Summer of Learning Symposium

SEPTEMBER 10, 2021 · ONLINE VIA ZOOM
High Meadows Environmental Institute (HMEI) welcomes faculty and friends to the 14th Annual Summer of Learning Symposium – the culminating event for students who participated in HMEI’s Environmental Internship Program this past summer. HMEI’s internship program provides a unique opportunity for students to complement their academic interests with hands-on work experiences and is designed to enrich students’ perspectives and preparation as leaders.

This year’s symposium celebrates the 127 Princeton students from 23 academic departments who worked with University faculty, researchers from other scientific enterprises, government agencies, and not-for-profit organizations on projects focused on pressing environmental challenges. Held virtually this year, the symposium provides an interactive forum for students to recognize and celebrate each other’s work and contributions, exchange perspectives, develop a shared mission, and consider practical, achievable paths toward a healthier and more sustainable planet.

We applaud the determination and dedication of the 2021 interns. Several students were able to work in the field, abiding by changing public health protocols, while others necessarily pursued their internships as remotely mentored assignments. In all cases and regardless of circumstances, students contributed meaningfully to research and emerging scholarship, including projects focused on climate change, biodiversity loss and conservation, alternative energy, environmental policy, urban resilience, water, and human health.

We extend our congratulations to the students and our appreciation to those faculty, colleagues, friends and community partners who made this year’s internship program and the Summer of Learning Symposium possible.
## Schedule of Presentations

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BRYANT HALL ’22, PHYSICS
MENTORS: BRUCE KOEL, PROFESSOR OF CHEMICAL AND BIOLOGICAL ENGINEERING; SHOTA ABE, POSTDOCTORAL RESEARCH ASSOCIATE, CHEMICAL AND BIOLOGICAL ENGINEERING

Discovering Patterns and Genes Involved in Fe/S Chaperone Synthesis
MINA TAKEGAMI ’23, MOLECULAR BIOLOGY
MENTORS: JOSÉ AVALOS, ASSISTANT PROFESSOR OF CHEMICAL AND BIOLOGICAL ENGINEERING AND THE ANDLINGER CENTER FOR ENERGY AND THE ENVIRONMENT; JEREMY CORTEZ, PH.D. CANDIDATE, MOLECULAR BIOLOGY

SuperPipe Particle Image Velocimetry Calibration
BRYAN ALFARO ’24, MECHANICAL AND AEROSPACE ENGINEERING
DEVDIGVIJAY SINGH ’24, MECHANICAL AND AEROSPACE ENGINEERING
MENTORS: ALEXANDER SMITS, EUGENE HIGGINS PROFESSOR OF MECHANICAL AND AEROSPACE ENGINEERING, EMERITUS; LIUYANG DING, POSTDOCTORAL RESEARCH ASSOCIATE, MECHANICAL AND AEROSPACE ENGINEERING

Efficient Propulsion of Tunabot
GAVIN COTTER ’23, MECHANICAL AND AEROSPACE ENGINEERING
ALEC PIRONE ’24, CIVIL AND ENVIRONMENTAL ENGINEERING
MENTORS: ALEXANDER SMITS, EUGENE HIGGINS PROFESSOR OF MECHANICAL AND AEROSPACE ENGINEERING, EMERITUS; LIUYANG DING, POSTDOCTORAL RESEARCH ASSOCIATE, MECHANICAL AND AEROSPACE ENGINEERING
An Investigation of Alkali-Activated Cement
BRIDGET DENZER ’23, CHEMICAL AND BIOLOGICAL ENGINEERING
MENTORS: CLAIRE WHITE, ASSOCIATE PROFESSOR OF CIVIL AND ENVIRONMENTAL ENGINEERING AND THE ANDLINGER CENTER FOR ENERGY AND THE ENVIRONMENT; CHRISTINE PU, PH.D. CANDIDATE, CIVIL AND ENVIRONMENTAL ENGINEERING

Crack Identification in Alkali-Activated Slag Cements
CALEB LUNSFORD ’23, CIVIL AND ENVIRONMENTAL ENGINEERING
MENTORS: CLAIRE WHITE, ASSOCIATE PROFESSOR OF CIVIL AND ENVIRONMENTAL ENGINEERING AND THE ANDLINGER CENTER FOR ENERGY AND THE ENVIRONMENT; YIGE ZHANG, POSTDOCTORAL RESEARCH ASSOCIATE, CIVIL AND ENVIRONMENTAL ENGINEERING

