



Environmental  
Innovations Initiative  
*UNIVERSITY of PENNSYLVANIA*

# 2023-2024 ANNUAL REPORT

---





## About the Environmental Innovations Initiative

The Environmental Innovations Initiative is dedicated to leveraging the considerable academic strengths of the University of Pennsylvania to meaningfully impact the critical environmental challenges of our time. Launched in 2020 and housed in the Office of the Provost, the Initiative is built around a vision of informing the transition to a more resilient society and fostering harmony with nature. To date, the Initiative has facilitated collaboration across disciplines, led inclusive and dynamic programming on- and off-campus, formed strategic alliances with external partners, and elevated the visibility of Penn's assets. Highlights of these key accomplishments from 2023-24 follow.



Cover Photo: Students walk through verdant Kaskey Park. Credit: Tommy Leonardi  
 Photos this page, upper section, clockwise from top left:  
 Climate Leaders at Penn hike the Wissahickon. Photo: Hannah Winn  
 Climate Week 2023 Panel with Deans. Photo: Tommy Leonardi  
 EII Research Coordinator Xime Trujillo at MIT Transatlantic  
 Symposium in Sustainable Development 2023. Photo: EII  
 Integrating Sustainability Across the Curriculum kickoff meeting. Photo: EII  
 Photos this page, lower section, clockwise from top left:  
 Graduate School of Education Design Sprint. Photo: EII  
 Climate Week 2023 Monarch event. Photo: Tommy Leonardi  
 ACCESS Meeting at Penn, June 2023. Photo: EII

# IN THIS REPORT

LETTER FROM FACULTY DIRECTOR.....	4	TRANSDISCIPLINARY RESEARCH.....	14
ACADEMIC CLIMATE COMMITMENTS.....	5	Reports and Publications.....	14
School of Arts & Sciences.....	5	Faculty Database.....	14
The Wharton School.....	6	Research Communities.....	14
The Annenberg School for Communication.....	6	Renewable Energy Research.....	15
School of Dental Medicine.....	7	TRANSFORMATIVE EDUCATION.....	16
The Weitzman School of Design.....	7	Course Inventory.....	16
Graduate School of Education.....	8	Integrating Sustainability Across the Curriculum.....	16
School of Engineering and Applied Science.....	8	Experiential Learning.....	16
Penn Carey Law.....	9	Climate Change Survey.....	16
Perelman School of Medicine.....	9	Climate and Health Education Working Group.....	17
School of Nursing.....	10	Student Groups.....	17
School of Social Policy & Practice.....	10	PEOPLE.....	18
School of Veterinary Medicine.....	11	Staff.....	18
VISIBILITY.....	12	Internal Advisory Committee.....	18
Events.....	12	Faculty Fellows.....	22
Communications.....	13		
Meetings.....	13		

Photos this page, clockwise from top left:

Regenerative Agriculture Alliance Event during Energy Week. Photo: Ashley Hinton

The Water Center at Penn Policy Forum. Photo: EII

MLK Day Panel: Environmental Justice for All. Photo: EII

Monarch butterfly planting event at Climate Week. Photo: Tommy Leonardi





# LETTER FROM OUR FACULTY DIRECTOR

---

From ocean currents to insulation, ESG to environmental justice, albedo to agriculture, climate models to carbon markets, no one academic discipline has the breadth to alone solve the climate crisis.

It was with these connections in mind that the Environmental Innovations Initiative (EII) was established by the Office of the Provost in January 2020. Our goals are to support, connect, and expand research and education on climate and the environment, working with all of Penn's 12 Schools and many campus partners. In 2022, EII collaborated with each school to publish Academic Climate Commitments that reflected their unique expertise and aspirations. In the pages that follow, we are pleased to share updates on the progress of those commitments.

Some of EII's key initiatives meaningfully expanded in 2023-2024. We updated and refined our faculty research database and course inventory. We launched a new inventory of environmental experiential learning opportunities that we aim to grow. We shared reports

on the state of climate and environmental research on campus. We administered Climate Week at Penn with tremendous University engagement – more than 40 events.

Research forms the core of our mission. Our Research Communities brought together participants from every school, integrating innovative research with student and community engagement to solve real-world environmental problems, complemented by our new PPA Renewable Energy Research Program. We've also added a new Action CAFÉ (Convene, Accelerate, Foster, and Expand) program to generate new collaborations. Our first, on extreme heat, is currently underway.

At all levels, EII strives to connect – students, faculty, staff, and our various communities – and to generate knowledge, educate, and help build a world we can and want to live in. This report provides more details on the recent work of EII and our partners: I invite you all to join us.



