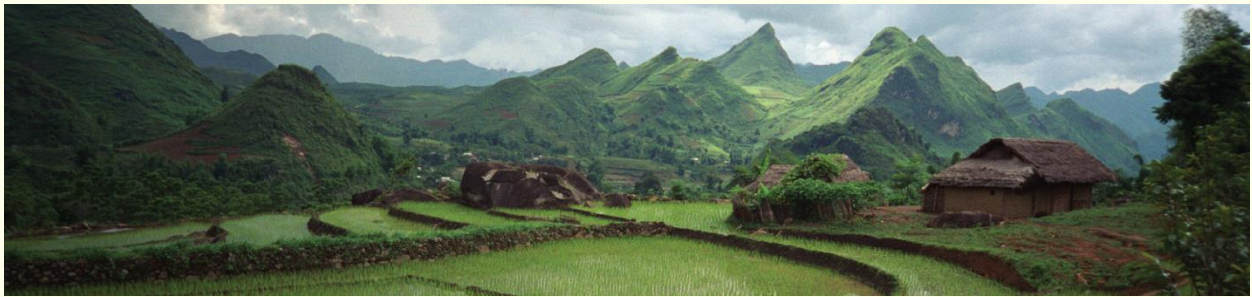


**CENTER FOR INTERNATIONAL ENVIRONMENT  
AND RESOURCE POLICY  
(CIERP)**

*The Fletcher School  
Tufts University*

**Year in Review**  
*July 2012 - June 2013*



THE CENTER FOR  
INTERNATIONAL  
ENVIRONMENT &  
RESOURCE POLICY



THE FLETCHER SCHOOL  
TUFTS UNIVERSITY

**Tufts**  
UNIVERSITY

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### In 2012-2013, CIERP:

- researchers authored **5** peer-reviewed journal articles and **10+** policy briefs, working papers, and other publications.
- had scholars quoted in **10+** media outlets.
- employed **15+** graduate student assistants.
- granted **5** student fellowships supporting internships and conference participation.
- hosted **18** on-campus public events.
- marked its **20<sup>th</sup>** Anniversary.

*Established at The Fletcher School, Tufts University in 1992 to meet the growing need for international environmental leaders, the Center for International Environment and Resource Policy (CIERP) develops innovative approaches to shifting global development onto an environmentally, socially, and economically sustainable path. We analyze how economic and social activities impact the environment, and design strategies for meeting human needs without straining the planet's resources.*

## DIRECTOR'S NOTE

### July 2013

The fall of 2012 began the third decade for Fletcher's Center for International Environment and Resource Policy (CIERP). What began as four courses and a single faculty member in 1992 just three months after the Rio Earth Summit has grown into a field of study with a full slate of a dozen courses, four research program areas, plus policy research, conferences, and seminar programs. There are now three full-time faculty, four professors of practice, research fellows, affiliated faculty and researchers, and in any given year two or three postdoctoral fellows and an occasional visiting faculty member.

This is also a year of transitions. On July 1, 2013, I moved to a half-time teaching load and stepped down from my position as director of the Center. Professor Kelly Gallagher, who received tenure this past year, became the new director of CIERP on July 1. A successful search was completed with the hiring of Assistant Professor Avery Cohn, who will begin teaching at Fletcher in July 2014 after a year's leave. Cohn works on forests, agriculture, and climate change and, among several others, will introduce a new course in methodology that will include modeling and other tools for interdisciplinary analysis.

The faculty of the Center supervised 27 Master's theses or Capstone projects covering a wide range of environment and resource topics this year. Our ten doctoral students are advancing in their studies and playing a direct role in environmental policy development. Two of them, Laura Kuhl and Andrew Tirrell, are pursuing their degrees as part of the National Science Foundation-supported doctoral program in Water Diplomacy. Rishikesh Bhandary is among the first group of graduate students to officially assist the Intergovernmental Panel on Climate Change. Anna Schulz leads the climate change reporting team of the Earth Negotiations Bulletin, and she is joined at ENB by one of our MALD students, Tallash Kantai. Josh Newton played a major role in organizing the World Water Forum held in Marseille. Dan Reifsnnyder is Deputy Assistant Secretary of State for Environment and has participated in negotiations on climate, ozone layer protection, and the mercury treaty. Cristiana Pasca is Head of Unit in the EU's Directorate for Development and Cooperation where she oversees development aid on issues such as climate change.

