recent publications include "Settling Westchester: the Value of Place," *Capitalism Nature Socialism* September 1999; "No Room at the Inn or Why Population Problems Are Not All Economic," *Population and Environment*, September 1999; "The Role of Natural Law in the Greening of Philosophy," *Vera Lex*, vol. 15, winter 1999. His most recent presentation was given on ethical issues of biodiversity at the American Museum of Natural History in August of 2002.

Currently, he is working with economics professor Ghassan Karam on a book provisionally titled *A Reader in Environmental Studies*. Professor Chapman is Chair of the Environmental Studies Committee, serves on the Dyson College Curriculum Committee, and is Editor of *Vera Lex*, *Journal of the Natural Law Society*. His outside affiliations include the American Philosophical Association, the International Society of Ecological Economics, and the International Society of Environmental Ethics.

Mr. John Cronin

Since 1974, John Cronin has earned a reputation as one of America's preeminent environmentalists. The Knight-Ridder newspapers praised him as a "hero in one of the great success stories of the modern environmental movement," *People* magazine described him as "equal parts detective, scientist and public advocate," and the *Wall Street Journal* has called him "a unique presence on America's major waterways."

Named a "Hero for the Planet" by *TIME* magazine in 1999 for his work as America's, and the Hudson's, first full-time Riverkeeper, he was responsible for bringing to justice more than one hundred polluters and environmental lawbreakers. He co-founded the Water Keeper Alliance, which now represents more than 90 "Keeper" programs on waterways in four countries. He also serves on the founding staff of Governor George Pataki's Rivers and Estuaries Center on the Hudson, a global institute for environmental research and education, and is the president of the Hudson Fisheries Trust, established to preserve the maritime history and lore of the Hudson River's commercial fishing families.

Cronin is an author, an award-winning documentary filmmaker and former commercial fisherman. He has been the subject of two books and numerous documentaries and profiles, co-authored the book *The River keepers*, with Robert F. Kennedy, Jr., and has been a



frequent contributor on environmental policy to *The New York Times*. Along with “Gorillas in the Mist” producer Robert Nixon he produced and wrote “The Last River men” which the Motion Picture Academy Foundation named one of the outstanding documentary films of 1991.

Since 2000, Cronin has been the Resident Scholar in Environmental Studies at Pace University, where he founded the Pace Institute for Environmental and Regional Studies to focus the talents and expertise of the University community on the environmental challenges facing the Hudson River and its people.

Sister Brigid Driscoll, RSHM, Ph.D.

Sister Brigid Driscoll is on the Advisory Committee for the Rivers & Estuaries Center on the Hudson. She is also President Emerita of Marymount College in Tarrytown, New York where she served as President for twenty years. Receiving the following degrees: M.A. in Religious Studies from Fordham University, Ph.D. in Mathematics from the City University of New York, M.A. from the Catholic University of America, and a B.A. from Marymount Manhattan College, Sister Brigid has held many directorships and advisory positions and bestowed numerous awards, including *Woman of the Year* by the Sleepy Hollow Chamber of Commerce, *Award for Distinguished Life Achievement* by Marymount Manhattan College Alumnae Association, and a *Governor’s Award for Excellence* from the New York State Division for Women. Besides her current role with the Rivers & Estuaries Center, Sister Brigid is also on the Board of Trustees for Marymount University in Arlington, Virginia, and is on the Executive Committee for the Irish Hunger Memorial and the Westchester Holocaust Commission.

Mr. James Eyring

James Eyring is the Assistant Director of the Pace University Environmental Center located in Pleasantville, New York. The Environmental Center has developed an excellent reputation for offering quality programs to the university and local schools. Students of all ages come to learn from James about a variety of topics such as studies of wildlife, birds of prey, woodland study and farm animal study.

James was raised in North Salem, New York and now lives in Carmel, New York with his wife Margaret and their two border collies “Dell and Abbey.” Today, Dell and Abbey have successfully kept geese off the Pace property for over six years. Using herding techniques, James is able to command the dogs to effectively chase away any geese that enter campus.

Professor Joanne Fox-Przeworski, Ph.D.

