THE SALATA INSTITUTE
FOR CLIMATE AND SUSTAINABILITY
at Harvard University

Reducing Global Methane Emissions
Research Cluster

HARVARD UNIVERSITY
DAVID ROCKEFELLER CENTER
FOR LATIN AMERICAN STUDIES
BRAZIL OFFICE

Reducing Methane Emissions: Frontiers in Science, Policy, and International Cooperation

Workshop hosted by the Harvard Initiative on Reducing Global Methane Emissions
A research cluster of the Salata Institute for Climate and Sustainability at Harvard University

Co-hosted by Harvard University's
David Rockefeller Center for Latin American Studies – Brazil Office

Wednesday, December 3, 2025; 8:30 am – 1:30 pm BRT
Insper, Vila Olímpia, São Paulo

Purpose and motivation

Methane-emissions abatement can, in the near term, significantly reduce the magnitude of climate change and its impacts – giving the world time to "bend the curve" on CO_2 emissions, conduct research on carbon removal, and, more generally, to implement longer-term strategies to mitigate and adapt to climate change. Delegates to COP-28 and COP-29 focused closely on methane, and a number of important initiatives arose from those discussions. We expect the same to be true of COP-30 in Belém. This workshop will provide an opportunity to reflect on progress toward international cooperation to reduce methane emissions, examine the scientific frontier of detection and attribution of emissions through the convergence of bottom-up and satellite methods, and apply all of these in reviewing recent progress in Brazil and South America.

Registration is required; please register here: https://cvent.me/dME8kD

More on the Harvard Methane Initiative: https://salatainstitute.harvard.edu/projects/methane/

Biographies of workshop speakers are on the last page of this document.

Agenda

Wednesday, December 3, 2025

8:30 – 9:00	Registration; coffee and refreshments
9:00 – 9:20	Welcome; overview of the Harvard Methane Initiative Robert Stavins, Harvard University
9:20 – 9:40	Using satellites to support detection, quantification, and attribution of emissions Daniel Jacob, Harvard University
9:40 – 10:00	Integrating bottom-up and satellite methods to quantify emissions in Brazil and South America Sarah Hancock, Harvard University
10:00 – 10:30	Open discussion
10:30 – 10:50	Break; coffee and refreshments
10:50 – 12:15	Roundtable: Responses to session on emissions detection; overview of methane policy in Brazil; methane developments at COP-30; open discussion Robert Stavins, Moderator Danilo Perecin, Secretariat for Environment, Infrastructure and Logistics; São Paulo State Government Alessandro Sanchez Pereira, Instituto17 Luciana Rizzo, University of São Paulo Natascha Trennepohl, Trennepohl Law Firm
12:15 – 12:30	Summary and conclusions
12:30 – 1:30	Lunch, discussion, networking

Speakers' Biographies

Sarah Hancock is an advanced doctoral student in Environmental Science and Engineering at Harvard University, advised by Professor Daniel Jacob. Her research focuses on satellite-based quantification of methane emissions, using TROPOMI and GOSAT data in an inverse modeling framework to improve emission inventories, particularly in South America. Her research bridges the gap between top-down and bottom-up emission estimates to support more effective climate policy. Hancock is a U.S. National Science Foundation Graduate Research Fellow. See reference to a recently-published paper on the first page of this document, with Hancock as lead author, on measurement of methane emissions in South America.

Background reading: "Satellite quantification of methane emissions from South American countries." Harvard Initiative on Reducing Global Methane Emissions. Research Brief 11, summarizing paper by *Sarah E. Hancock*, *Daniel J. Jacob*, et al. November 2025. Download here.