The Center also held events covering many environmental, development, and resource topics. Our professors of practice brought insights into forest negotiations and climate smart agriculture from Dutch diplomat Hans Hoogeveen to senior members of the World Bank including Fletcher alumna Rachel Kyte, V.P. for Sustainable Development, and Patrick Verkooijen, Climate Envoy. Our fourth Professor of Practice, Andrew Steer, moved from the World Bank to become President of the World Resources Institute in Washington. ASEAN auditorium was standing room only to hear Allan Savory speak on the



*William "Bill" Moomaw  
CIERP Director  
1992-2013*

system of Holistic Management that he has developed to restore degraded grasslands through managed grazing.

This year has been highly productive from a research perspective. As this report demonstrates, this has been a banner year for research articles in a variety of topics including energy and energy technology and innovation, climate change negotiations, nitrogen management, the link between climate and nitrogen released into the atmosphere from agriculture, and air pollution in China. Members of the Center published 15 papers and reports with the assistance of 16 graduate research assistants. We had articles in *Nature: Climate Change*, *Wiley Interdisciplinary Reviews: Climate Change*, *Energy Policy*, and *Proceedings of the National Academy of Sciences*, among others. I am especially proud of the 5 published articles and policy research papers that were written by our students. We were able to support several students to attend major meetings and policy fora. It was also a year in which we reached the public as well as policymakers through extensive appearances in the media and in the press.

To summarize, this past year has been highly productive and a transition year for CIERP. I left the Directorship on July 1, 2013, and passed the reins into the highly capable hands of my long-time colleagues, Professor Kelly Gallagher, Associate Director Mieke van der Wansem, and Staff Assistant Celia Mokalled.

I spent the first third of my life learning and the second as a chemist. I will retire at the end of the academic year in 2014, 50 years after I began teaching. I am grateful that Fletcher took a chance on a chemist turned environmental policy scientist in 1992. Working with colleagues and students at Fletcher to build this Center has been an especially rewarding and satisfying experience for the “third-third” of my life. I am now looking forward to retaining a working relationship with CIERP while engaging more fully in effecting a transition to a more sustainable trajectory in my “fourth-third.”

Sincerely,



William Moomaw  
*Director, Center for International Environment and Resource Policy, 1992-2013*  
*Professor, International Environmental Policy*  
*The Fletcher School of Law and Diplomacy*  
*Tufts University*



## PEOPLE

For more than 20 years, William Moomaw, Professor of International Environmental Policy at The Fletcher School, has served as director of CIERP, which he founded 1992. This year marked his last as director, a position assumed by Professor Kelly Sims Gallagher as of July 2013. Professor Moomaw will phase into retirement over the coming academic year and will remain engaged in various research projects at the Center.

CIERP is comprised of core faculty, professors of practice, research scholars and fellows, and full-time staff, as well as affiliated faculty and researchers. New appointments in 2012-2013 included **Rachel Kyte**, Vice President of Sustainable Development at the World Bank, and **Andrew Steer**, President of the World Resources Institute, as non-resident professors of practice; **Nancy Gleason** as postdoctoral scholar; **Fang Zhang** as predoctoral fellow; and **Rishikesh Bhandary** as junior fellow.

### *Appointments and Affiliations, 2012-2013*

#### Academic Appointments

##### *Core Faculty*



**William R. Moomaw**  
Director, CIERP;  
Professor of International  
Environmental Policy



**Kelly Sims Gallagher**  
Associate Professor of Energy &  
Environmental Policy



**Shinsuke Tanaka**  
Assistant Professor of Economics

##### *Professors of Practice*



**Hans Hoogeveen**  
Professor of Practice of Natural  
Resource Policy



**Rachel Kyte**  
Non-Resident Professor of Practice of  
Sustainable Development



**Andrew Steer**  
Non-Resident Professor of Practice of  
Climate Policy and Development



**Patrick Verkooijen**  
Non-Resident Professor of Practice of  
Sustainable Development Diplomacy

##### *Postdoctoral Scholars*



**Nancy Gleason**  
*Sustainable development diplomacy  
and governance*



**Maria Petrova**  
*U.S. climate policy*

##### *Predocctoral Fellow*



**Fang Zhang**  
*International renewable energy  
technology transfer*

##### *Junior Fellows*



**Rishikesh Bhandary**  
*Indian climate policy*



**Laura Kuhl**  
*Climate adaptation, water, and  
development*



**Anna Schulz**  
*International water treaties database*



**Kartikeya Singh**  
*Energy and climate*

## Affiliated Faculty

### **Charles Chester**

Lecturer in Environmental Studies, Brandeis University; Adjunct Assistant Professor of International Environmental Policy, The Fletcher School, Tufts University

### **Maria Flytzani-Stephanopoulos**

Professor of Chemical Engineering, Tufts University

### **Jonathan Harris**

Director, Theory and Education Program, Global Development and Environment Institute, Tufts University; Adjunct Associate Professor of International Economics, The Fletcher School, Tufts University

