

CENTER FOR THE ADVANCEMENT OF PUBLIC ACTION

WATER DIALOGUES

BENNINGTON COLLEGE



“The wars of the next century will be about water.”

— Ismail Serageldin, vice president of the World Bank, 1999

CAPA WATER DIALOGUES

Monday, April 16 – Saturday, April 21, 2012

All events are free and open to the public.

CAPA programming is funded through the generous support of:

Robert Borden and Susan Paris Borden '69

Bringing Theory to Practice Project of the AAC&U

Davis Educational Foundation

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Loet and Edith Velmans

Laura-Lee Whittier Woods '48, made possible by the L.K. Whittier Foundation

While access to water is considered to be a fundamental human right, available fresh water is diminishing causing food shortages, ecological destruction, and increased geopolitical tension. This problem is primarily the result of human activity. The solution will also be the result of human activity. Dialogue among people who share the need for clean water, concern about its scarcity, and a determination to effect positive change can result in new attitudes toward conservation, methods of distribution, and technologies. By looking closely at specific complex water issues on a local, regional, and global scale, we will try to comprehend more fully what is at stake in our relationship to water. Participants will include scientists, mediators, artists, and policy makers working on the ground locally, nationally, and globally as well as Bennington students, faculty, and staff.

We will begin with a primer on everything you need to know about water and then will move from the local to the global as we examine a new hydro-energy project in North Bennington, Vermont; the national water sharing conflict over the Apalachicola-Chattahoochee Flint River Basin and Lake Lanier between the states of Georgia, Alabama, and Florida; and the global dispute in the Middle East over the Dead Sea, the Red Sea, the Jordan River, and the West Bank aquifer. We will explore the pressures on the world's climate and how they affect fresh water supplies, the health of the oceans, and the market incentives for the corporatization and privatization of water. Finally, we will end the week very close to home with the celebration of the Lake Paran Water Festival.

MONDAY, APRIL 16, 2012

12:30–2:00 PM • TISHMAN AUDITORIUM

Everything You Wanted to Know about Water and Were Afraid to Ask

Fresh water is the most fundamental resource needed to support life and human society. Where does your water come from, why is it scarce in some regions while plentiful in others, and why are water supplies at risk? This opening workshop will present a broad overview of how and why freshwater resources are distributed around the globe, both spatially and temporally. We will discuss the natural controlling factors for the major types of water resources, how human activity impacts those resources, and how they change as climates evolve. Please come with your questions.

TIM SCHROEDER, geologist and science faculty member, Bennington College

4:10–6:00 PM • CAPA SYMPOSIUM

An Overview of Legal Issues Concerning Water Quality and Quantity: Where We Have Been, Where We Are, and Where We Need to Go in the Future

Creating legal frameworks to regulate water quantity has been fraught with challenges. Legislation, litigation, and interstate compacts have been ineffectual and science has generally been trumped by politics. The rapidly evolving nature of scientific knowledge outstrips legislators' ability to keep pace with appropriate regulations and judges' obligation to avoid unnecessarily overturning legal precedents. Often a lack of scientific expertise prevents jurists from rendering effective judgments. The discussion will cover transboundary water quantity disputes in the past, how they went awry, and how disputes might be resolved in the future.

RANDIE DENKER '72, founder of Waters Without Borders, environmental attorney

STEVE LEITMAN, founder of Waters Without Borders, certified mediator

In conjunction with ELIZABETH GOODMAN's *Environmental Law and Policy* class

7:00 PM • CAPA SYMPOSIUM

Reclaiming Vermont's Energy Future: The North Bennington Hydro-Electric Project

Vermont was once powered entirely by Vermont hydro facilities. Today less than 15% of our energy comes from Vermont companies. Vermont is one of the most challenging states in which to license hydro-electric facilities due to its strict water quality standards related to dams, fish migration, and habitat issues. Can we find a way to access more than 1,200 unused Vermont dams without a negative effect on water quality? In this session we will discuss how through collaboration we have gained the support of opponents of hydro facilities and developed a hydro project that has quantifiably improved water quality.

BILL SCULLY '94, entrepreneur, hydro-power advocate, and director of dining services, Bennington College

BRIAN CAMPION, Vermont state legislator, North Bennington

DAVID DEEN, Vermont state legislator, Windham

BRIAN FITZGERALD, Vermont Agency of Natural Resources Water Quality

CAROL OLDHAM '93, outreach coordinator, northeast, National Wildlife Federation

TIM SCHROEDER, geologist and science faculty member, Bennington College

TUESDAY, APRIL 17, 2012

10:10 AM–NOON • CAPA SYMPOSIUM

An Overview of a Transboundary Water Dispute in the Southeastern United States

The Apalachicola-Chattahoochee-Flint (ACF) basin, a nearly 20,000-square-mile basin in the southeastern United States, lies in the states of Alabama, Florida, and Georgia. For more than 20 years the three states have struggled unsuccessfully, through negotiation and litigation, to share the waters of the ACF basin equitably. We will examine the causes of the dispute and ask why the three states and the federal government have failed to resolve this problem.

