



# A CONFERENCE ON CLIMATE CHANGE

### **TUESDAY, MAY 7 - WEDNESDAY, MAY 8, 2019**

Organized by:

**Bruno de Medeiros**, Postdoctoral Fellow, Climate Change Solutions Fund **Bruno Carvalho**, Professor of Romance Languages and Literatures and African and African American Studies; Affiliated Professor in Urban Planning and Design at the GSD; Faculty Associate, Harvard University Center for the Environment and Weatherhead Center for International Affairs

**Brian D. Farrell**, Lehner Professor for the Study of Latin America in the Department of Organismic and Evolutionary Biology; Director, David Rockefeller Center for Latin American Studies

# **CGIS SOUTH, TSAI AUDITORIUM**

1730 CAMBRIDGE STREET CAMBRIDGE, MA 02138



Presented with support from the Brazil Studies Program, the Harvard University Center for the Environment, the Office of the Vice Provost for Research, the Department of Organismic and Evolutionary Biology, the Weatherhead Center for International Affairs, and the Department of Romance Languages & Literatures





# TUESDAY, MAY 7 | CGIS SOUTH, TSAI AUDITORIUM

### 8:30 am COFFEE & REGISTRATION

**9:30 am** Opening remarks by **Edward O. Wilson**, University Professor Emeritus, Museum of Comparative Zoology, Harvard University

# SESSION 1: FORECASTING LAND USE, CLIMATE, AND THEIR INTERACTIONS

**Tasso Azevedo**, General Coordinator, MapBiomas Initiative **Marina Hirota**, Assistant Professor, Department of Physics, Federal University of Santa Catarina

**Paulo Artaxo**, Professor of Environmental Physics, University of São Paulo **Marcia Castro**, Andelot Professor of Demography; Chair, Department of Global Health and Population, Harvard T.H. Chan School of Public Health

Moderator: **Paul Moorcroft**, Professor of Organismic and Evolutionary Biology, Harvard University

### 12:00 pm LUNCH BREAK

**1:30 pm** Remarks by **Davi Kopenawa**, shaman and advocate for the Yanomami people and the Amazon rainforest and author of The Falling Sky

#### SESSION 2: IMAGINING AND CREATING FUTURES

Luis Gilberto Murillo, former Minister of Environment, Colombia Eliane Brum, Journalist, writer

**Augusto Zampini-Davies**, Theologian, Dicastery for Promoting Integral Human Development

Moderator: **Andrew Revkin**, Strategic adviser for Environmental and Science journalism, National Geographic Society



# **WEDNESDAY, MAY 8 | CGIS SOUTH, TSAI AUDITORIUM**

#### 9:00 am COFFEE & REGISTRATION

**10:00 am** Opening remarks by **Carlos Nobre**, Senior Researcher, Institute for Advanced Studies, University of São Paulo; Senior Fellow, World Resources Institute

### SESSION 3: TOWARDS A STANDING-FOREST, FLOWING-RIVERS BIOECONOMY

**Brigitte Baptiste**, Director, Alexander von Humboldt Biological Resources Research Institute

**Beto Veríssimo**, Senior Researcher, Imazon

**Daniela Baccas**, Head of the Environmental Department, Brazilian Development Bank

Moderator: Robin Sears, Bullard Fellow, Harvard Forest





Climate change is one of the most important long-term threats for the future of our societies. Solutions are complex, depending not only on engineering and policy, but also on imagination and public will towards alternative forms of inhabiting the planet. Latin America, home to the largest rainforest areas in the world, is both at risk of environmental catastrophe and a key region in which models for thriving bioeconomies based on rainforests can evolve. This symposium will bring together experts and leaders from the US and Latin America to discuss the past, present and future of Amazonia. We will discuss deforestation trends and their interactions with climate and health; how to move beyond our lack of imagination for viable futures, including the importance and role of indigenous peoples of the Amazon; and ongoing and emerging initiatives towards riverflowing, rainforest-based economies across Amazonia.