### **Shafiqul Islam**

Professor and Bernard M. Gordon Senior Faculty Fellow in Engineering, Tufts University

### **Adil Najam**

Vice Chancellor of Lahore University and Management Sciences (LUMS)

### **John Curtis Perry**

Henry Willard Denison Professor, The Fletcher School, Tufts University

### **Ann Rappaport**

Lecturer, Urban and Environmental Policy and Planning, Tufts University; Adjunct Lecturer, The Fletcher School, Tufts University

### **Lawrence Susskind**

Ford Professor of Urban and Environmental Planning, MIT; Adjunct Professor of International Politics, The Fletcher School, Tufts University

### **Richard Vogel**

Professor, Department of Civil and Environmental Engineering, Tufts University

### **David Wirth**

Professor, Boston College Law School; Adjunct Professor of International Law, The Fletcher School, Tufts University

## Affiliated Researchers

### *Senior Research Affiliates*

#### **Caleb McClennen**

Director, Marine Conservation, Wildlife Conservation Society  
*Marine issues*

#### **Janet Sawin**

Partner, Sunna Research  
*Renewable energy policy*

#### **Timothy Weiskel**

Research Director, Cambridge Climate Research Associates  
*Environment and culture*

### *Research Affiliates*

#### **Melissa Birch**

*Sustainable development*

#### **Ioli Christopoulou**

*The contribution of EU Structural Funds to the creation of a sustainable Europe*

#### **Elisa Peter**

*Voluntary sustainable development actions of non-state actors*

#### **Christopher Sall**

*Climate change policy in China*

## Staff



**Mieke van der Wansem**

Associate Director



**Miranda Fasulo**

Assistant Director



**Celia Mokalled**

Staff Assistant to Professors Moomaw, Gallagher, Tanaka and the Center

## RESEARCH

CIERP's work includes scholarly research, policy research, and applied policy analysis in collaboration with government agencies, the private sector, and international NGOs. For the past several years CIERP has clustered its research around four themes:



### **Energy, Climate, and Innovation**

*Advancing policy-relevant knowledge to address energy-related challenges and opportunities.*

The program focuses on policy for energy innovation, climate change, energy security, energy access, and sustainable prosperity. Although ECI's outlook is global, it concentrates on the United States, China, and India. The program's primary research project in 2012-2013 was:

*Climate Change Policy, with a US and China focus:* Supported by BP International Limited and led by Professor Kelly Sims Gallagher, this research focuses on breaking the impasse on climate change policy between the US and China; policies to implement China's carbon intensity target; demonstration, deployment, and public acceptance of advanced, low-carbon energy technologies; competitiveness and technology transfer; measurement, reporting, and verification of GHG emissions; geopolitical implications of domestic energy choices; the roles that these issues play in Sino-American relations; how these two countries influence international negotiations on climate change; and broader issues related to climate change mitigation and adaptation and energy innovation, security, and access. The project remains ongoing.



### **Agriculture, Forests, and Biodiversity**

*Examining international policies and treaties on global forest governance and sustainable agriculture.*

The program focuses on current forest negotiations and financing mechanisms; climate-smart agriculture that is resilient to climate change, mitigates climate change, and increases productivity; and the social, environmental, and economic impacts of biofuels that are increasingly used to meet growing energy demands. Ongoing research in this area includes:

*Holistic Management:* Research examines the use of holistic management to better understand the capacity of this approach to meet human needs in a restorative manner. Holistic management has been very successfully used to manage grasslands. This project investigates options for applying this approach in other natural resource sectors such as fisheries, forests, and agriculture. A policy workshop will be held in November 2013 to further explore these areas.

*Reactive Nitrogen Management:* Research led by Professor William Moomaw develops improved means for identifying the most effective intervention points for reducing the adverse impacts of the multiple forms of reactive nitrogen. Latest research focuses on the California Central Valley area to study the relative consequences of reactive nitrogen released from intense land cultivation and from atmospheric emissions. Findings show that ground water is the ultimate sink for reactive nitrogen regardless of its source. Analysis is still underway assessing the most effective intervention points.

*Sustainable Food Systems:* CIERP researchers, together with researchers from the Tufts School of Nutrition, are examining the need to address the unsustainable trajectory of the global food system, which is based increasingly on resource-intensive consumption patterns. Research is ongoing to find ways to achieve more sustainable food systems and Food for All.



