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FEATURE

## Thriving Planet Institute to tackle interconnected issues

*Addresses environmental challenges through cross-school collaboration*

Northwestern recently launched the Thriving Planet Institute (TPI), a new University-wide Research Institute and Center designed to bring together researchers, students, and external partners to address interconnected challenges involving water, land, air, and human health. Led by Jennifer Dunn (chemical and biological engineering), the institute is built around a distinctly interdisciplinary model that spans engineering, medicine, social science, business, policy, and the humanities.

As Northwestern's newest URIC, TPI will support research and partnerships focused on sustainable materials and chemicals, water and food security, ecosystem

resilience, and data-driven decision-making. By connecting expertise across schools and disciplines, the institute aims to accelerate solutions that improve both environmental quality and human well-being, particularly for communities facing disproportionate environmental burdens. [Read more.](#)

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## **RESEARCH BREAKTHROUGHS**

### **Why nature struggles to break down plastic**

*Study reveals how water chemistry can hinder one of Earth's natural cleanup processes*

Why does plastic remain in waterways for decades? A new Northwestern study points to an overlooked culprit: the water itself. Researchers found that naturally occurring salts and organic matter in freshwater and seawater can suppress the sunlight-driven reactions that begin breaking down polystyrene. Without that crucial first step, microbes are far less effective at completing the cleanup process.

Published in *Materials Degradation*, the research helps explain why plastic often persists much longer in the environment than laboratory studies predict. Led by Ludmilla Aristilde and conducted by postdoctoral researcher Nasrin Naderi Beni and doctoral student Cara Flynn, the work could inform future efforts to design plastics

that degrade more reliably under real-world conditions while improving scientists' ability to predict environmental impacts. [Read more.](#)

#### RESEARCH BREAKTHROUGHS

### **IPR research examines labor enforcement and democratic representation**

Recent work from Northwestern's Institute for Policy Research explores two pressing public policy questions. A new [policy brief](#) led by political scientist Daniel Galvin finds that many labor agencies are not fully using available enforcement tools to address wage theft, limiting protections for low-wage workers. Meanwhile, economist and legal scholar Chika Okafor [examined the implications](#) of the Supreme Court's recent *Louisiana v. Callais* decision, arguing that minority groups can face structural disadvantages in political representation even under formally colorblind systems. Together, the projects highlight how Northwestern researchers are informing debates on equity, governance, and public policy.

#### RESEARCH BREAKTHROUGHS

### **Northwestern 'Megalibraries' platform advances AI-powered materials discovery**

A Northwestern-led team has shown that megalibraries—high-throughput platforms capable of rapidly generating and testing thousands of material combinations—can accelerate materials discovery beyond conventional “self-driving lab” approaches. In a new study published in *Science Advances*, researchers identified a promising piezoelectric material and then engineered a version optimized for a specific operating temperature, completing the process in a matter of hours.

Led by Chad Mirkin and colleagues, the research demonstrates how megalibraries can combine rapid experimentation with data-driven design. By generating massive datasets suitable for artificial intelligence and machine learning applications, the platform offers a powerful new approach to discovering and optimizing materials for energy, sensing, and electronic technologies. [Read more.](#)

#### RESEARCH BREAKTHROUGHS

### **Rethinking disaster recovery for a more sustainable future**

*Northwestern researchers help chart a path toward rebuilding that strengthens both communities and the environment*

Disasters leave behind more than damaged homes and infrastructure—they also generate massive amounts of debris and demand for new construction materials. A new report coauthored by Northwestern researchers argues that recovery efforts should incorporate more sustainable approaches to material sourcing, debris reuse, and rebuilding practices. Drawing on two decades of case studies, the report outlines strategies that can reduce environmental impacts while improving long-term resilience.

