17TH ANNUAL INTERNATIONAL SUSTAINABLE DEVELOPMENT RESEARCH CONFERENCE

Moving Toward a Sustainable Future:
OPPORTUNITIES AND CHALLENGES

May 8–10, 2011 • Columbia University • New York, NY, USA

General Conference Overview

isdrc17.ei.columbia.edu

The Earth Institute
Columbia University

ISDR Society

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Welcome Message—Conference Chair

Welcome to the 17th Annual International Sustainable Development Research Conference

Moving Toward a Sustainable Future: OPPORTUNITIES AND CHALLENGES

Recently, global society has witnessed a number of events that have heightened our awareness of the fragility and vulnerability of Earth's natural and human systems, as well as the built environment. The global financial crisis wiped out trillions of dollars and sent shock waves through many national economies, leading to reductions in their size and ongoing ripple effects. The spill of roughly 200 million gallons of crude oil into the Gulf of Mexico in 2010 was met with global disbelief, and its impact is still not fully understood. Political instability in the Middle East and North Africa are trying the capability of nations to renew their governance models. The disaster brought upon Japan by a combination of earthquake, tsunami, and vulnerability of nuclear power plants tests the capacity of even the most developed nations to absorb major shocks to their infrastructure.

These events overprint ongoing trends. Earth's population is still growing and developing at a rapid rate. Human-induced change of Earth's climate system, with far-reaching impacts on water resources, food supplies, and human and ecosystem health, is increasingly visible in rising global temperatures, shrinking glaciers and Arctic sea ice cover, and changing ecosystems. Increasing energy consumption has direct impact on global climate through emission of greenhouse gases during the burning of fossil fuel. General pressures on nonrenewable resources and infrastructure are framing questions about Earth's carrying capacity. This list touches on just a few of the highly interconnected components of our planet. They bring questions about the sustainability of our global society under increased development into sharp focus. Decisions to be taken now and in the near future will be critical in determining if global society will in time move toward a sustainable and equitable pathway as outlined by the Millennium Development Goals (MDGs) or continue on its present trajectory.

Many of these questions are at the heart of the mission and research agenda of the Earth Institute, and we are thrilled to convene, in partnership with the International Sustainable Development Research Society and the United Nations Division of Sustainable Development, the 17th International Sustainable Development Conference. Following the long tradition of the International Sustainable Development Research Conferences, we will once again bring together the academic community with stakeholders, including decision makers, policy makers, private sector participants, and NGOs. We will discuss opportunities for a sustainable future given the challenge necessitated by continued human development with this year's theme: "Moving Toward a Sustainable Future: Opportunities and Challenges."

Under this motto, the conference will explore new ways forward in a world that is increasingly interconnected and complex. Participants will search for new momentum while also exploring how to more precisely define the methods and metrics of sustainable development as an academic discipline. Topics discussed will include the question, "Have we made sufficient progress in terms of the goals that were set at the UN's first Earth Summit in 1992, and what other challenges have arisen economically, socially, and environmentally that need to be examined and brought into the dialogue?" As the United Nations' Conference on Sustainable Development Earth Summit 2012 in Rio de Janeiro (Rio +20) is still in a formative state, in this dialogue at Columbia University we are given the unique opportunity of positioning ISDRC 17 to inform Earth Summit 2012.

The Earth Institute warmly welcomes the participants of ISDRC 17 from around the world to an exciting three days of exchange and discussion of some of the most pressing questions facing our society and the role academia can and should play in providing answers and equitable solutions. We hope the conference will create scientific debate that will continue in existing and newly formed networks for many years to come.

Peter Schlosser
Associate Director and Director of Research of the Earth Institute, Columbia University

Welcome Message—ISDRS

Welcome to the International Sustainable Development Research Society

On behalf of the International Sustainable Development Research Society (ISDRS), we warmly welcome all participants to New York and here at the Earth Institute, Columbia University. Two years after the first UN Summit on Sustainable Development in 1992, researchers started to convene annually to discuss their analysis of the need for fundamental changes in the way human society deals with the ecosystems of which they are a part, propose solutions, and assess the progress made in implementing these in practice.

Now, we are together at the 17th annual conference, and our main goal is to evaluate the progress made until this moment. We are doing this together with our friends at Columbia University and in close collaboration with the UN Division for Sustainable Development. Our scientific debates will directly feed into the preparations for the 3rd UN Summit, to be held again in Rio de Janeiro in May 2012 (Rio +20). Policymakers from all parts of the world also meet this week in New York to set the directions for next year's summit. We welcome them as well.

The International Sustainable Development Research Society has grown more or less organically into a vivid international community of researchers in various relevant disciplinary fields around a number of highly successful journals such as *Sustainable Development* (since 1993), *Environmental Policy and Governance* (earlier: *European Environment*) (since 1991), *Business Strategy and the Environment* (since 1992), *Journal of Cleaner Production* (since 1993), *Corporate Social Responsibility and Environmental Management* (since 1994), and *Progress in Industrial Ecology* (since 2004). In complement to the work published in many of the natural science–based scientific journals, this worldwide community of scholars has been presenting strategies and methodologies for implementing solutions in the same wide range of societal fields that will also be addressed at this 17th annual conference.

Since 1992, a large volume of research has been presented, showing successes but also drawbacks, obstacles, and barriers for effective application of solutions that might originally have been presented with more optimism than history has shown to be justified. Society often shows to be far more complex than anticipated: so these lessons need be taken to heart, evaluated, and translated into critically new approaches. In addition to a wide spectrum of *small scope solutions,* we need to identify and evaluate *wide scope systematic institutional transitions*.

At the beginning of this second decade of the 21st century, we see a very mixed picture of, on the one hand, progress, growing awareness, innovation, and optimism, while on the other hand, still continuously growing ecological impacts of our expanding human society, with its growing (middle-class) population, persistent global inequality, and fundamental failures in the (global) economic system to address these challenges. The conference themes for the coming days reflect these issues. It is our joint assignment to link the lessons learned about *small scope solutions* and *incremental changes* to more *rigorous transitions* needed. For taking up this challenge, here you are at the right place and at the right time.

We welcome you again to this 17th annual conference with scholars who have traveled here from all continents of the world bringing your professional expertise, your ambitions, and your personal concerns about the future of our planet, our global society, as well as your local life history experiences. Together, we now have the opportunity to share our wide multidisciplinary knowledge, to synthesize our experiences, and to bring a strong statement to the community of global policymakers engaged in preparations for Rio +20.

The *International Sustainable Development Research Society* offers you an open platform during these three days in New York but also continuously in the weeks, months, and years after. We invite you to continue connecting with your fellow scholars after the conference and to be a part of active research communities. As a participant of the conference, you are a member of the *Society* as well. The scientific discourses will be continued after May 10 at the various social media platforms connected to the *Society*.

Dr. Walter J. V. Vermeulen
On behalf of the Board of the *International Sustainable Development Research Society*

About the Conference

Moving Toward a Sustainable Future: Opportunities and Challenges

Within our theme this year, "Moving toward a Sustainable Future: Opportunities and Challenges," the 17th International Sustainable Development Research Conference (ISDRC 17) will explore the fundamental question of how global society's aspirations for continued growth can be harmonized with existing limits imposed by Earth's resource base, including its mineral reserves, its capacity for renewable resources, and its ecosystems. How can progress in the field of sustainable development be translated into political action through a dialogue between scientists and stakeholders? The third day of the conference will include dialogue among conference attendees, decision makers, policymakers, and the private sector. Scientists from academia and other research entities will hear, firsthand, what information stakeholders need, while stakeholders and policymakers will learn about the state of the science of sustainable development. The results of the conference will be summarized in a white paper prepared by the scientific committee to inform the UN Conference on Sustainable Development Earth Summit 2012 (Rio +20).

The conference will explore what it would take to master the challenge of sustainable development in a future with increasing constraints, assuming that developing countries will continue to strive for improvements in their standard of living. At the same time the conference will examine opportunities and mechanisms through which global society can move toward a sustainable future.

We invite contributions on the nature of the global sustainable development challenge ranging from investigations of fundamental pressures on the natural and socioeconomic systems in a developing world and limits of Earth to support further development, to solutions to the problems created by continued development of a growing global population. The conference will serve as a forum for open and diverse intellectual discourse on these topics with focus on identifying practicable steps toward a sustainable future that are ready for implementation on the local, regional, and global scale.

The Earth Institute, Columbia University

The Earth Institute, Columbia University, is confronting the 21st century's most pressing problems by taking a bold and innovative approach to achieve sustainable development. This approach prioritizes the protection of Earth's ecosystems, oceans, and atmosphere as well as the spread of social and economic opportunities for all people.

To achieve sustainable development, the Earth Institute is conducting and applying interdisciplinary scientific research to address many cross-cutting issues. We believe that finding solutions to one problem, such as extreme poverty, must involve tackling other related challenges, such as environmental degradation and lack of access to health care and education. Anchored in this unique approach, the Earth Institute is leading the way in this promising and dynamic new field.