### **Water and Oceans**

*Meeting the freshwater needs of agriculture, domestic, energy, industrial, and ecosystem services.*

The program works jointly through the interdisciplinary Water: Systems, Science, and Society program at Tufts to identify technologies, policies, and measures that can offer the multiple essential services that water provides. CIERP studies the ocean as a source of food, energy, and other resources, including its role in the climate system and transportation, and its cultural value. Ongoing research projects in this area include:

*Global Oceans Summit:* In an effort to improve the health, resilience, and natural state of the world's oceans, global stakeholders need to be engaged to better understand and manage human impacts on the oceans. Supported by the Dutch Ministry of Economic Affairs, CIERP research in this area examines how increasing activity in and around the oceans can be managed sustainably and what this means for business and other key stakeholders. One project is looking at the current state of international fisheries management; current fisheries/ocean policy at the international, EU, and US levels; and the wide range of cumulative human effects/impacts on the oceans and marine ecosystems and how they require revisions of assumptions about the declining capacity of oceans to sustain fisheries. Another project is identifying priority oceanscapes, which the Global Partnership for Oceans (GPO) can best support. Three key areas being researched include: sustainable fisheries and aquaculture, critical coastal and ocean habitat protection, and pollution reduction. CIERP faculty, staff, and students will be attending and presenting at the Global Oceans Action Summit in February 2014 in the Netherlands.

*Global Food Safety Partnership:* This research, also supported by the Dutch Ministry of Economic Affairs, involves the Global Food Safety Partnership (GFSP), which is a multi-stakeholder forum for food safety capacity building. The project explores the current state of food safety globally and identifies major threats to it.



### **Sustainable Development Diplomacy and Governance**

*Identifying means to address an ever expanding set of global issues arising from the unsustainable practices that are overwhelming the capacity of traditional diplomacy.*

In this cross-cutting initiative, analysis focuses on the underlying causes rather than the symptoms that are addressed by much of the current treaty system. Utilizing principles from mutual gains negotiations, scholars reframe climate change, biodiversity, forest, and fisheries issues in terms of opportunities for sustainable development. This work reveals the need to engage multiple actors across diverse issues to effect sustainable natural resource governance.



## PUBLICATIONS

CIERP faculty, researchers, students, affiliates, and alumni frequently publish scholarly and policy analysis in books, journal articles, and other research or policy papers. CIERP also publishes its own series of discussion papers and policy briefs.

### *Selected Publications, 2012-2013*



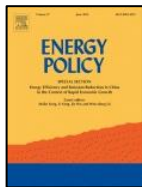
**Bhandary, Rishikesh Ram**

["Following the LDCs: How Leadership in the Climate Regime Could Look,"](#) Policy Brief. Medford, MA: Energy, Climate, and Innovation Program, CIERP, The Fletcher School, May 2013.



**Gallagher, K.S. and L.D. Anadon**

["DOE Budget Authority for Energy Research, Development, and Demonstration Database."](#) Energy Technology Innovation Policy, John F. Kennedy School of Government, Harvard University, April 16, 2013.



**Eisgruber, Lasse**

["The resource curse: Analysis of the applicability to the large-scale export of electricity from renewable resources."](#) *Energy Policy*, Volume 57, June 2013, Pages 429–440. (Note: Article adapted from author's 2012 MALD thesis.)



**Tanaka, Shinsuke**

["Environmental Regulations on Air Pollution in China and Their Impact on Infant Mortality,"](#) Working Paper. May 2013, *Under Review*.



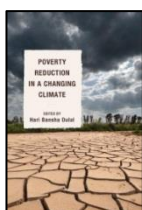
**Bhandary, Rishikesh Ram**

["What was New at Rio+20? An Analysis of The Future We Want,"](#) Policy Brief. Medford, MA: Energy, Climate, and Innovation Program, CIERP, The Fletcher School, March 2013.



**Kanter D.R., Mauzerall D.L., Ravishankara A.R., Daniel J.S., Portmann R.W., Grabel P., Moomaw W.R., Galloway J.N.**

["A post-Kyoto partner: Considering the stratospheric ozone regime as a tool to manage nitrous oxide."](#) *PNAS* 2013 110 (12) 4451-4457; published ahead of print February 25, 2013, doi:10.1073/pnas.1222231110.



**Bryan R. Bushley and Rishikesh R. Bhandary**

"Tracing the REDD Bullet: Implications of Market-Based Forest Conservation Mechanisms for Poverty Alleviation in Developing Countries." Chapter in [Poverty Reduction in a Changing Climate](#), edited by Hari Bansha Dulal, Lexington Books, February 2013.



**Gary Jefferson, Shinsuke Tanaka, and Wesley Yin**

["Environmental Regulation and Industrial Performance: Evidence from Unexpected Externalities in China,"](#) Working Paper. February 2013.



**Moomaw, William**

["Can the International Treaty System Address Climate Change?"](#) *The Fletcher Forum of World Affairs*, vol.37:1, Winter 2013.