The effort included Northwestern Engineering faculty Stephen Carr, William Miller, Jennifer Dunn, and Andreas Wächter, alongside partners from the World Wildlife Fund, RMIT University, and the United Nations Office for Project Services. [Read more.](#)

#### RESEARCH NEWS ACROSS CAMPUS

### **Trienens Institute welcomes inaugural fellows**

The Paula M. Trienens Institute has announced the first cohort of Sustainability and Energy Fellows, a new three-year postdoctoral program designed to support interdisciplinary research on energy, climate, and sustainability challenges. The eight fellows, selected from leading institutions in the U.S. and abroad, will pursue independent research while working with multiple Northwestern faculty mentors across disciplines. Research topics span renewable energy, advanced materials, climate policy, urban resilience, and cleantech innovation. [Learn more.](#)

#### IMPORTANT POLICY AND GUIDANCE UPDATES

### **Risk mitigation plans: What researchers need to know**

Federal agencies are increasingly conducting research security reviews and may request additional information or require a Risk Mitigation Plan (RMP) as part of a proposal review, award, or ongoing project. An RMP is a Northwestern-developed document that outlines measures to address sponsor-identified research security risks and demonstrate compliance, such as training, travel reporting, restricted party screenings, and collaboration approval requirements. If you receive a request for a mitigation plan, a research security request for information—or identify non-standard research security requirements in an award or award modification—contact Northwestern's Export Controls and International Compliance (ECIC) team immediately. Early coordination helps ensure a timely and accurate response. ECIC works closely with principal investigators to respond to these requests and develop RMPs. [More details.](#)

Questions or requests should be forwarded to [exportcontrols@northwestern.edu](mailto:exportcontrols@northwestern.edu) and [amy.weber@northwestern.edu](mailto:amy.weber@northwestern.edu).

#### IMPORTANT POLICY AND GUIDANCE UPDATES

### Updated DoD Risk Decision Matrix

The Department of Defense released updated research security [rules](#), effective March 9, 2026, that may affect eligibility for DoD funding and introduce new review or mitigation requirements. Under the revised DoD [Risk Decision Matrix](#), proposals may be flagged for risk, require additional review, or be denied.

#### You may be impacted if you:

- Collaborate with or have published within the past five years with entities on expanded U.S. restricted or prohibited lists;
- Use foreign-sourced research equipment from prohibited organizations;
- Participate in foreign talent recruitment programs or receive foreign funding or patent support from a country of concern, including China, Hong Kong and Macau, Iran, North Korea, or Russia.

#### What this means:

- Certain equipment and collaborations may be prohibited on new DoD-funded projects;
- Previously allowable relationships or resources may now require review or mitigation.

Researchers with current or planned DoD funding should review the updated Decision Matrix and guidance and assess risks early. The [Export Controls & International Compliance team](#) is available for questions, risk reviews, and mitigation support.

#### RESEARCH NEWS ACROSS CAMPUS

### IRB launches new full board review panel

*Panel M expands review capacity for biomedical and device-related research*

The Northwestern IRB Office has launched Panel M, the institution's seventh Full Board IRB panel. Meeting monthly, Panel M will serve as a biomedical review panel with expertise in device research. The addition will help distribute review volume across existing panels and strengthen the IRB Office's capacity to support investigators conducting human research.

Additional information is available on the [Full Board Review Page](#). Find panel schedules on the [Panels & Rosters Page](#).

#### RESEARCH ACTIVITIES ACROSS CAMPUS

### **InQbation Lab event supports research translation**

At recent Querrey InQbation Lab events, Northwestern researchers, entrepreneurs, and trainees explored the opportunities and practical challenges of bringing innovations to market. In *The Translation Economy*, Elan Ness-Cohn discussed the scientific, regulatory, financial, and stakeholder hurdles that can prevent promising discoveries from reaching patients, while highlighting University [resources](#) that support commercialization. Find additional upcoming InQbation Lab events [online](#).

#### RESEARCH ACTIVITIES ACROSS CAMPUS

### **NUCATS x NICO Symposium sparks new interdisciplinary collaboration**

The [Symposium to Empower High-Priority Research Collaborations](#), hosted by NUCATS and NICO in February, brought together nearly 40 faculty participants from 29 departments, divisions, or units across Northwestern. Faculty participated in a team-based competition to form new research ideas, with the opportunity to apply for \$50,000 in seed funding to advance their projects toward external grant applications.

The winning proposal, “Impact of Evolving Environmental Soundscape on Noise, Stress, Communication and Sleep,” was submitted by Rosemary Braun, Bharath Chandrasekaran, Jennifer Dunn, and Judith Moskowitz—all of whom had not collaborated with each other previously.

# Research Matters

*Join us as the Northwestern  
community reflects on the scope  
and impact of research*



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