Kathy Morrison, Faculty Director



Kathleen D. Morrison is the Sally and Alvin V. Shoemaker Professor of Anthropology, curator in charge in the Asian Section at the University of Pennsylvania Museum of Archaeology and Anthropology, director of the Penn Paleoecology Lab, and faculty director of the Environmental Innovations Initiative. Her research focuses on anthropogenic changes in land use and land cover at local, regional, and global scales. Current projects include LandCover6k, a global database of Holocene land use and land cover, and South Indian Landscape Trajectories, an analysis of the last 5,000 years of farming, food, and power, and their connections to environmental change in the semi-arid regions of peninsular India.

# ACADEMIC CLIMATE COMMITMENTS

---

Academic inquiry at Penn is spread across its 12 Schools, four of which offer undergraduate degrees and all of which offer graduate degrees. While each of these Schools is dedicated to specific disciplines, there is a shared commitment to collaboration, impact, and the integration of knowledge across the disciplines. The Environmental Innovations Initiative collaborated with the leadership of each of Penn's 12 Schools to issue a set of distinct [Academic Climate Commitments](#) that reflect the scholarly priorities of each school, identify opportunities for advocacy within industries and communities, and draw connections between

the School's activities and Penn's commitment to be carbon neutral by 2042. Launched during Climate Week at Penn 2022, each of these public-facing commitments has its own priorities, aspirations, and even formatting. These unique elements are essential to establishing statements that are authentic to the strategic vision of the School while advancing a united sense of purpose for Penn's teaching, research, and service. In the following pages, we share the progress made on these commitments during the 2023-24 academic year.

*All building photos courtesy of University of Pennsylvania.*



College Hall

## School of Arts & Sciences Academic Climate Commitment Statement

From diverse disciplinary angles, the School of Arts & Sciences has been guided by one of the pillars of its strategic plan: Energy, Sustainability, and the Environment. Research in climate science and modeling to predict future impacts and hotspots proceeded alongside

work to understand the human impacts of these changes through historical, political, and narrative lenses. Faculty hires have enhanced the scholarly community across the natural sciences, social sciences, and humanities, while new courses provide entry points for students to engage in related topics, from climate finance to science, environmental humanities to biology. Construction on the Vagelos Laboratory for Energy Science and Technology, the future home of the Vagelos Institute for Energy Science and Technology, progressed rapidly. Centers including the Penn Center for Science, Sustainability, and the Media; the Water Center; and the Penn Development Research Initiative-DevLab, as well as the newly launched Plant ARC, hosted numerous events and seminars, and sponsored student work on campus, in the Philadelphia community, and abroad. The School's climate activities are now captured on the [Climate@SAS website](#), giving a public face to its multi-faceted scholarship.



Huntsman Hall

## The Wharton School of Business Solutions to Climate Change and Loss of Nature

The Wharton ESG Initiative is climate and environmental scholarship's home within the Wharton School, a preeminent center for business teaching and education. In the 2023-24 academic year, Wharton unveiled [two MBA majors and ESG concentrations](#)— Environ-

mental, Social, and Governance Factors for Business and Social and Governance Factors for Business—that will provide in-depth foundations for those interested in the complex relationships between both business and the natural environment, and business and society more broadly. These majors build on the Business, Energy, Environment and Sustainability major and concentration launched in 2019. In 2024, 52 MBAs graduated with an ESG major, making it the sixth most popular major in the School. We funded 41 faculty and 37 doctoral students to conduct \$286,235 of independent research and \$2.8m of sponsored research. 154 students at the University spanning nine of 12 schools at Penn, as well as 578 students from 60 other universities, engaged in our co-curricular programs. The Wharton ESG Initiative's centers, industry partnerships, research, and student engagement opportunities build on the broader Wharton School's commitment to prepare the next generation of business leaders for a world of change and challenge.



Annenberg School for Communication

## Communication and Climate Commitments at the Annenberg School for Communication

The Annenberg School for Communication has embraced the challenge of climate change, framing it as a key element connecting its core strengths and initiatives as a school. This year the School launched its [Climate Communication Division](#), a hub for interdisciplinary,

translational research on climate communication, resilience, action, and policy which focuses on topics at local scales (for example, environmental justice initiatives in West Philadelphia) and global scales (i.e., the development and evaluation of media campaigns that communicate climate science knowledge). Scholarship to develop standards for climate communication has grown, with faculty leading efforts to advance research, develop principles for communicating climate science, offer courses that support participatory climate action, and sponsor training opportunities for postdoctoral fellows and graduate students. In addition, in April 2024 the Annenberg Public Policy Center and Penn Center for Science, Sustainability, and the Media hosted the Society for Environmental Journalists, bringing more than 1,000 members of the media to Penn's campus to learn and share best practices for conveying complex science and policy in a changing media landscape.