**Benjamin M. Gramig, Carson J. Reeling, Raj Cibin, and Indrajeet Chaubey** (Purdue University – CIERP collaborators, AFB Program)

["Environmental and economic tradeoffs in a watershed when using corn stover for bioenergy."](#) *Environmental Science and Technology*, Accepted Manuscript, January 22, 2013, © 2013 American Chemical Society.



**Kelly Sims Gallagher**

["Why & How Governments Support Renewable Energy."](#) *Daedalus*, Winter 2013 (The Alternative Energy Future, vol. 2), Vol. 142, No. 1: 59–77.



**Wilson, C., Grubler, A., K.S. Gallagher, and G. Nemet**

["Marginalization of end-use technologies in energy innovation for climate protection."](#) *Nature Climate Change*, Vol. 2, November 2012, pp. 780-788.



**Walsh, Katherine**

["Accelerating Green Building in China,"](#) Policy Brief. Medford, MA: Energy, Climate, and Innovation Program, CIERP, The Fletcher School, October 2012.



**Kelly Sims Gallagher and John C. Randell**

["What Makes U.S. Energy Consumers Tick?"](#) *Issues in Science and Technology*. Summer 2012.



**Kelly Sims Gallagher, Arnulf Grubler, Laura Kuhl, Gregory Nemet, and Charlie Wilson**

["The Energy Technology Innovation System."](#) *Annual Review of Environment and Resources*, Vol. 37: (First online July 31, 2012; Volume publication date November 2012).

## MEDIA

- 6/12/2013 **China gets tough on carbon** (*Nature News*)  
*Kelly Sims Gallagher*. Article excerpt: “An ambitious emissions cap from China ‘would send a strong political signal to the world’ and would make it easier to pass more aggressive climate legislation in the United States, where there is strong political resistance to national climate regulations.” [Read the article](#)
- 6/4/2013 **Debate warms up over formulas for 2015 climate pact** (*ClimateWire*)  
*Rishikesh Bhandary*. Article excerpt: “The key, he said, is focusing not on what portion of the carbon-cutting ‘burden’ countries should take on, but arguing for clean energy incentives that might encourage countries to join a major new agreement in 2015. ‘It really shouldn’t be seen as signing up for some kind of punishment. Rather, there’s a possibility of changing that around and seeing it as much more of an opportunity.’”  
[Read the article](#)
- 5/14/2013 **Public Acceptance of Wind Energy in Massachusetts: Factors, Implications**  
(Contemporary Science Issues and Innovations, a public access program produced by Science for the Public)  
*Maria Petrova*. [Watch the program](#)
- 3/7/2013 **China pushes for Arctic foothold, from a thousand miles away** (*Christian Science Monitor*)  
*William Moomaw*. Quote: “The lure of riches in the Arctic draws ever more companies and nations... And so far it’s been relatively amicable jousting and jostling there.”  
[Read the article](#)
- 3/6/2013 **Emerging Markets: Opportunities for Energy Innovation** (*AOL Energy*)  
*Kelly Sims Gallagher*. Article excerpt: “Those countries experimenting with policy solutions – e.g. China – are better positioned than countries spending too much time deciding the right strategy to implement.” [Read the article](#)
- 1/29/2013 **Climate and Calamity** (*TuftsNow*)  
*William Moomaw*. Quote: “All the analyses show that in the future, we will have more frequent extreme weather events.” [Read the article](#)
- 1/23/2013 **Climate Change Series: The Governance Challenge** (*WBUR – Cognoscenti*)  
*William Moomaw*: Quote: “The Global Climate Coalition, a massive and extraordinarily successful lobbying campaign, helped create the false argument that reducing greenhouse gas emissions would negatively impact economic growth and development.”  
[Read the article](#)
- 11/22/2012 **Parched Earth Policy: Are We Running Out of Water?** (*CNBC*)  
*William Moomaw*. Quotes: “Our climate — whether you want to call it global warming or climate change — is different than it was 50 years ago.”... “To have a hurricane like Sandy in October just shows you how the oceans are warming. The weather patterns are only going to change even more and get worse as time goes on.” [Read the article](#)
- 9/12/2012 **Resettlement in China** (*China Radio International*)  
*William Moomaw*. [Listen to the program](#)
- 7/29/2012 **Reframing environmental negotiations** (*Insighters and Scholars’ Circle* radio program)  
*William Moomaw*. [Listen to the program](#)

## STUDENT SUPPORT

In addition to providing predoctoral and junior research fellowships to PhD students, CIERP offers winter and summer fellowships supporting Master's students undertaking internships or partaking in major conferences related to international energy and environmental issues, and engages students in research projects and other activities at the Center.