The Earth Institute's overarching goal is to help achieve sustainable development primarily by expanding the world's understanding of Earth as one integrated system. We work toward this goal through scientific research, education, and the practical application of research for solving real-world challenges. With 850 scientists, postdoctoral fellows, and students working in and across more than 20 Columbia University research centers, the Earth Institute is helping to advance nine interconnected global issues: climate and society, water, energy, poverty, ecosystems, public health, food and nutrition, hazards, and urbanization.

With Columbia University as its foundation, the Earth Institute draws upon the scientific rigor, technological innovation, and academic leadership for which the University is known. The Earth Institute encompasses centers of excellence with an established reputation for groundbreaking research, including the renowned Lamont-Doherty Earth Observatory, home to some of the world's leading scientists pursuing the study of Earth and its systems. The Earth Institute is implementing solutions to global challenges; pioneering research; advising national governments, the United Nations, and other international agencies; and educating the next generation of leaders in sustainable development.

While Earth is indeed at a critical crossroads, our work reflects the fundamental belief that the world has within its possession the tools needed to effectively mitigate climate change, poverty, and other critical issues.

International Sustainable Development Research Society

The International Sustainable Development Research Society (ISDRS) aims to foster and communicate the importance of sustainable development in a global society. The society is a coalition of academic researchers, teachers, government, non-governmental organizations and industry. It promotes inter- and trans-disciplinary research and education for sustainable development.

The society builds upon the 16-year history of the International Sustainable Development Research Conference and its associated journals. The International Sustainable Development Research Society was announced at the Helsinki conference in 2005 and was formally launched in Hong Kong in 2006. The conference continues to be hosted annually in different countries. In 2007 it was held in Västerås (Sweden), in 2008 in New Delhi (India), in 2009 it took place in Utrecht (The Netherlands), and in 2010 the 16th annual conference was held in Hong Kong (China).

As an open and inclusive society, our vision is to establish a forum where diverse research communities can come together creating a transparent dialogue on key problems, issues, initiatives, policies and strategies needed to make progress on sustainable development a reality. The International Sustainable Development Research Society aims to promote collaboration and dialogue of a high quality, to build bridges between different research communities. We hope to build bridges between research and its applications in society. We promote collaboration between communities in developed and developing countries. This is achieved through involving all stakeholders and we invite you to take part in this growing and vibrant research.

Conference Themes

1. Pressures on Earth's natural and socioeconomic systems imposed by continued development and their interactions
   a. Population dynamics—*Robert Engelman and Gerhard Heilig*
   b. Stresses on natural systems—*Stefan Bringezu and Yochanan Kushnir*
   c. Stresses on socioeconomic systems—*Annapurna Vancheswaran and Elke Weber*
   d. Interaction of stresses—*Upmanu Lall and Kua Harn Wei*

2. Limits of Earth to support future development
   a. Exhaustible and/or overused resources and their supply chains—*Martina Keitsch and Stefan Seuring*
   b. Food production/sustainable agriculture—*Peter de Ruiter and Pedro Sanchez*
   c. Material cycles—*Pauline Deutz and Donald Lyons*
   d. Equitable resource allocation and poverty reduction—*Cheryl Palm and Annelies Zoomers*
   e. The role of ethics and faith values in sustainable development—*Yamini Narayanan and Robert Pollack*

3. Solutions to the problems created by continued development of a growing world population
   a. Green design, architecture, and materials—*Patricia Culligan and Asanga Gunawansa*
   b. Technology—*Vijay Modi and Alissa Park*
   c. Adaptation—*Margaret Arnold and Shiv Someshwar*
   d. Coherent land-use planning—*Peter Driessen and Arnim Wiek*
   e. Free trade, globalization, development, and consumption—*Anastasia O'Rourke and Walter Vermeulen*
   f. Industrial ecology, sustainable production, and sustainable global product chains—*Rupert Baumgartner and Vasilis Fthenakis*
   g. Corporate sustainability and investment, with a developing-country focus—*Pontus Cerin, Peter Dobers, and Richard Welford*

4. Adequacy of existing local, regional, and global institutions and governing structures to implement policies for a sustainable future
   a. Local and regional institutions and governance—*Simon Bell and Manoj Joshi*
   b. Global institutions and governance—*Bharat Desai and Van Miller*
   c. Sustainable development reporting and indices—*Robert Chen and Frank Figge*
   d. Models for decision making on environmental and sustainable development issues—*Tommy Jensen and Sabine Marx*
   e. The role of education and universities in sustainable development—*Margien Bootsma and Paul Burger*
   f. Redefining economic systems for sustainable development—*Karl Johan Bonnedahl and Fernando Diaz*

5. Assessment of existing pilot programs aimed at moving society toward a sustainable future
   a. How can pilot programs and lessons learned from them inform Rio+20?
   b. Assessment of global initiatives—*Scott Barrett and Benjamin Cashore*
   c. Corporate sustainability programs—*Pontus Cerin, Peter Dobers, and Richard Welford*
   d. Bridging organizations as institutional arrangements for sustainable development—*Abhishek Agarwal and Alfred Posch*

Agenda

17th Annual International Sustainable Development Research Conference

Moving Toward a Sustainable Future: Opportunities and Challenges

8–10 May 2011
Alfred J. Lerner Hall
The Earth Institute, Columbia University

Pre-Conference—Saturday, 7 May 2011

3:00 p.m. Registration Opens and Poster Session Set-up

6:00 p.m. Registration Closes (will reopen at 8:00 a.m. on Sunday, 8 May 2011)

Day One—Sunday, 8 May 2011

8:00 a.m. Registration Re-opens and Continental Breakfast

8:30 a.m. Conference Introduction & Welcome

Speakers: **Peter Schlosser**
Vinton Professor of Earth and Environmental Engineering,
Department of Earth and Environmental Engineering;
Professor of Earth and Environmental Science,
Department of Earth and Environmental Science;
Associate Director and Director of Research,
The Earth Institute, Columbia University

Richard Welford
Director,
ERP Environment;
Professor,
University of Hong Kong

9:00 a.m. Conference Keynote

Speaker: **Nina V. Fedoroff**
President-Elect, AAAS
Evan Pugh Professor of Biology and
Williaman Professor of Life Sciences,
Department of Biology, Pennsylvania State University

9:45 a.m. Break

10:00 a.m. Introduction of Conference Themes:

1. Pressures on Earth's natural and socioeconomic systems
2. Limits of Earth to support future development
3. Solutions to the problems created by continued development
4. Adequacy of existing local, regional, and global institutions and governing structures
5. Assessment of existing (pilot) programs

12:00 noon Box Lunch (Complimentary)

1:00 p.m. Parallel Sessions

Location	Track	Track Title
Roone Arledge Cinema	4A	Local and regional institutions and governance
Lerner 555	1B	Stresses on natural systems
Jed D. Satow Conference Room	3A	Green design, architechture and materials
Lerner 569	3B	Technology
Lerner 477	3C	Adaptation
Lerner 568	4B	Global institutions and governance
Lerner Boardroom 1	3E	Free trade, globalization, development, and consumption

3:00 p.m. Break

3:30 p.m. Parallel Sessions

Location	Track	Track Title
Roone Arledge Cinema	4A	Local and regional institutions and governance
Lerner 555	1B	Stresses on natural systems
Jed D. Satow Conference Room	3A	Green design, architecture, and materials
Lerner 569	3B	Technology
Lerner 568	3G	Corporate sustainability and investment, with a developing country focus
Lerner 477	3C	Adaptation

5:30 p.m. Poster Session and Reception *(Posters will remain up all three days.)*

7:30 p.m. Adjourn

Day Two—Monday, 9 May 2011

8:00 a.m. Continental Breakfast

8:30 a.m. Call to Session

8:45 a.m. Conference Keynote

Speaker: **Lester R. Brown**
Founder and President,
Earth Policy Institute

9:45 a.m. Break

10:00 a.m. Parallel Sessions

Location	Track	Track Title
Roone Arledge Cinema	5B	Assessment of global initiatives
Jed D. Satow Conference Room	4C	Sustainable development reporting and indices
Lerner 569	1D	Interaction of stresses
Lerner 477	3D	Coherent land use planning
Lerner 555	5C	Corporate sustainability programs
Lerner 568	2C	Material cycles
Lerner Boardroom 1	2A	Exhaustible and/or overused resources and their supply chains

12:00 noon Box Lunch (Complimentary)

1:00 p.m. Parallel Sessions

Location	Track	Track Title
Roone Arledge Cinema	2B	Food production/sustainable agriculture
Lerner 555	4E	The role of education and universities in sustainable development
Jed D. Satow Conference Room	4D	Models for decision making on environmental and sustainable development issues
Lerner 569	1C	Stresses on socioeconomic systems
Lerner 568	5D	Bridging organizations as institutional arrangements for sustainable development
Lerner 477	3F	Industrial ecology, sustainable production, and sustainable global product chains

3:00 p.m. Break

3:30 p.m. Parallel Sessions

Location	Track	Track Title
Roone Arledge Cinema	2B	Food production/sustainable agriculture
Lerner 555	4E	The role of education and universities in sustainable development
Jed D. Satow Conference Room	4D	Models for decision making on environmental and sustainable development issues
Lerner 569	4F	Redefining economic systems for sustainable development
Lerner 568	2E	The role of ethics and faith values in sustainable development
Lerner 477	2D	Equitable resource allocation and poverty reduction
Lerner Boardroom 1	1A	Population dynamics

