MIT Industrial Liaison Program Faculty Knowledgebase Report

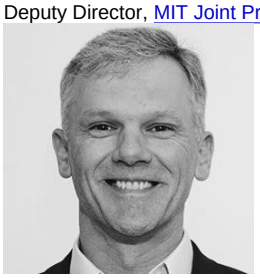
ILP-MIT Joint Program Webinar: Climate-Related Physical and Transition Risks

November 17, 2020 10:00 am - 12:00 pm

10:00am - 10:05am	Opening Remarks
10:05am - 10:15am	Introduction and Framing Ronald Prinn Director, MIT Joint Program on the Science and Policy of Global Change TEPCO Professor of Atmospheric Science, Department of Earth, Atmospheric and Planetary Sciences (EAPS) Director, Center for Global Change Science (CGCS) Ronald Prinn Director, MIT Joint Program on the Science and Policy of Global Change TEPCO Professor of Atmospheric Science, Department of Earth, Atmospheric and Planetary Sciences (EAPS) Director, Center for Global Change Science (CGCS) Professor Prinn's research interests incorporate the chemistry, dynamics, and physics of the atmospheres of the Earth and other planets, and the chemical evolution of atmospheres. He has been a faculty member at MIT since 1971, and headed the MIT Department of Earth, Atmospheric and Planetary Sciences from 1998 to 2003. He is currently involved in a wide range of projects in atmospheric chemistry and biogeochemistry, climate science, and integrated assessment of science and policy regarding climate change. He leads the Advanced Global Atmospheric Gases Experiment (AGAGE), in which the rates of change of the concentrations of the trace gases involved in the greenhouse effect and ozone depletion have been measured continuously over the globe for the past three decades. He is pioneering the use of inverse methods, which use such measurements and three-dimensional models to determine trace gas emissions and understand atmospheric chemical processes, especially those processes involving the oxidation capacity of the atmosphere. He is also working extensively with social scientists to link the science, economics and policy aspects of global change. He has co-led the development of a unique integrated global system model coupling economics, climate physics and chemistry, and land and ocean ecosystems, which is used to estimate uncertainty in climate predictions and analyze proposed climate policies. He has made significant contributions to the development of national and international scientific research programs in global change. He served as one of the Lead Authors in the Fourth Assessment of the Intergovernmental Panel on Climate Change (IPCC) published in 2007. He has served as Chairman for Atmospheric and Hydrospheric Sciences of the American Association for the Advancement of Science (AAAS), and has chaired the Steering Committees for the IGBP/IAMAP International Global Atmospheric Chemistry Project, the U.S. National Research Council (NRC) Committee on Earth Sciences, and the U.S. Global Tropospheric Chemistry Program. He has been a member of the Steering Committees of the International Geosphere-Biosphere Program (IGBP), and the NASA Network for Detection of Atmospheric Composition Change, and a member of the IAMAP International Commission on Atmospheric Chemistry and Global Pollution, the NRC Space Science Board, the NRC Committee for the International Geosphere-Biosphere Program, the NASA Space Science and Applications Advisory Committee, and the NASA Earth System Sciences Committee. He has twice testified to the United States Congress on climate change science and its implications for policy. He is a Fellow of the American Geophysical Union (AGU), a recipient of AGU's Macelwane Medal, and a Fellow of the AAAS. He has published more than 250 peer-reviewed scientific papers, co-authored *Planets and their Atmospheres: Origin and Evolution* (Academic Press), and edited or co-edited *Global Atmospheric-Biospheric Chemistry* (Plenum), *Atmospheric Chemistry in a Changing World* (Springer), and *Inverse Methods in Global Biogeochemical Cycles* (AGU). View full bio

10:15am - 10:40am

Assessing Physical Risks
C. Adam Schlosser
Senior Research Scientist, Center for Global Change Science
Deputy Director, MIT Joint Program on Science and Policy of Global Change



C. Adam Schlosser
Senior Research Scientist, Center for Global Change Science
Deputy Director
MIT Joint Program on Science and Policy of Global Change