### This Year's Recipients of Conference or Internship Support

#### **Caitlin Hachmyer**

*To attend the "2nd Global Conference on Agriculture, Food Security, and Climate Change" in Hanoi, Vietnam, September, 2012*

#### **Lesley Pories**

*To attend "The Conference on Wetlands and the Ramsar Convention in Central Asia: Celebrating the 10th year of the Kyrgyz Republic after joining the Ramsar Convention," held in Bishkek, Kyrgyz Republic, December 2012*



*Session at the Ramsar Convention*

#### **Carolina Aguirre Echeverri**

*To support an internship with the Nature Conservancy in summer 2013*

#### **Xiaoyue Hou**

*To support an internship with the Costa Rican Ministry of Foreign Affairs assisting in preparing for the launch of a new climate change initiative involving the 20 most climate vulnerable countries*

#### **Tori Okner**

*To support participation in the Environmental Leadership Program Summer Retreats in summer 2013*

### Graduate Assistants, 2012-2013

#### **Maliheh Birjandi Feriz**

*Linking greenhouse gas emissions and income*

#### **Paolo Cozzi**

*IDEAS Journal*

#### **Loghman Fattahi**

*Public acceptance of wind energy*

#### **Sachin Gaur**

*Center outreach and communications*

#### **Ariel Horowitz**

*Management of reactive nitrogen*

#### **Xiaoyue Hou**

*Climate-smart agriculture*

#### **Elena Nikolova**

*Public acceptance of renewable energy*

#### **Katherine Nolan**

*Fisheries, renewable energy*

#### **Cameron Peterson**

*Research on biofuels controversy*

#### **Benjamin Rabe**

*Clean energy technology transfer*

#### **Gregory Sixt**

*Holistic Management*

#### **Benjamin Stone**

*Public acceptance of wind energy*

#### **Patricia Synnott**

*Public acceptance of wind energy*

#### **Elsa Tung**

*Clean energy technology transfer*

#### **Sarah Willis**

*Public acceptance of wind energy*

#### **Ethan Wilson**

*Public acceptance of wind energy*

## EVENTS

### *CIERP-sponsored events, 2012-2013*

#### *External Speakers:*

**Bill Weber**, International Conservationist and Co-Founder of the Mountain Gorilla Project in Rwanda, on “Gorillas and Elephants, People and Parks: Lessons in Conservation and Conflict from Central Africa” (March 27, 2013)

**Dev Sanyal F'88**, Executive Vice President and Group Chief of Staff, BP, on “Getting Energy Right” (March 14, 2013)

**Andrew Freedman F'10**, Senior Science Writer, Climate Central, on “Extreme Weather in a Changing Climate: Past, Present and Future” (February 14, 2013)

**Allan Savory**, Rancher and Restoration Ecologist and Founder of the Savory Institute, on “Reversing Global Warming while Meeting Human Needs: An Urgently Needed Land-Based Option” (January 25, 2013)

**Ingrid Visseren-Hamakers**, Assistant Professor, the Forest and Nature Conservation Policy group (FNP), Wageningen University, the Netherlands, on “REDD+: Interdisciplinary and Institutional Interaction Perspectives” (November 26, 2012)

**Glenn K. Bush**, Ph.D., Assistant Scientist, Woods Hole Research Center, on “Making REDD+ a Reality in the D.R. Congo: From Science to Policy and Practice” (November 5, 2012)

**Bruce J. Oreck**, U.S. Ambassador to Finland and Chair, League of Green Embassies, on “Riding the Unicorn: The Myth of Sustainability” (September 24, 2012)

**Robert F. Cekuta**, Principal Deputy Assistant Secretary, Bureau of Energy Resources, U.S. Department of State, for an informal discussion with student on the State Department's newly created Bureau of Energy Resources (ENR) (September 12, 2012)



*Dev Sanyal*



*Andrew Freedman*



*Allan Savory and Bill Moomaw*

*Energy, Climate, and Innovation Research Seminar Series, which invites faculty and students from Fletcher, Tufts, and external institutions to present and receive feedback on their current research topics:*

**Kartikeya Singh**, CIERP Junior Fellow, on “Let there be Light: Addressing the Energy Access Challenge through Innovation” (March 25, 2013)

**Rishikesh Bhandary**, CIERP Junior Fellow, on the “Emergence of a Post-South World?: Evidence from the Climate Regime” (March 11, 2013)

**Fang Zhang**, CIERP Predoctoral Fellow, on “Industrial End-Use Energy Efficient Technology Transfer and Innovation in China: Evidence from the Iron and Steel Sector” (February 25, 2013)