Dr. Joanne Fox-Przeworski is the Director of the new Bard Center for Environmental Policy (BCEP) at Bard College in New York. The Center is committed to programs that strengthen environmental policies by facilitating the communication of latest scientific results and increasing the understanding of the role of economics, law, trade, politics, and ethics in public and private decision-making. At the core of the Center’s activities is an innovative Master of Science program in environmental policy, which was launched in August 2001.

Dr. Fox-Przeworski is the former Director for North America of the United Nations Environment Programme. Prior to this position, she served twelve years at the Organisation for Economic Co-operation and Development in Paris. Her appointment there as Special Advisor to the Deputy Secretary General and Coordinator for Sustainable



Development spanned the formative period for global environmental negotiations leading up to and following the Earth Summit (UN Conference on Environment and Development) in Rio. Previously she headed the newly created Environment Section of the OECD Development Assistance Committee (OECD members giving bilateral aid). From 1991-92 she also served as Special Assistant to the OECD Under-Secretary on the first joint meeting of Environment and Development Co-operation Ministers, a member of the delegation to Rio, and representative to the Commission on Sustainable Development at the United Nations.

Prior to this appointment, she was principal consultant to the Urban Affairs Division in the Environment Directorate, OECD for projects on urban economic development and urban impacts of technological and socio-demographic change. She also worked with the Commission of European Communities; the European Centre for Social Welfare, Training and Research; and the French-American Foundation on local economic development and public/private partnerships. Earlier, as project director at TRUST, Inc. in Chicago, Illinois, she conducted policy research and panels on the role of community-based organizations, corporations and foundations in urban development and technical and financial assistance programs for small businesses.

In addition to books, articles, and public presentations in the above areas, Dr. Fox-Przeworski has published articles and a book on the copper industry in Chile and a report on the status of human rights in Chile that appeared in the *New York Review of Books*. She has taught at colleges in Paris and St. Louis, Missouri. She received an honorary doctorate in laws from Ripon College and received her doctoral degree in Latin American history and U.S. foreign relations from Washington University in St. Louis, a master's degree from Harvard University, and a bachelor's degree with honors from Northwestern University. Post-graduate courses included work at the University of Chicago; the Latin American School for Social Sciences in Santiago, Chile; and the Polish Academy of Sciences. Dr. Fox-Przeworski was awarded a U.S. EPA Region 2 Environmental Quality Award in 1998.

Formerly on the Board of Directors of Amnesty International-USA, Dr. Fox-Przeworski is currently on the Board of Directors of Green Seal and of the Women's Network for a Sustainable Future; and a member of the Environment Steering Committee, New York Academy of Sciences, and of the Commission on Environmental Law of the International Union for the Conservation of Nature. A U.S. national, she speaks French, Spanish, and Polish.

Congresswoman Nita M. Lowey

Congresswoman Nita M. Lowey is currently serving her eighth term in Congress, representing parts of Westchester and Rockland counties. She was first elected to the U.S. House of Representatives in 1988 and has served in the Democratic Leadership. Lowey was the first woman and the first New Yorker to chair the Democratic Congressional Campaign Committee, leading the organization from 2001 to 2002.

Nita M. Lowey has been described as "courageous" by The New York Times, "terrific" by Newsday, and one of "New York's key Members of Congress" by the New York Daily News. The Journal News called Lowey "one of the most influential Members of Congress."

As a member of the powerful House Appropriations Committee, and the Ranking Democrat on the Foreign Operations, Export Financing, and Related Programs Subcommittee, Lowey is as an extremely effective, committed legislator with a substantial record. Congressional



Quarterly called her one of the 50 most effective Members of Congress, saying she "maneuvers skillfully through the appropriations process," and Newsday said she "delivers for New York."

Few members of Congress have taken key leadership roles on so many vital public policy issues. Lowey is a leading Congressional proponent of educational opportunity, health care reform and biomedical research, stricter gun control and public safety laws, environmental protection, women's issues, a leading international role for the United States, and national security.