6:00 p.m. Cocktail Reception

8:00 p.m. Adjourn

Day Three—Tuesday, 10 May 2011

8:00 a.m. Continental Breakfast

8:30 a.m. Call to Session

Speaker: **Jeffrey D. Sachs**
Director, The Earth Institute,
Quetelet Professor of Sustainable Development,
and Professor of Health Policy Management, Columbia University;
Special Adviser to UN Secretary General Ban Ki-moon

9:00 a.m. Conference Keynote

Speaker: **Klaus Töpfer**
Founding Director and Executive Director,
Institute for Advanced Sustainability Studies (IASS);
Former Director,
United Nations Environment Programme

9:45 a.m. Break

10:15 a.m. Action for a Sustainable Future: A Dialogue between Academia and Stakeholders

Moderator: **Klaus Töpfer**

Speakers: **Sanjeev Chadha**
Chairman & CEO,
PepsicCo. Middle East and Africa Region

Mr. Morten Wetland
Permanent Representative of Norway to the United Nations

Emil Salim
Former Minister and Chair of Rio Summit

12:15 p.m. Presentation of Best Student Paper Award

Scientific Committee

12:30 p.m. Conference Keynote

Speaker: **Achim Steiner**
Director-General,
United Nations Environment Programme

1:00 p.m. Break for Lunch (Complimentary)

2:00 p.m. Conference Keynote

Speaker: **Christiana Figueres**
Executive Secretary,
United Nations Framework Convention on Climate Change

2:30 p.m. Rio +20: The World at a Tipping Point

Moderator: **Jeffrey D. Sachs**

Speakers: **Tariq Banuri**
United Nations Division for Sustainable Development

Sha Zukang (TBC)
UN Under-Secretary-General

In-kook Park (TBC)
Co-chair,
Bureau for the Preparatory Process,
UN Conference on Sustainable Development

John W. Ashe
Co-Chair,
Bureau for the Preparatory Process,
UN Conference on Sustainable Development

4:30 p.m. Where in the World Is ISDRC18?

International Sustainable Development Research Society

5:00 p.m. Farewell and Adjourn

Sunday, May 8, 1 p.m.

Location	Track	Title
Cinema	**4A**	**Local and Regional Institutions and Governance**
		Good Governance as a Catalyst for Development
		The Urban Sustainable Development in European Union Through Ranking: A Tool for Governance or a Report of Territorial Disparities
		Public Participation and Social Sustainability of High-Rise Apartment Buildings of Dhaka City, Bangladesh
		Utrecht2040: Regional Governance for Sustainable Development
		Measuring Support for Policies for Sustainable Urban Development: Environmental Governance in the New York Metropolitan Area
		Death & Life of Venezuelan Cities and Local Government: Governance Strategy to Re-create the Hybrid-Sustainable City and Government
		Creating Green Milieu's for Sustainability: Lessons from the New York City Watershed Collaboration
		Assessing the Effectiveness of Environmental Regulation in SIDS: How Important Are Political Economy Factors?
		Potential Possibility of Emission Trading Among Local Communities
555	**1B**	**Stresses on Natural Systems**
		Technological Impact of Placer Gold Mine on Water Quality: A Case Study of Tuul River Valley in the Zaamar Goldfield, Mongolia
		Environmental Impacts of Fly Ash Generated from a Coal Fired Power Plant in Indian Subcontinent
		Anthropogenic Phosphorus Flow Analysis and Optimization: Case Study of Lujiang County, Anhui Province, Central China
		Arsenic Poisoning From Drinking Groundwater In South And Southeast Asia
		Sustainability of Deeper Aquifers as the Sources of Low-Arsenic Drinking Water in Bangladesh: Hydrological Considerations at the Local Scale
		Optimum Cropping Pattern for Food Security in India under Climate Change and Water Scarcity
		Biofuels, Wastelands and Livelihoods: How India's Jatropha Biodiesel Program Is Backfiring on the Rural Poor
		'Ensaro' and 'Jarso' Resource Base Carrying Capacity, Climate Change Variability and Demography
		Sustainable E-Flows In The Ganga River
Satow	**3A**	**Green Design, Architecture, and Materials**
		Design and Implementation of a Sustainable Housing Unit: A Technical, Economic and Environmental Evaluation of a Sustainable Residential Building in the Philippines
		Eco-Districts and Eco-Cities: Public-Private Partnerships for Urban Innovation
		Slum Upgrading as a Contribution to a More Sustainable City
		The Attainment of Sustainable Construction in Housing Projects Through a Rule-Based Expert System
		Making the Case for Design for Deconstruction (Dfd)
		Life Cycle Assessment to Evaluate the Environmental Impacts of Energy-Efficient Technology on Office Buildings
569	**3B**	**Technology**
		Agro-Processing Farming Cooperatives Powered by Locally Grown Plant Oil
		Technology Diffusion and Social Networks: Evidence from a Field Experiment in Uganda
		Analysis of Biochar Pyrolysis Technology Potential as a Sustainable Development Intervention in La Coupe, Haiti
		Avoiding the Bottom: A Novel Policy for Addressing the Inefficiency and Un-Sustainability of Groundwater and Electricity Use in Indian Agriculture
		Improving Household Energy for Off-Grid Communities: Introduction of Solar Led Lanterns

Location	Track	Title
569	**3C**	**Adaptation**
		Real Options as a Tool for Flexible Climate Change Adaptation
		Traditional Custom(S) Usage In Sustainable Water Management Of Modern Mongolia
		The Economics Of Climate Change In River Deltas
		Business Contribution To Climate Change Governance – Modes And Drivers
		Stakeholder Engagement Is Considered
568	**4B**	**Global Institutions and Governance**
		Renewable Energy Villages And Regions In Germany: The Goettingen Approach Of Sustainability Science In Action
		System's Analysis and Knowledge for Action—A Harmonious Marriage?
		The Un Global Compact and Its Swedish Participants
		Promoting Sustainability across Food Sectors? The Hidden Strengths and Weaknesses of Private Standards Markets
		Green Washing: An issue in Corporate Governance
Boardroom	**3E**	**Free Trade, Globalization, Development, and Consumption**
		Mainstreaming Environmental Enterprises—A Strategic Longitudinal Analysis
		The Use of Buying Power and Government Credit to Promote Sustainable Practices
		Deceptive Game of Today's Capitalist Globalization: Evidence from Malaysia›s Experience
		Sustainability in Global Commodity Trade: Successful Responsible Entrepreneurship or Fallacious Market Capture?
		Sustainable Consumer Behavior—Theoretical Concepts and Empirical Investigation of Consumer Behavior in Europe and in the U.S.A.
		Addressing Climate Change: The Challenge and Opportunity for China's Foreign Trade Development

Sunday, May 8, 3:30 p.m.

Location	Track	Title
Cinema	**4A**	**Local and Regional Institutions and Governance**
		Testing the Possibility of Incorporating Climate Adaptation into Existing Public Decision-Making Processes
		Better Government for Better Governance for Sustainable Development: The Steering Role of Local Sustainability Indicators
		The 'Governance Check': Assessing the Adequacy of Governance Structures by '3-D Sustainability'
		Conceptualizing Sustainability Dynamics: Towards a Framework to Reflect the Contextual Features of Human-Natural Systems that Influence the System's Sustainability/Unsustainability Path
		Decision Tools for Sustainable Adaptation Planning: A Case Study from the Swedish Municipality of Botkyrka
		Adaptive Ecosystem Management and Sustainability of the Everglades Ecosystem
		Preserving Village Identity in the City of Georgetown: The Case Study of Dodol Village (Kampong Dodol) in Penang, Malaysia
555	**1B**	**Stresses on Natural Systems**
		Framing Water: A Case Study of Small River-Based Hydro Energy Development Conflict in Turkey
		Local Participation in the Barekese Basin: Implications for Sustainable Water Management
		Energy and Water Sustainability Amongst the Low Income Economies—A Study of the Northeast Region of Peninsular Malaysia
		The Case for Cross-Sectoral Water Reuse in Saudi Arabia: Bringing Energy into the Water Equation
		Energy and Water Use in Multi-Family Apartment Buildings—Does Occupant Behavior Matter?
		Estimating and Analyzing Energy Efficiency in German and Colombian Manufacturing Industries Using DEA and Data Panel Analysis
		Energy Efficiency and Climate Change: A Developing Country Perspective
Satow	**3A**	**Green Design, Architecture, and Materials**
		Appropriate Measures to Reduce Greenhouse Gases from Iran's Cement Industry Through Sustainable Development
		Innovation Through Low Carbon-City Design
		Sustainable Cities: A Scale and Process Allowing Design Science to Supersede Analytical Science
		Alkali-Activated Cement as an Appropriate and Sustainable Building Material
		Effect of Growth Conditions on the Performance and Cooling Ability of Street Trees
		Charting Experiments for Eco-Cities of the Future
		A Life Cycle Assessment of Power Generation Possibilities for a Stand-Alone Mobile House
569	**3B**	**Technology**
		Testing Fuel Savings and Adoptability of Improved Biomass Cookstoves
		A Grid Expansion Model of Centralized and Decentralized Electricity Infrastructure Development
		Of Volts and Leaves: Apples vs. Orange Effects Distort Relative Benefits of Grid-Electricity vs. Gasoline Powered Vehicles
		Riding the Rails to a Sustainable Future
		Reassessing the Role of Transportation in Economic Development
568	**3G**	**Corporate Sustainability and Investment, with a Developing Country Focus**
		The Property Value of Energy Efficiency in Swedish Housing
		Challenges of Venture Financing Sustainability Business Innovations in Built Environment
		Evaluating the Environmental Performance of Suppliers: A Case Study
		Does It Pay to Be Clean? Evidence from the Global Renewable Energies Equity Indexes