STEVE LEITMAN, founder of Waters Without Borders, certified mediator

RANDIE DENKER '72, founder of Waters Without Borders, environmental attorney

In conjunction with PETER PAGNUCCO's *And Process For All* class

2:10–4:00 PM • CAPA SYMPOSIUM

Framing Water Problems as Art

Water is at the center of Patricia Johanson's art and public projects, from recycling sewage into drinkable water and channeling property-damaging floods, to water harvesting, stormwater purification, and remediating acid mine drainage. All of her designs combine art, ecology, and functional infrastructure while providing educational opportunities and wildlife habitat within the context of public parks.

PATRICIA JOHANSON '62,
artist and landscape designer

In conjunction with JON ISHERWOOD's
Projects in Sculpture: Making It Personal class

Suggested reading: "Gardens that Nourish, Drift, and Transform...the Water Garden", Volume II, pp. 76–105, in Xin Wu, *Patricia Johanson's House and Garden Commission: Reconstruction of Modernity*, Harvard University Press, 2008.

Suggested viewing: Patricia Johanson interview, with Amy Lipton and Kathleen Sweeney, 2010:
<http://www.youtube.com/watch?v=oZWJSyuzHBQ>

7:00 PM • CAPA SYMPOSIUM

2012 RUTH DEWING EWING '37 SOCIAL SCIENCE LECTURE

Middle East Water Conflicts:

Desalination—A Game-Changer for Regional Water Management in the Middle East

Water is a source of life; it is also a source of conflict and throughout history has posed one of the greatest challenges to humanity. More than a billion people have no access to safe water, and 2.6 billion people have no adequate sanitation. Lack of water is no longer a physical barrier as desalination technologies can make fresh water infinitely abundant.

Developed countries with access to the coast are rapidly implementing desalination technologies as a solution to water scarcity. From Australia to Saudi Arabia, desalination is now a key component of national water management strategies. Desalination can also provide a new opportunity for regional water management between Israel, Jordan, and the Palestinian Authority and can cause a shift in the sanctioned discourse of water needs versus water rights. If desalination can provide plentiful fresh, high-quality, and reasonably priced water, countries can purchase according to their needs. This session will present a regional framework for how such a regional water market might function for Israel, Jordan, and the Palestinian Authority.

CLIVE LIPCHIN, director of the Arava Institute for Environmental Studies Center for Transboundary Water Management, Israel; 2012 Ruth Dewing Ewing '37 Social Science Lecturer

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PANELISTS

SALEEM ALI, professor of environmental studies at the University of Vermont, Rubenstein School of Environment and Natural Resources; director of the Institute for Environmental Diplomacy and Security at UVMs James Jeffords Center for Policy Research

RABBI MICHAEL COHEN, Israel Congregation in Manchester, Vermont; director of development, Arava Institute for Environmental Studies, Israel

MANSOUR FARHANG, former Iranian ambassador to the United Nations and social science faculty member, Bennington College

PATRICIA JOHANSON '62, artist and landscape designer

JULIAN PORTILLA, director of the Graduate Program in Mediation and Applied Conflict Studies of the Woodbury Institute of Champlain College

WEDNESDAY, APRIL 18, 2012

10:10 AM–NOON • CAPA SYMPOSIUM

Dialogue: What Can We Learn from Each Other?

SALEEM ALI, professor of environmental studies at the University of Vermont, Rubenstein School of Environment and Natural Resources; director of the Institute for Environmental Diplomacy and Security at UVMs James Jeffords Center for Policy Research

RABBI MICHAEL COHEN, Israel Congregation in Manchester, Vermont, director of development, Arava Institute for Environmental Studies, Israel

RANDIE DENKER '72, founder of Waters Without Borders, environmental attorney

STEVE LEITMAN, founder of Waters Without Borders, certified mediator

CLIVE LIPCHIN, director of the Arava Institute for Environmental Studies Center for Transboundary Water Management, Israel

JULIAN PORTILLA, director of the Graduate Program in Mediation and Applied Conflict Studies of the Woodbury Institute of Champlain College

BILL SCULLY '94, entrepreneur, hydro-power advocate, and director of dining services, Bennington College

Moderator: **ELIZABETH COLEMAN**, president, Bennington College

In conjunction with **ELIZABETH COLEMAN's** *Workshop on Advancing Public Action* class

2:10–4:00 PM • CAPA SYMPOSIUM

River of Words

Rivers connect—landscape and experience, rivers and community, swimming and stewardship, private reflection and public action, the written word and experiential activism. This session will investigate some of these connections. A short film and presentation will be based on one community's shoreline project—the River Pool at Beacon, Inc. and the annual cross-river swim that supports its operation—but dialogue will not be confined to this particular waterscape.