**Peter Walker**, Director of the Feinstein International Center and Rosenberg Professor of Nutrition and Human Security, Tufts University, on “Climate Change as a Driver of Humanitarian Crises and Response” (December 3, 2012)

**Maria Petrova**, CIERP Postdoctoral Scholar, on “Public Perceptions of Wind Energy Projects in Massachusetts” (October 22, 2012)



*Co-hosted events*

**Japan Roundtable 2013: “Perspectives from Japan on Nuclear Issues – Security, Energy, and Lessons from History,”** co-sponsored with the Hitachi Center of Technology and International Affairs, the Consulate-General of Japan in Boston, and The Fletcher School (April 11, 2013)

**“Arctic Warming and Global Climate Change: An International Inquiry,”** co-sponsored with the Edward R. Murrow Center and the Canadian Consulate Boston (March 26, 2013)

**Tufts Energy Conference,** with multiple co-sponsors (March 2-3, 2013)

**“International Conference on Inequality and Sustainability,”** Co-sponsored with the Stockholm Environment Institute (November 9-10, 2012)

**“Anticipating Climate Disruption: Sustaining Justice, Greening Peace,”** a conference co-sponsored with the Peace and Justice Studies Association and the Tufts Initiative on Climate Change and Climate Justice (October 4-6, 2012)

*Selected External Presentations by CIERP Personnel*

**Fang Zhang,** Predoctoral Research Fellow, was a speaker at the Climate and Development Knowledge Network's (CDKN) Climate Technology & Development (CTD) project conference in Bonn, Germany, where she presented on "Innovation and Technology Transfer Across Global Value Chains: Evidence from China's PV Industry." (June 25, 2013)

**Professor William Moomaw** and **Mieke van der Wansem,** CIERP Associate Director, led the International Program on the Management of Sustainability (IPMS), a 7-day executive education course in the Netherlands with participants from multiple countries. (June 9-16, 2013)

**Professor Kelly Sims Gallagher** delivered a keynote address to the UN General Assembly at a workshop exploring opportunities to enhance development, transfer, and diffusion of clean and environmentally sound technologies. Her presentation was on "The Global Diffusion of Clean Energy Technologies: Lessons from China." (May 30, 2013)

**Professor Shinsuke Tanaka** presented his research on environmental regulation and industrial performance in China at the Economic Science Association, the Pacific Conference for Development Economics, and the Northeast Workshop on Energy Policy and Environmental Economics. (Spring 2013)

**Laura Kuhl,** Junior Fellow, presented her work on adaptation to climate change at the Environmental Social Science Department, Swiss Federal Institute of Aquatic Science and Technology (Eawag), in Zurich, Switzerland (February 8, 2013)

**Professor Gallagher** presented on energy security at The Fletcher School's 10th Annual London Symposium focused on "The Global Energy Security Landscape." (December 8, 2012)

**Professor Gallagher, Mieke van der Wansem, Laura Kuhl, and Rishikesh Bhandary** presented on "Rio+20: The Good, The Bad, and the Ugly" as part of Tufts' Environmental Studies Lunch & Learn Program. (September 13, 2012)

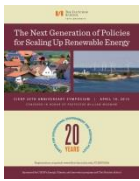


*CIERP Researchers Kartikeya Singh and Maria Petrova present posters featuring their research at the Tufts Energy Conference.*



*Kelly Sims Gallagher with Tufts Provost David Harris and Hungary's Ambassador-at-large for energy security Anita Orban at Fletcher's 10<sup>th</sup> Annual London Symposium.*

## OTHER ITEMS OF NOTE



*This year CIERP planned to celebrate its 20<sup>th</sup> anniversary with a symposium exploring "The Next Generation of Policies for Scaling up Renewable Energy," conceived in honor of outgoing Center Director William Moomaw. However, planned for April 19, the event was cancelled as a result of security concerns in the city and surrounding areas as authorities searched for suspects related to the Boston Marathon tragedy. We thank everyone who had registered to attend for their interest and support, and also extend a special thanks to our planned speakers, Rainer Hinrichs-Rahlwes, John Howe F'84, Eric Martinot, and Janet Sawin F'93, FG'01. We have rescheduled an event celebrating Professor Moomaw's career for October 18, 2013. The event will feature a talk by Princeton University Professor Robert Socolow, followed by a reception to honor Professor Moomaw.*



*Professor Kelly Sims Gallagher, who was granted tenure this year and will also assume the role of CIERP Director next year, has completed the manuscript for her new book, The Globalization of Clean Energy Technology: Lessons from China, forthcoming from The MIT Press in 2014. She was also appointed to the National Research Council Committee on Overcoming Barriers to Electric Vehicle Deployment, an ad hoc committee that will conduct a study identifying the market barriers slowing the purchase of electric vehicles and hindering the deployment of supporting infrastructure in the United States.*



