APRIL 22–23, 2020

PRINCETON UNIVERSITY

Nineteenth Annual Meeting Presenters

Princeton Environmental Institute

Carbon Mitigation Initiative

BP



Paul Jefferiss

HEAD OF POLICY, BP INTERNATIONAL, UK

Paul Jefferiss is Head of Policy and stakeholder relations at BP, where he manages company positions and relationships on climate change, environmental and social policy and sustainable development. He is BP's representative on the Executive Committee of the Oil & Gas Climate Initiative (OGCI), the Board of the Extractive Industries Transparency Initiative (EITI), the Steering Committee of the NCS Alliance, and the Council of the WBCSD. He is also a Non-Executive Director of the Carbon Trust. Previously, he has held positions as a UK renewable fuels regulator, Executive Director of the Green Alliance, and lecturer on environmental management for UNEP at Tufts University.

He has written and spoken widely on energy, climate, the environment and sustainability, with over a hundred publications and presentations. He has given testimony to over twenty UK Parliamentary Select Committees, and served on over fifty government, academic and private sector governance and advisory boards in the US, UK and EU.

He holds degrees from Cambridge, Harvard and Tufts. In 2003 he received the Queen's Pioneer to the Life of the Nation Award. He is listed in Who's Who.



Liz Rogers

VICE PRESIDENT, ENVIRONMENTAL TECHNOLOGY, BP INTERNATIONAL, UK

Liz is responsible for leading the development and deployment of an environmental technology strategy which includes techno economic analysis of the energy transition options including those enabled by carbon capture utilization and storage, hydrogen and negative emission technologies. Her team also provide broader technical, engineering and science support for broader climate sciences and sustainability issues. Environmental technology helps the understanding of environmental issues associated with the energy transition including incorporation of circular economy principles, life cycle assessment and the sustainable development goals.

Liz has over 25 years of experience with BP and previously worked in conservation and consultancy sectors. In BP she has held a variety of technical and leadership roles in Environmental as well as Health, Safety and Environmental (HSE) and Strategy and Planning across various BP businesses around the world. She is BPs' lead on several industry and UN Environment activities and served four years as Director and Vice Chair of IPIECA (the oil and gas industry trade association for environmental and social issues). Liz has a PhD, Masters and Degree in environmental science and is a Fellow of the Institute of Environmental Management and Assessment.



Daniel Touzel

ENVIRONMENTAL SPECIALIST, UPSTREAM TECHNOLOGY, BP INTERNATIONAL, UK

Dan is responsible for the identification and testing of low carbon technology solutions for BP Upstream, with a current focus on the measurement of methane. He is a core member of the 'Aim -4' delivery team, working towards deployment of methane measurements across all major oil and gas processing facilities in BP by 2023. Dan joined BP in 1999 and has worked in the Regulatory Compliance & Environment discipline supporting BP's Upstream North Sea, Angola and Iraq regions. In the last 3 years Dan has worked in Environmental Technology.



Daniel Walker

HEAD OF TECHNOLOGY FUTURES, BP INTERNATIONAL, UK

Dan leads the Technology Futures unit at BP. The unit delivers strategic value to BP's existing businesses and creates material options for renewal of the company from technology solutions and innovative business models. Alongside this role, Dan led a project to create and underpin BP's 2020 ambition to become a net zero company by 2050 or sooner. Following the announcement of the new ambition in February 2020, Dan became part of a central strategy team to develop an integrated Company strategy that will deliver BP's net zero ambition in the medium and long term.

Previously, Dan established and led BP's first cross-company emerging and disruptive technology team, and prior to that has experience across the Upstream oil and gas business, holding a number of technical and commercial leadership roles in major project delivery, drilling and production. Outside of the energy industry, Dan pursued post-doctoral research in fluid and structural dynamics at the Massachusetts Institute of Technology, and held a lectureship in Engineering Science at the University of Oxford.



Cindy Yeilding

SENIOR VICE PRESIDENT, BP AMERICA

Cindy Yeilding is currently Senior Vice President, BP America. Cindy earned her MSc in Geology from UNC after receiving a BS in Geology from SMU. Cindy's specialties include Exploration and Technology, and she most recently led the working team for the U.S. National Petroleum Council study on Carbon Capture, Use and Storage (CCUS).

Cindy is Chair of the Offshore Technology Conference and serves on the Board of Directors of BPX&P and the Greater Houston Partnership. She is BP's Executive Sponsor for Princeton University and serves on the Advisory Council for the U.T. Jackson School, and the Executive Board of Dedman College, SMU. Cindy has served as an AAPG Distinguished Lecturer and was named a "Legend in Exploration" by AAPG. Cindy is active in women's development and STEM education and has been recognized for her leadership in energy by numerous organizations.