As a candidate for Congress in 1988, Lowey pledged to clean up the Long Island Sound. In 1990 she passed legislation establishing a special Environmental Protection Agency office for Long Island Sound. She has obtained millions of dollars in federal funding for local clean-up efforts and has written legislation to improve the area's wastewater treatment infrastructure. Lowey has taken a key role in protecting the Hudson River and New York City watershed and preserving strong environmental laws like the Clean Air Act and the Clean Water Act.

Lowey was born in the Bronx; graduated from the Bronx High School of Science, where she was the senior class president; and received a Bachelor's Degree from Mount Holyoke College. She served as Assistant Secretary of State for the State of New York before being elected to Congress. Nita and Stephen Lowey have been married for over 40 years and have three grown children and six grandchildren.

Dr. Thomas H. Murray, Ph.D.

Thomas H. Murray is President of The Hastings Center. Dr. Murray was formerly the Director of the Center for Biomedical Ethics in the School of Medicine at Case Western Reserve University in Cleveland, Ohio, where he was also the Susan E. Watson Professor of Bioethics. Dr. Murray's research interests cover a wide range of ethical issues in medicine and science, including genetics, children, organ donation, and health policy. He is a founding editor of the journal *Medical Humanities Review*, and is on the editorial boards of *Human Gene Therapy*, *Politics and the Life Sciences*, *Cloning, Science, and Policy*, *Medscape General Medicine*, *Teaching Ethics* and the *Journal of Law, Medicine & Ethics*. He is also editor, with Maxwell J. Mehlman, of the *Encyclopedia of Ethical, Legal and Policy Issues in Biotechnology*, (John Wiley & Sons, 2000). He served as a member of the US Olympic Committee's Anti-Doping Committee, is currently a member of the Ethics and Education Committee of the World Anti-Doping Agency and served as a presidential appointee to the National Bioethics Advisory Commission from 1996 – 2001 where he served as chair of the subcommittee on genetics. He served as a member of the Committee on Ethics of the American College of Obstetrics and Gynecology and is former Chair of the Social Issues Committee of the American Society for Human Genetics. He is currently a member of the Ethics Committee of HUGO, the Human Genome Organization. He is a past member and founder of the Working Group on Ethical, Legal and Social Issues to the National Institutes of Health Center for Human Genome Research, and chaired its Task Force on Genetics and Insurance. He served as co-chair of the Panel on NIH Research on Anti-Social, Aggressive and Violence-Related Behaviors and Their Consequences and was a member of the NIH Human Embryo Research Panel as well as the NIH Director's Working Group on Oversight of Gene Therapy Research. He is Past President of the Society for Health and Human Values. From 1999 to 2000 he served as the President of the American Society for Bioethics and Humanities. Dr. Murray also served as a member of the AAMC Task Force on Conflicts of Interest from 2001-2002 and is currently a member of the Center



for Strategic & International Studies' Council on Biotechnology Research, Innovation and Public Policy. He also serves on the Advisory Committee for the Genomics Institute at the Wadsworth Center, and is an Affiliated Scholar of the Institute for Bioethics, Health Policy and Law at the University of Louisville. He has testified before Congressional committees, and is the author of more than 200 publications. His most recent books are *The Worth of a Child*, published by the University of California Press, and *Healthcare Ethics and Human Values: An Introductory Text with Readings and Case Studies*, Blackwell Publishers, which he edited with Bill Fulford and Donna Dickenson.

Professor John C. Mutter

John C. Mutter is Deputy Director/Associate Vice Provost of the Earth Institute at Columbia and Professor, Department of Earth and Environmental Sciences, Columbia University. As Dr. Mutter's titles suggest he is involved in three areas at Columbia. First, a Professor in the Department of Earth and Environmental Sciences. In the academic role he teaches at two distinctly different levels. One is an introductory level course in Earth Sciences. In that course he is able to teach about the Earth's complex dynamic systems like earthquakes and climate variations such as El Nino. He also teaches a graduate level course in Marine Seismology where students learn how seismic energy can be used to learn about the interior of the Earth.