Location	Track	Title
		Investments and Energy Efficiency in Colombian Manufacturing Industries
		Corporate Sustainability and Shareholder Wealth
		Rightsizing Business: The Need and Means for Corporate Degrowth
		Sustainable Banking and Incorporating Sustainability Risks into Lending Decisions: A Global Comparative Study
569	**3C**	**Adaptation**
		Challenges and Solutions to the Implementation of Payments for Ecosystem Services to Achieve Sustainable Development
		Goal Conflicts in Adaptation to Climate Change
		Enhancing the Adaptive Capacity in the Asia-Pacific Region: Opportunities for Innovation and Experimentation
		Adaption to Climate Change: The Sustainability Challenge for Hong Kong
		Dynamic Atlas: Modeling Water and Urbanization Within the Ganges River Basin

Monday, May 9, 10 a.m.

Location	Track	Title
Cinema	**5A/5B**	**Assessment of Global Initiatives**
		Private Regimes of Global Environmental Governance (GEG): The Experience of the Carbon Disclosure Project (CDP) in Brazil
		Carbon Emissions and Mitigation Potentials from Land-Use Change in Southeast Asian Countries
		All for Naught? The Plastic Bag Debate as a Window into the Abandonment of Zero Waste Policy in New Zealand
		An Analysis of Greenhouse Gas Reduction Targets in Japan Using a CGE Model
		Sustainable Development in Iran: An Exploratory Study of University Students' Attitudes and Knowledge About Sustainable Development
		Official Development Finance for Energy—Trends and Optimisations
		Local Social Entrepreneurial Leadership for Sustainable Development
		Assessment of Whether the Inclusion of Aviation within the European Union's Emissions Trading Scheme Can Drive the Aviation Industry Towards a Sustainable Future
Satow	**4C**	**Sustainable Development Reporting and Indices**
		A Value-Based Carbon Performance Assessment of Worldwide Pulp & Paper Companies (and a Plea for Sustainability Reporting as If It Mattered)
		MDGs Sub-Saharan Africa: Ranking Progress and Overcoming Data Gaps
		Sustainable Development and Performance, Financial Position and Market Value of Nigerian Quoted Companies
		An Open Participatory System to Support State of the Environment and Sustainability Reports
		Pilot Research on China Provincial Environmental Performance Index
		A Survey and Conceptual Examination Towards Development of New Generation of National Sustainable Development Indicators—Seeking for Multi-Dimensional Indicators that Measure Interactions Between Complex Phenomena
		The Adequacy of Indicator Projects and Processes for Local and Regional Sustainability Reporting
569	**1D**	**Interaction of Stresses**
		Implications of Hydroelectricity Development Projects for Sustainability of Rural Livelihoods in Sikkim, India
		The Importance of Sustainable Urban Quality of Life and Housing in Enhancing Urban Competitiveness: An Empirical Study across 35 Chinese Cities
		Economic Policy for Sustainable Development and Its Impact on the Market Competitiveness
		Toward Assessing the Sustainability of Geological CO2 Sequestration: An Integrated Economic and Geological Framework
		Potential Links Between Emergence Of Zoonotic Pathogens And Stresses On Natural And Socioeconomic Systems: Ecohealth And Sustainable Development
		The Climate Change and Security Nexus
		Sustainable and Efficient Organizations: The Case of Hand-Crafts Micro-Business in Southern San Sebastian
477	**3D**	**Coherent Land Use Planning**
		Pragmatic Alternatives to Reduce Future Demand for Land up to 2050—A Global Quantitative Approach
		Land Sustainability for Future Growth: Multi-Criteria Spatial System for Evaluating Environmental Impacts of Land Use Change in Urban and Peri-Urban Limits of a Growing Indian City
		Development of a Participatory Regional Sustainability Index Using Principal Components Analysis and Monte Carlo Simulation: Application to Regional Spatial Plans
		Path-Dependency, Planning Regime for Sustainable Development in Asian Cities: A Comparison of Singapore and China

Location	Track	Title
		Enhanced Land Use Planning for the Agriculture Sector: Opportunities, Constraints and Options Moving Forward
		Spatial Planning, Energy and Sustainable Development: How Are They Linked?
		An Improved Measure of Land Use Diversity and Its Impact on Climate Change Measuring the Impact of Land-Use Diversity on Climate Change
555	**5C**	**Corporate Sustainability Programs**
		Organizational Culture and Corporate Sustainability Management: Framework, Strategies and Change Processes
		Institutional Convergent Alternatives to Instrumental and Duty-Aligned Corporate Social Responsibility Perspectives
		The Value of Green Buildings: New Evidence from the United Kingdom
		Poor but Resilient at the Base-of-the-Pyramid? Exploring a New Theoretical Framework from Randomized Experiments
		Promoting sustainability in Europe through the Eco-Management and Audit Scheme (EMAS): final results of a survey on Italian organizations
		Sustainability Orientation and the Sustainable Organization
		A Vrio Model Proposal to Sustainable Tourism Planning
		Promoting Organizational Sustainability by Measuring Its Performance Through Stakeholder Approach: A Strategic Conceptual Framework
		Moving the Aviation Sector to a More Sustainable Future: The Importance of Stakeholder Participation in the Uk Airport Master Plan Process
568	**2C**	**Material Cycles**
		Tracking Material Flows over Time: A Case Study of Non-Hazardous Industrial Waste in Pennsylvania, 1992-2008
		Conflicting Principles of Water and Sanitation Management in ihe Context of Rapid Urbanization, Growing Inequalities, and Climate Change: A Comparative Analysis of India, Brazil, and South Africa
		Assessing Impact of Urban Growth on Efficiency of Water Utilities Using DEA (Data Envelopment Analysis)
		Enviro-Pozzolan: A Promising Construction Material
		Human Excreta: Resource for Sustainable Development
		Moving Toward a Sustainable Future: Opportunities and Challenges for Ho Chi Minh City, Vietnam
		Sustainable Waste Management for a Rapidly Growing and Developing World
		An Empirical Study on the Interplay of Eco-Design Practice and Theory in UK Large Companies
Boardroom	**2A**	**Exhaustible and/or Overused Resources and Their Supply Chains**
		Sustainable Food, Energy and Water (FEW) Development: The FEW Security Model
		Reconfiguring for Sustainability: Challenges at Suncor Energy Purpose of the Research
		What Do European Citizens Think of Mineral Depletion?
		Promoting Sustainable Development in the Minerals Industry: The Phosphate Project in Saudi Arabia
		Participation and Success in Environmental Governance: Lessons from Woodfuel Policy in Chad
		The Context of Climate Change and Development in the Wooded Savannah of Nigeria
		Forest Transition—When, Where and for How Long

Monday, May 9, 1 p.m.

Location	Track	Title
Cinema	**2B**	**Food Production/Sustainable Agriculture**
		Creating a Climate SMART Agriculture Within the Sahel Millennium Villages Projects for Sustainable Food Security and Environmental resilience
		Assessing the Efficiency and Sustainability of High- and Low-Cost Fertilizer Inputs for Maize in Sub-Saharan Africa by Large-Scale Modeling
		Integration of Transgenic Plants into Alternative Cover Crop Mulch Systems Illustrates a Paradigm and a Platform for Sustainable Agriculture
		Nutrient-Based Design
		Impact of Global Change on Soil Microbial Community in Agricultural Systems with Implications for Crop Production in Developing Countries
		Sustainable Productivity Increase of Cattle Ranching in Brazilian Pasturelands: Meeting Land-Use Demands and Sparing Nature
		Climate Change and Sustainable Animal Agriculture in Sub-Saharan Africa: Methane Emission, Abatement Options and Adaptation Scenarios
		Conservation Agriculture and Its Impact on Land and Labor Productivity in Central Ethiopia
		Assessment of Sustainability of Organic Farming in India Using Analytical Hierarchy Process (AHP)
555	**4E**	**The Role of Education and Universities in Sustainable Development**
		Lifelong Sustainability: The Unique Experience of University Students in Rural Panama
		Added Value and Constraints of Real-World Learning Opportunities in Environmental Science Curricula
		An Exploratory Journey into Changemakers Learning Programs Towards Sustainability
		Sustainable Development of Universities: A Real Chance?
		Sustainability at the Campus—EMS Development and Implementation Processes in European Higher Education Institutions—Top-Down Versus Participatory Approaches
Satow	**4D**	**Models for Decision Making on Environmental and Sustainable Development Issues**
		An New Episteme and an Intranational Institution for the Management of Sustainable Development
		Analysing Flemish Intersectoral Policy Co-Ordination for Sustainable Development
		Towards Sustainability Scenarios for Chinese Cities: The Way China Has Urbanised Since the Beginning of the 1990's Leads to the Question of the Long-Term Practicability and the Durability of This Development
		A Methodology for Developing Roadmap Towards Local Low-Carbon Society in Case of Shiga Prefecture, Japan
		Transdisciplinary Sustainability Research—A Combination of Buzzwords or a Prerequisite for Fostering Sustainability Decision-Making?
		How Determinants of Affective Rationality Impact Individual Perceptions of Alternative Energy Sources: Evidence from Germany
477	**1C**	**Stresses on Socioeconomic Systems**
		Prevalence of Diseases and Their Unsustainable Determinants: A Case Study of Urban Slums of Bahawalpur
		Social Networks Repaired: Positive Externalities of a Depression-Based Intervention in Southwestern Uganda
		Climate Change Threats to Population Health and Socio-Economic Systems: Challenges for Creating a Sustainable Future
		Social Capital, Social Capacity and Social Carrying Capacity: Exploring the Social Basics of a Sustainable Development
		Economic Potential of Brazil Nut and Rubber Exploitation by Local and Traditional Populations in Extractive Reserves in the Brazilian Amazon