Evans Building Schattner Clinic

## School of Dental Medicine Climate Commitment Statement

The School of Dental Medicine has recently been centering the importance of sustainability in dental education, and plans to integrate

One Health and Planetary Health case studies to existing education modules. The School's Director of Planetary Health, in conjunction with the Center for Integrative Global Oral Health, is highlighting the link between oral health, biodiversity, climate, and planetary health through various educational materials, events, and attendance at global fora. The School now offers continuing education on One Health concepts and hosted a virtual symposium associated with COP29, [Global Oral Health and Climate Action Conference](#), to be followed by additional planned programming at COP30. In addition, Penn Dental Medicine issued a Climate and Sustainability Pledge on Earth Day 2024, underscoring its commitment to "safeguard Earth's systems through meaningful action for climate resilience and emissions reduction."



Charles Addams Fine Arts Hall

## The Weitzman Design for Climate Commitment: Resilience, Justice, Decarbonization, & Creativity

At the Weitzman School of Design, faculty and students are advancing climate change adaptation and mitigation and environmental justice through research to (1) develop carbon-negative buildings and translate

biomaterial systems into everyday products and structures; (2) equip communities to combat coastal erosion, urban heat islands, and risks from sea-level rise like saltwater intrusion; and (3) increase the health, equity, and resilience of cities, regions, and transportation networks through solutions like regenerative agriculture. The Ian L. McHarg Center for Urbanism & Ecology mounted an exhibition in China and Taiwan of 25 landscape projects exemplifying ecological design; the [Center for Environmental Building Design](#) completed carbon accounting for Penn's Climate and Sustainability Action Plan; and the Kleinman Center for Energy Policy continued to serve as a hub for established and emerging energy leaders by hosting Energy Week, leading a delegation at the United Nations Climate Change Conference, and publishing dozens of policy digests and reports.



Graduate School of Education

### Graduate School of Education Environmental Justice Commitment

Faculty, staff, and students at the Graduate School of Education are contributing to a growing momentum around climate and environmental issues, both inside and outside the classroom. Leadership in the [Project-Based Learning for Global Climate Justice research community](#) has generated opportunities for

teachers both nationally and internationally to consider climate action practices in their teaching. The GSE-led [Public Deliberation on Climate Transitions and Well-Being](#) research community is similarly expanding understanding of how to enhance collective action on climate change, in that case through public deliberations. On a community level, a “Green Team” has activated a committed group at the School to ensure its operations incorporate sustainable practices on a day-to-day basis. GSE has also formed a standing committee called Climate Change and Environmental Education comprised of faculty and staff who seek to inform, promote, and collectively engage the school in strategies to reduce GSE’s carbon footprint and more broadly to motivate practice and research in the field of education to mitigate climate change impacts. Additional research initiatives that aim to involve School District of Philadelphia students and stakeholders in environmental health investigations are in development, involving interdisciplinary expertise from within GSE and around the University.



Singh Center for Nanotechnology

### School of Engineering and Applied Science Energy & Sustainability Signature Initiative

Leading in climate change and sustainability education and research is a top priority at the School of Engineering and Applied Science. Recent faculty hires, who have expertise in energy and sustainability, have

expanded the School’s course offerings in these areas, with numerous opportunities for experiential learning. Research through the National Science Foundation-funded [Internet of Things for Precision Agriculture](#) has strengthened connections within Penn and elsewhere to apply microsensors, robotic swarms, and data science tools to increase agricultural productivity. Other faculty are working on technologies to improve water quality, design sustainable materials, develop efficient batteries and alternative fuels, and refine carbon capture practices to quell the impact of climate change. Plans are underway to offer a new degree in sustainability. Meanwhile others are conducting applied research to explore the sustainable features of campus buildings as the state-of-the-art Vagelos Laboratory for Energy Science and Technology opens.





