

2020 Climate Crisis Teach-In

October 26 -October 30

Abstracts are presented in the order they are presented

Monday, October 26, 2020

11:30 – 11:40. Followed by Q& A

Climate Crisis: Truth in 10

A flash introduction to the climate crisis and its importance to you.

Dr. Kathleen Grant

Department of Educational Counseling and Leadership

11:45-12:15

How Greenhouse Gases Work

An exposition of the science behind the greenhouse effect, why it has been increasing, and the consequences of that increase.

Dr. William Schreiber

Department of Chemistry

1:15-1:55 Followed by Discussion

Basics of Ocean Acidification

Ocean Acidification is a product of higher carbon dioxide levels in the atmosphere and has profound consequences for aquatic life, fisheries and aquaculture. This lecture will review ocean acidification from the basic chemistry to impacts on ocean life and fisheries. This lecture is part of the class Climate Science for 21st Century Citizens and appropriate for non-science students and the community.

Dr. Catherine Duckett

School of Science

2:45-3:05 Followed by Discussion

Short-Termism is a Problem for the Planet

Short-termism refers to an excessive focus on short-term results at the expense of long-term interests. Short-term performance pressures on investors can result in an excessive focus on their parts on quarterly earnings, with less attention paid to strategy, fundamentals and long-term value creation. This focus on short term profits leads to an extractive economy, focusing on taking what is needed rather than ensuring the necessary materials for future generations. This extraction caused by a focus on short term returns is leading to climate change which may be irreversible.

Dr. Scott Jeffrey

Department of Management and Decision Sciences

Monday, October 26, 2020

3:15-3:45 Followed by Questions

Sea Level Rise

The elevation of the sea relative to land has varied greatly over the history of the Earth, from 330 feet higher than today during the Cretaceous Period 100 million years ago to 400 feet lower than present at the end of the last glacial maximum 22 thousand years ago. Present day sea level is rising at a rate of 3 mm/yr but is expected to accelerate over the next few decades. This presentation will review the processes on Earth responsible for sea level elevation changes and what the consequences will be for our coastal communities.

Dr. Thomas Herrington

Urban Coast Institute

Tuesday, October 27, 2020

10:30 – 11:15

Post-Covid Reset: Recommendations for Ocean-Climate Action and a Sustainable Blue Ocean Economy for New Jersey

The session will explore recommendations for positive changes that can be made to increase the vitality of New Jersey's Sustainable Blue Economy as a means of bouncing back from recession in the wake of the current global pandemic while addressing climate change and improving the health of the state's oceans and coasts. Examples of proposed federal legislation changes, successful programs from other U.S. states, and international success stories will be used to illustrate the viability of the recommendations. (Open to All)

Tony MacDonald, Director

Urban Coast Institute

Johanna Vanderhorst

UCI Student Research Assistant, Chemistry/Political Science Major

11:30 – 1:00

Faculty Research and Teaching in Humanities and Social Sciences

In this roundtable discussion, faculty will discuss how their teaching and research in fields of Humanities and Social Sciences interacts with and address environmental issues and climate crisis. Brief informal presentations from each of the participants will be followed by discussion and an opportunity for Q&A from the audience.

Dr. Mary Kate Azcu

Dr. Heide Estes

Department of English

Dr. Golam Mathbor

Department of History and Anthropology

Dr. Michael Phillips-Anderson

Department of Communication

Dr. Karen Schmelzkopf

Department of History and Anthropology

Tuesday, October 27, 2020

3:00 - 3:15 Followed by Q&A

An Algorithmic View of the Natural Environment in Video Games

This event will discuss how video games view the natural environment, from an algorithmic perspective. This event is appropriate for all students, faculty, and community members.

Professor Kate Gatto

Department of Software Engineering and Computer Science

3:30-4:00, Followed by Q&A

Economic Analysis of Hurricanes Related to Climate Change

Climate change has caused storms to be both more frequent and more powerful as they impact northeastern coastal communities. These storms are having and will have a severe economic impact on these communities that must be considered. Using recorded storm data, I was able to make an alpha build of a neural network to calculate the economic impact that future storms will have on the northeast.