Case Studies of Yeast8 as a Genome-scale Model and Its Proof-of-Concept Applications
IPSITA TINGI ’23, CHEMICAL AND BIOLOGICAL ENGINEERING
KEVIN YEUNG ’23, CHEMICAL AND BIOLOGICAL ENGINEERING
MENTORS: JOSÉ AVALOS, ASSISTANT PROFESSOR OF CHEMICAL AND BIOLOGICAL ENGINEERING AND THE ANDLINGER CENTER FOR ENERGY AND THE ENVIRONMENT; JOSÉ MONTAÑO LÓPEZ, PH.D. CANDIDATE, CHEMICAL AND BIOLOGICAL ENGINEERING
Earth History and Environmental Science

9:10 AM – 10:30 AM  •  CLICK HERE TO JOIN

MODERATOR: ADAM MALOOF, PROFESSOR OF GEOSCIENCES

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Nutrient Consumption in the Southern Ocean During the Last 1 Million Years

ALEX MOOSBRUGGER '24, CIVIL AND ENVIRONMENTAL ENGINEERING

MENTORS: DANIEL SIGMAN, DUSENBURY PROFESSOR OF GEOLOGICAL AND GEOPHYSICAL SCIENCES, PROFESSOR OF GEOSCIENCES; JESSE FARMER, POSTDOCTORAL RESEARCH ASSOCIATE, GEOSCIENCES

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Using Machine Learning to Analyze Earth’s First Reefs

INDU PANIGRAHI '23, COMPUTER SCIENCE
EVAN WANG '24, COMPUTER SCIENCE
JASMINE ZHANG '24, COMPUTER SCIENCE

MENTORS: ADAM MALOOF, PROFESSOR OF GEOSCIENCES; RYAN MANZUK, PH.D. CANDIDATE, GEOSCIENCES

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Application of New Machine Learning Tools for the Study of Ooids and Their Ancient Tropical Marine Environments

ANUBHAV AGARWAL '23, COMPUTER SCIENCE
ANNA KROKHINE '24, MATHEMATICS
HUGH SHIELDS '24, CIVIL AND ENVIRONMENTAL ENGINEERING

MENTORS: ADAM MALOOF, PROFESSOR OF GEOSCIENCES; BOLTON HOWES, PH.D. CANDIDATE, GEOSCIENCES
North Atlantic Ocean Nutrient-Consumption Changes During Climate Events of the Last Glacial Period

MICHAEL KIM '23, ECOLOGY AND EVOLUTIONARY BIOLOGY

MENTORS: DANIEL SIGMAN, DUSENBURY PROFESSOR OF GEOLOGICAL AND GEOPHYSICAL SCIENCES, PROFESSOR OF GEOSCIENCES; JESSE FARMER, POSTDOCTORAL RESEARCH ASSOCIATE, GEOSCIENCES

The History of Eastern Tropical North Pacific Oxygen Since the Last Ice Age

MADELEINE LAUSTED '24, ECOLOGY AND EVOLUTIONARY BIOLOGY

MENTORS: DANIEL SIGMAN, DUSENBURY PROFESSOR OF GEOLOGICAL AND GEOPHYSICAL SCIENCES, PROFESSOR OF GEOSCIENCES; MATTHEW LACERRA, PH.D. CANDIDATE, GEOSCIENCES

Investigation of Nitrogen Sources Contributing to Sapropel Formation in the Eastern Mediterranean

MADDIE ESPOSITO '23, CHEMISTRY

MENTORS: DANIEL SIGMAN, DUSENBURY PROFESSOR OF GEOLOGICAL AND GEOPHYSICAL SCIENCES, PROFESSOR OF GEOSCIENCES; ELLEN AI, PH.D CANDIDATE, GEOSCIENCES
Biodiversity and Conservation
9:15 AM – 10:40 AM  •  CLICK HERE TO JOIN