Secondly, Dr. Mutter does research mostly at the Lamont-Doherty Earth Observatory where he studies the oceanic crust and mid-ocean ridge tectonic evolution using geophysical methods, primarily marine reflection seismology. His early research interests included the study of physical mechanisms and processes associated with seafloor spreading, continental extension and the development of passive continental margins. Initial studies focused on rifting and volcanism in the Norwegian-Greenland Sea. Dr. Mutter continued those research thrusts with studies of active rifting in the Woodlark Basin off Papua New Guinea, as well as his other work on complex system dynamics. More recently his attention has been turned to the vexing issue of the role of earth systems in sustainable development. He has used his expertise in the behavior of these systems, and the inherent limits to their predictability as the basis for studying science-based issues of sustainable development. Currently, he is focusing on understanding how scientific advances made in developed countries can be used to elevate the condition of people in developing countries.

In Dr. Mutter's third role he is the Deputy Director of the Earth Institute at Columbia. This new Institute is taking a comprehensive approach to understanding the nexus between the Earth's environment and the nature of the human condition. It is probably no accident that most of the world's poor people live in arid or tropical environments and suffer more from variations in natural conditions than those in the temperate zones. Perhaps an enhanced understanding of the relationship between the natural systems and human development can be used to improve the condition of the world's poor and for the lives of all. This is an undertaking of humbling dimension and scope and he is working to apply his experience as a science manager (two terms as Interim Director at Lamont as well as its Executive Deputy Director) to this daunting but critical problem.

He received a B.Sc. in Physics and Pure Mathematics from the University of Melbourne, Australia, a M.Sc. in Geophysics from the University of Sydney, Australia, and a Ph.D. in Marine Geophysics from Columbia University. He was born in Melbourne, and is an Australian citizen and permanent U.S. resident.



Dr. Mutter has authored or co-authored more than 70 articles in scientific journals and many popular articles. Fieldwork includes over 30 cruises aboard Columbia's research vessels and others in all parts of the world's oceans, crossing the equator, the Arctic Circle and Antarctic Circle.

Dr. Mutter is married to Carolyn Zehnder Mutter, Assistant Director for Science Management of the International Research Institute (IRI) for climate predication located on the Lamont-Doherty campus of Columbia. He has five children, three girls and two boys.

Professor Roger Panetta

Professor Roger Panetta is currently Associate Professor and Chair of the History Department, Marymount College of Fordham University. He also serves as the Director of the newly created Hudson River Studies Master Program at Fordham University. In addition to his faculty appointments at Fordham, Panetta is a Core Instructor at Columbia University in the Environmental Health Sciences School of Public Health, which he joined in 1995. His publications have focused on the history and culture of the Hudson River Valley, including his contribution to the 1996 book, *The Hudson: An Illustrated Guide to the Living River*.

Professor Panetta is the Adjunct Curator of History at the Hudson River Museum where he is involved in the creation and production of Imaging the River Programs, such as the forthcoming "Sea-Fever: Panoramas and the Hudson River" presentation. The Museum's Imaging exhibition documents the transformation of our historical, cultural and aesthetic views of the Hudson River and celebrates its inspiration for artists in the 19th, 20th and 21st Centuries.

Dr. Panetta received his Ph.D. in 1999 from the City University of New York, Graduate Center where he studied the history of Sing Sing Prison in the Nineteenth Century. Panetta obtained a MA in American History in 1964 from Fordham University and a BA from Columbia University.

Governor George E. Pataki

Like his hero, Theodore Roosevelt, Governor Pataki has worked tirelessly to preserve and protect New York's precious natural resources. Since he became governor in 1995, Governor Pataki has worked to invest more than \$9.8 billion in State and local environmental programs, establishing New York as a national leader in environmental preservation. The *League of Conservation Voters* recently called the Governor an environmental leader both in "New York and nationally."

Since 1995, New York State has either purchased or helped to preserve over 400,000 acres of environmentally sensitive open space, the Hudson River is cleaner than it has been in generations, the \$1.75 billion Clean Water/Clean Air Bond Act, championed by Governor Pataki in 1996, provided the resources necessary to preserve thousands of acres of open space, finance the removal of polluting coal burning boilers in New York City Schools, fund millions of dollars in increased investment in clean air technologies and water resources infrastructure and launched the most ambitious brownfields restoration program in state history.