Location	Track	Title
		An Exploration of Individuals´ Attitudes and Behavioral Intentions of Pressures on Natural and Socioeconomic Systems Caused by Climate Change, Solid Wastes, and Increasing Urban Development in Costa Rica's Fastest-Growing Population Area
		Assessing the Governance Context for Meeting the Water MDGs in Nigeria
568	**5D**	**Bridging Organizations as Institutional Arrangements for Sustainable Development**
		Green-Energy Cluster Development: Analysis of a Bridging Organization in Worcester, Massachusetts, United States
		Measuring the Sustainability Performance of Infrastructure in an Eco-Industrial Park: A Real World Case Study
		Coping with the Resource Degradation Caused by Underuse of the Satoyama Commons in Japan
		The Assessment, Implementation, and Dissemination of Point–of–Use Water Treatment and Sanitation Systems In Nkokonjeru
		Establishing Sustainable Production in Developing Economies
		Examining Social Barriers to Open Source Appropriate Technology and Innovation Through Collaboration with Information and Communication Technologies
477	**3F**	**Industrial Ecology, Sustainable Production, and Sustainable Global Product Chains**
		The Role of External Collaborations to Improve Companies' Environmental Performances: A Study of the Largest U.S. Companies
		Focal Organisations: Stimulating Eco-Innovation Within Production and Distribution Systems
		Sustainability Metrics for Photovoltaics Growth to Terawatt Levels
		Consumption and Obsolescence: The Consumer Link to Sustainable Global Electronic Product Chains
		Fast Carbon Footprinting for Products and Services of Large Companies
		Corporate Energy Management in a Sustainable Maintenance and Plant Asset Management
		Organizational Forms and Likelihood of Industrial Symbiosis from the Perspective of Transaction Cost Economics
		Islands As Examples for Global Sustainability: An Initial Consideration of Strategic Sustainable Development in the Island Context

Monday, May 9, 3:30 p.m.

Location	Track	Title
Cinema	**2B**	**Food Production/Sustainable Agriculture**
		Coffee-Forest Matrix: Conservation Strategy for Sustainable Agriculture
		Mainstreaming Organic Farming in the Banana Industry Value Chain—The Experience of Agrarian Reform Beneficiaries and Indigenous Peoples in the Davao Region, Southern Philippines
		Integrated Farming for Better Sustainable Life and Environment
		The Influence of Globalization to the Transformation of Chinese Rural Industrial Pattern
		Bio-Fertilizers and Bio-Energy from Agricultural Waste in Egypt's Nile Delta
		Sustainable Consumption Initiatives in a Communal Context: The Responsible Consumption Cooperatives
		Poultry Production and Outbreak Risk of Avian Influenza: Lessons from Japan and Implications for Healthy Eco-Food System
		Species Diversity, Fishing Induced Change in Carrying Capacity and Sustainable Fisheries Management
555	**4E**	**The Role of Education and Universities in Sustainable Development**
		Action Field Analysis—A New Approach for Developing an Integrative Sustainability Strategy at Basel University
		The Role of Costa Rican Universities in Sustainable Development: Comparative Analysis Between Public and Private Institutions and Its Implications for the Latin American Region
		Sustainability Manager: A Business Simulation for Education and Training on Sustainability Management
		Engineers for Sustainability? What Education Is Required
		Pedagogical Challenges and Opportunities for the Promotion of Sustainable Environmental Design in Higher Education
		Higher Education Leadership Stages and Strategies that Relate to Campus Environmental Sustainability at U.S. Colleges and Universities
Satow	**4D**	**Models for Decision Making on Environmental and Sustainable Development Issues**
		Deciding Not to Drive Alone: The Social Context of Reducing Vehicle Tailpipe Emissions
		The Importance of Assessing the Group Dynamic within Transdisciplinarity Approaches to Sustainability
		Towards Sustainble Urban Planning: Lessons from the Environmental Planning and Management Process Application in Nigeria
		Overcoming the "Persistent Implementation Gap" for Sustainable Development: A Strategic Framework to Synergize the Constructs of Environmental Policy Integration and Public Participation
		An Agent-Based Model for Efficient Life-Cycle Analysis of Rural Water Systems in the Developing World
		Lost Meanings of Sustainability? How Regeneration and Sustainability Have Become Fashionable in Uk Policy Making
		Decisions Matter: Why and How We Make Choices That Impact the Environment
		Participative Risk Communication And Risk Governance: Important Models For Decision-Making On Environmental And Climate Changes
		Forum For Sustainable Building Valencian Region (Foro Escv)
477	**4F**	**Redefining Economic Systems for Sustainable Development**
		Eco-Innovation and Structural Change for a Low Carbon Economy: Results from a European Survey and Implications for Policy
		Beware of Negative Social Impacts on Small Scale Enterprise
		Towards Developing a Theoretical Paradigm for Sustainability Oriented Innovation Systems: A Literary Analysis

Location	Track	Title
		How Payments for Environmental Services Can Deliver Co-Benefits for Business and Sustainable Development: A Conservation Finance Strategy to Protect Armenia's Natural Heritage
		A Time-Spatial Approach Towards Integrated Sustainable Development of Post-Monetarism
		Ability of the State to Build a Green Economy and the Impact on Labor
		The Visible Hand: Designing Effective Market Based Solutions to Environmental Problems
		Voluntary Standards on the Climate Common: To Set the Wolf to Guard the Sheep?
477	**2D**	**Equitable Resource Allocation and Poverty Reduction**
		An Integrated Approach for Water, Environment, Livelihood, and Rural Income Sustainability in Mali, Africa
		Evolution of Traditional Chinese Villages into Sustainable Towns: The Sustainable Area Budget
		The Kenyan Handicraft Industry and Environmental Sustainability: The Case of Mwala District, Kenya
		Sustainable Management with Participatory Compensation Techniques for Coastal Tidal Basin: A Case Study on Beel Khukshia
		Rethinking Africa'S Growth And Development Strategies
		Can Forest Land Allocation Policy Solve Conflicts Between Conservation and Sustainable Development? Evidence from Protected Area Management in Central Region of Vietnam
568	**2E**	**The Role of Ethics and Faith Values in Sustainable Development**
		Effectiveness of Decision-Making and Advocacy for Sustainability Among Faith Communities
		Role of Ethics and Faith Values in Sustainable Development
		Inspiring Sustainability beyond Sustainability: Sustainable Development and the Ultimate Hindu Purpose
		Harnessing the Power of the Religious Commitment to Be "In Community" for the Good of the Planet
		Values-Based Indicators: Bridging the Gap Between Ethical Values and Sustainable Practices
		Role of Ethics in Sustainable Development: Some Indian Examples
Boardroom	**1A**	**Population Dynamics**
		Population Stresses and Sustainable Development in India: Need for a Legislation
		Easter Island: If No Collapse, What Else? Cultural Adaptations in a Changing Environment
		Population Dynamics of Russian Federation
		Providing National Food Security in India: A Restrospective Analysis of Food Subsidy on the Poor
		Declining Work-Age Population Threats Global Economic Sustainability
		A World of Intended Pregnancies

Bios Section

Featured Speakers and Panelists

Lester R. Brown, Earth Policy Institute

Lester R. Brown is president of Earth Policy Institute, a nonprofit, interdisciplinary research organization based in Washington, D.C., which he founded in May 2001. Brown has been described as "one of the world's most influential thinkers" by the *Washington Post*. The *Telegraph of Calcutta* called him "the guru of the environmental movement." In 1986, the Library of Congress requested his papers for their archives. Some 30 years ago, Brown helped pioneer the concept of sustainable development. He was the founder and president of the Worldwatch Institute during its first 26 years. During a career that started with tomato farming, Brown has authored or coauthored more than 50 books that have been published in more than 40 languages and has been awarded 25 honorary degrees. His most recent book is *World on the Edge.* Brown is a MacArthur fellow and the recipient of countless prizes and awards, including the 1987 UN Environment Prize, the 1989 World Wide Fund for Nature Gold Medal, and the 1994 Blue Planet Prize for his "exceptional contributions to solving global environmental problems." More recently, he received an honorary doctorate from the University of Agronomic Sciences and Veterinary Medicine in Romania, and was selected one of *Foreign Policy*'s Top Global Thinkers of 2010.