AKIKO BUSCH '75, author and design critic

In conjunction with **MARK WUNDERLICH's** *Ecopoetics: Origins of Environmental Literature* class

Suggested reading: *Water Wisdom: Preparing the Ground Work for Cooperative and Sustainable Water Management in the Middle East*. Edited by Alon Tal and Alfred Abed Rabo. Available on Amazon.

Suggested reading: www.riverpool.org

4:10–6:00 PM • TISHMAN AUDITORIUM

Freedom and Unity: The Vermont Movie

This film is a collaborative project with contributions from more than 20 Vermont filmmakers. It explores the history of Vermont's independent spirit and activism from the past to the present. Segments of the film that touch on issues of water quality in Vermont will be screened.

NORA JACOBSON, award-winning filmmaker based in Norwich, Vermont; Guggenheim, NEA Media Fellowship, and LEF Foundation grant recipient

In conjunction with **KATIE PURDIE's** *Documentary Production: Personal and Political* class

7:00 PM • CAPA SYMPOSIUM

Climate Change, Flood Resiliency, and Lessons Learned from Irene

What impact has climate change had on Vermont? What lessons have we learned from the devastating floods of tropical storm Irene. Help us consider ways we can prepare our communities for the greater rainfall anticipated from climate change and to help us become more resilient to future flooding.

DEB MARKOWITZ, secretary of Vermont Agency of Natural Resources

DAVID MEARS, commissioner, Department of Environmental Conservation

THURSDAY, APRIL 19, 2012

NOON–1:00 PM • CAPA SYMPOSIUM

Environmental Studies Colloquium: Conserving Forests to Protect Aquatic Ecosystems, Water Resources, and People

Most people like trees so the notion that these solar-powered living filters can efficiently protect human and ecosystem health is very appealing. However, when forest conservation is embraced as the preferred approach or core philosophy, an interrelated set of questions quickly emerges. They typically center on what forest land is most important to conserve, how should it be managed (if at all) once it is protected, and which private landowners (if not all) should be compensated for public (downstream) benefits. Successful projects and programs are founded on objective, understandable, and equitable answers—developed collaboratively by diverse groups of people and organizations—to these ubiquitous questions.

PAUL BARTEN, professor of forest resources in the Department of Environmental Conservation at the University of Massachusetts Amherst; director of the Forest-to-Faucet Partnership

1:00–2:00 PM • CAPA LOBBY

Coral Reef Research in the Cayman Islands

This past January, 14 Bennington College undergraduate students joined Elizabeth Sherman in the Cayman Islands to conduct coral reef biology field work. After becoming certified SCUBA divers, the students collected fish diversity data that were submitted to Reef Environmental Education Foundation, which maintains an international database on fish diversity collected by divers around the world. These data are widely used by scientists, governments, NGOs, and policy makers. The students will present their own coral reef biology research during the poster session.

ELIZABETH SHERMAN, biologist and science faculty member, Bennington College

STUDENTS in *Diversity of Coral Reef Animals* class

2:10–4:00 PM • CAPA SYMPOSIUM

Discussion: Readings on Water Issues

ELIZABETH COLEMAN will facilitate a discussion for the community on suggested readings.

Suggested reading: Packets are available upon request from shamilton@bennington.edu.

In conjunction with ELIZABETH COLEMAN's *Fundamentals of Advancing Public Action*

7:00 PM • CAPA SYMPOSIUM

2012 ROBERT H. WOODWORTH LECTURE

Beyond the Obituaries: Success Stories in Ocean Conservation

The last two decades have been filled with news of the death of the oceans. While enormous challenges remain, there are also success stories that can be told. They illustrate that all is not hopeless and that individuals can make a difference.

NANCY KNOWLTON, Sant Chair in Marine Science at the Smithsonian's National Museum of Natural History; 2012 Robert H. Woodworth Lecturer

FRIDAY, APRIL 20, 2012

11:00 AM–NOON • CAPA CIRCLE (RAIN LOCATION: SCENE SHOP)

Solar Hot Water Heater Demonstration

This demonstration will showcase high-quality homemade solar collectors that can be built for approximately \$200. Four of these solar collectors can produce hot water for a typical household.

MIKE RANCOURT, technical director, Bennington College

1:00–2:00 PM • DICKINSON 225

Science Workshop: The Evolutionary Diversity and Ecological Complexity of Coral Keepers

NANCY KNOWLTON, Sant Chair in Marine Science at the Smithsonian's National Museum of Natural History

2:10–4:00 PM • EAST ACADEMIC CENTER ROOM 1

Global Capitalism: Water Wars

Ismail Serageldin expressed his perspective on the importance of water issues in the quote opening this schedule of events. As the former vice president of the World Bank, he represented an institution that encourages the privatization of the world's water supply. In author Vandana Shiva's opinion, water wars are not a thing of the future. They already surround us, both as paradigm wars—conflicts over how we perceive and experience water—and as traditional wars, fought with guns and grenades.