Silverman Hall

## Penn Carey Law Climate Change and Environmental Law

Penn Carey Law led critical conversations and scholarship connected to climate change law and policy. Faculty produced research and publications on topics such as environmental regulation, energy policy and governance,

and global climate policymaking. The Penn Program on Regulation (PPR) hosted the [AI and Climate Change workshop series](#), which invited experts from within Penn as well as from around the nation to explore the role of artificial intelligence (AI) in enhancing solutions to address climate change, including methods for improving the technology's sustainability and energy efficiency. PPR's The Regulatory Review has offered a platform for sharing new insights on issues from land use to the energy transition. Collaborations with the Kleinman Center for Energy Policy and other hubs on campus enabled Penn Carey Law to engage in impactful discussions featuring prominent climate and energy policy and legal scholars. And with new courses related to climate change and sustainability, as well as [externship offerings at the U.S. Environmental Protection Agency](#), students have an increasing number of chances to hone their skills and knowledge in these areas.

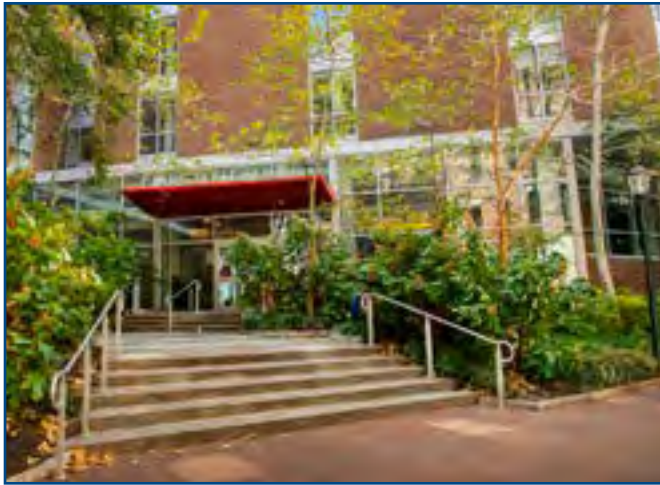


John Morgan Building

## Perelman School of Medicine Planetary Health Statement

With the recognition that the climate crisis is a health crisis, the Perelman School of Medicine is committed to preparing its students to provide high-quality care in a changing world. Over the 23-24 academic year, faculty

have worked to enhance a [planetary health curriculum for medical students](#) during their preclinical years through the development of lectures, workshops, supplementary reading, and an elective course dedicated to the health effects of climate change. Faculty-led research at the School has made inroads in exploring the health implications of climate change, such as effects on cardiac, pulmonary, and neurological diseases, with a particular focus on vulnerable populations facing environmental injustices. Faculty and student-led initiatives have also focused on the impacts of the healthcare sector as a contributor to climate and sustainability challenges. Penn Medicine has committed to becoming "the nation's most environmentally friendly health care organization" and will continue to pursue multidisciplinary opportunities for faculty, students, and staff to be at the cutting edge of healthcare sustainability.



Claire M. Fagin Hall

## School of Nursing Commitment to Climate Justice

The 2023-24 academic year saw a growing effort to elevate climate change in clinical, scholarly, teaching, and operational practices within the School of Nursing. Through

facilitating the Climate and Health Education Working Group, Penn Nursing faculty have brought together a cross-disciplinary community of faculty, staff, and students interested in expanding educational offerings in these areas. One of these efforts, to build a repository of pedagogical resources connected to climate and health, is in development currently. The School's faculty participated in prominent discussions – at the local, national, and global level – about climate change as a social determinant of health and the need to work with other health professions to address the threat it poses. In addition, the School's standing Climate and Sustainability Innovations Committee has increased efforts to ensure the daily operations of the School embrace sustainable practices and encouraged growing awareness of climate-related issues.



Caster Building

## School of Social Policy & Practice Climate Statement

The School of Social Policy & Practice continues to advance its scholarly contributions to the social impacts of climate change during the

2023-24 academic year. With new faculty hires whose research pertains directly to climate and the social inequities that it creates or exacerbates, the School's portfolio of both research and teaching connected to climate and sustainability has grown. In addition, climate represents a new focal area for the [Center for High-Impact Philanthropy](#), which is embarking on a study of how private actors enhance societal resilience by addressing environmental inequalities. Students from SP2 increasingly have access to opportunities to bolster their climate education with interdisciplinary collaboration from across the University. And by hosting and participating in key events that explore the intersection of social policy, practice, and climate justice, the School has ensured that the Penn campus community – and beyond – understands the human stakes of climate action.