#### **ABOUT THE SPEAKERS**

**PAULO ARTAXO** is professor of Environmental Physics at the University ofSão Paulo, Brazil. Has worked for about 30 years in Amazonia, unveiling the inner working of the complex ecosystem. He focus on atmospheric chemistry issues, specially the role of aerosols on climate, impact son the radiation balance, cloud-aerosol interactions and effects on the Amazonian ecosystem.

**TASSO AZEVEDO** is a consultant and social entrepreneur in the field of forests, sustainability and climate change. He is a member of the Climate Observatory where he coordinates the SEEG Network a System to Estimate GHG Emissions (http://seeg.global) as well as MAPBIOMAS a platform to monitor land cover and land use changes of entire countries through a multi-institutional collaboration. He is a forestry engineer graduate at ESALQ/USP and was founder and director of the Institute of Forest and Agriculture Management and Certification (IMAFLORA), the largest FSC and Sustainable Agriculture certifier in Latin America. Tasso was Director of the National Forest Program at the Ministry of Environment and general-secretary of the National Forest Commission. He was the first Chief & Director General of the Brazilian Forest Service and one of the key people involved in the design and implementation of the National Plan to Combat Deforestation that result in 75% decline in deforestation and the Amazon Fund (world 's largest forest protection fund). Tasso serves as board member on several organizations including the Business Forum on Climate Change, Rainforest Alliance, NEPCon, Imazon, Imaflora and IEMA and teaches at pos-graduate programs on sustainability related issues, Hi is columnist at O Globo newspaper and Epoca Negocios magazine. He is Brazil Lab Affiliated Scholar at Princenton University. In 2013 he received the Bright Award (Stanford University's Global Sustainability Prize), was a TED Global Lecturer in 2014 and a climate and forest consultant for the opening ceremony of the Rio 2016 Olympic Games.

**DANIELA BACCAS** is employee of the Brazilian Development Bank – BNDES, and has been working with environmental subjects at since 2009, encompassing the Amazon Fund, green finance, vegetal restoration, climate change and socioenvironmental corporate responsibility. Legal counsel (Universidade de São Paulo – USP), specialist in Environmental Law (PUC-RJ), she is currently Head of the Environmental and Amazon Fund Department at the BNDES.

**BRIGITTE BAPTISTE** is biologist from the Pontificia Universidad Javeriana, Bogotá and M.Sc. in Latin American Studies from the University of Florida. She worked as a researcher at the Unit for Rural Studies from the Faculty of Economics of the Pontificia Universidad Javeriana, where she began her teaching career at the Program of Rural Development and Environmental Management. She participated in many national conservation projects and worked in diverse disciplines, such as environmental planning, cultural landscapes, process analysis of the transformation of the territory, ecological and economic history of productive systems, multicultural use and management of biodiversity analysis, biocomplexity, biospeleology and biopolitics. Since January 2011 Brigitte is the General Director of the Instituto de Investigación de Recursos Biológicos Alexander von Humboldt. She has been part of the expert panel in IPBES and has been part of the national representation to the Inter-American Institute for Global Change Research.

**ELIANE BRUM** is a Brazilian writer, journalist, and documentary filmmaker. She has received more than forty awards and honors at home and abroad, including the Vladimir Herzog, Inter American Press Association, and King of Spain prizes, making her Brazil's most award-winning journalist. In 2008, she received the United Nations Special Press Trophy "for everything she has done and is doing in defense of justice and democracy." She spent eleven years as a reporter for the newspaper *Zero Hora*, in Porto Alegre, and ten years for the magazine *Época*, in São Paulo. Since 2010, she has worked as an independent journalist and has developed long-term projects with the peoples of the Amazon forest and the "new middle class" on the outskirts of São Paulo. She has published five nonfiction books: *Coluna Prestes, o avesso da lenda* (1994, Azorean Prize for new author), *A Vida que Ninguém Vê* (2007, Jabuti Prize), *O Olho da Rua* (2008), *A Menina Quebrada* (2013, Azorea Prize for best book), and *Meus desacontecimentos* (2014). In 2011, she published the novel *Uma Duas* (short-listed for the São Paulo Literature and Portugal Telecom Literature prizes), which was translated into English as *One Two* (Amazon Crossing, 2014). She has written and directed four documentaries: *Uma história severina* (2005, Imagens Livres, winner of seventeen prizes), *Gretchen Filme Estrada* (2010, Mixer), *Laerte-se* (2017, Netflix), and *Eu+1—uma jornada de saúde mental na Amazônia* (2017, Projeto Refugiados de Belo Monte). She currently writes regular columns for *El País*-Spain, *El País*-Brazil, and *El País*-America. She is also a contributor to *The Guardian* and other European newspapers. She lives between Altamira, in the Amazon Forest, and São Paulo.