Sanjeev Chadha, PepsiCo Middle East & Africa Region

Sanjeev Chadha is president of PepsiCo's Middle East & Africa Region. He assumed this role on January 1, 2011, and is responsible for all beverage and food businesses in the Middle East and North Africa, as well as all PepsiCo beverage businesses in sub-Saharan Africa. He also serves on the board of several PepsiCo joint ventures. Prior to his current role, Sanjeev was the chairman and CEO of PepsiCo's India Region, responsible for the beverage and snack businesses in India and neighboring countries. Under his leadership, PepsiCo India rose to become the largest food and beverage business in India, and a leading model of PepsiCo's philosophy of Performance with Purpose. In 2009, the business achieved "Positive Water Balance" by replenishing more water than it consumed: a global first for PepsiCo. Sanjeev was a founding member of the PepsiCo business in India in 1989 and has since played an important role in developing PepsiCo businesses across several Asian countries besides India. Sanjeev spent 12 years in Asia based out of Hong Kong, during which he was PepsiCo's leader for different markets and functions, before returning to India in 2007. He started his career with Brooke Bond, now a part of Unilever, and was with JWT prior to joining PepsiCo. Sanjeev has been the chairman of CII's National Committee on Water and has also chaired their National Committee on Rural Development. He is a graduate of Hindu College, Delhi University, with an MBA from IIM Ahmedabad. Sanjeev has varied interests, including traveling, reading, skiing, and spending time with his family.

Nina V. Fedoroff, Pennsylvania State University

Nina V. Fedoroff received her PhD in molecular biology from the Rockefeller University and has served on the faculties of the Carnegie Institution of Washington, the Johns Hopkins University, and the Pennsylvania State University, where she was the director of the Biotechnology Institute and the founding director of the Huck Institutes of the Life Sciences. She is the Willaman Professor of the Life Sciences and an Evan Pugh Professor at Penn State, as well as a member of the external faculty of the Santa Fe Institute and Distinguished Visiting Professor of the King Abdullah University of Science and Technology (KAUST) in Saudi Arabia. Fedoroff has published two books and more than 130 papers in scientific journals. Among her awards is a 2006 National Medal of Science, the highest honor awarded to US scientists. She is also a member of the US National Academy of Sciences and the American Academy of Arts and Sciences. Fedoroff served as the science and technology adviser to the secretary of state and to the administrator of the US Agency for International Development (USAID) from 2007 to 2010. She is president of the American Association for the Advancement of Science (AAAS).

Photo credit: Douglas Mills, the *New York Times*

Jeffrey D. Sachs, The Earth Institute, Columbia University

Jeffrey D. Sachs is the director of the Earth Institute at Columbia University and a Research Associate of the National Bureau of Economic Research. He was formerly director of the Center for International Development (CID) and Harvard Institute for International Development (HIID), and the Galen L. Stone Professor of International Trade at Harvard University. During 2000–2001, Professor Sachs was chairman of the Commission on Macroeconomics and Health of the World Health Organization, and from September 1999 through March 2000 he served as a member of the International Financial Institutions Advisory Commission established by the US Congress. In January 2002, he was appointed by UN Secretary General Kofi Annan as his special adviser on the Millennium Development Goals. Sachs serves as an economic adviser to several governments in Latin America, Eastern Europe, the former Soviet Union, Africa, and Asia. He was cited in the *New York Times Magazine* as "probably the most important economist in the world" and in a *Time* magazine issue on 50 promising young leaders as "the world's best-known economist." Sachs is the recipient of many awards and honors, including membership in the Harvard Society of Fellows, the American Academy of Arts and Sciences, and the Fellows of the World Econometric Society, and recipient of the Frank E. Seidman Award in Political Economy. He has delivered the prestigious Lionel Robbins Memorial Lectures at the LSE, the John Hicks Lectures at Oxford, the David Horowitz Lectures in Tel Aviv, the Frank D. Graham Lectures at Princeton, the Tanner Lectures at the University of Utah, and the Okun Lectures at Yale. He is the author of hundreds of scholarly articles and books, including *Macroeconomics in the Global Economic* (co-authored) and *Poland's Jump to the Market Economy.* Sachs was born in Detroit, Michigan, in 1954. He received his BA summa cum laude from Harvard College in 1976, and his MA and PhD from Harvard University in 1978 and 1980, respectively. He joined the Harvard faculty 1980 and was promoted to full professor in 1983.

Peter Schlosser, The Earth Institute, Columbia University

Peter Schlosser is the associate director and director of research of the Earth Institute, Columbia University; Vinton Professor of Earth and Environmental Engineering at The Fu Foundation School of Engineering and Applied Science, and professor of Earth and Environmental Sciences at Columbia University. He is also chair of the Earth Institute faculty, director of the Columbia Climate Center, and a member of the senior staff at Lamont-Doherty Earth Observatory. Schlosser's research is directed toward understanding Earth's natural water bodies, including oceans, groundwater, and continental waters; their perturbation by human activity; and the possibility to design engineering solutions to the problems by their development. Schlosser also chairs the Cross-Cutting Initiative and the Earth Clinic at the Earth Institute.

Schlosser came to Columbia University in 1989 and served as chair of the Department of Earth and Environmental Engineering from 2000 to 2003. He was Vetleson fellow and visiting professor at the University of Washington, Seattle, in 1994. He is a fellow of the American Geophysical Union and the American Association for the Advancement of Science. Schlosser chaired and/or was a member of steering committees and advisory boards of numerous national and international programs, including the World Climate Research Programme, the International Geosphere-Biosphere Programme, the National Academy of Sciences, and the International Arctic Science Committee, to name just a few. He is presently co-chair of the science steering group of the International Study of Arctic Change.

Achim Steiner, United Nations Environment Programme

The U.N. General Assembly unanimously elected Achim Steiner as the executive director of UNEP on March 16, 2006 for a four-year term, effective 15 June 2006. In March 2009, Achim was also appointed director-general of the U.N. Offices at Nairobi (UNON). Before joining UNEP, Achim served as director general of the World Conservation Union (IUCN) from 2001 to 2006. He held responsibility for the management and oversight of 1,000 staff located in 42 countries. On 22 April 2010, the General Assembly re-elected Mr Steiner for another four-year term <http://unep.org/Documents.Multilingual/Default.asp?DocumentID=620&ArticleID=6542&l=en&t=long> beginning on 15 June 2010.

In Washington, where Steiner was senior policy advisor of IUCN's Global Policy Unit, he led the development of new partnerships between the environmental community, the World Bank and the United Nations system. In Southeast Asia, he worked as chief technical advisor on a program for the sustainable management of Mekong River watersheds and community-based natural resources management. In 1998 he was appointed secretary general of the World Commission on Dams, based in South Africa, where he managed a global program of work to bring together the public sector, civil society and the private sector in a global policy process on dams and development.

Achim, a German national, was born in Brazil in 1961, where he lived for ten years. His educational background includes a B.A. from the University of Oxford as well as an M.A. from the University of London with specialization in development economics, regional planning, international development and environmental policy. He also studied at the German Development Institute in Berlin and the Harvard Business School. He serves on a number of international advisory boards, including the China Council for International Cooperation on Environment and Development (CCICED).

Klaus Töpfer, Institute of Advanced Studies on Sustainability

Klaus Töpfer is widely recognized as having spearheaded environmental policy as minister of environment in his home country of Germany. He introduced ground-breaking environmental regulations and laws such as the law on the lifecycle economy and the packaging recycling system known as Green Dot. He also initiated several laws to ban the use of environmentally harmful substances such as sulfur dioxide and ozone depleting substances. He actively contributed to the success of the Earth Summit in Rio de Janeiro in 1992 and was a forerunner in the negotiations for the United Nations Framework Convention on Climate Change and the establishment of the Global Environment Facility.

Töpfer became executive director of the UN Environment Programme and director-general of the UN Office at Nairobi in February 1998. He was also appointed acting executive director of the UN Centre for Human Settlements (now UN-Habitat) from July 1998 to August 2000.

Before joining the UN, Töpfer held several posts in the federal government of Germany. He was federal minister of regional planning, building, and urban development as well as coordinator of the transfer of parliament and federal government to Berlin from 1994 to 1998. He held office as federal minister of the environment, nature conservation, and nuclear safety from 1987 to 1994. Prior to becoming a member of the German federal cabinet, he was state minister of environment and health of the federal state of Rhineland-Palatine (1985 to 1987) and state secretary at the Ministry of Social Affairs, Health, and Environment for the same state (1978 to 1985).