Dr. C. Adam Schlosser is currently a Senior Research Scientist in the Center for Global Change Science, and also serves as the Deputy Director for the Joint Program at MIT. His primary interests are the modeling, prediction, and risk assessment of the natural, managed, and built water-energy-land systems using the MIT's Integrated Global Systems Model (IGSM) that includes model development the Global Land System (GLS) and Water Resource System (WRS). Dr. Schlosser has undertaken studies within the disciplines of hydrology, biogeochemistry, permafrost, snow, weather, and climate as well as their predictability and limits-to-prediction. In doing so, he has worked with a wide range of numerical models, ranging from process-level to global-scale models, as well as observational data for evaluation and complementary analyses. He also has participated in and led international experiments aimed to assess the performance of Earth-system model simulations and predictions. In earlier work, he served as a member of the NASA Energy and Water Cycle Study (NEWS) Science Integration Team to improve our observational capabilities for monitoring, understanding and predicting the Earth's global water and energy cycles. His current collaborative research activities include: extreme events and associating potential changes and risks on the natural, managed, and built environments; water-resource risk assessments to inform mitigation and adaptation strategies; and renewable-energy resource and intermittency assessments.

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10:40am - 11:05am

Assessing Transition Risks
Sergey Paltsev
Deputy Director, MIT Joint Program on the Science and Policy of Global Change
Senior Research Scientist, MIT Energy Initiative and MIT Center for Energy and Environmental Policy Research (CEEPR)
Director, Energy at Scale Center

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Dr. Sergey Paltsev is a Deputy Director of the MIT Joint Program on the Science and Policy of Global Change, a Senior Research Scientist at the MIT Energy Initiative and MIT Center for Energy and Environmental Policy Research (CEEPR), and a Director of the MIT Energy-at-Scale Center, Massachusetts Institute of Technology (MIT), Cambridge, USA. He is the lead modeler in charge of the MIT Economic Projection and Policy Analysis (EPPA) model of the world economy. Dr. Paltsev is an author of more than 100 peer-reviewed publications in scientific journals and books in the area of energy economics, climate policy, transport, advanced energy technologies, and international trade. Sergey was a Lead Author of the Fifth Assessment Report (AR5) of the Intergovernmental Panel on Climate Change (IPCC). He is a recipient of the 2012 Pyke Johnson Award (by the Transportation Research Board of the National Academies, USA, for the best paper in the area of planning and environment). Sergey is an Advisory Board Member for the Global Trade Analysis Project (GTAP) Consortium and a Member of the Scientific Steering Committee of the Integrated Assessment Modeling Consortium. Additional information at:

https://globalchange.mit.edu/about-us/personnel/paltsev-sergey

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11:05am - 11:55am

Panel Discussion with Q&A
Moderator:
Henry Jacoby
Professor of Management (Emeritus), Sloan School of Management
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Professor of Management (Emeritus), Sloan School of Management

Henry D. Jacoby is the William F. Pounds Professor of Management (Emeritus) in the M.I.T. Sloan School of Management and a founding Co-Director of the M.I.T. Joint Program on the Science and Policy of Global Change, which is focused on the integration of the natural and social sciences and policy analysis in application to the threat of global climate change. An undergraduate mechanical engineer at the University of Texas at Austin, he holds a Ph.D. in Economics from Harvard University where he also served on the faculties of the Department of Economics and the Kennedy School of Government. He has been Director of the Harvard Environmental Systems Program, Director of the MIT Center for Energy and Environmental Policy Research, Associate Director of the MIT Energy Laboratory, and Chair of the MIT Faculty. He currently serves on a U.S. National Academies Committee to Advise the U.S. Global Change Research Program.

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Jill Engel-Cox
Director, Joint Institute for Strategic Energy Analysis
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Director, Joint Institute for Strategic Energy Analysis

Jill Engel-Cox is director of JISEA. Over her 25-year career, Engel-Cox has been an engineer, researcher, program manager, and strategic planner for a diverse suite of renewable energy, clean technology, and environmental programs in the United States, Asia, and Middle East. Her first job was climbing smokestacks in Los Angeles, followed by leading industrial pollution prevention programs for small and medium sized businesses and R&D laboratories in the United States and internationally. In the past decade, she has led international strategic planning and technology assessments for renewable energy and environmental sustainability research programs, working extensively in Malaysia and Saudi Arabia. She also teaches industrial processes and environmental communications courses at Johns Hopkins University Engineering for Professionals Program.

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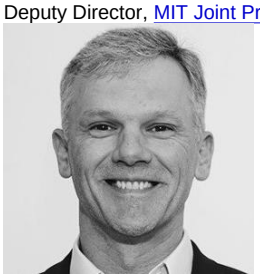

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