MARCIA CASTRO is Andelot Professor of Demography, and chair of the Department of Global Health and Population at the Harvard T.H. Chan School of Public Health, associate faculty of the Harvard University Center for the Environment, and faculty member of the Harvard Center for Population and Development Studies. Her research focuses on the development and use of multidisciplinary approaches, combining data from different sources, to identify the determinants of malaria transmission in different ecological settings, and to provide evidence for the improvement of current control policies, and the development of new ones. She has more than 20 years of research experience in the Brazilian Amazon, and is assessing the role of extreme weather events on malaria. She has projects on dengue, Zika virus, chikungunya, tuberculosis, congenital syphilis, and infant and child mortality and development. Professor Castro received the 2018 Roger L. Nichols Award for Excellence in Teaching. She earned her doctoral degree in Demography from Princeton University.

**MARINA HIROTA** is currently an assistant professor of Meteorology at the Federal University of Santa Catarina. She has built up her academic career through a very interdisciplinary background with a Bachelor degree in Applied Mathematics, a MSc. in Computer Engineering, a PhD. in Meteorology and post-doc studies with theoretical ecologists. Such variety defined her current research field in Earth System Sciences, more specifically, trying to understand the processes and interactions involved in biome shifts within tropical zones of the planet, using dynamical system concepts such as resilience, tipping points and hysteresis. Together with collaborators from Brazil and the Netherlands she is currently searching for multiscale and synergistic mechanisms within the atmosphere and the biosphere to deepening both quantitatively and qualitatively the scientific basis of resilience in South American tropical ecosystems.

**DAVI KOPENAWA YANOMAMI** is a shaman and spokesman for the Yanomami people. For 25 years he tirelessly led the long running national and international campaign to secure Yanomami land rights for which he gained recognition around the world and in his native country, Brazil. His courage, combative spirit and tenacity are reflected in his Yanomami nickname 'Kopenawa' or hornet.

Davi was born around 1956 in Marakana, a Yanomami community on the Upper Toototobi river in the Brazilian state of Amazonas. At the end of the 1950s and during the 1960s, first contacts with the SPI (Brazilian government Indian Protection

Service), the Brazilian Border Commission (CBDL) and later North American missionaries from the New Tribes Mission brought fatal diseases to the isolated Yanomami of this remote region. Davi's community was decimated and many, including his mother, died in the epidemics. In 1983, Davi began to fight for the recognition of the vast area inhabited by the Yanomami in the Brazilian states of Roraima and Amazonas. In February 1989, Davi won a UN Global 500 award and the Right Livelihood, or 'Alternative Nobel Prize', in recognition of his battle to preserve the Yanomami's rainforest home and to secure a future for his people.

The Yanomami area was officially recognised by the Brazilian government in 1992. Covering over 9.6 million hectares, it is one of the planet's most important reservoirs of genetic diversity as well as home to over 25,000 Yanomami. Considered to be 'recently contacted people', the Yanomami are the largest Indigenous people on the planet that maintain their traditional way of life. The combined area inhabited by the Yanomami in Brazil and Venezuela make it the largest indigenous territory in tropical rainforest in the world. From the 1980s he worked closely with CCPY (the Pro Yanomami Commission) the Brazilian NGO which played a fundamental role in the successful campaign for Yanomami land rights. Davi's support was instrumental to CCPY's projects, such as its innovative bilingual education project, which aims to help the Yanomami defend their rights themselves by providing broad based training to Yanomami teachers in literacy, numeracy and other skills. He also helped CCPY set up the medical NGO Urihi, which trained Yanomami health workers and successfully reduced rates of malaria and other infectious diseases in the communities. Davi works closely now with ISA (Instituto Socioambiental or Socio-Environmental Institute), Brazil's leading NGO working on social and environmental issues. In 2004, together with other Yanomami regional leaders, Davi founded Hutukara Yanomami Association (HAY), named after the ancient sky from which the earth was born, to widen and strengthen Yanomami's advocacy for their own rights.