MODERATOR: DANIEL RUBENSTEIN, CLASS OF 1877 PROFESSOR OF ZOOLOGY, PROFESSOR OF ECOLOGY AND EVOLUTIONARY BIOLOGY

Impact of Grazing Regimes on Rangeland Quality and Wildlife and Livestock Use
MAX GOTT'S '24, UNDECLARED
ANNIKA HSI '23, ECOLOGY AND EVOLUTIONARY BIOLOGY
MENTOR: DANIEL RUBENSTEIN, CLASS OF 1877 PROFESSOR OF ZOOLOGY, PROFESSOR OF ECOLOGY AND EVOLUTIONARY BIOLOGY

Climate Change, Plant-Pollinator Interactions and Hummingbird Color Vision in the Rocky Mountains
DARCY CHANG '23, ECOLOGY AND EVOLUTIONARY BIOLOGY
JULIAN GOTTFRIED '24, ECOLOGY AND EVOLUTIONARY BIOLOGY
MENTOR: MARY CASWELL STODDARD, ASSOCIATE PROFESSOR OF ECOLOGY AND EVOLUTIONARY BIOLOGY

Urban Biodiversity and Conservation at NYC Parks
JOSEPH HIMMELFARB '24, ECOLOGY AND EVOLUTIONARY BIOLOGY
EVA JORDAN '24, CIVIL AND ENVIRONMENTAL ENGINEERING
JAHIR MORRIS '24, ECOLOGY AND EVOLUTIONARY BIOLOGY
MENTORS: GEORGINA CULLMAN, ECOLOGIST, NEW YORK CITY DEPARTMENT OF PARKS AND RECREATION; CLARA HOLMES, PLANT ECOLOGIST, NEW YORK CITY DEPARTMENT OF PARKS AND RECREATION; JAMIE ONG, ENVIRONMENTAL PROTECTION PROJECT MANAGER, NEW YORK CITY DEPARTMENT OF PARKS AND RECREATION; HEATHER PLATT, ECOLOGICAL RESTORATION PROJECT ASSISTANT, NEW YORK CITY DEPARTMENT OF PARKS AND RECREATION; DESIREE YANES, VEGETATION MONITORING TECHNIC, NEW YORK CITY DEPARTMENT OF PARKS AND RECREATION
'Go to the Ant Thou Sluggard, Consider Her Ways and Be Wise': Buffel Grass Seed Preferences, Predation and Dispersal in Kenya Home Range by Messor Harvester Ants

ALEX HEINE ’24, ECOLOGY AND EVOLUTIONARY BIOLOGY
MENTOR: DINO MARTINS, EXECUTIVE DIRECTOR, MPALA RESEARCH CENTRE, AND VISITING RESEARCH SCHOLAR, ECOLOGY AND EVOLUTIONARY BIOLOGY

Estimating the Recovery Potential of Threatened Species

SOPHIA RICHTER ’23, ECOLOGY AND EVOLUTIONARY BIOLOGY
MENTORS: DAVID WILCOVE, PROFESSOR OF ECOLOGY AND EVOLUTIONARY BIOLOGY AND PUBLIC AFFAIRS AND THE HIGH MEADOWS ENVIRONMENTAL INSTITUTE; REBECCA SENIOR, POSTDOCTORAL RESEARCH ASSOCIATE, PRINCETON SCHOOL OF PUBLIC AND INTERNATIONAL AFFAIRS AND THE CENTER FOR POLICY RESEARCH ON ENERGY AND THE ENVIRONMENT

Northern Kenya Conservation Clubs

LUISA CHANTLER EDMOND ’22, ANTHROPOLOGY
YUN HALLOWELL ’23, ANTHROPOLOGY
MENTORS: DANIEL RUBENSTEIN, CLASS OF 1877 PROFESSOR OF ZOOLOGY, PROFESSOR OF ECOLOGY AND EVOLUTIONARY BIOLOGY
The Environment and Health

9:25 AM – 10:40 AM • CLICK HERE TO JOIN

MODERATOR: RAMANAN LAXMINARAYAN, SENIOR RESEARCH SCHOLAR, HIGH MEADOWS ENVIRONMENTAL INSTITUTE

Mitigating Neonatal Mortality: Estimates of Vaccine-Avertable Neonatal Sepsis and Antimicrobial Resistance