Hill Pavilion

## School of Veterinary Medicine Climate Connection Statement

Climate and sustainability are focal issues for the School of Veterinary Medicine, which has been expanding its related research and teaching efforts using the [One Health](#) framework—a recognition that human, animal, and environmental health are inextricably linked. Penn Vet faculty-led climate research has emphasized climate mitigation through

nutritional and genetic selection, maximizing health and productivity, regenerative agriculture, wildlife health and biodiversity, and infectious disease surveillance. This work takes place throughout the School, including in hubs at the Center for Stewardship Agriculture and Food Security, the Institute for Infectious and Zoonotic Diseases, and the Wildlife Futures Program. In 2023-24, the One Health in Action team at the School organized a year-long seminar series on climate and health concerns and building cross-campus community now working to advance a variety of educational offerings to train students across Penn to be transdisciplinary thinkers and practitioners. The School also has had a presence at key global and national convenings, from the UNFCCC Conference of the Parties and World Health Organization to the Environmental Defense Fund and Perry World House. Lastly, the school has enlisted a consultant who has completed an assessment of solar energy potential at New Bolton Center, where we have set a goal of 100% electricity by renewable energy by 2030.



EII participated in an Academic Consortium for Climate, Environment, and Sustainability Solutions (ACCESS) gathering at Duke University in February 2024. Photo: EII.

# \$142K

PROVIDED BY EII

in support to interdisciplinary Research Communities

# 40

CLIMATE WEEK EVENTS

held on campus from September 18-22, 2023

# VISIBILITY



## Events

With a variety of events, EII helped spread the word about timely research and information on environmental justice, climate change, and research and education opportunities, bringing together the Penn community with interdisciplinary conversation and outreach. [Events](#) included:

- **Beyond Paint: Lead Exposure Risks for People and Wildlife**
- **Environmental Justice for All: A Panel on Current Research and More-Just Futures**
- **Action CAFÉ Workshop on Climate Change**

## Climate 101

Inspired by an idea from our Faculty Fellows, EII launched our [Climate 101](#) series, with the first installment featuring Michael Mann, aiming to demystify climate change and its connection with a variety of disciplines.



L to R: Kathy Morrison, Michael Mann, and Katie Baillie at the first Climate 101 session

## Interdisciplinary Events

EII also co-sponsored a variety of convenings exploring climate and the environment from an interdisciplinary perspective:

- **MEGA-ECO: A Symposium on Very Large-Scale Landscape Projects by**



the Weitzman School of Design

- **Climate and Democracy** series organized by the Andrea Mitchell Center for the Study of Democracy and the Penn



Program in Environmental Humanities

- **AI and Climate Change** by the Penn Program on Regulation
- **Conference on the Political Economy of Climate Change and the Environment** by the School of Arts & Sciences' Political Science Department
- **Divergent Environmentalism** by the School of Arts & Sciences' History Department

### Climate Week

[The 2023 Climate Week at Penn](#) was a terrific success, featuring 40 events that brought together hundreds of members of the Penn community to learn and act on the climate emergency. A panel of the health school deans, a film screening and discussion about Antarctic ice cores, a research poster session, and a tribute to pollinators capped by a Monarch Waystation planting were among the events led by EII.



Eshan Singhal at the 1.5\* Minute Student Climate Lectures Photo: Tommy Leonardi

### Communications

Through our website, monthly e-newsletter, and social media, EII serves as a hub for informative and useful news and resources for the Penn community and beyond.

### Feature Content

With great support from our student workers, we launched an [Explainer Series](#), highlighting the environmental challenges of artificial intelligence and fast fashion. Our new Faculty Spotlight series featured a Q&As with EII Faculty Director Kathy Morrison and [Chinedum Osuji](#), an EII Faculty Fellow and professor and chair in the School of Engineering and Applied Science.

### Social Media

Our social media content drew nearly 70,000 impressions across our channels during the fiscal year, growing our audience by 800 followers across platforms.

### Newsletter

We distributed our [monthly newsletter](#) sharing our own activities and serving as a resource for news, events, and opportunities among partners across campus and beyond.

### Website

Our website ([environment.upenn.edu](http://environment.upenn.edu)) continued to develop, serving as a repository for program and event information. The most visited pages included our Explainers and our course inventory. The EII team also updates the Climate Week website ([climateweek.provost.upenn.edu](http://climateweek.provost.upenn.edu)) annually to organize and promote the year's offerings.

### Meetings

EII represents Penn among higher education groups that work in the climate change space, learning how other universities share research and promote their programs.

### ACCESS Group

Penn hosted the first gathering of an Ivy+ peer group, now the [Academic Consortium for Climate, Environment, and Sustainability Solutions](#), on Penn's campus in June 2023, and attended and presented at a second meeting at Duke University in 2024. At monthly meetings, members of the group share best practices, contribute to peer reports, and are planning future research collaborations and shared events.