In his 2000 State of the State Address, Governor George Pataki called for the establishment of a Rivers and Estuaries Center to be located on the Hudson River. He described it as a “world-class institute that will focus on world-wide river and estuary research and education” to be “developed by the best and brightest leaders in a broad range of fields, and designed to inspire work that will protect rivers and estuaries, their tributaries and watersheds the world over.”

Since that time, a strategic plan has been developed, a site chosen on Denning’s Point in Beacon, NY, an interim headquarters established on that city’s Main street, and a pilot research program established. Construction of the first facility is set to begin this spring.

In a recent letter to higher education leaders, Governor Pataki wrote, “[k]ey to the Center’s future successes will be partnership with the region’s colleges and universities. Together we can make the Rivers and Estuaries Center one of the world’s great institutions and as asset to every college and university in the region.”

Governor Pataki was born on June 24, 1945, on his parent’s Peekskill, New York family farm. He is a 1967 graduate of Yale University and a 1970 graduate of Columbia Law School, both of which he attended on academic scholarships. The Governor, his wife, the former Elizabeth (Libby) Rowland, and their children Emily, Teddy, Allison and George Owen reside in Garrison, New York, along the lower Hudson River. Before being elected Governor, George Pataki served 10 years in the state Legislature and was Mayor of his hometown. He was the youngest mayor ever of the city of Peekskill, and was re-elected with the largest plurality in the city’s history.

Professor H. Daniel Peck

H. Daniel Peck is John Guy Vassar Professor of English at Vassar College, and served as first director of the College’s new interdisciplinary environmental studies program. His concern with environmental studies grows from his work on landscape in American literature, as expressed particularly in his books *Thoreau’s Morning Work* and *A World by Itself: The Pastoral Moment in Cooper’s Fiction*, both published by Yale University Press. Professor Peck brought this concern, in 1997, to his directorship of a National Endowment for the Humanities Summer Institute for College and University Faculty titled “The Environmental Imagination: Issues and Problems in American Nature Writing.” Earlier, in 1993, he directed another NEH Summer Institute for College Faculty on the theme, “Hudson River Valley Images and Texts: Constructing a National Culture in 19th-Century America.” Professor Peck serves on the editorial board of ISLE (Interdisciplinary Studies in Literature and Environment) and has served on the Board of Directors of the John Burroughs Association. In 2001, as keynote speaker at the 13th International James Fenimore Cooper Conference, he gave a talk linking Cooper’s novels to environmental issues.

Professor Peck’s other publications on Thoreau include two Penguin Classics editions, *A Year in Thoreau’s Journal: 1851* and *A Week on the Concord and Merrimack Rivers*. Collections of essays that he has edited include *The Green American Tradition* (LSU Press) and *New Essays on The Last of the Mohicans* (Cambridge). He is the editor of the Oxford World’s Classics edition of Cooper’s *The Deerslayer* and the Barnes and Noble edition of Mark Twain’s *Tom Sawyer*. A contributor to the *Cambridge Literary History of the United States*, Professor Peck is a past chairman of the Modern Language Association’s Division on Nineteenth-Century American Literature. He is the recipient of two NEH Senior Research Fellowships and an ACLS Fellowship. Recently, he has been a Fellow at the Georgia



O'Keeffe Museum Research Center in Santa Fe, New Mexico, where he was working on an interdisciplinary study of American landscape.

Professor Stephanie Pfirman

Professor Stephanie Pfirman, a specialist in the study of environmental changes in the Arctic, is chair of the Department of Environmental Science at Barnard College, which she joined in 1993. Her publications have focused on the trajectory and origin of Arctic sea ice, analysis of contaminant transport in the Arctic environment, and the use of digital data in Earth science instruction.

Professor Pfirman was the first chair of the National Science Foundation's Advisory Committee for Environmental Research and Education (AC ERE). Under her leadership, in January 2003 the AC ERE produced "Complex Environmental Systems: Synthesis for Earth, Life and Society in the 21st Century," a ten year outlook in environmental research and education for the National Science Foundation. Before this, she chaired NSF's Office Advisory Committee to the Office of Polar Programs. From 1993 to 1997 she participated in US delegations to meetings of the international Arctic Monitoring and Assessment Programme, and was nominated to serve as a Key National Expert representing the US in preparation of the State of the Arctic Environment Assessment. In 1994 and 1995 she was a member of the Advisory Panel to the US Congress Office of Technology Assessment's Russian Nuclear Contaminant Assessment Project.