CHIRAG KUMAR ’23, CHEMISTRY

MENTOR: RAMANAN LAXMINARAYAN, SENIOR RESEARCH SCHOLAR, HIGH MEADOWS ENVIRONMENTAL INSTITUTE

Tradeoffs in Individual/Collective Behavior in Response to COVID-19 and in Anticipation of Climate Change

SLOAN HUEBNER ’23, SOCIOLOGY
KENZO LACUARTA ’22, ECOLOGY AND EVOLUTIONARY BIOLOGY
JONATHAN LIN ’24, ECONOMICS

MENTORS: SIMON LEVIN, JAMES S. MCDONNELL DISTINGUISHED UNIVERSITY PROFESSOR IN ECOLOGY AND EVOLUTIONARY BIOLOGY; ELKE WEBER, GERHARD R. ANDLINGER PROFESSOR IN ENERGY AND THE ENVIRONMENT, PROFESSOR OF PSYCHOLOGY AND PUBLIC AFFAIRS; SARA CONSTANTINO, POSTDOCTORAL RESEARCH ASSOCIATE, PRINCETON SCHOOL OF PUBLIC AND INTERNATIONAL AFFAIRS AND THE PROGRAM IN SCIENCE, TECHNOLOGY, AND ENVIRONMENTAL POLICY, AND LECTURER IN THE HIGH MEADOWS ENVIRONMENTAL INSTITUTE; ELISABETH KRUEGER, POSTDOCTORAL RESEARCH ASSOCIATE AND LECTURER, HIGH MEADOWS ENVIRONMENTAL INSTITUTE

Air Quality Modeling and Environmental Justice

DARIN AVILA ’23, OPERATIONS RESEARCH AND FINANCIAL ENGINEERING
KATIE McLAUGHLIN ’23, COMPUTER SCIENCE

MENTOR: JULIAN MARSHALL, PROFESSOR OF CIVIL AND ENVIRONMENTAL ENGINEERING, UNIVERSITY OF WASHINGTON
Effect of COVID-19 Lockdowns on Air Quality in Delhi, India
SRIJA PATCHA ’23, COMPUTER SCIENCE
MENTORS: DENISE MAUZERALL, PROFESSOR OF CIVIL AND ENVIRONMENTAL ENGINEERING AND PUBLIC AND INTERNATIONAL AFFAIRS; DISHA SHARMA, POSTDOCTORAL RESEARCH ASSOCIATE, PRINCETON SCHOOL OF PUBLIC AND INTERNATIONAL AFFAIRS AND THE CENTER FOR POLICY RESEARCH ON ENERGY AND THE ENVIRONMENT

Mucormycosis Burden Survey
JOSHUA KU ’22, COMPUTER SCIENCE
MENTORS: RAMANAN LAXMINARAYAN, SENIOR RESEARCH SCHOLAR, HIGH MEADOWS ENVIRONMENTAL INSTITUTE; RUCHITA BALASUBRAMANIAN ’19, CENTER FOR DISEASE DYNAMICS, ECONOMICS AND POLICY

Predicting Exposure of Children to Environmental Pollutants Using Their Deciduous Teeth
RACHEL KULCHAR ’23, CHEMISTRY
MENTOR: SATISH MYNENI, PROFESSOR OF GEOSCIENCES
Growing in the Garden State: Understanding Factors that Impact Food Production

LI LIANNA GITTOES '24, OPERATIONS RESEARCH AND FINANCIAL ENGINEERING
COLTON LOFTUS '23, COMPUTER SCIENCE
LAURA A. MARSH '23, ECOLOGY AND EVOLUTIONARY BIOLOGY
CARMINA RANGEL-PACHECO '23, SOCIOLOGY

MENTORS: DANIEL RUBENSTEIN, CLASS OF 1877 PROFESSOR OF ZOOLOGY, PROFESSOR OF ECOLOGY AND EVOLUTIONARY BIOLOGY; GINA TALT, FOOD SYSTEMS PROJECT SPECIALIST, OFFICE OF SUSTAINABILITY

Can Soil Nutrient Availability Limit Future Food Production?