Privatization of common resources is one of the themes explored in Mirka Prazak's *Global Capitalism* class. In this session, we will explore how corporate interests, sometimes constructed as an essential part of national defense by protecting national interests through the strategic acquisition of the world's major water supplies, can also be constructed as largely profit-oriented policies by recognizing that once a company owns a water supply, it can be in its best financial interest to make the water scarce and hard to afford. Creating a problem, then marketing a solution, is a very profitable business practice—not to mention the additional profits to be gained from defending the supply in a war.

MIRKA PRAZAK, anthropologist and social science faculty member, Bennington College

In conjunction with her *Global Capitalism* class

Suggested reading: *Water Wars: Privatization, Pollution, and Profit*, Vandana Shiva, South End Press (February 2002).

7:00–8:00 PM PRESENTATION • 8:00–10:00 PM EXHIBITION AND RECEPTION • USDAN GALLERY

Resilience and Resistance: Few Possible Futures for Living with Water

Jon Cohrs, Mary Mattingly, and Taeyoon Choi, all current and past fellows at Eyebeam Art and Technology Center in New York City, have been working at the intersection of art, architecture, urban research, and participatory performance with specific interest in creative use of technology. Their collaboration began in 2010 when they went on a research trip to rivers under going massive development and urbanization in South Korea. In their exhibition at Bennington, they will exhibit artifacts and documents from completed works and also present work-in-progress research about Vermont rivers. The exhibition will be based on their research and practice on natural resources, development, and public policy, and employing tactics of performance and site-specific intervention.

JON COHRS, recording engineer and visual/sound artist, fellow at The Eyebeam Art and Technology Center

TAEYOON CHOI, committee member of the Public School New York and artistic director of Temporary Seoul residency for cultural producers

MARY MATTINGLY, founder of the Waterpod Project, a self-sufficient habitat and public space atop a barge built to explore future collaborative living situations

Artists from EYEBEAM ART AND TECHNOLOGY CENTER

Curated by NEW NORMAL BUSINESS

SATURDAY, APRIL 21, 2012

10:00 AM–8:00 PM • LAKE PARAN

Lake Paran Water Festival

This celebration is a benefit for Paran Recreations, the stewards of Lake Paran in North Bennington, Vermont. Notable members of our community will speak about the history of Lake Paran. There will be a model boat regatta and prizes will be awarded in several categories ending with a picnic dinner and party.

10:00 AM–NOON Hiking and Bird-watching around Lake Paran

10:00 AM–NOON Canoe Rides on Lake Paran

NOON–1:00 PM Lunch

1:00–3:00 PM Volleyball Tournament and Craft Sale

3:00–3:30 PM Introduction to Lake Paran Regatta

3:30–5:30 PM Lake Paran Regatta Model Boat Races

5:30–8:30 PM Picnic Dinner and Party

PARTICIPANTS

SALEEM H. ALI is professor of environmental studies at the University of Vermont's Rubenstein School of Environment and Natural Resources and director of the Institute for Environmental Diplomacy and Security at UVM's James Jeffords Center for Policy Research. He is also on the adjunct faculty of Brown University's Watson Institute for International Studies and the visiting faculty for the United Nations mandated University for Peace (Costa Rica). Ali's research focuses on the causes and consequences of environmental conflicts and how ecological factors can promote peace. Much of his empirical research has focused on environmental conflicts in the mineral sector. His most recent book is titled *Treasures of the Earth: Need, Greed and a Sustainable Future*. Ali is also involved in numerous nonprofit organizations to promote environmental peace-building and serves on the board of The DMZ Forum for Peace and Nature Conservation and International Peace Park Expeditions in the United States and on the board of governors for LEAD-Pakistan. He has also been involved in promoting environmental education in madrassahs (Islamic religious schools) and using techniques from environmental planning to study the rise of these institutions in his ethnic homeland, Pakistan, leading to a monograph entitled *Islam and Education: Conflict and Conformity in Pakistan's Madrassahs*. He is also a professional mediator and has conducted workshops on consensus-building for private and public interests.

PAUL K. BARTEN is professor of forest resources in the Department of Environmental Conservation at the University of Massachusetts Amherst and the director of the Forest-to-Faucet Partnership. He earned undergraduate degrees in forestry from the New York State Ranger School (A.A.S., 1977) and SUNY ESF, Syracuse (B.S., 1983) and an M.S. (1985) and Ph.D. (1988) in forest hydrology and watershed management from the University of Minnesota. He served on the faculty of the Yale School of Forestry & Environmental Studies from 1988–97 before moving to the University of Massachusetts Amherst.