In 2010, "The Falling Sky: Words of a Yanomami Shaman" was published. In first person account it enunciates Davi's life story, the shamanic philosophy and the historical process of Yanomami dealing with the outsiders in their territory. Since 2015, Hutukara and ISA are the main responsible for promoting meetings with the 7 indigenous association in the Yanomami territory, traditional leaders from different regions, representative of public organizations and partners to elaborate guidances to work forward the main challenges they face. As a result, the Plan for Territorial and Environmental Management and the Consulting Protocol of the Yanomami Indigenous Land (PGTA-TIY) will be published in 2019.

**PAUL MOORCROFT** is an ecologist who investigates the impacts of climate and land-use change on terrestrial plant communities and ecosystems, and how climate and land-use driven changes in the properties of terrestrial ecosystems can feedback and affect regional and global climate. He examines these issues in numerous regions around the globe, including: the tropical forests of the Amazon, the temperate forests of the eastern United States, and high-latitude boreal and tundra ecosystems. Paul did his undergraduate degree at Cambridge University and his doctoral research in the Department of Ecology and Evolutionary Biology at Princeton University. After spending three years as postdoctoral researcher at the Princeton Environmental Institute, he joined the Harvard faculty in 2001.

**LUIS GILBERTO MURILLO-URRUTIA** is a Former Minister of Environment and Sustainable Development of Colombia and a very well-known national political figure in that country. He is a policy expert with nearly 30 years of experience in public policy design, implementation and advocacy; particularly, in the areas of sustainable regional development, social inclusion and peace building. Mr. Murillo has led numerous initiatives, both domestically and internationally. A decade ago, he played a key role as leading voice in advocating in Washington, DC for a U.S. policy towards Colombia that supports peace and social development and was inclusive of ethnic minorities both Afro-Colombians and Indigenous people. He served as Senior Adviser for International Policy at Lutheran World Relief, Vice-President for Programs and Strategy at Phelps Stokes Fund, and external consultant for several multilateral organizations. When Mr. Murillo returned to Colombia, he served in key positions in the public sector. He was elected Governor of the predominantly Afro-Colombian State of Choco, and in President Santos' administration he served as senior Presidential Advisor and Director for the Pacific Development Plan and Minister of Environment and Sustainable Development. Mr. Murillo currently is a Research Fellow at American University's Center for Latin America and Latino Studies (CLALS) and Adviser to the Environmental Solutions Initiate (ESI) at MIT.

**CARLOS A. NOBRE** is an Earth System scientist from Brazil. He graduated in Electronics Engineering from the Aeronautics Institute of Technology (ITA), Brazil, in 1974 and obtained a PhD in Meteorology from the Massachusetts Institute of Technology (MIT), USA, in 1983. He dedicated his scientific carrier mostly to Amazonian and climate science at Brazil's National Institutes of Amazonian Research (INPA) and Space Research (INPE). He was Program Scientist of the Large-Scale Biosphere-Atmosphere Experiment in Amazonia (LBA). He is a former National Secretary of R&D of Ministry of Science and Technology of Brazil and former President of the Federal Agency for Post-Graduate Education (CAPES). He is foreign member of the US National Academy of Sciences, member of the Brazilian Academy of Science and of the World Academy of Science. He was awarded the Volvo Environmental Prize in 2016, the Von Humboldt Medal of EGU in 2010 and was one of the authors of IPCC AR4 awarded with the Nobel Peace Prize in 2007. He is presently a senior researcher with the Institute for Advanced Studies, University of São Paulo and the creator of the Amazon Third Way-Amazonia 4.0 Initiative.