KALEB AREDA '24, CHEMICAL AND BIOLOGICAL ENGINEERING

MENTOR: SATISH MYNENI, PROFESSOR OF GEOSCIENCES

Aquaculture and Marine Food Systems

ELENA REMEZ '23, PRINCETON SCHOOL OF PUBLIC AND INTERNATIONAL AFFAIRS

MENTOR: ROD FUJITA, LEAD SENIOR SCIENTIST, OCEANS EMERGING ISSUES, ENVIRONMENTAL DEFENSE FUND
Business Development and Marketing for the SSF Hub
ASHLEY TENG ’23, COMPUTER SCIENCE
MENTOR: PAM RUITER, SENIOR MANAGER, SSF INITIATIVES, ENVIRONMENTAL DEFENSE FUND

Architectural, Structural and Urban Strategies for Urban Farming
TIFFANY AGYARKO ’23, CIVIL AND ENVIRONMENTAL ENGINEERING
ZOYE ZHANG ’23, CIVIL AND ENVIRONMENTAL ENGINEERING
MENTOR: SIGRID ADRIAENSSENS, ASSOCIATE PROFESSOR OF CIVIL AND ENVIRONMENTAL ENGINEERING

Writing with the National Center for Frontier Communities
NOA GREENSPAN ’23, ENGLISH
MENTOR: BENJAMIN RASMUSSEN, PROGRAM MANAGER, NATIONAL CENTER FOR FRONTIER COMMUNITIES
Biogeochemistry of the Ocean

9:40 AM – 10:50 AM • CLICK HERE TO JOIN

MODERATOR: BESS WARD, WILLIAM J. SINCLAIR PROFESSOR OF GEOSCIENCES AND THE HIGH MEADOWS ENVIRONMENTAL INSTITUTE

Designing Probes for a nosZ Microarray

YAAKOV ZINBERG ’23, MOLECULAR BIOLOGY
MENTORS: BESS WARD, WILLIAM J. SINCLAIR PROFESSOR OF GEOSCIENCES AND THE HIGH MEADOWS ENVIRONMENTAL INSTITUTE; NAOMI INTRATOR, PH.D. CANDIDATE, GEOSCIENCES

Remote Sources of Oceanic Heat Delivery to the Ross Sea Continental Shelf

RACHEL PANG ’23, PHYSICS
MENTORS: SARAH GILLE, PROFESSOR, SCRIPPS INSTITUTION OF OCEANOGRAPHY; LYNNE TALLEY, PROFESSOR, SCRIPPS INSTITUTION OF OCEANOGRAPHY; CHANNING PREND, PH.D. CANDIDATE, SCRIPPS INSTITUTION OF OCEANOGRAPHY

Zinc Chemistry in Oceans

DEMETRA YANCOPOULOS ’22, CIVIL AND ENVIRONMENTAL ENGINEERING
MENTORS: SATISH MYNENI, PROFESSOR OF GEOSCIENCES; JIANGSHU DUAN, PH.D. CANDIDATE, GEOSCIENCES; KEWEI ZHAO, PH.D. CANDIDATE, CHEMISTRY
Potential Predictability of the Spring Bloom in the Southern Ocean Sea-Ice Zone
BEN BUCHOVECKY ’23, GEOSCIENCES
MENTORS: JORGE SARMIENTO, GEORGE J. MAGEE PROFESSOR OF GEOSCIENCE AND GEOLOGICAL ENGINEERING, EMERITUS, PROFESSOR OF GEOSCIENCES, EMERITUS; ALEXANDER HAUMANN, ASSOCIATE RESEARCH SCHOLAR, ATMOSPHERIC AND OCEANIC SCIENCES; GRAEME MACGILCHRIST, POSTDOCTORAL RESEARCH ASSOCIATE, ATMOSPHERIC AND OCEANIC SCIENCES; MITCHELL BUSHUK, VISITING RESEARCH COLLABORATOR, ATMOSPHERIC AND OCEANIC SCIENCES

Drivers of Opposing Seasonal Cycles of Mixed Layer Oxygen in the Southern Ocean Sea-Ice Zone
ALINA CHEN ’24, COMPUTER SCIENCE
MENTORS: JORGE SARMIENTO, GEORGE J. MAGEE PROFESSOR OF GEOSCIENCE AND GEOLOGICAL ENGINEERING, EMERITUS, PROFESSOR OF GEOSCIENCES, EMERITUS; ALEXANDER HAUMANN, ASSOCIATE RESEARCH SCHOLAR, ATMOSPHERIC AND OCEANIC SCIENCES; GRAEME MACGILCHRIST, POSTDOCTORAL RESEARCH ASSOCIATE, ATMOSPHERIC AND OCEANIC SCIENCES