Avery Jackson

Masters Candidate, Department of Computer Science and Software Engineering

6:00-6:30 Followed by Discussion

Wake Up to Climate Change: Harmful Algal Blooms and Other 'Nasties' in our Coastal Waters

This presentation will be part of the 2020 Monmouth University Climate Teach in, 'Wake up to climate change'. Harmful Algal Blooms (HABs) occur when phytoplankton accumulate and have a negative impact on aquatic ecosystems. Deoxygenation, toxin production, and fish kills are the most visible adverse effects worldwide, and each of these occurs in NJ as well. While HABs and other 'nasties' in our coastal waters come from various sources, climate change unfortunately seems to be making the problem worse. This talk will discuss how climate change is expected to impact coastal waters, focusing on HABs and microbial pollution research done by Monmouth University faculty and students in the Phytoplankton and Harmful Algal Bloom lab (PHABLab). Actions suggested or supported by our research results will be discussed as well.

Dr. Jason Adolf

Department of Biology and Urban Coast Institute

Wednesday, October 28, 2020

9:30-10:00

Food/Agriculture and Climate Resilience

This talk is appropriate for anyone -- students, faculty and staff, and community. Learn about the major sources of greenhouse gas emissions in the food system and large scale, impactful opportunities for drawing down emissions in agriculture production, dietary shifts, and reduction of food waste, and how communities are using collaborative, participatory governance structures called Food Policy Councils to transform their food systems. Keywords: climate resilience, food system resilience, food and ag, food sovereignty, food democracy, food policy councils.

Dr. Jeanine Cava

Department of Chemistry and Physics

10:15 - 11:15

An Interdisciplinary Approach to Teaching Climate Change in NJ Classrooms

Climate change is a critical global issue that needs immediate action by all parties and generations. The newly adopted 2020 New Jersey Student Learning Standards includes climate change across all content areas, as the most important knowledge and skills that each New Jersey student needs to explore and develop, in order to succeed in our rapidly changing world. An overview of the changes to the standards, why it was necessary, and what it means for teachers is presented by a science education professor and a social studies education professor. Teacher candidates in education programs demonstrate lesson and activity ideas that can be used to teach climate change to children.

Dr. Jiwon Kim, Dr. Michelle Schpakow

Department of Curriculum and Instruction

Student, History and Elementary Education

Mary McGee

Alexandria Marchesani

Brielle Sadowski

Students, Interdisciplinary Education

11:40-12:45 Followed by Q&A

Air Pollution 101: Understanding Air Pollutants and Climate Change

This lecture will discuss individual air pollutants that result as a product of the combustion of fossil fuels and the consequences of their emissions on our health and the environment. Not all air pollution is the same, and it is important to know the differences between pollutants to address misconceptions such as in the role of carbon monoxide versus carbon dioxide and ground level ozone versus stratospheric ozone. Individual fossil fuels (coal, oil, natural gas) burn differently, and the resultant pollutants can be harmful to human health, other organisms, become deposited in water and land and/or cause global warming.

Dr. Tiffany Medley

Department of Biology

Wednesday, October 28, 2020

1:15-2:15

Engaging with Millennials about Climate Change

Millennials comprise the first generation to coincide with the information technology Revolution over the past 35 years. As such they are key to mitigating global warming. This presentation is part of the Department of History and Anthropology's [Research and Teaching Pedagogy Seminar Series](#).

Dr. Stanton Green

Department of History and Anthropology

3:00 - 4:00

WORKSHOP: Exploring Climate Solutions with the Climate Interactive Web Tool

This is an active participation workshop where participants propose climate solutions such as energy efficiency, carbon pricing, fossil fuel taxes, reducing deforestation, and carbon dioxide removal. The facilitator, Dr. Duckett, then will test these approaches separately or as a package in the [En-ROADS Climate Solutions Simulator](#). Participants will see the modeled impact on global temperature and other factors. Discussion of relative merits of solutions and their potential co-benefits will happen after each simulation round. This workshop is appropriate for all audiences.

Dr. Catherine Duckett

School of Science

Thursday, October 29

2:45 - 3:45

Eco-Grief and How We can Develop an Ecological Wellness Plan

If you feel sad, worried, overwhelmed and even despair about climate change, you are not alone. Ecological grief, or eco-grief, is the psychological response to mourning the environmental destruction of our planet. This presentation will allow participants to explore feelings of grief and loss but also help participants with ways to develop an ecological care plan to help heal ourselves and the planet. This presentation is open to faculty, staff, students and the community. It is encouraged that participants take their laptops, tablets or phones outside, if possible, during the presentation

Dr. Megan Delaney

Department of Professional Counseling

Thursday, October 29, 2020

4:00-4:30 Followed by Q&A

Anthropocene Accountability Litigation Against the Fossil Fuel and Animal Agriculture Industries: Confronting Common Enemies to Promote a Just Transition