AKIKO BUSCH '75 writes about design, culture, and the natural world for a variety of publications. A graduate of Bennington College, she is the author of *Geography of Home: Writings on Where We Live*, *The Uncommon Life of Common Objects: Essays on Design and the Everyday*, and most recently, *Nine Ways to Cross a River*. Her essay, *Patience: Taking Time in an Age of Acceleration* was published in 2010. She was a contributing editor at *Metropolis* magazine for 20 years, and her work has appeared in numerous national magazines, newspapers, and exhibition catalogues. She held the Richard Koopman Distinguished Chair for the Visual Arts at the Hartford Art School at the University of Hartford, and has taught at Bennington College and Haystack Mountain School of Crafts. Her essays have aired on public radio in the U.S. and Canada, and currently she is on the faculty of the School of Visual Arts in New York City. Her work has been recognized by grants from the Furthermore Foundation and NYFA, and she was recently appointed as the inaugural writer-in-residence at the Cary Institute of Ecosystem Studies in Millbrook, New York, whose mission is to foster a better understanding of the importance of ecosystems. *The Incidental Steward*, her essays about land use, citizen science, and stewardship, will be published by Yale University Press in 2013.

BRIAN CAMPION was elected to the Vermont House of Representatives in 2010 and appointed by Speaker of the House Shap Smith to serve on the House Education Committee. Campion is passionate about improving education so our young people are prepared to be active participants in our democracy and can be prepared to find work that is meaningful both to themselves and to society. Additionally, Campion is deeply committed to environmental conservation, healthcare reform, and economic development.

TAEYOON CHOI has studied performance, traveled extensively making video documentaries, completed graduate studies in new media, and received a fellowship at Eyebeam Art and Technology Center. He exhibits, performs, publishes books internationally, and collaborates with community that is local and the public that is sometimes imaginary. His recent social practice includes Roadshow: South Korea, where he invited 15 international artists and activists to travel along the rivers transforming due to massive urban development. He is a committee of The Public School New York, an open-source school with no curriculum, and runs GaOk, a residency program for cultural producers in Seoul.

RABBI MICHAEL COHEN is a long time environmental activist who, while in high school, co-founded the first recycling center in Ewing, New Jersey, in 1976. He graduated with a B.A. in History from the University of Vermont, where he also received the Paul Evans History Award for his honors paper on "Lenin's Theory of Self-Determination and the Muslims of the Soviet Union." In 1990 he graduated from the Reconstructionist Rabbinical College and became the first full-time rabbi of the Israel Congregation in Manchester Center, Vermont. Since 2000 he has divided his time between Vermont and Kibbutz Ketura, Israel, working for the Arava Institute for Environmental Studies, the premier environmental teaching and research program in the Middle East, preparing future Arab and Jewish leaders to cooperatively solve the region's environmental challenges. He has written extensively about the environment and the Middle East peace process in North American and Middle Eastern publications. He is the author of *Einstein's Rabbi: A Tale of Science and the Soul*. His latest project is to try to have a Nobel Environment Prize established. Rabbi Cohen is a visiting faculty member at Bennington for spring 2012.

JON COHRS is a recording engineer and visual artist based in Brooklyn, NY. Often employing humor and absurdity, his work uses public engagement and site-specific interventions to address global issues. Recently, he created OMG I'm on TV, an analog pirate TV station that filled the void left behind by the digital transition. OMG TV was used as a reference in a Supreme Court amicus brief on creativity and copyright. He has taught at Parsons, The New School for Design, as a visiting artist at Colorado College, and taught at SUNY Purchase in the Film and Media department in January 2012. He has just completed a fellowship at Eyebeam Art and Technology Center and is currently working on a film about artificial flavoring and the New Jersey Meadowlands call the *The Spice Trade Expedition*.

ELIZABETH COLEMAN is one of the country's leading innovators in higher education and the ninth president of Bennington College. Her vision for a new liberal arts education and its role of reinvigoration in society has been widely recognized in the United States and abroad. President Coleman's recent presentations include delivering the concluding presentation at the 25th anniversary TED Conference in Los Angeles, keynoting The Conference on World Affairs in Boulder, and addressing The Royal College of Defence Studies in London, and the National Association of Independent Schools, of which she is a trustee, in Washington, D.C. Prior to assuming the presidency at Bennington, Coleman was the dean of the College of Arts and Sciences and a professor of humanities at the New School for Social Research in New York, where she founded and directed the Freshman Year Program and the Seminar College. Prior to The New School, she was professor of literature at SUNY-Stony Brook. President Coleman serves on the board of advisors for the European College of Liberal Arts in Berlin and has served on the boards of the Franklin and Eleanor Roosevelt Institute, the Council for a Community of Democracies, and the Committee for Economic Development. Coleman graduated from the University of Chicago, where she was a Ford Foundation Scholar, completed her master's degree in English and American Literature at Cornell University, and received her PhD from Columbia University, where she was a Woodbridge and President's Fellow.

DAVID DEEN brings a long history of concern for the waters of the State of Vermont. He has been an articulate advocate for the Connecticut River since 1989. He is the Connecticut River Watershed Council's River Steward. CRWC is the premier watershed organization for the entire Connecticut River watershed. He is serving in his 22nd year as a member of the Vermont House of Representatives; 24 years in the legislature with 2 years in the Senate and currently serves as chair of the House Fish, Wildlife, and Water Resources Committee.