Daniel Jacob is the Vasco McCoy Family Professor of Atmospheric Chemistry and Environmental Engineering in the Harvard John A. Paulson School of Engineering and Applied Sciences. His research covers a wide range of topics in atmospheric chemistry, from air quality to climate change. He has served on IPCC panels as lead author and review editor. He has a long association with the NASA Earth Science Division as mission scientist for aircraft campaigns and science team member for Earth-observing satellites. Jacob is an expert on atmospheric methane, its measurement from satellites, and the inference of emissions using inverse methods. He is the most-cited environmental scientist in the world according to research.com and the top-ranked atmospheric chemist in the world according to ScholarGPS. He has trained over 100 Ph.D. students and postdocs over the course of his career.

Danilo Perecin is the Energy Director at the São Paulo State Secretariat for Environment, Infrastructure and Logistics (SEMIL), where he works on state-level energy strategy and initiatives to accelerate low-carbon development. He is also a career analyst at the Brazilian Energy Research Office (EPE), the federal institution that supports the Ministry of Mines and Energy in long-term energy analysis and policymaking. He holds an MSc and a DSc in Energy Analysis and Planning from the University of São Paulo (USP), including a one-year visiting period at the Centre for Environmental Policy at Imperial College London, and he is a chemical engineer from the State University of Campinas (Unicamp), visiting at the University of Strathclyde in the United Kingdom. His work focuses on policy design, incentives, and market-based instruments for decarbonization and the energy transition, particularly in sustainable fuels, the transport sector, and electrification.

Luciana Varanda Rizzo is a Professor in the Atmospheric Physics Laboratory at the University of São Paulo. She investigates physical and chemical processes that influence atmospheric constituents like aerosols, ozone, and greenhouse gases. In natural environments like Amazonia, she investigates biosphere-atmosphere interactions and the impacts of anthropogenic air pollutant emissions, deforestation and climate change. In urban areas like Sao Paulo, she works with air quality characterization and associations with meteorological conditions. She has experience with field measurements, multivariate data analysis and modelling.

Alessandro Sanchez Pereira has extensive expertise in international cooperation projects, particularly those targeting developing countries, and has served as an independent consultant for UN agencies. As a member of the IPCC's Working Group III, he contributed as a lead author to Chapter 5 of the Sixth Assessment Report (AR6). Currently, he is the Executive Director of Instituto 17, a nonprofit organization founded in 2018. Instituto 17 is dedicated to promoting sustainable development goals (SDGs) through innovative strategies and initiatives. Alessandro's background includes work in climate change policy and diplomacy, focusing on sustainable energy, zero-emission mobility, nature-based solutions for climate adaptation, and carbon markets. He is also a member of the UN Council of Engineers for the Energy Transition (CEET).

Robert Stavins is the A. J. Meyer Professor of Energy and Economic Development at Harvard Kennedy School, and Director of the Harvard Initiative on Reducing Global Methane Emissions. His research has examined diverse areas of environmental economics and policy, and has appeared in more than a hundred articles in academic journals and popular periodicals, plus a dozen books. He is Director, Harvard Environmental Economics Program; and Director, Harvard Project on Climate Agreements. He is a University Fellow, Resources for the Future; Research Associate, National Bureau of Economic Research; elected Fellow, Association of Environmental and Resource Economics; Member, Board of Directors, Resources for the Future; and Editor, Journal of Wine Economics. He is also Andrew Dickson White Professor-at-Large at Cornell University. He has served as a Lead Author and Coordinating Lead Author for several IPCCC reports.

Natascha Trennepohl is a partner at Trennepohl Advogados in São Paulo, bringing 20 years of experience across legal practice, academia, and policy development. In 2025, she was as a Visiting Scholar at the University of Cambridge (UK). She holds a Ph.D. in Law from Humboldt-Universität zu Berlin (Germany) and an LL.M. from the Federal University of Santa Catarina (Brazil). She works in environmental compliance, international law, and carbon markets, and teaches at Insper, FGV Agro, and IBDA. Natascha participates in governmental working groups on carbon market regulation (MAPA and MDIC) and is a member of the IUCN World Commission on Environmental Law. She also serves as an Associate Editor of the *Carbon and Climate Law Review* and has authored books and articles on environmental law, carbon markets, climate governance, and sustainability.