The Emmett Interdisciplinary Program in Environment and Resources

Stanford
SCHOOL OF EARTH, ENERGY & ENVIRONMENTAL SCIENCES
The Emmett Interdisciplinary Program in Environment and Resources

Training Leaders for a Sustainable World

The Emmett Interdisciplinary Program in Environment and Resources (E-IPER) attracts and trains some of the world’s most promising leaders working on issues related to environment, resources, and human wellbeing. Established in 2001 and named with a sustaining gift from the Emmett family in 2009, the program promotes interdisciplinary research and equips students with an unprecedented range of skills for discovering solutions and shaping policy.

With a highly competitive PhD program and a master’s degree for Stanford students enrolled in MBA, JD, MD, and selected other PhD programs, E-IPER is a globally recognized model for interdisciplinary education. E-IPER graduates are highly sought after in the public and private sectors and by universities around the world for their ability to bridge science and policy. The program’s approximately 200 alumni work on six continents and in a diverse array of industries and fields, applying E-IPER’s multidisciplinary approach to the most pressing resource and environmental challenges of our day.

**Emmett Matching Program**

In 2016 Rae and Dan Emmett, ’61, reaffirmed their support for E-IPER with a new gift that provides nearly $5 million in matching funds to help E-IPER add to and better leverage the highly diverse talents of the faculty and students in the program.

The Emmett Matching Program represents a special opportunity for interested donors to help enhance E-IPER by providing new resources for faculty, graduate fellowships, visiting scholars, and innovative research and educational opportunities for students. Gifts of $10,000 or more (payable over five years) are eligible to receive this one-to-one match.

Cover photos, clockwise from left:

1. Newly minted E-IPER PhDs, Commencement 2016. Photo by Jennifer Mason. 
2. Nik Sawe, PhD ’16, shared an overview of his research at TEDxStanford in 2015. He adapts neuroeconomics—the study of financial decision making in the brain—to environmental applications, exploring how people process information while they are making environmental decisions. 
3. The Southern Ocean off the coast of Antarctica. Photo by E-IPER MS-JD student Savannah Fletcher, a member of Stanford’s Environmental Law Pro Bono Clinic. 
4. Photo by Geoff Shester, PhD ’08, whose dissertation focused on the interplay between marine ecology and the economics of fisheries. He is currently the California Campaign Director for the international conservation organization Oceana. 
5. Center photo: A National Geographic Adventurer of the Year, E-IPER PhD student Shannon Switzer Swanson traveled to Tonga in 2016 to learn more about specially managed marine areas. As part of her investigation, she helped representatives of a local environmental group measure specimens of invertebrate species often sold in local markets. Photo by Michaela Clemence.
The Multidisciplinary PhD

E-IPER attracts top PhD students to Stanford, where they can draw on the full depth and breadth of expertise in the university’s seven schools.

The program’s core courses provide an overview of current environmental challenges, research design, and a range of qualitative and quantitative methods. Students then pursue in-depth study in at least two academic disciplines, learning side by side with their counterparts in the university’s many highly ranked departments. Nearly 120 Stanford faculty members are affiliated with E-IPER, serving as PhD advisors and providing guidance on dissertation research, methods, and connections beyond Stanford.

The PhD program currently admits six to eight candidates each year, with approximately 40 students working toward their degrees at any one time. More than half pursue academic careers after graduation, extending the impact of E-IPER’s multidisciplinary approach through their own teaching, research, and advising. Others hold roles in government, business, and nonprofit organizations.

Mapping the Spread of Disease

Laura Bloomfield, ’07, MS ’10, is pursuing her doctorate in E-IPER concurrently with her MD degree. Her PhD fieldwork is based in Kibale National Forest in western Uganda, where she investigates the transmission of retroviruses between human and nonhuman primate populations.

“My research combines methods and theory from anthropology, ecology, epidemiology, and medicine,” she says. “I hope this work will feed into the larger framework of how we understand infectious disease transmission between people and wildlife and how we might intervene in the event that a new disease emerges.”