As Environmental Science department chair at Barnard, Pfirman has developed new courses in Polar Exploration, Climate, Energy Resources, Oceanography, and Data Analysis, revised the curriculum and established new majors, expanded the faculty, established links with related departments at Columbia University, acquired new instrumentation, and obtained grants to move the department into renovated facilities. Within the Columbia University community, she co-developed the 1996 opening of the Human Habitat at Columbia University's Biosphere 2 Center, in Oracle, Arizona, and chairs the Columbia University's Earth Institute environmental education committee.

Prior to joining Barnard, Dr. Pfirman worked at the Environmental Defense Fund from 1990 to 1993 as senior scientist and co-developer of the award-winning traveling exhibition "Global Warming: Understanding the Forecast" developed jointly with the American Museum of Natural History, and now housed inside Biosphere 2. From 1986 to 1989 she was research scientist and coordinator of Arctic programs for the University of Kiel and GEOMAR, Research Center for Marine Geoscience, Germany. Dr. Pfirman was a staff scientist for the US House of Representatives, Committee on Science, Subcommittee on Environment from 1984 to 1986. From 1978 to 1980 she was an oceanographer with the US Geological Survey in Woods Hole, Massachusetts.

Dr. Pfirman received her Ph.D. in 1985 from the Massachusetts Institute of Technology/Woods Hole Oceanographic Institution Joint Program in Oceanography and Oceanographic Engineering, Department of Marine Geology and Geophysics, and a BA in 1978 from Colgate University's Geology Department.



Professor Nicholas A. Robinson

Nicholas A. Robinson has developed environmental law since 1969 when he was named to the Legal Advisory Committee of the President's Council on Environmental Quality. He has practiced environmental law in law firms, for municipalities and as former general counsel of N.Y.S. Department of Environmental Conservation. He drafted New York's wetlands and wild bird laws and was inaugurated as the first chairman of both the statutory Freshwater Wetlands Appeals Board and Greenway Heritage Conservancy for the Hudson River Valley. He currently is Legal Advisor and Chair of the Commission on Environmental Law of the International Union for the Conservation of Nature and Natural Resources (IUCN), engaged in drafting treaties and counseling different countries on the preparation of their environmental laws. He founded Pace's environmental law programs, edited the proceedings of the 1992 United Nations Earth Summit in Rio de Janeiro and is author of several books and numerous articles. He teaches a number of environmental law courses.

Mr. Pete Seeger

Pete Seeger is an antidote to the times. During a life characterized by a simple, undying belief in the power of everyday people, he has become a national treasure. Though the world's best known folksinger, Pete is characteristically humble about such labels. He wrote in his book, *The Incomplete Folksinger*: "I have had to accept the label 'folksinger,' although 'a professional singer of amateur music' would be more accurate in my own case."

He has been at the forefront of the labor movement, the struggle for Civil Rights, the peace and anti-war movements, and the environmental movement. A tireless advocate for freedom and human rights, he has been a beacon of hope for millions all over the world. Once blacklisted during the dark days of the McCarthy era, he was given the nation's highest artistic honors at the Kennedy Center in December 1994. In January 1996 he was inducted into the Rock and Roll Hall of Fame. Although he left Harvard during his second year, in the spring of 1996 he was awarded the Harvard Arts Medal, presented annually to a Harvard graduate who has made an important contribution to the arts. In 1997, he won a Grammy Award for Best Traditional Folk Album of 1996 for his Living Music recording "Pete."

In 1966 Pete helped found the Clearwater organization on the radical idea that if you bring people to the Hudson River, the river will tell its story. For 37 years the river has been its own quiet organizer – with the help of hundreds of organizations up and down the Hudson that followed on Pete's example. In his workshop, Pete will share his experiences, answer questions, and lead us in a discussion on the Hudson as an extension of our lives and our work.