The Role of Parasites in Controlling Phytoplankton Community Composition and Ocean Productivity
ADIRA SMIRNOV ’23, ECOLOGY AND EVOLUTIONARY BIOLOGY
MENTORS: BESS WARD, WILLIAM J. SINCLAIR PROFESSOR OF GEOSCIENCES AND THE HIGH MEADOWS ENVIRONMENTAL INSTITUTE; AMAL JAYAKUMAR, SENIOR PROFESSIONAL SPECIALIST, GEOSCIENCES; JENNA LEE, PH.D. CANDIDATE, GEOSCIENCES

Characterizing the Diurnal Pattern of Gross Photosynthesis in Coral and Algae Species
HANNE BORSTLAP ’22, CIVIL AND ENVIRONMENTAL ENGINEERING
MENTOR: YVONNE SAWALL, ASSISTANT SCIENTIST, BERMUDA INSTITUTE OF OCEAN SCIENCES
Water and the Environment
12:35 PM – 2:00 PM • CLICK HERE TO JOIN

MODERATOR: HOWARD STONE, DONALD R. DIXON '69 AND ELIZABETH W. DIXON PROFESSOR OF MECHANICAL AND AEROSPACE ENGINEERING

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**Spray Generation by Bubbles Bursting**

*SREETA BASU '24, MATHEMATICS*

**MENTORS:** LUC DEIKE, ASSISTANT PROFESSOR OF MECHANICAL AND AEROSPACE ENGINEERING AND THE HIGH MEADOWS ENVIRONMENTAL INSTITUTE; DANIEL SHAW, PH.D. CANDIDATE, MECHANICAL AND AEROSPACE ENGINEERING

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**The Impact of Contaminant Spatial Configuration on Bacterial Chemotaxis**

*YAXIN DUAN '23, CHEMICAL AND BIOLOGICAL ENGINEERING*

**MENTORS:** SUJIT DATTA, ASSISTANT PROFESSOR OF CHEMICAL AND BIOLOGICAL ENGINEERING; JENNA OTT, PH.D. CANDIDATE, CHEMICAL AND BIOLOGICAL ENGINEERING

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**Modeling Organic Contaminants at the Air-Water Interface**

*DANIELA MARTINEZ '24, CHEMICAL AND BIOLOGICAL ENGINEERING*

*RYAN NEAPOLE '23, CIVIL AND ENVIRONMENTAL ENGINEERING*

*MORGAN WIESE '23, CIVIL AND ENVIRONMENTAL ENGINEERING*

**MENTORS:** IAN BOURG, ASSISTANT PROFESSOR OF CIVIL AND ENVIRONMENTAL ENGINEERING AND THE HIGH MEADOWS ENVIRONMENTAL INSTITUTE; JENNIFER WILLEMSSEN, POSTDOCTORAL RESEARCH ASSOCIATE, CIVIL AND ENVIRONMENTAL ENGINEERING
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JUAN PABLO ALVARADO ’23, CIVIL AND ENVIRONMENTAL ENGINEERING
MENTORS: IAN BOURG, ASSISTANT PROFESSOR OF CIVIL AND ENVIRONMENTAL ENGINEERING AND THE HIGH MEADOWS ENVIRONMENTAL INSTITUTE; AVERY AGLES, PH.D. CANDIDATE, CHEMICAL AND BIOLOGICAL ENGINEERING

Interactions Between Soil Formation, Landscape Evolution, and Hydrologic Cycle
HAYDEN BURT ’22, MECHANICAL AND AEROSPACE ENGINEERING
MENTOR: AMILCARE PORPORATO, THOMAS J. WU ’94 PROFESSOR OF CIVIL AND ENVIRONMENTAL ENGINEERING, PROFESSOR OF CIVIL AND ENVIRONMENTAL ENGINEERING AND THE HIGH MEADOWS ENVIRONMENTAL INSTITUTE