**ANDREW REVKIN** is one of America's most honored writers on environmental sustainability and the role of communication innovation in fostering progress on a finite, fast-forward, noisy planet. In 2018, he joined the staff of the National Geographic Society as Strategic Adviser for Science and Environmental Journalism to help expand support and grants for global sustainability-focused journalism. This move follows three decades of ground-breaking journalism, including 14 years at The New York Times as a reporter and 6 after his Dot Earth blog moved to the Opinion section in 2010. He began writing on climate change in the 1980s and never stopped. Revkin has won most of the top awards in science journalism. From 2010 to 2016, he was also senior fellow for environmental understanding at Pace University, where he developed courses in online communication and filmmaking focused on sustainability. He has written acclaimed books on humanity's weather and climate learning journey, global warming, the changing Arctic and the assault on the Amazon rain forest. That book, a biography of slain Amazon defender Chico Mendes, won several awards and was the basis of the 1994 HBO film "The Burning Season." In spare moments, Revkin is a performing songwriter.

**ROBIN SEARS** is an interdisciplinary scientist with disciplinary roots in forest ecology and anthropology. In her research and teaching, Dr. Sears combines conceptual and research approaches from the natural and social sciences -- specifically forestry, forest ecology and political ecology -- to examine the relationships between people and forests. Her work at the intersection of society and nature is carried out with the goal of empowering forest stewards, forest users and policy-makers alike with data

and information to make decisions that lead to improved forest management and more forest cover. Dr. Sears is a Charles Bullard Fellow at the Harvard Forest, holds consultancies with CIFOR, and serves as adjunct professor at Hampshire College. She served as academic director of The School for Field Studies, where she developed a deep appreciation for field-based education. Dr. Sears has worked around the world and has ongoing projects in the Peruvian Amazon and highlands, and in Bhutan, with a focus on assessing the social, economic and cultural values of forests.

**BETO VERÍSSIMO** is a co-founder of Imazon, a think-and-do tank center based in the Brazilian Amazon founded in 1990. He holds a master degree in Ecology from The Pennsylvania State University (USA) and graduate degree in Agriculture Engineer from the Federal Rural University of the Brazilian Amazon. He has published more than 170 scientific and technical articles and 20 books on conservation and natural resources management. His work has helped created about 25 million hectares of Conservation Units in the Amazon and support forest management for more than 7 million hectares. In 2010 Veríssimo received the Skoll Foundation Global Award for Social Entrepreneurship. In 2014 he was awarded one of the 100 most influential personalities in Brazil for his work in the area of social entrepreneurship. In 2015 he received the prize of the newspaper o Globo for his leadership on conservation in the Amazon. Currently he also Director of Amazon Center for Entrepreneurship and affiliated scholar at Princeton University.

**EDWARD O. WILSON** is recognized as one of the creators of two scientific disciplines (island biogeography and sociobiology), three unifying concepts for science and the humanities jointly (biophilia, biodiversity studies, and consilience), and one major technological advance in the study of global biodiversity (the Encyclopedia of Life). Among more than one hundred awards he has received worldwide are the U. S. National Medal of Science, the Crafoord Prize (equivalent of the Nobel, for ecology) of the Royal Swedish Academy of Sciences, the International Prize of Biology of Japan; and in letters, two Pulitzer Prizes in nonfiction, the Nonino and Serono Prizes of Italy, and the COSMOS Prize of Japan. He is currently Honorary Curator in Entomology and University Research Professor Emeritus, Harvard University.