### Global Gatherings

EII participated in a variety of global gatherings, such as the International Sustainable Campus Network Conference, where staff members presented on Penn's Academic Climate Commitments and faculty database, the Trans-Atlantic Symposium on Sustainable Development, and the United Nations High-Level Political Forum.

# TRANSDISCIPLINARY RESEARCH

## Reports and Publications

EII spent time during FY24 taking stock of Penn's strengths and areas of potential when it comes to research and teaching connected to climate, the environment, and energy. The results were a comprehensive research report, a peer landscape analysis, and finally a proposal to expand Penn's investments in this area through the Penn Institute for Climate and the Environment, all presented and delivered to leadership in the Schools and at the University level.



## Expansion of Faculty Database

Climate and environmental research springs from all 12 Schools at Penn. The faculty whose research connects to global priorities are featured in an interactive visualization using the UN Sustainable Development Goals (SDGs) as a framework. In February 2024, EII partnered with Penn Libraries to update the [faculty database](#) based on an analysis of publications between January 2019 and December 2023. Our database



Connecting Penn's teaching and research to the Sustainable Development Goals based on publications between January 2019 and December 2023; 1,250 standing faculty working on topics connected with the SDGs; 1,926 connections found in total.

analysis merged three data sources: the faculty database published in January 2023, the list of Penn authors and connections to the SDGs from the Dimensions database, and a list of Penn faculty. With the support of interns, EII published an updated platform in May 2024 with 99 new researchers and a 4% increase in SDG connections over the 2023 database.

## Research Communities

In the 2023-24 academic year, EII welcomed its third cohort of [research communities](#), collaborative enterprises selected to address a common theme of broad environmental significance in an interdisciplinary group.

- **One Health @ Penn**, led by Jenni Punt of the School of Veterinary Medicine
- **Public Deliberation on Climate Transitions and Well-being**, led by Rand Quinn of the Graduate School of Education and Steven Kimbrough of the Wharton School



- **Project-based Learning for Global Climate Justice**, led by Zachary Herrmann and Taylor Hausburg of the Graduate School of Education
- **Regenerative Ag Alliance**, led by Thomas Parsons of the School of Veterinary Medicine and Mark Alan Hughes of the Kleinman Center for Energy Policy



Volunteers planting trees at Penn's New Bolton Center

- **Symbiotic Architecture for Environmental Justice**, led by Laia Mogas-Soldevilla of the Weitzman School of Design

### Renewable Energy Research

EII launched the [PPA Renewable Energy Research Program](#) to support faculty, staff, and student-led projects with \$50k annually. The 2023 funds enabled on-the-ground research on soil health and carbon storage on the site of the Power Purchase Agreement and also contributed to the work of the Regenerative Ag Alliance and Project-Based Learning for Global Climate Justice research communities



Soil testing underway at the solar project site. Photo: AES

- **Understanding Climate Anxiety and Messaging in Climate Change Communication**, led by Michael Mann of the School of Arts & Sciences, Annenberg School for Communication, and Penn Center for Science, Sustainability and the Media

## 6

### RESEARCH COMMUNITIES

Funded for the 2023-24 Academic Year

## 3

### STUDENT GROUPS

Funded for the 2023-24 Academic Year



Collaborating on Climate and Health: A Discussion with Deans at Climate Week 2023  
Photo: Tommy Leonardi

# TRANSFORMATIVE EDUCATION

## Course Inventory

EII is committed to supporting models for transformative education that ensure all Penn students have the opportunity to learn about their capacity as changemakers. For this purpose, we curate a list of [environment-related courses](#) every year, crosschecked with academic units. We advertise the course inventory through printed and social media, and keep track of student enrollment in these courses with support from the University Office of the Registrar and Institutional Analysis. In 2024, we created a new tag for immersive courses, in which students accrue and apply environmental knowledge through travel, field trips, and laboratory experiences.



Students in Penn in the Alps, a Penn Global Seminar, have a chance to learn first-hand about the region's biology, geology, and culture. Photo: Reto Gieré

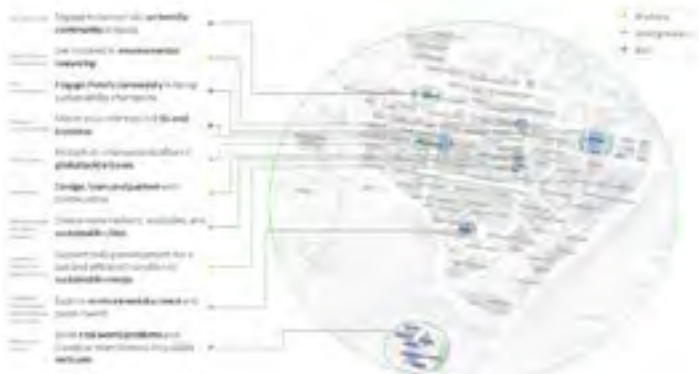
undergraduate research assistants, who collaborate directly with faculty or lecturers to update or develop syllabi, lectures, assignments, texts, and assessments that include environmental themes. The summer 2024 cohort included seven students who worked with six faculty members to enhance their courses.