*Avery Cohn, an expert on the challenges and opportunities of tropical agricultural development under climate change, will join The Fletcher School as Assistant Professor of International Environment and Resource Policy next year and will be a part of CIERP's core faculty group. Professor Cohn will be on leave from Fletcher for the 2013-14 academic year to complete a fellowship supported by the University of California, Berkeley Energy Biosciences Institute on the behavioral economics of pasture to cropland conversion in Brazil. He holds a Ph.D. in Environmental Science, Policy, and Management from the University of California, Berkeley and a Master's of Environmental Science from Yale University.*



*Postdoctoral Fellow Maria Petrova is finalizing a large research effort on public acceptance of renewable energy technologies, exploring NIMBY (not-in-my-back-yard) attitudes toward clean energy projects, which some consider to be the single greatest barrier to wind project investment. A paper is under revision for Wiley Interdisciplinary Reviews, and another is being written for Proceedings of the National Academy of Sciences (PNAS).*



*Kartikeya Singh, Junior Fellow, received a Boren Award for International Study supporting his research on energy access and innovation in India. Specifically, he will be looking at the solar home lighting sector for the base of the pyramid. This year Singh also conducted training with UNITAR for diplomats (from Sudan, Eritrea and Singapore) on how to negotiate in the UNFCCC talks in Doha, Qatar, November 2012.*

## 20 YEARS OF CIERP



*As noted above, this year marked CIERP's 20<sup>th</sup> anniversary. While our planned celebratory event may have been cancelled, it does not diminish our growth and impact since 1992. Below are a few highlights.*

**Professor William Moomaw** has worked on 5 different Intergovernmental Panel on Climate Change reports, and was an author of the report for which the IPCC received the Nobel Peace Prize in 2007 along with Vice President Al Gore.

**Professor Kelly Sims Gallagher** has been a member of the American Academy of Arts and Sciences' study group on the Alternative Energy Future, a lead author of the Global Energy Assessment, and was appointed to a panel of the President's Council of Advisors on Science & Technology (PCAST) to make recommendations about U.S. energy innovation.

**Professor Moomaw** and former CIERP **Professor Adil Najam**, and students, published "Designing a Forest Financing Mechanism: A Call for Bold, Collaborative & Innovative Thinking" in June 2008, which led to the adoption of a 'Portfolio Approach' in the recently negotiated international forest agreement.

**Professor Moomaw**, with colleagues at Purdue University, developed improved means for identifying intervention points for reducing the adverse impacts of reactive nitrogen, which has led the U.S. EPA to reexamine its regulations on nitrogen.

**Professor Moomaw** co-facilitated an off-the-record dialogue to help move the negotiations forward leading up to COP-3 in Kyoto, Japan. The resulting Summary report became the basis for the actual Kyoto negotiations outcome (A Report of the Schlangenbad Workshop on Climate Change, Oct. 1997).

### *By the numbers*

- ② CIERP faculty have published research results in more than 70 refereed journal articles, 6 books, 62 book chapters, and 70 research reports, conference papers, and other articles.
- ② Since its inception, CIERP has raised more than \$4.6 million in grant funding.
- ② In 2012, 5 of Fletcher's 17 graduating PhDs were IERP students.
- ② Since 2002, CIERP has funded more than 65 external summer internships and provided \$500,000 in tuition and living stipend support to IERP students.
- ② Since 1992, CIERP has hired more than 300 research assistants and 60 teaching assistants.
- ② Since 2009, CIERP has hosted 8 postdoctoral research scholars – the first ever postdoctoral scholars at Fletcher.
- ② Since 2009, CIERP professors have tallied more than 90 media appearances, including interviews and numerous quotations in sources such as Bloomberg, WGBH, USA Today, PRI The World, and the Boston Globe, among others.

## FINANCIAL SUMMARY

CIERP had an operating expense budget of \$367,903 in fiscal year 2013 (July 1, 2012-June 30, 2013), 94% of which was supported by external grants and contracts for sponsored research. CIERP will carry approximately \$415,000 from ongoing grants and contracts into FY14.

New or ongoing grants to CIERP with funds contracted or expended in FY13 include:

- Dutch Ministry of Economic Affairs
- BP International Limited
- Energy Research Center of the Netherlands

Other support was generously contributed by:

- Barbara Kates-Garnick, F73, F78, F84 (MA, MALD, PhD) and Marc B. Garnick, M.D.

The Fletcher School provides partial support for staff salary expenses (not reflected in CIERP's operating expense figure noted above).

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