**FR. AUGUSTO ZAMPINI-DAVIES** is an Argentine RC priest currently working as Director of Development and Faith for the Dicastery for Promoting Integral Human Development of the Holy See (Vatican). He has been appointed as one of the eight experts/advisors to the upcoming Synod of the Amazon in October 2019. He is an Honorary Fellow at Durham University (UK), Roehampton University (London, UK) and Stellenbosch University (South Africa), and has been lecturing theology, Christian ethics and human rights since 2004 at different universities in Argentina and the UK. Trained as a lawyer and moral theologian in Argentina, he holds a Masters in Wellbeing and Human Development (University of Bath, 2009-10), a PhD in Theology (Roehampton University, London, 2010-2014), and has been a post-doctoral research fellow at Margaret Beaufort Institute, University of Cambridge (2013-2014). His area of research is social ethics, with a focus on economics and environmental ethics. He has also served as an assistant priest and chaplain in different parishes and institutions in Argentina and England, many of them located in poorest neighbourhoods.

#### **ABOUT THE ORGANIZERS**

**BRUNO CARVALHO** works on relationships between cultural history and urbanization, specializing on Brazil and its global contexts from the eighteenth century until the present. He has published widely on topics related to cinema, literature, urbanism, architecture, and politics. His research and teaching interests range from the interplays between urban diversity and segregation to the environmental dimensions of urbanization, with increasing focus on Amazonia and the implications of climate change. His *Porous City: A Cultural History of Rio de Janeiro* (2013) won the Brazilian Studies Association award for best book in Brazilian Studies in all disciplines (2014). An expanded edition is forthcoming in Brazil. Carvalho is co-editor of *O Livro de Tiradentes: Transmissão atlântica de ideias políticas no século XVIII; Occupy All Streets: Olympic Urbanism and Contested Futures in Rio de Janeiro* (2016), *The Eighteenth Century* (2017), and *Essays on Hilda Hilst: Between Brazil and World Literature* (2018). He is also co-editor of the book series *Lateral Exchanges*, on historical and contemporary issues in design and the built environment. Carvalho is working on *After the Future: Urban Visions in Brazil and the Atlantic World (from 1755 onward)*. A Rio de Janeiro native, he received his Ph.D. at Harvard (2009) and taught at Princeton between 2009-2018. At Harvard, he is Professor of Romance Languages and Literatures and African and African American Studies, and faculty affiliate in the Department of Urban Planning and Design at the Graduate School of Design, and in the Harvard University Center for the Environment.

**BRIAN DORSEY FARRELL** is the Monique and Philip Lehner Professor for the Study of Latin America in the Department of Organismic and Evolutionary Biology, where he is also Curator in Entomology at the Museum of Comparative Zoology. Farrell is Director of the David Rockefeller Center for Latin American Studies and Faculty Dean of Leverett House at Harvard University. His research centers on the evolution of insect-plant interactions, and he writes broadly on topics ranging from coevolution to the biology of culture and consciousness. Farrell holds a Ph.D. from the University of Maryland. His laboratory applies next generation genomic sequencing to insects that attack the major groups of seed plants. A Fulbright Scholar, and author of many dozens of articles and book chapters, Farrell has conceptualized and demonstrated the common evolutionary dynamics of tiny consumers of all kinds, from plant-feeding insects to human parasites and viruses, in the tropics and the temperate zone.

**BRUNO DE MEDEIROS** is Postdoctoral Fellow at the Museum of Comparative Zoology of Harvard University. He obtained his PhD degree in Organismic & Evolutionary Biology from Harvard University studying coevolution of palms and their associated insects throughout South America, and MS and BA degrees in Biology from the University of São Paulo. Dr. Medeiros is currently using genomic tools to understand the effect of past climate change on population size and connectivity of mosquitoes in the Atlantic Rainforest in Brazil. He is also designing the Amazon Creative Lab of Genomics under the Amazonia 4.0 initiative.