## Experiential Learning

To help students explore the numerous pathways Penn offers to get hands-on in developing and testing ideas for solutions to pressing environmental challenges, we created a [curated guide](#) on our website. The page offers a mapping of courses, internships, applied research opportunities, and other immersive learning opportunities.

## Climate Change Survey

EII partnered with Penn Sustainability to create a university-wide survey on climate change. The survey allowed us to gauge the Penn community's understanding of our changing planet and learn about their aspirations regarding climate research and education.



Mapped representation of experiential learning on campus

## ISAC

Since 2012, the [Integrating Sustainability Across the Curriculum \(ISAC\)](#) program has assisted course instructors at Penn in incorporating environmental and sustainability themes into new and existing courses. EII began administering the program for the 2023-24 academic year in partnership with the Penn Sustainability Office. ISAC provides funding for graduate and



## Survey Overview

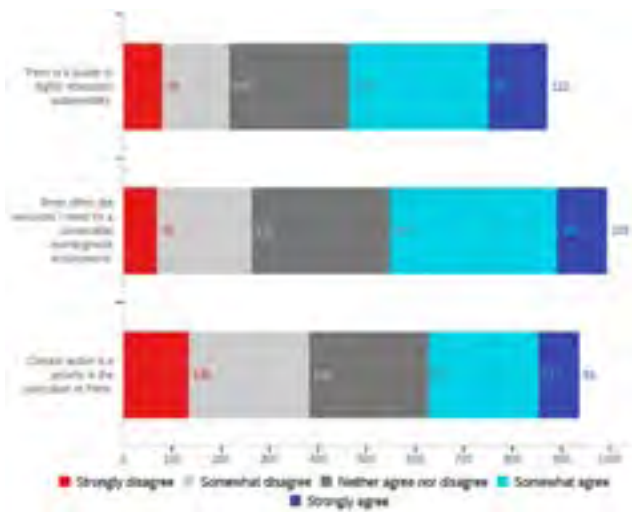
- 56 questions survey open October-December 2023
- Distributed in all 12 schools by Deans
- 1,481 responses collected via Qualtrics
  - 337 (28%) undergraduate students
  - 384 (32%) graduate students
  - 173 (15%) faculty
  - 291 (25%) staff

## Four key insights from the survey responses:

*Climate change is happening, and human activities are the primary cause.*

- 88% of all respondents are extremely sure that climate change is happening;
- 80% of all respondents consider human activities to be the primary cause of climate change.

Q15: Rate your level of agreement with the following statements:



*Environmental education counts.*

- 26% of undergraduates and 36% of graduate students are extremely interested in environment-related courses.
- Climate or environmental stewardship or climate change is extremely important to 22% of undergraduate and to 27% of graduate students regardless of their academic concentration.

Q22: How important is climate or environmental stewardship or climate change to your academic concentration?



*Experiential learning shows potential to grow.*

- 33% of faculty would be interested in advancing experiential learning to expand hands-on opportunities for students interested in developing and testing ideas for solutions to pressing environmental challenges.

Q37: How robust would you describe Penn's environment- and climate-related teaching and research?



*Interdisciplinary research and resources are related.*

- 34% of faculty are personally eager to receive support and have opportunities related to participate in transdisciplinary research on climate and the environment.

## Climate and Health Education Working Group

EII is a CHEWG member, a group of scholars from across campus who gather to dialogue and create resources related to education for planetary health, climate change, and sustainable health and social care.

## Student Groups

EII provided financial, logistical, and programmatic support to [Penn Climate Ventures](#), an undergraduate student club, [Climate Leaders at Penn](#), a graduate student club, and [EnviroLab](#), a graduate student-led community to support research on the interface of the environment and society.