RANDIE DENKER '72 is an environmental attorney with 30 years of experience in all aspects of environmental litigation and issues including surface and ground water pollution, aquatic preserves, and marine and wetland restoration. She has worked as both a government attorney and a private attorney, within the state and federal court systems and in the administrative law system. Denker has also taught classes as a guest lecturer at numerous universities, had publications in law journals and elsewhere, has helped municipalities and counties craft environmental and land use laws, has served on numerous boards, and has served as a mediator for Florida State University's mock negotiations on river basin conflicts, as well as working internationally with NATO in Kazakhstan and Morocco. Denker is listed in *Who's Who in America*, *Who's Who in the Law*, *Who's Who of Emerging Leaders*, *Who's Who in International Women*, and *International Directory of Distinguished Leadership*.

MANSOUR FARHANG served as revolutionary Iran's first ambassador to the United Nations, resigning in protest when the Khomeini regime refused to accept the U.N. Commission of Inquiry's recommendation to release American hostages in Teheran. Early in the Iran-Iraq war, he served as envoy in negotiations with international peace missions. Currently, he is on the

advisory board of Middle East Watch, a branch of Human Rights Watch. He is the author of *U.S. Imperialism: From the Spanish-American War to the Iranian Revolution*; and, with William Dorman, *The U.S. Press and Iran: Foreign Policy and the Journalism of Deference*; he is also a frequent contributor to scholarly journals and the national news media. He has taught at the Claremont Graduate School, the California State University at Sacramento, and Princeton University, where he was also a research fellow at the Center for International Studies. BA, University of Arizona; PhD, Claremont Graduate School. Farhang has taught at Bennington since 1983, where he is the Catharine Osgood Foster Chair for Distinguished Teaching.

BRIAN FITZGERALD is the Streamflow Protection Coordinator for the Vermont Agency of Natural Resources. He developed his appreciation of Vermont's natural resources while growing up in Pittsford, where his home range spanned two watersheds: the Castleton River and Otter Creek. Since 1996 he has worked in streamflow protection and river restoration at the Agency, where his work focuses on regulation of hydroelectric projects and water withdrawals, mitigating the impacts of dams on Vermont's rivers, and dam removal. He holds B.S. and M.S. degrees in biology and ecology from the State University of New York, College of Environmental Science and Forestry in Syracuse.

NORA JACOBSON is a filmmaker, writer, producer, cinematographer, and director of the award-winning documentary *Delivered Vacant*. She is the founder of Off The Grid Productions of Norwich, Vermont, and former instructor at State University of New York at Purchase. She is currently in production for the feature film *Letters to My Mother's Early Lovers*, being shot in Vermont. Jacobson earned her B.A. from Dartmouth College and her M.F.A. from the Art Institute of Chicago.

PATRICIA JOHANSON's '62 major projects include Fair Park Lagoon in Dallas (1981–86), a municipal flood basin, and "Endangered Garden" in San Francisco (1987), a transport-storage sewer that is part of the Bay Circuit Trail. Ellis Creek Water Recycling Facility in Petaluma, California, utilizes sequential wetlands to process sewage into recycled water, while providing three miles of trails through varying wildlife habitats. "The Draw at Sugar House" in Salt Lake City incorporates a registered dam, floodwalls, and spillway into a major highway crossing while reconnecting Parley's Creek, which was disrupted during the construction of I-80. "Mary's Garden" in Scranton, Pennsylvania, restores surface flow and purifies water on a site devastated by coal mining.

NANCY KNOWLTON holds the Sant Chair in Marine Science at the Smithsonian's National Museum of Natural History, where her research focuses on the ecology, evolution, and conservation of coral reef organisms. Knowlton received her undergraduate degree at Harvard University and her PhD at the University of California at Berkeley, and was a professor at Yale University prior to moving to the Smithsonian Tropical Research Institute in Panama, where she worked for 14 years. She then joined the Scripps Institution of Oceanography at the University of

California at San Diego, where she was the founding Director of the Center for Marine Biodiversity and Conservation. She is an elected fellow and member of the Board of Directors of the American Association for the Advancement of Science and an Aldo Leopold Leadership Fellow. In 2009 she received the Peter Benchley Award for science in the service of marine conservation, and in 2011 the Heinz Award for leadership in the field of the environment. In addition to numerous scientific papers, she is the author of *Citizens of the Sea*, published by the National Geographic Society.

STEVE LEITMAN has extensive experience working on transboundary water issues for federal, state, and non-governmental organizations both in the U.S. and internationally in both policy and technical support roles. He has worked in the government sector and in the private sector, and has nearly 30 years experience working on comprehensive water issues involving the Apalachicola-Chattahoochee-Flint River basin to establish a Tri-State Water Compact. Towards this end, he has been involved in water modeling to facilitate allocation formulas, as well as hands-on work with endangered aquatic species. Leitman spent several years working on water issues in Eastern Europe under the auspices of the German Marshall Fund. He has also taught undergraduate and graduate level classes at Florida State University since 2001 in the area of river basin management. He has published multiple papers on transboundary water issues. He is a certified mediator.