This article offers a new perspective in the quest for climate justice. Myriad accountability lawsuits in the U.S. have been filed against the fossil fuel and industrial animal agriculture industries in the past few years, but these efforts have proceeded without coordination between the environmental and animal law fields. There has been no scholarly inquiry that unites the efforts to seek relief from these “common enemies” for exacerbating the climate change crisis while profiting from their operations. The article first reviews the nature and scope of the climate change impacts from the fossil fuel and industrial animal agriculture industries and examines how federal regulatory gaps and subsidies enable and exacerbate the climate change impacts from these two industries. It then reviews legal theories in common law accountability litigation against the fossil fuel and industrial animal agriculture industries that seek to compel these industries to pay damages for the harms they are causing to public health and welfare, the environment, and animals. The article proposes that accountability litigation against the fossil fuel and industrial animal agriculture industries can facilitate a transition away from reliance on fossil fuels and factory farms to more sustainable alternatives. Positive outcomes from several related contexts including tobacco litigation, the phaseout of harmful substances in environmental regulation, and the COVID-19 crisis support the opportunity and urgent need for this “just transition.”

Dr. Randall Abate

Department of Political Science and Sociology

5:00-5:30

World On Fire: Collaborative Student Performance of Adapted Poetry on Climate Crisis*

This collaborative student performance of contemporary published poetry explores Climate Crisis from diverse perspectives. We engage performance as a means by which to educate and enact resistance to human destruction of both nonhuman and human life forms. Adaptation and direction by Deanna Shoemaker in collaboration with Sophia Parola, MU Alum 2018, featuring student members of CommWorks: Students Committed to Performance. This virtual performance is open to all students, faculty, staff, and community members.

Dr. Deanna Shoemaker

Department of Communication

Sophia Parola '18, Penelope Elliott, A'liah Moore, Nick Sewell, Emmanuel Christian, Jeff Dicken

CommWorks: Students Committed to Performance

Thursday, October 29, 2020

6:30-7:15, Followed by Discussion

Climate Crisis and Environmental Justice: What Can We Do?

Climate change is real, and it is here, and it is not going to go away, but we have the power to keep it from getting worse. We need government action and we need corporate action, but we also need individuals to learn about and reduce their own carbon consumption, and persuade others in their communities to join them. Heide Estes will discuss concrete strategies to lower your own local and global climate impacts and to work with others to persuade businesses and municipalities to change. Small actions alone aren't the answer, but small actions multiplied by thousands or millions of people make a big difference.

Dr. Heide Estes

Department of English

Friday, October 30, 2020

10:00-10:20 Followed by Q&A

Strong Evidence for the Effects of Climate Change on Wildlife

Climate change directly influences humans, but also the wildlife and habitats that humans depend on across the globe. Here, I will present four case studies, supported by a collection of peer-reviewed evidence, that demonstrate the wide range of impacts across a diversity of wildlife taxa and ecosystems.

Dr. Sean Sterrett

Department of Biology

11:00-11:45 Followed by Q&A

Interconnected Challenges; Interconnected solutions: The Fight for Climate and Social Justice

Justice for our planet and justice for all people are two profound cultural conversations occurring today but often in separate spaces. However, the ideas at the root of racism are often the very same values at the core of environmental destruction. This presentation will frame the climate crisis through a racial justice lens, focusing on the possibilities for innovative climate crisis solutions that also address systemic racism and inequity.

Dr. Kathleen Grant

Department of Educational Counseling and Leadership

Friday, October 30, 2020

12:00-12:45 followed by Q&A

**Addressing Climate Change in Environmental Justice Communities
& Exploring the Threat of Climate Gentrification**

The effects of climate change are leading wealthy home-seekers to areas that are more resilient to climate-related threats, which may spur inequitable development processes in poor and working class communities (i.e. climate gentrification). This presentation will address the effects of climate change in marginalized communities with attention to how mitigating these effects can lead to climate gentrification. Specifically, the presentation will focus on an effort to address chronic flooding linked to sea-level rise in an environmental justice community in Delaware and the subsequent threat of gentrification.