# PEOPLE

---

## STAFF

**Katherine Unger Baillie**  
Director



**Ximena Trujillo**  
Senior Research  
Coordinator



**Kate LaSpina**  
Program Coordinator



**Kathleen D.  
Morrison**  
Faculty Lead



## INTERNAL ADVISORY COMMITTEE

**Nikhil Anand**  
Anthropology, School  
of Arts & Sciences



**Katie Barott**  
Biology, School of  
Arts & Sciences



**Eugenie L. Birch**  
Penn Institute for  
Urban Research



**Dawn Bonnell**  
Office of the Vice  
Provost for Research





## INTERNAL ADVISORY COMMITTEE

**Michael Borda**

Office of the Vice  
Provost for Research



**Paula Clark**

Development &  
Alumni Relations



**Cary Coglianese**

Penn Carey Law



**Cornelia Colijn**

Kleinman Center  
for Energy Policy



**Ocek Eke**

School of Engineering  
and Applied Science



**Jared Farmer**

History, School of  
Arts & Sciences



**Amy E. Gadsden**

Penn Global



**Femida Handy**

School of Social  
Policy & Practice



**Ira Harkavy**

Netter Center for  
Community  
Partnerships



**Andrew M. Hoffman**

School of  
Veterinary Medicine



## INTERNAL ADVISORY COMMITTEE

**Sarah Jackson**  
Annenberg School  
for Communication



**John L. Jackson, Jr.**  
Office of the Provost



**Sarah E. Light**  
The Wharton School



**Jianghong Liu**  
School of Nursing



**Michael Mann**  
Earth &  
Environmental  
Science, School of  
Arts & Sciences



**Irina Marinov**  
Earth &  
Environmental  
Science, School of  
Arts & Sciences



**Nina Morris**  
Penn Sustainability



**Hillary C. M. Nelson**  
Perelman School  
of Medicine



**Howard Neukrug**  
The Water Center



**R. Jisung Park**  
School of Social  
Policy & Practice





## INTERNAL ADVISORY COMMITTEE

**Thomas D. Parsons**  
School of  
Veterinary Medicine



**Jennifer  
Pinto-Martin**  
School of  
Veterinary Medicine



**Rand Quinn**  
Graduate School  
of Education



**Simon Richter**  
Germanic Languages  
& Literature, School  
of Arts & Sciences



**Akira Drake  
Rodriguez**  
Weitzman School  
of Design



**Suzanne Rose**  
Perelman School  
of Medicine



**Katherina Rosqueta**  
School of Social  
Policy & Practice



**Cynthia Skema**  
Morris Arboretum  
and Gardens



**Arthur van Benthem**  
Business Economics  
and Public Policy,  
The Wharton School



**Brigitte Weinstein**  
Penn Libraries



## INTERNAL ADVISORY COMMITTEE

**Michael Weisberg**

Philosophy, School  
of Arts & Sciences



**Mark S. Wolff**

School of  
Dental Medicine



## FACULTY FELLOWS

**Suzanna Berkouwer**

The Wharton School



**Henry Daniell**

School of  
Dental Medicine



**Julie Ellis**

School of  
Veterinary Medicine



**Emily Falk**

Annenberg School  
for Communication



**Teresa Giménez**

Latin American  
Studies, School of  
Arts & Sciences



**Barri Joyce Gold**

English, School of  
Arts & Sciences





## FACULTY FELLOWS

### Jon Hawkings

Earth and  
Environmental  
Science, School of  
Arts & Sciences



### Zachary Herrmann

Graduate School  
of Education



### Heather Huntington

Political Science, School  
of Arts & Sciences



### Farah Hussain

Perelman School  
of Medicine



### Sarah Kagan

School of Nursing



### Chenyi Ma

School of Social  
Policy & Practice



### Chinedum Osuji

School of Engineering  
and Applied Science



### Megan Ryerson

Weitzman School  
of Design



### Shelley Welton

Penn Carey Law



### Thanks to our students!

ELL's work would not be possible without our terrific team of student workers. During the 2023-24 academic year, Molly Flanagan, Yamila Frej, Chenyao Liu, Tiffany Luo, Nimisha Malik, Sohel Shah, Ayma Waqar, and Yi Zeng contributed valuable efforts to support the office's mission.

# CONNECT WITH US

---

For EII, 2024-2025 promises to be a productive and exciting year. We're supporting seven Research Communities, rolled out the Power Purchase Agreement Renewable Energy Research Program with three funded projects, held the University's largest Climate Week at Penn, are hosting

seven talks through the Climate 101 series, launched a Student Advisory Committee, are building Penn's Campus as a Living Lab program, and are continuing to collaborate with partners across campus on many other programs. Thank you for reading and please stay in touch to be part of our community!"



**penn\_environment**



**environment.upenn.edu**



**Penn Environmental  
Innovations Initiative**



*Sign up for our newsletter*

**bit.ly/eiinews**



**UPenn Environment**



**contact@environment.upenn.edu**