CLIVE LIPCHIN serves as the director of the Arava Institute's Center for Transboundary Water Management where he oversees research projects, workshops, and conferences that focus on transboundary water and environmental problems facing Israel, Jordan, and the Palestinian Authority. He is also a member of the Arava Institute faculty where he teaches courses in sustainable development, water management, scientific research methodology, and culture and environment interactions. His specialty is in water resources management and policy. He has been involved in a number of regional projects, such as assessing impacts on the declining water level of the Dead Sea. This project was conducted jointly with Palestinian and Jordanian partners and funded by the European Union. Recently, Lipchin was part of a research team working on the World Bank sponsored feasibility study of the Red Sea-Dead Sea conduit. He conducted research on the environmental and social impact assessment of the proposed project. He also consults for a number of national and international water agencies and has been involved most recently with the European Union's Water Initiative project for the Mediterranean region. Lipchin has published and presented widely on the topic of transboundary water management in the Middle East and has served as senior editor on two books: *Integrated Water Resources Management in the Middle East* and *The Jordan River and Dead Sea Basin*.

DEBORAH MARKOWITZ was appointed the secretary of the Vermont Agency of Natural Resources, the state agency with primary responsibility for protecting Vermont's environment, natural resources, and wildlife and for maintaining Vermont's forests and state parks, by Governor Peter Shumlin in January 2011. Markowitz previously served as Vermont's Secretary of State from 1999 until 2011. She has a distinguished record of achievement and is widely recognized

for enhancing customer service at the Secretary of State's office, improving access to government, and strengthening Vermont's democracy. As secretary of the Agency of Natural Resources, Markowitz has shaped the environmental agenda of the state, focusing on the challenges of climate change, habitat fragmentation, and the need to make Vermont more resilient to flooding. She believes that Vermont must find new and creative approaches to care for its natural resources, build strong communities, and support its working landscape for a sustainable future. A graduate of the University of Vermont, Markowitz received her Juris Doctorate degree from the Georgetown University Law Center. Markowitz served as a law clerk with Justice Louis Peck of the Vermont Supreme Court and practiced law with Langrock, Sperry, Parker, and Wool. She served as the founding director of the Vermont League of Cities and Towns Municipal Law Center, where she published numerous handbooks and academic papers and lectured on issues related to municipal law and ethics in government. Markowitz has served on numerous state and national boards and commissions and is the founder of the Vermont Women's Leadership Initiative and Vermont Votes for Kids. She has been recognized nationally for her leadership by being awarded an Aspen Institute Rodell fellowship.

MARY MATTINGLY's work collapses boundaries between performance, sculpture, architecture, and documentation. Through wearable environments and autonomous living systems, her practice addresses nomadic themes that are based on the need to migrate due to current and future environmental and political situations. Mary is the founder of the Waterpod Project, a self-sufficient habitat and public space atop a barge built to explore future collaborative living situations. It is docked throughout New York City, with artists living onboard testing the ecosystem for the project's duration. Over 200,000 people visited the Waterpod in 2009. Mattingly is currently working on the Flock House project, living systems that bridge informal cross-discipline and cross-boundary notions of property.

DAVID MEARS, a national leader in environmental law, was appointed commissioner of the Department of Environmental Conservation by Governor Peter Shumlin in January 2011. Mears was formerly an associate professor at the Vermont Law School and director of VLS's Environmental and Natural Resources Law Clinic and Land Use Clinic. He has been he an assistant attorney general in the Texas Office of the Attorney General, a senior attorney with the Texas Natural Resource Conservation Commission, and the energy and environmental policy director with the Texas Office for State-Federal Relations in Washington, DC. He then served as a trial attorney and counselor for state and local affairs with the U.S. Department of Justice, Environment, and Natural Resources Division. Most recently, Mears was on a Fulbright Scholarship at Sun Yat-Sen University in China, lecturing and developing environmental clinical programs to strengthen enforcement of China's anti-pollution laws.

CAROL OLDHAM '93 is the northeast Regional Outreach Coordinator for the National Wildlife Federation and brings more than a decade of outreach experience on issues relating to the environment and energy. She has worked on outreach surrounding renewable energy in the Southwest and throughout New England as well as issues relating to fossil fuel-produced energy. She has

brought together groups as disparate as tribes, ranchers, faith groups, educators, utilities, and hunting and fishing interests. She previously worked for the Sierra Club as a regional manager and organizer and for Southern Mutual Help, organizing relief efforts in Louisiana after Katrina and Rita and for the Forest Service as a field biologist. She has an MBA in Policy and Planning from the University of New Mexico. Oldham's current role at the National Wildlife Federation includes reaching out to the hunting and fishing communities, NWF members in the northeast, and other key constituencies to educate decision makers on the impacts of policies and issues.