#### **ABOUT THE SPONSORS**

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Established in 2006, the **DRCLAS BRAZIL STUDIES PROGRAM** in Cambridge and Brazil Office in São Paulo expand research, teaching and learning opportunities for Harvard faculty and students from all Schools across the University. We provide guidance and support to professors and students who have never stepped foot in Brazil as well as to those who have strong roots in the country but can benefit from support and local networks to accelerate and deepen their work. Our initiatives and approach are collaborative in nature, seeking to connect leading thinkers at Harvard with their counterparts in Brazil. <a href="https://drclas.harvard.edu/brazil-studies">https://drclas.harvard.edu/brazil-studies</a>

The **HARVARD UNIVERSITY CENTER FOR THE ENVIRONMENT (HUCE)** encourages research and education about the environment and its many interactions with human society. The most pressing problems facing our natural environment are complex, often requiring collaborative investigation. By connecting scholars and practitioners from different disciplines, the Center for the Environment seeks to raise the quality of environmental research at Harvard and beyond, while fostering linkages and partnerships amongst different parts of the University as well as between the University and the outside world. <a href="https://environment.harvard.edu/">https://environment.harvard.edu/</a>

The **OFFICE OF THE VICE PROVOST FOR RESEARCH (VPR)** has broad responsibility and oversight for the review, development, and implementation of policies related to the organization and execution of academic research, especially in the sciences, and to aspects of the University's relations with industry. The VPR works with the provost, the deans, the executive vice president, and others to identify and ease practical impediments to interdisciplinary research, as Harvard increasingly pursues academic ventures involving multiple schools, departments, and affiliated institutions whose policies and practices may vary in ways that can constrain opportunities for collaborative work.

The OVPR administers the **HARVARD UNIVERSITY CLIMATE CHANGE SOLUTIONS FUND**, established by President Emerita Drew Gilpin Faust in 2014, which supports research and policy initiatives intended to reduce the risks of climate change, hasten the transition from fossil fuel-based energy systems to those that rely on renewable energy sources, to develop methods for diminishing the impact of existing fossil fuel-based energy systems on the climate, to understand and prepare for the impacts of climate change, and to propel scientific, technological, legal, behavioral, policy and artistic innovations needed to accelerate progress toward cleaner energy, improved human health, and a greener world. <a href="https://vpr.harvard.edu/">https://vpr.harvard.edu/</a>

The **HARVARD UNIVERSITY HERBARIA** include six collections and more than five million specimens of algae, bryophytes, fungi, and vascular plants. Together they form one of the largest university herbarium collections in the world, and the third largest herbarium in the United States. With their state-of-the art research laboratories and world class libraries, the Herbaria have been a centerpiece of biodiversity science since the early 1800s. https://huh.harvard.edu/

The mission of the **WEATHERHEAD CENTER FOR INTERNATIONAL AFFAIRS** is to facilitate the production of pathbreaking social science research on international, comparative, transnational, and global issues by faculty and students at Harvard.

Our goals are to advance scholarly knowledge; address important international issues, as well as domestic social, economic, and political problems in comparative perspective; foster interdisciplinary dialogues; and disseminate knowledge in academia and beyond. This is accomplished through research programs, initiatives, and clusters; through conferences, seminars, and workshops; and by providing competitive fellowships to global scholars and research funding to Harvard faculty and students.

We support a diverse and rich community of scholars whose research is grounded in a variety of methods and approaches and whose work spans the globe. The Center is rooted in the Faculty of Arts and Sciences but incorporates colleagues from across the Schools of Harvard University. We also host visiting scholars, postdoctoral fellows, and practitioners who bring the world to Harvard and benefit from interacting with our faculty and student associates. <a href="https://wcfia.harvard.edu">https://wcfia.harvard.edu</a>

The **DEPARTMENT OF ROMANCE LANGUAGES AND LITERATURES** at Harvard, deeply committed to interdisciplinary studies, encourages students to situate literature in the broad context of cultural productions, ranging from the canonical to alternative modes. Our programs enable students to examine a wide range of periods, genres, and approaches, and to tailor plans of study according to their specific interests. Combining a broad knowledge of each literature through diverse course offerings and specialized research working one-on-one with faculty, our programs nurture students' individual interests. A strong sense of community among students and faculty, particularly within specialties, creates an experience as unique as each chosen dissertation topic. Our students further enjoy the benefits of interaction with History and Literature, Studies of Women, Gender, and Sexuality, Comparative Literature, Visual and Environmental Studies, African-American Studies, and other programs and departments at Harvard. <a href="https://rll.fas.harvard.edu/">https://rll.fas.harvard.edu/</a>





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