PHOTOS COURTESY OF LAURA BLOOMFIELD
The E-IPER master’s program in environment and resources provides Stanford professional school students with an opportunity to deepen their scientific understanding of the problems underlying environmental challenges and to develop potential solutions.

E-IPER offers a joint MS to selected students currently enrolled in Stanford’s Schools of Business and Law. Students in the Schools of Medicine and Education, and occasionally in other PhD programs, may earn a dual MS. Master’s students focus their coursework on one of nine broad, interdisciplinary topics and complete capstone projects that integrate their E-IPER and professional school coursework in addressing real-world environmental problems. Many MS graduates head to the private sector, where they integrate their sustainability expertise into careers in technology, finance, and other industries. Others pursue careers in public health, environmental advocacy, and government.

Each of the approximately 50 students in E-IPER’s master’s program is specializing in one of following tracks:

- Cleantech
- Climate and Atmosphere
- Fresh Water
- Global, Community, and Environmental Health
- Energy
- Land Use and Agriculture
- Oceans and Estuaries
- Sustainable Design
- Sustainable Built Environment

Scaling Solar

As a joint master’s student at E-IPER, Samuel Adeyemo, MBA ’13, MS ’14, was part of a team that designed comprehensive software to streamline the design and installation of photovoltaic systems.

In 2011, Adeyemo (above) had partnered with a Stanford GSB classmate to create a solar installation for a school in his native Kenya. They were surprised to find that, although the installation itself took only a couple of weeks, design and preparation required more than six months. Their effort to reduce costs and make solar more accessible grew into a Palo Alto–based startup.
Balancing Economic and Conservation Goals in the Arctic

An E-IPER collaboration grant led to an innovative proposal for managing new shipping channels opened by melting sea ice in the Arctic.

E-IPER PhD student Anne Siders and JD-MS student Rose Stanley (together with Kate Lewis, PhD student in Earth system science) combined legal, geopolitical, and geographic analyses in their research, which was published in the journal *Marine Policy*. Building on the concept of dynamic ocean management, they proposed a series of stakeholder engagement activities and threshold-based regulations that would enable resource users and managers to adjust the location and timing of conservation areas and protection measures. This type of dynamic regulation, they argue, would contribute to a balance of economic development and ecosystem protection in the region, and help stakeholders adapt to long-term changes.

Upon completion of their project, the students visited Anchorage, Alaska, to engage with stakeholders and study how their plan might fit into the Arctic’s emerging governance system.

Greater than the Sum of Its Parts

Coming from such specialized academic cultures as the Stanford MBA, JD, and MD programs, E-IPER master’s students bring diverse yet complementary strengths to environmental research and problem solving. Their collaboration with the program’s PhD students deepens the integration of disciplines and approaches. For example, a PhD student may contribute cutting-edge research to a business student’s start-up planning, while a law student may infuse PhD research with the professional school expertise required to influence public policy.

These synergies not only add value to each student’s E-IPER experience but also produce more innovative environmental solutions. Special grants facilitate MS-PhD collaboration on research questions of mutual interest, with the resulting projects contributing to MS capstone projects and PhD dissertation research.
E-IPER and its students are setting the standard for the kind of education and leadership needed to tackle humanity’s most pressing resource and environmental challenges, even as these problems grow in scope and complexity. The Emmett Matching Program will enhance E-IPER’s ability to provide rising environmental leaders with innovative academic and professional development opportunities that will support their highest aspirations for impact.

Most E-IPER students explore research questions at the interface of the human and biophysical/technical dimensions of social-environmental systems. Ensuring that the program has a broad array of faculty expertise in this area is high priority for E-IPER and a centerpiece of the Emmett Matching Program. Usually awarded to early- and mid-career faculty with special promise, faculty scholar funds may be used to recruit new faculty or to recognize existing Stanford faculty for their contributions to the program. In addition, the program occasionally is able to support visiting scholars and lecturers who have special expertise that complements that of regular Stanford faculty—for example, NGO leaders with many years of experience translating knowledge into action.