Modeling Hydrogel Swelling in a Cohesive Granular Medium
CAROLINE ADKINS ’22, CIVIL AND ENVIRONMENTAL ENGINEERING
MENTORS: SUJIT DATTA, ASSISTANT PROFESSOR OF CHEMICAL AND BIOLOGICAL ENGINEERING; JEAN-FRANÇOIS LOUF, ASSISTANT PROFESSOR IN CHEMICAL ENGINEERING, AUBURN UNIVERSITY

Engineering Microfluidic Devices to Increase the Degradation Rate of Organic Contaminants Under Flow
KATHARINE CONTRERAS-GODFRIED ’22, CIVIL AND ENVIRONMENTAL ENGINEERING
FRANCESCA DI MARE ’23, CHEMISTRY
MENTORS: HOWARD STONE, DONALD R. DIXON ’69 AND ELIZABETH W. DIXON PROFESSOR OF MECHANICAL AND AEROSPACE ENGINEERING; SAMANTHA McBRIDE, POSTDOCTORAL RESEARCH ASSOCIATE AND PRESIDENTIAL POSTDOCTORAL RESEARCH FELLOW, MECHANICAL AND AEROSPACE ENGINEERING
Transitioning to a New Energy Future
12:45 PM – 2:25 PM • CLICK HERE TO JOIN

MODERATOR: ROBERT SOCLOW, PROFESSOR OF MECHANICAL AND AEROSPACE ENGINEERING, EMERITUS

Plasma-Materials Interactions for Fusion Energy
ZIHAN LIN '23, CHEMICAL AND BIOLOGICAL ENGINEERING
MENTORS: BRUCE KOEL, PROFESSOR OF CHEMICAL AND BIOLOGICAL ENGINEERING; SHOTA ABE, POSTDOCTORAL RESEARCH ASSOCIATE, CHEMICAL AND BIOLOGICAL ENGINEERING

A Structured Risk Assessment of Net-Zero Emissions Pathways
JOSEPH FENG '22, MECHANICAL AND AEROSPACE ENGINEERING
AARON LEUNG '23, OPERATIONS RESEARCH AND FINANCIAL ENGINEERING
MENTORS: CHRIS GREIG, THEODORA D. '78 & WILLIAM H. WALTON III '74 SENIOR RESEARCH SCIENTIST, ANDLINGER CENTER FOR ENERGY AND THE ENVIRONMENT; RICHARD MOSS, VISITING RESEARCH COLLABORATOR, ANDLINGER CENTER FOR ENERGY AND THE ENVIRONMENT

Macro Energy System Modeling Methodologies and Applications in India for Decarbonization Pathways
ANEESHA MANOCHA '23, ELECTRICAL AND COMPUTER ENGINEERING
MENTORS: JESSE JENKINS, ASSISTANT PROFESSOR OF MECHANICAL AND AEROSPACE ENGINEERING AND THE ANDLINGER CENTER FOR ENERGY AND THE ENVIRONMENT; RAHUL TONGIA, SENIOR FELLOW, CENTRE FOR SOCIAL AND ECONOMIC PROGRESS; NEHA PATANKAR, ASSOCIATE RESEARCH SCHOLAR, ANDLINGER CENTER FOR ENERGY AND THE ENVIRONMENT
Corporate Climates
CALIF CHEN ’23, PRINCETON SCHOOL OF PUBLIC AND INTERNATIONAL AFFAIRS
TANVI NIBHANUPUDI ’23, ECONOMICS
MENTORS: ELKE WEBER, GERHARD R. ANDLINGER PROFESSOR IN ENERGY AND THE ENVIRONMENT, PROFESSOR OF PSYCHOLOGY AND PUBLIC AFFAIRS; JOHANNA MATT-NAVARRO, RESEARCH LAB MANAGER, ANDLINGER CENTER FOR ENERGY AND THE ENVIRONMENT; SARA CONSTANTINO, POSTDOCTORAL RESEARCH ASSOCIATE, PRINCETON SCHOOL OF PUBLIC AND INTERNATIONAL AFFAIRS AND THE PROGRAM IN SCIENCE, TECHNOLOGY, AND ENVIRONMENTAL POLICY, AND LECTURER IN THE HIGH MEADOWS ENVIRONMENTAL INSTITUTE; JORDANA COMPOSTO, PH.D. CANDIDATE, PSYCHOLOGY; POOJA VIJAY RAMAMURTHI, PH.D. CANDIDATE, PRINCETON SCHOOL OF PUBLIC AND INTERNATIONAL AFFAIRS; MELISSA TIER, PH.D. CANDIDATE, PRINCETON SCHOOL OF PUBLIC AND INTERNATIONAL AFFAIRS