Richard Welford, ERP Environment

Richard Welford is one of the founders and the chairman of CSR Asia, based in Hong Kong. He is also a professor at the University of Hong Kong and a director of ERP Environment, a UK-based publisher. Welford has considerable expertise in international business, environmental management, and corporate social responsibility. He has been working with businesses in these areas for 20 years. He has worked for the Samsung Corporation in Korea and carried out research for the UN in Southeast Asia. He currently advises the Swire Group and Cathay Pacific, and has worked as a consultant to the MTR Corporation in Hong Kong. Other clients have included the World Bank, the International Finance Corporation, Oxfam, the Business Environment Council, TXU Europe, and the Body Shop.

Scientific Committee

Tariq Banuri, United Nations Division for Sustainable Development

Tariq Banuri is the director of the UN Division for Sustainable Development. He has broad experience at the interface between policy, research, and practical actions on the realization of the goal of sustainable development. Before joining the United Nations, he was senior fellow and director of the Future Sustainability Program at the Stockholm Environment Institute. He also served as the founding executive director of the Sustainable Development Policy Institute (SDPI) in Pakistan and as a coordinating lead author on the Nobel Prize–winning Intergovernmental Panel on Climate Change (IPCC). He holds a PhD in economics from Harvard University.

Pontus Cerin, Umeå University

Pontus Cerin is an associate professor in economics and doctor of technology at Umeå School of Business. He currently serves as a guest professor at the Department of Urban Planning and Environment at KTH Royal Institute of Technology in Stockholm. Cerin is a member of the board of the International Sustainable Development Research Society (ISDRS) and a board member of several academic journals in management, finance, and economics that relate to environmental and social aspects. Cerin is a research manager in the Sustainable Investment Research Platform, funded by Mistra. His present research centers on corporate integrated reporting, financial analyst assessments of corporate environmental and social aspects, correlations between energy performance and property prices, forecasting ability of credit risk ratings, and innovation fostering technology-neutral policy instruments in the auto industry.

Robert S. Chen, Center for International Earth Science Information Network (CIESIN)

Robert Chen is the director of CIESIN and a senior research scientist at the Earth Institute. He manages the NASA Socioeconomic Data and Applications Center and co-leads the Intergovernmental Panel on Climate Change (IPCC) Data Distribution Center. He is currently secretary-general of the Committee on Data for Science and Technology (CODATA) of the International Council for Science. His research interests include hazard vulnerability, climate change impacts and indicators, environment and security, geospatial data integration, and long-term data stewardship. He holds a PhD in geography from the University of North Carolina at Chapel Hill and two MS degrees from MIT.

Patricia Culligan, Columbia University

Patricia Culligan is a professor in the Department of Civil Engineering and Engineering Mechanics and vice dean of academic affairs for Columbia Engineering, Columbia University. Her principal fields of interest include geoenvironmental engineering, porous media flow and transport, and urban sustainability. Her current research focuses on problems involving subsurface pathogen transport and remediation, colloid transport in porous media, unsaturated flows, and alternative strategies for urban water and wastewater management. She holds an MPhil and a PhD from Cambridge University.

Sir Partha Dasgupta, University of Cambridge

Sir Partha Dasgupta is Frank Ramsey Emeritus Professor of Economics at the University of Cambridge; fellow of St. John's College, Cambridge; and professorial research fellow at the Sustainable Consumption Institute, University of Manchester. Dasgupta's research interests have covered welfare and development economics, the economics of technological change, population, environmental, and resource economics, the theory of games, the economics of undernutrition, and the economics of social capital. Dasgupta was named Knight Bachelor by Her Majesty Queen Elizabeth II in 2002 in her Birthday Honours List for services to economics and was co-recipient of the 2002 Volvo Environment Prize. He is a fellow of the Royal Society and a foreign member of the American Philosophical Society.

Masahiro Kawai, Asian Development Bank Institute

Masahiro Kawai is dean of the Asian Development Bank Institute (ADBI). He joined ADBI in January 2007 after serving as head of ADB's Office of Regional Economic Integration (OREI) and special adviser to the ADB president in charge of regional economic cooperation and integration. Kawai has published a number of books and numerous articles on economic globalization and regional financial integration and cooperation in East Asia, including lessons from the Asian crisis, as well as on the international currency system. He earned his MS degree in statistics and PhD degree in economics from Stanford University.

Nora Lustig, The Elliott School of International Affairs

Nora Lustig is Samuel Z. Stone Professor of Latin American Economics at Tulane University and a nonresident fellow at the Center for Global Development and the Inter-American Dialogue. Her research focuses on inequality, poverty, social policy, and development economics. Lustig was cofounder and president of the Latin American and Caribbean Economic Association, co-director of the World Bank's World Development Report 2000/2001: "Attacking Poverty," and president of the Mexican Commission of Macroeconomics and Health. She serves on the advisory boards of the Earth Institute, the Center for Global Development, and the Institute of Health Metrics and Evaluation. She received her doctorate in economics from the University of California, Berkeley.

Rajendra Pachauri, The Energy and Resources Institute (TERI)

Rajendra Pachauri assumed his current responsibilities as the chief executive of TERI in 1982, first as director and, since April 2001, as director-general. In April 2002, Pachauri was elected the chairman of the Intergovernmental Panel on Climate Change (IPCC), established by the World Meteorological Organization and the UN Environment Programme in 1988 (re-elected in September 2008). IPCC along with former Vice President Al Gore was awarded the Nobel Peace Prize for the year 2007. Pachauri was appointed director of the Yale Climate and Energy Institute. He has been active in several international forums dealing with the subject of climate change and its policy dimensions.

Joanna Rubinstein, The Earth Institute, Columbia University

As Jeffrey D. Sachs' chief of staff, Joanna Rubinstein coordinates the activities of the Earth Institute Director's Office and supports the director in establishing new strategic partnership initiatives and international projects. Rubinstein is also the director of the Center for Global Health and Economic Development (CGHED) at the Earth Institute. Rubinstein is trained as a DDS and a scientist with a PhD in cell and molecular biology. She uses her 15 years of experience as a practicing scientist and senior administrator in Europe to coordinate complex projects across the Earth Institute.

Jeffrey D. Sachs, The Earth Institute, Columbia University

Peter Schlosser, The Earth Institute, Columbia University

Delyse Springett, Massey University

Delyse Springett has a background in secondary and tertiary education, and has worked as a social worker, a counselor, and an industry trainer. In 1987 she became the cofounder and executive director of the New Zealand Natural Heritage Foundation. Springett has an interest in interdisciplinary approaches to business education for sustainable development and a strong belief in practical work with industry. She runs industry workshops on issues of business and sustainable development, and plans to provide block mode courses for industry in the future. She conducts her research from the perspective of Critical Theory and Foucauldian Theory, and is currently employing an epistemological framework based in these theories for her doctoral research into issues of business and sustainable development in New Zealand companies.

Mark Swilling, Stellenbosch University

Mark Swilling is program coordinator for sustainable development in the School of Public Leadership, University of Stellenbosch, and academic director of the Sustainability Institute. He is responsible for the design and implementation of a Master's Degree Program in Sustainable Development at the Sustainability Institute, which is located in the Lynedoch EcoVillage, Stellenbosch. In 2007, Swilling was invited to be a member of the International Panel on Sustainable Resource Management, established by the UN Environment Programme to assess ways of making the global economy more sustainable. In 2010, he was awarded the Aspen Institute's Faculty Pioneer Award for innovations in academic teaching. Swilling has 30 years of experience in urban development planning, sustainable cities, and human settlement projects.

Klaus Töpfer, Institute of Advanced Studies on Sustainability

Laurence Tubiana, Institute of Sustainable Development and International Relations

Laurence Tubiana is founder of the Institute for Sustainable Development and International Relations (IDDRI) in Paris. She follows and participates in the international negotiations on climate change, in which IDDRI is highly involved. She is also professor and director of the Sustainable Development Center at Sciences Po Paris. Founder of the journal *Le Courrier de la Planète,* she published a number of articles and books on environment, development, and international issues. Since 2007, she has co-directed the publication of the annual review *Sustainable Development in Action—A Planet for Life*. Laurence Tubiana studied at the Institut d'Études Politiques de Paris and holds a PhD in economics.

Walter Vermeulen, Copernicus Institute for Sustainable Development

Walter Vermeulen (1958) is an associate professor, Department of Environmental Social Science, and program leader of the International Master on Sustainable Development, Utrecht University. His research work focuses on design, implementation, and evaluation of the effectiveness of new strategies for increasing eco-efficiency of production and consumption by means of collaborative forms of governance for sustainable development. In developing sustainable development strategies, the intrinsic characteristics and developments and potentials for change of each of these domains should be taken into account, as well as developments in the nature, content, and intensity of the interactions between these five domains.