Princeton University



Christopher Greig

PRINCIPAL INVESTIGATOR; GERHARD R. ANDLINGER VISITING FELLOW IN ENERGY AND THE ENVIRONMENT

Energy transitions encompassing multiple economic sectors, with a particular focus on exploring socio-technical and ecological constraints, bottlenecks and unintended consequences of rapid deep decarbonization. Capitalizing on a 25+ year executive career, I aim to ground desktop systems research and analysis with real-world challenges and decision-making associated with investment in resource exploitation, infrastructure delivery, and operational risk. Critically interested in the contrasts between advanced and developing nations.



Jian He

POSTDOCTORAL RESEARCH ASSOCIATE, ATMOSPHERIC AND OCEANIC SCIENCES

Current research focuses on the quantifying the contribution of individual sources and sinks to atmospheric methane variability by incorporating methane isotopes into the chemical mechanism in GFDL's ESM4.



Jesse Jenkins

PRINCIPAL INVESTIGATOR; ASSISTANT PROFESSOR OF MECHANICAL AND AEROSPACE ENGINEERING AND THE ANDLINGER CENTER FOR ENERGY AND THE ENVIRONMENT

Energy systems engineering with a focus on the electricity sector, including: transition to zero-carbon resources; proliferation of distributed energy resources; role of electricity in economy-wide decarbonization. Research improves and applies optimization-based energy systems models to evaluate low-carbon energy technologies, policy options, and robust decisions under deep uncertainty.



Eric Larson

PRINCIPAL INVESTIGATOR; SENIOR RESEARCH ENGINEER, ANDLINGER CENTER FOR ENERGY AND THE ENVIRONMENT

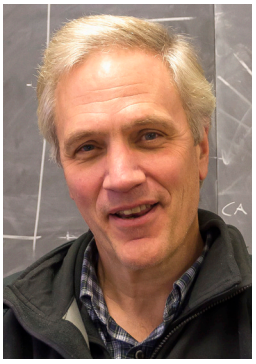
Energy systems analysis and modeling intersecting engineering, environmental science, economics, and public policy and aimed at identifying rapid, sustainable, engineering-based transitions to low or zero-carbon energy and industrial systems; technologies for biomass and fossil energy conversion to fuels and electricity with CO_2 capture and storage; technologies for balancing variable renewable electricity.



Jonathan Levine

PRINCIPAL INVESTIGATOR; PROFESSOR, ECOLOGY AND EVOLUTIONARY BIOLOGY; LEADERSHIP TEAM, CMI

Jonathan's research examines the forces structuring systems of terrestrial plants, with a focus on biodiversity and climate change.



Steve Pacala

PRINCIPAL INVESTIGATOR; FREDERICK D. PETRIE PROFESSOR IN ECOLOGY AND EVOLUTIONARY BIOLOGY; DIRECTOR, CMI

Interaction among the biosphere, atmosphere, and hydrosphere at global scales, with an emphasis on the carbon cycle.



Fabien Paulot

PHYSICAL SCIENTIST, ATMOSPHERIC AND OCEANIC SCIENCES AND THE GEOPHYSICAL FLUID DYNAMICS LABORATORY

I am a Physical Scientist in the Biogeochemistry, Atmospheric Chemistry, and Ecosystems Division at the NOAA Geophysical Fluid Dynamics Laboratory. I use global Earth System Models to investigate the interaction between climate and atmospheric composition.



Amilcare Porporato

PRINCIPAL INVESTIGATOR; THOMAS J. WU '94 PROFESSOR OF CIVIL AND ENVIRONMENTAL ENGINEERING AND THE PRINCETON ENVIRONMENTAL INSTITUTE; LEADERSHIP TEAM, CMI

Ecohydrology; Analysis of hydrologic time series; Stochastic soil moisture dynamics and water balance; Soil-atmosphere interaction; Environmental fluid mechanics; Complexity in the environment; Sustainable use of soil and water resources; Nonequilibrium thermodynamics



Elena Shevliakova

PRINCIPAL INVESTIGATOR, PRINCETON ENVIRONMENTAL INSTITUTE; SENIOR CLIMATE MODELER, GEOPHYSICAL FLUID DYNAMICS LABORATORY

Modeling biosphere-atmosphere interactions and applications of such models to the issues of global environmental change.



Judy Yang

POSTDOCTORAL RESEARCH ASSOCIATE, MECHANICAL AND AEROSPACE ENGINEERING

I am an environmental scientist, seeking to understand our complex nature environment through simplified laboratory experiments and theoretical analysis. Currently, I am designing experiments to understand how clay minerals in soils affect the decomposition of soil organic matter and the production of green house gases.



Xinning Zhang

PRINCIPAL INVESTIGATOR; ASSISTANT PROFESSOR OF GEOSCIENCES AND THE PRINCETON ENVIRONMENTAL INSTITUTE

Xinning Zhang's research focuses on microbial physiology and ecology, biogeochemical cycling, co-evolution of life and the geochemical environment, cellular metabolism and stable isotope records, molecular to global scale, trace elements and microbial metabolism, symbiosis.

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