Dr. Melissa Alvare

Department of Political Science and Sociology

1:30-2:15

Short Research Presentations Followed by Panel Discussion

Climate Change and the Voiceless:

Moderated by Dr. Randall Abate

Department of Political Science and Sociology

Ocean Acidification as a Climate Change Harm in the Inter-American Court System

Lawyers have tried to establish some form of precedent in the courts for plaintiffs in developing countries affected by climate change. Two obstacles for these plaintiffs are establishing that an injury that is specific to them has occurred and establishing the causal link between the alleged injury and the defendant's action or inaction. In this presentation, I will argue that one of the best ways to seek redress for climate change victims in developing countries in the Inter-American system is by focusing on a specific impact from carbon emissions: ocean acidification. This paper will then apply the logic from the 2017 Inter-American Court of Human Rights advisory opinion on extraterritorial harm to make this principle applicable to plaintiffs in developing Latin American countries seeking relief for the effects of ocean acidification from developed country carbon emitters in the region.

Dan Conte, Student, Political Science

New Jersey Wind Port: How the State's Plan to Transition to Renewable Energy Will Affect the Voiceless

This presentation will address New Jersey's Offshore Wind Plan and how it will affect voiceless communities, both positively and negatively. It will review the state's plans to build offshore wind energy infrastructure; discuss the benefits for voiceless communities, such as future generations; and then address the drawbacks for other voiceless communities, such as the marine environment and wildlife.

Michelle Etienne, Student, Political Science

Friday, October 30, 2020

How New Jersey Can Follow Colombia's Example and Grant Legal Personhood to the Raritan River to Address Climate Change Impacts to the River

This presentation will explore the potential for granting legal personhood to New Jersey's Raritan River by seeking to apply lessons from the Colombia Supreme Court's granting of legal personhood in the Atrato River case. It will first discuss the legal reasoning that supported granting personhood to Colombia's Atrato River. It will then consider how these theories can be applied to local governments in the U.S. to improve conditions and protections of natural resources. New Jersey's Raritan River has been decimated by climate change impacts and inconsistent municipal regulation. The adoption of legal personhood could be the tool best suited to protect its quality and value at the local and state levels.

Anastasia Francisquini, Student, Political Science

Keep the Culture, Change the Fate: Responding to the Threat of Climate Gentrification to Asbury Park's West Side

Climate gentrification, or the overriding of low-income communities by wealthy individuals whose properties are vulnerable sea level rise, is a growing threat to coastal communities across the nation. Within the next fifty years, New Jersey shorelines could recede due to sea level rise, and the once-redlined West Side of Asbury Park could fall victim to climate gentrification within that time frame. The current project that seeks to lead the reconstruction of the West Side is managed by WRT as part of their Choice Neighborhood initiative. This project fails to consider the ultimate effects that climate change may have on the neighborhood and future generations, regardless of any reconstruction efforts. This paper provides a proposal to undertake a larger discussion on climate gentrification within the Choice program to ensure the safety and happiness of the West Side's existing community and those to come.

London Jones, Student, Communications

Santa Monica Sustainability Ordinance Advocating for the Rights of Nature and Promotion of Clean Energy: A New Paradigm

Recognition of the intersectionality between earth law and clean energy can yield great results for the environment if undertaken properly. An example of this approach is the sustainability ordinance in Santa Monica, California. The use of fossil fuels has deprived the Earth of its rights and its resources by promoting the use of carbon intensive energy. This ordinance establishes the importance of welfare of the economy and society as it is bound to the health of the ecosystem as conditions the ordinance must follow in order to begin environmental change. The goal of the ordinance is the reduction and elimination of negative impacts produced by greenhouse gases, which is vital in exploring this connection and the benefits that clean energy could provide to promote respect for nature's integrity.

Arione Santiago, Student, Political Science

Friday, October 30, 2020

3:00-3:30

Climate Change Communication in Kolkata: Incorporating Media Effects to Promote Strategic Communication to Address Forced Migration from Sea-level Rise

Climate change communication is an emerging field that is seeking to make climate change adaptation more manageable by informing the public about climate change risks and threats. Climate change communication is important in all countries; however, a developing country like India has not fully recognized its importance. This paper will focus on Kolkata, which is the fourth most vulnerable city to sea-level rise in India. Although the media in Kolkata is covering potential threats like sea-level rise, they are not emphasizing the importance of migration from these vulnerable coastal areas. This paper proposes communication theories and approaches to ensure that the media can raise awareness of and increase public commitment to this growing crisis.

Lisha Samuel

Graduate Candidate, Department of Communication

4:00-5:00

Faculty Research Roundtable*

This zoom session invites faculty that are engaged in research related to the climate crisis and environmental issues to share a short 3-5-minute description of their work followed by an open group discussion. The intent of the roundtable is further our understanding of what research is occurring on campus, to deepen the cross-discipline dialogue, and to foster opportunities for collaboration.

Professor Kimberly Callas

Department of Art and Design

*This session is open to faculty only