JULIAN PORTILLA is currently the director of the Graduate Program in Mediation and Applied Conflict Studies of the Woodbury Institute of Champlain College. Prior to his position at the college, Portilla worked on community, environmental, and political consensus-building processes in several countries in Latin America. Most recently based in Mexico, his primary responsibilities were managing several consensus-building processes on and around the Baja peninsula regarding fishing, environmental and land development policy issues. In addition to his current responsibilities at Champlain College, he consults for the UN, NGOs, universities, colleges, and other institutions.

MIRKA PRAZAK is a scholar of development and cultural change whose work in East Africa centers on globalization, inequality, gender- and age-based hierarchies, reproduction, and family formation. Her work has been funded by the Andrew W. Mellon Foundation, the National Science Foundation, the American Council of Learned Societies, the Social Science Research Council, and the Wenner-Gren Foundation, and has been conducted under the auspices of Yale University, the Australian National University, University of Nairobi, and Bennington College. Author of the recently completed draft manuscript on the tradition of genital cutting, *A Cut Above: Negotiating Identity in Rural East Africa*, she has contributed chapters to *African Families at the Turn of the 21st Century* and *Africa Today: A Multi-Disciplinary Snapshot of the Continent in 1995*. She has published extensively in academic journals including *Africa Today*, *African Studies Review*, *Journal of African Cultural Studies*, *The Anthropology of Work Review*, and the *Journal of African Studies*. Prazak was born in the Czech Republic and educated there and in Pakistan, the U.S., and Australia. She has taught at Yale University, Australian National University, the University of Nairobi, Williams College, and the Community College of Vermont. She earned her BA at Smith College; her M Phil. and PhD at Yale; and has done postdoctoral work at Australian National University. Prazak has taught at Bennington since 1996.

MICHAEL RANCOURT's engineering background comes first from his father and from an apprenticeship where he built and ran machines for molding plastics, including the robotic machines that made the IBM typewriter ball. As a woodworker, he developed an abrasive planer for guitar builders and precision woodworkers, built ultralight canoes, furniture, cabinetry, and several buildings. As an independent sawyer with a portable sawmill, he sawed out hundreds of houses, barns, sheds, log cabins, and lumber for everything from floors to musical instruments to the Mass MoCA project in North Adams, MA. His numerous unique theater projects have included a

parasol that bursts into flames, a totally silent stage elevator, a 14-foot-wide black widow spider costume, and two baby carriages strong enough to hold college age "babies." Rancourt was Scene Shop Supervisor at Bennington College from 1982–92 and returned as Technical Director in 2005.

TIM SCHROEDER is a geologist who studies the movement of rocks and fluids through the Earth at active plate boundaries and at locations of past plate tectonic activity. He is interested in how mass-transfer reactions can change the physical properties of rocks to facilitate rock-weakening within fault zones. Schroeder is currently researching how active faults are exhuming rocks from the Earth's mantle to the sea floor to construct new plates at the Mid-Atlantic Ridge. This work has included participation on two research cruises that sampled rocks from the sea floor via submersibles and drilling. Schroeder is also studying the formation of the Cordilleran rift 25 million years ago in Arizona by studying rocks that were brought to the Earth's surface from the mantle by ascending magma that erupted during the first phases of faulting. His research has been published in the journals *Geology*, *Geochemistry/Geophysics/Geosystems*, and *Marine Geophysical Researches*, and he has received grants from the United States Geological Survey, the Joint Oceanographic Institutions, and the Geological Society of America. He received his BS from the University of Wisconsin, Madison; his MS, from Northern Arizona University; and his PhD, from the University of Wyoming. He has taught at Bennington since 2008.

BILL SCULLY '94 has, since his time as a student at Bennington College, studied sculpture and architecture; assisted well-known artists such as Jenny Holzer and Maria Westerlund-Roosen; apprenticed at a local café; been the executive chef at the Cambridge Hotel; opened the popular, award-winning restaurant, Pangaea and Pangaea Lounge, in North Bennington; launched a second restaurant, Allegro, in downtown Bennington; bought and revamped the much-loved Powers Market, contributing to the revitalization of North Bennington and surrounding areas. He re-entered the Bennington College community as the director of dining services. His latest entrepreneurial endeavor is to pursue the development of Vermont's first hydroelectric project in 25 years.

ELIZABETH SHERMAN is known for her extensive work in amphibian behavior. Sherman has published in *Herpetological Review*, *Journal of Comparative Physiology*, *American Zoologist*, *Comparative Biochemistry and Physiology*, and *Journal of Thermal Biology*. She has received numerous grants from the National Science Foundation, as well as from the American Wildlife Research Foundation and The Grass Foundation. A commissioner for six years for The New England Association of Schools and Colleges, Sherman has previously taught biology at the University of Vermont and Cornell University. BA, University of Rochester; PhD, University of Vermont; post-doctoral work, Cornell University; National Science Foundation fellow, University of Vermont. Sherman has taught at Bennington since 1978.

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