Securing additional PhD student support is another top priority. E-IPER guarantees each PhD student five years of funding in order to help attract the most talented and promising candidates. Over the years, many students have received federal research funding, including from the National Science Foundation. Already in decline, this kind of funding may drop precipitously in the next few years. Additional graduate fellowships will allow E-IPER to continue admitting six to eight students each year from the pool of exceptional applicants, and may even make it possible to expand the cohort size, despite the atmosphere of uncertainty.

In order to enhance the opportunities available to all its students, E-IPER plans to further develop the existing collaboration grant program. Collaboration grants generate innovative solutions by uniting the deep research expertise of PhD students with the tactical perspectives of professional school students. E-IPER also aims to offer opportunities grants to students who are presented with educational opportunities not directly related to their research. These grants will make it possible for students to participate in such activities as leadership training, multinational collaborations, and international policy meetings.

These forward-looking investments in E-IPER will help ensure that the program is able to empower students and faculty with new tools and approaches, supporting Stanford’s continued leadership in interdisciplinary environmental education.
A Passion for Education and the Environment

Rae and Dan Emmett, ’61, whose $10 million gift in 2009 named the Emmett Interdisciplinary Program in Environment and Resources, reaffirmed their support for E-IPER in 2016 with a new gift that includes nearly $5 million in matching funds.

“E-IPER has a critical role to play in preparing leaders for the challenges our planet will face in the decades to come,” says Dan Emmett, chairman of Douglas Emmett, Inc. “We hope that the matching program will encourage others who feel the same way about E-IPER and its role to join its community of supporters.”

Giving Opportunities

The high-impact gift opportunities outlined below qualify for this special 1:1 matching opportunity. Minimum gift thresholds may be met through multi-year pledges of up to five years. Gifts will be matched as matching funds become available.

**Faculty Scholar Fund (named, endowed) . . . . . . . . . . . . . . $1 million**
A $1 million commitment will earn a $1 million match to create a $2 million endowed fund that may be named for the donor or an honoree of the donor’s choosing.

**Graduate Fellowship Funds**

**Endowed Graduate Fellowship Fund (named) . . . . . . . . $600,000**
A $600,000 commitment will earn a $600,000 match to create a $1.2 million endowed fund that may be named for the donor or an honoree of the donor’s choosing. Invested in perpetuity, an endowed fellowship fund will provide sufficient payout each year to fully support one PhD student.

**Expendable Graduate Fellowship Fund (named) . . . . . $150,000**
A $150,000 commitment will earn a $150,000 match to create a $300,000 expendable fund that may be named for the donor or an honoree of the donor’s choosing. An expendable fellowship fund will support one PhD student annually for five years before it is fully expended.

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Emmett Matching Program for E-IPER

Giving Opportunities
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Expendable Program Support Fund (named) ................ $100,000+
A $100,000 commitment will earn a $100,000 match to create a $200,000 expendable fund that may be named for the donor or an honoree of the donor’s choosing.

To provide E-IPER students with innovative new learning opportunities, funds may be established to support one or more of the following:

• Collaboration Grants
• Visiting Scholars/Lecturers
• Student Opportunities Grants
• E-IPER Director’s Fund (which may be used at the E-IPER director’s discretion for any or all of the above purposes or for graduate fellowship support)

Endowed Program Support Fund (named) ................. $100,000+
A $100,000 commitment will earn a $100,000 match to create a $200,000 endowed fund that may be named for the donor or an honoree of the donor’s choosing.

A program support endowment provides ongoing, flexible funding for the E-IPER program in perpetuity. Allocated according to the program’s greatest needs each year, this kind of support can help the E-IPER director seize emerging opportunities as well as provide a buffer against fluctuations in federal and university funding and other uncertainties.

E-IPER Director’s Fund ........................................ $10,000+
Expendable gifts of at least $10,000 will earn a 1:1 match and will be pooled together to provide the E-IPER director with support for collaboration grants, visiting scholars, lecturers, graduate fellowships, and student opportunities grants.

E-IPER Endowment Fund ................................... $10,000+
Earning a 1:1 match, gifts to this fund help build E-IPER’s sustaining endowment and boost the annual payout that provides ongoing, flexible support for the program.

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