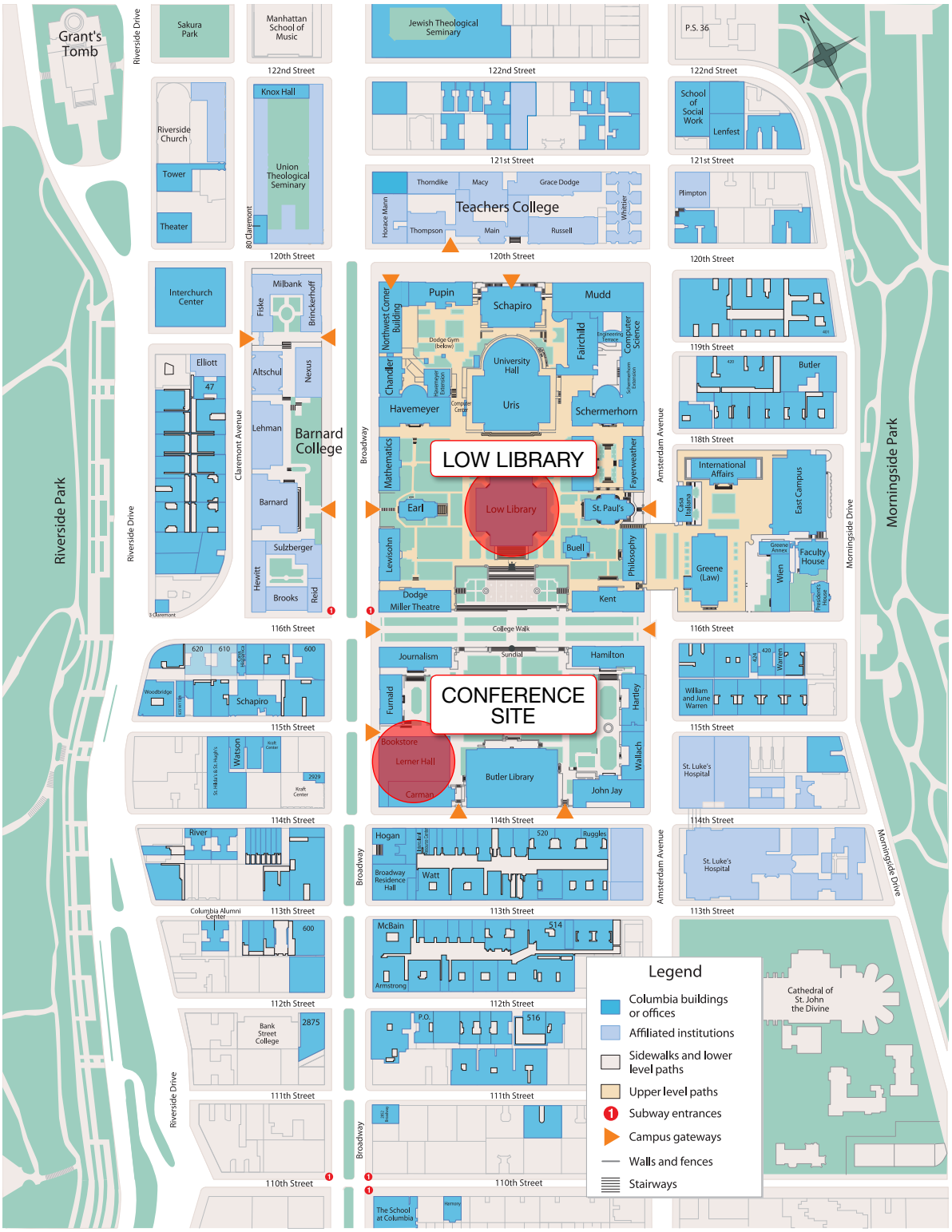
Vermeulen engages in both descriptive and retrospective research, and in experimental policy research in the fields of sustainable development, such as climate change, sustainable energy, waste management, building and urban planning, environmental management, life cycle management, industrial ecology, production and consumption cycles, design for environment, and greening of global product chains. The research work contributes to enlarging knowledge about these changing relations between five essential domains of society. His recent work has a special focus on analyzing the practices of sustainable supply chain governance in global trade.

Martin Visbeck, Leibniz-Institute for Marine Sciences IFM-GEOMAR

Martin Visbeck is chairman of the Physical Oceanography Research Unit at the Leibniz Institute for Marine Sciences. During a postdoctoral fellowship at MIT, his research interest focused on the interaction between ocean eddies and deep convection regions and their respective heat and density transports. As a research scientist at LDEO and associate professor at Columbia University, his interest shifted to more general aspects of the ocean's role in the climate system, including work on the North Atlantic Oscillation and Deep Water formation off Antarctica. His current research is concerned with ocean and climate variability and change. He has served on several national and international committees and is speaker of the Kiel Cluster of Excellence "The Future Ocean." He holds a PhD in physical oceanography.

Getting Around

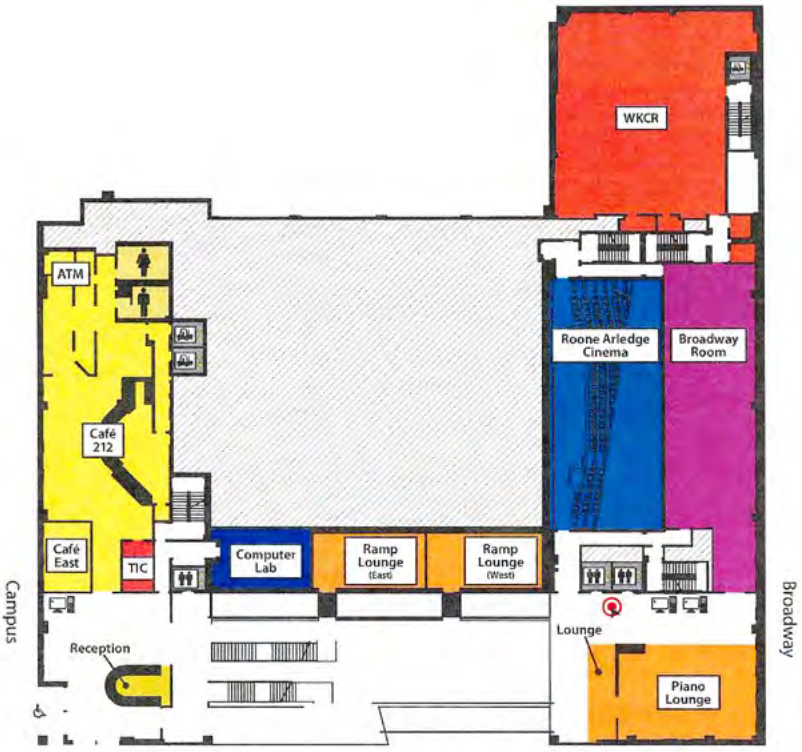
http://www.columbia.edu/about_columbia/map/MorningsideCampus.pdf



Lerner Hall Floor Plan

Lerner Hall: 1st Floor

Lerner Hall: 2nd Floor



Lerner Hall: 4th Floor

Lerner Hall: 5th Floor

Public Transportation:

Five bus lines (M4, M5, M11, M60, M104) and one subway line (the No. 1 local) serve the Columbia neighborhood. The Columbia stop for the buses and the subway is 116th Street. The M60 bus is a direct link between campus and LaGuardia Airport. Do not use the Nos. 2 and 3 express subway trains, which follow a different route and do not stop at Columbia University. If you take the No. 2 or 3, transfer at 96th Street to the No. 1 local train.

Around Campus

Quick Meals

Brad's Brew (Journalism Building): sandwiches, salads, soups, milkshakes, pastries, beverages

Café 212, Café East (first floor of Lerner Hall): sandwiches, salads, sushi, dumplings, pastries, beverages

Hamilton Deli (on Amsterdam between 115th and 116th Streets): sandwiches, snacks, beverages

Chipotle (on Broadway between 110th and 111th): burritos

Famiglia (on Broadway at 110th): pizza

Strokos (on Amsterdam at 114th): sandwiches, salads, pizza, snacks, beverages,

Dining

Mill (on Broadway between 112th and 113th): Korean

Deluxe (on Broadway between 112th and 113th): American

Community Food and Juice (on Broadway between 112th and 113th)

Vareli (on Broadway between 111th and 112th): Mediterranean

Thai Market (on Amsterdam between 107th and 108th): Thai

Awash (on Amsterdam between 106th and 107th): Ethiopian

Artopolis (on Amsterdam between 113th and 114th): crepes, sandwiches, dessert, coffee

Tom's Restaurant (on Broadway at 112th): American

Drug Stores

Duane Reade (on Broadway at 111th)

Rite Aid (on Broadway at 110th)

Lerin Drug (on Amsterdam at 113th)

Computer/Internet Access

Free wireless Internet access is available across the Columbia campus. Select the network "Columbia University."

Most computers on campus require a login and password, but visitors may use public computers in these locations:

Avery Hall (first floor): 1 unit

Diana Center (first floor): 6 units

Earl Hall (lobby): 2 units

International Affairs (fourth floor): 5 units

Kent Hall (second floor lobby): 12 units

Low Library (first floor Visitor Center): 1 unit

Mudd Hall (fourth floor lobby): 8 units

Philosophy Hall (second floor): 3 units

Schermerhorn Hall (fifth level): 2 units

Neighborhood Map

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We would like to thank our partners and sponsors for their contribution to this year's conference.

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United Nations Division for Sustainable Development

http://www.un.org/esa/dsd/

Asian Development Bank Institute (ADBI)

http://www.adbi.org

Sponsors

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http://www.regjeringen.no/en/dep/ud.html

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