Contextualizing Social Norms
NICABEC CASIDO ’23, NEUROSCIENCE
SIERRA GONZALES ’22, PSYCHOLOGY
MENTORS: ELKE WEBER, GERHARD R. ANDLINGER PROFESSOR IN ENERGY AND THE ENVIRONMENT, PROFESSOR OF PSYCHOLOGY AND PUBLIC AFFAIRS; JOHANNA MATT-NAVARRO, RESEARCH LAB MANAGER, ANDLINGER CENTER FOR ENERGY AND THE ENVIRONMENT; GREGG SPARKMAN, POSTDOCTORAL RESEARCH ASSOCIATE, ANDLINGER CENTER FOR ENERGY AND THE ENVIRONMENT
Community Attitudes to Large-scale Renewable Energy Deployment in Net-Zero America Scenarios

SULLIVAN MEYER ’24, CIVIL AND ENVIRONMENTAL ENGINEERING
HARVIN SANGHA ’23, OPERATIONS RESEARCH AND FINANCIAL ENGINEERING

MENTORS: ELKE WEBER, GERHARD R. ANDLINGER PROFESSOR IN ENERGY AND THE ENVIRONMENT, PROFESSOR OF PSYCHOLOGY AND PUBLIC AFFAIRS; JOHANNA MATT-NAVARRO, RESEARCH LAB MANAGER, ANDLINGER CENTER FOR ENERGY AND THE ENVIRONMENT; SARA CONSTANTINO, POSTDOCTORAL RESEARCH ASSOCIATE, PRINCETON SCHOOL OF PUBLIC AND INTERNATIONAL AFFAIRS AND THE PROGRAM IN SCIENCE, TECHNOLOGY, AND ENVIRONMENTAL POLICY, AND LECTURER IN THE HIGH MEADOWS ENVIRONMENTAL INSTITUTE; ELISABETH KRUEGER, POSTDOCTORAL RESEARCH ASSOCIATE AND LECTURER, HIGH MEADOWS ENVIRONMENTAL INSTITUTE; GREGG SPARKMAN, POSTDOCTORAL RESEARCH ASSOCIATE, ANDLINGER CENTER FOR ENERGY AND THE ENVIRONMENT; JORDANA COMPOSTO, PH.D. CANDIDATE, PSYCHOLOGY

Wind and Solar Technology for the WeatherPower Tool

EMILIO CANO RENTERIA ’23, CIVIL AND ENVIRONMENTAL ENGINEERING

MENTORS: ERIC LARSON, SENIOR RESEARCH ENGINEER, ANDLINGER CENTER FOR ENERGY AND THE ENVIRONMENT; JENNIFER BRADY, MANAGER, ANALYSIS AND PRODUCTION, CLIMATE CENTRAL

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Urban Environments and Sustainability

12:55 PM – 2:20 PM • CLICK HERE TO JOIN

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1:10 PM – 2:45 PM • CLICK HERE TO JOIN

MODERATOR: JONATHAN LEVIN, PROFESSOR OF ECOLOGY AND EVOLUTIONARY BIOLOGY

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New York Lawyers for the Public Interest

TANÉYAH JOLLY ’24, SOCIOLOGY

MENTOR: HAYLEY GORENBERG, LEGAL DIRECTOR, NEW YORK LAWYERS FOR THE PUBLIC INTEREST
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HMEI functions as a vibrant central resource for faculty, postdocs, students, alumni, and others with interest in environmental topics and research. More than 120 members of the Princeton faculty, representing 30 academic disciplines, are active with HMEI and contribute to research and the teaching activities that encompass scientific, technical, policy, and human dimensions of environmental issues.

HMEI serves as a center for environmental education, ideas and dialogue through robust undergraduate and graduate teaching programs, interdisciplinary research centers and initiatives, and public events addressing a range of environmental topics.
Acknowledgements

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• John H.T. Wilson ’56 and Sandra W. Wilson W’56 Fund in HMEI
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