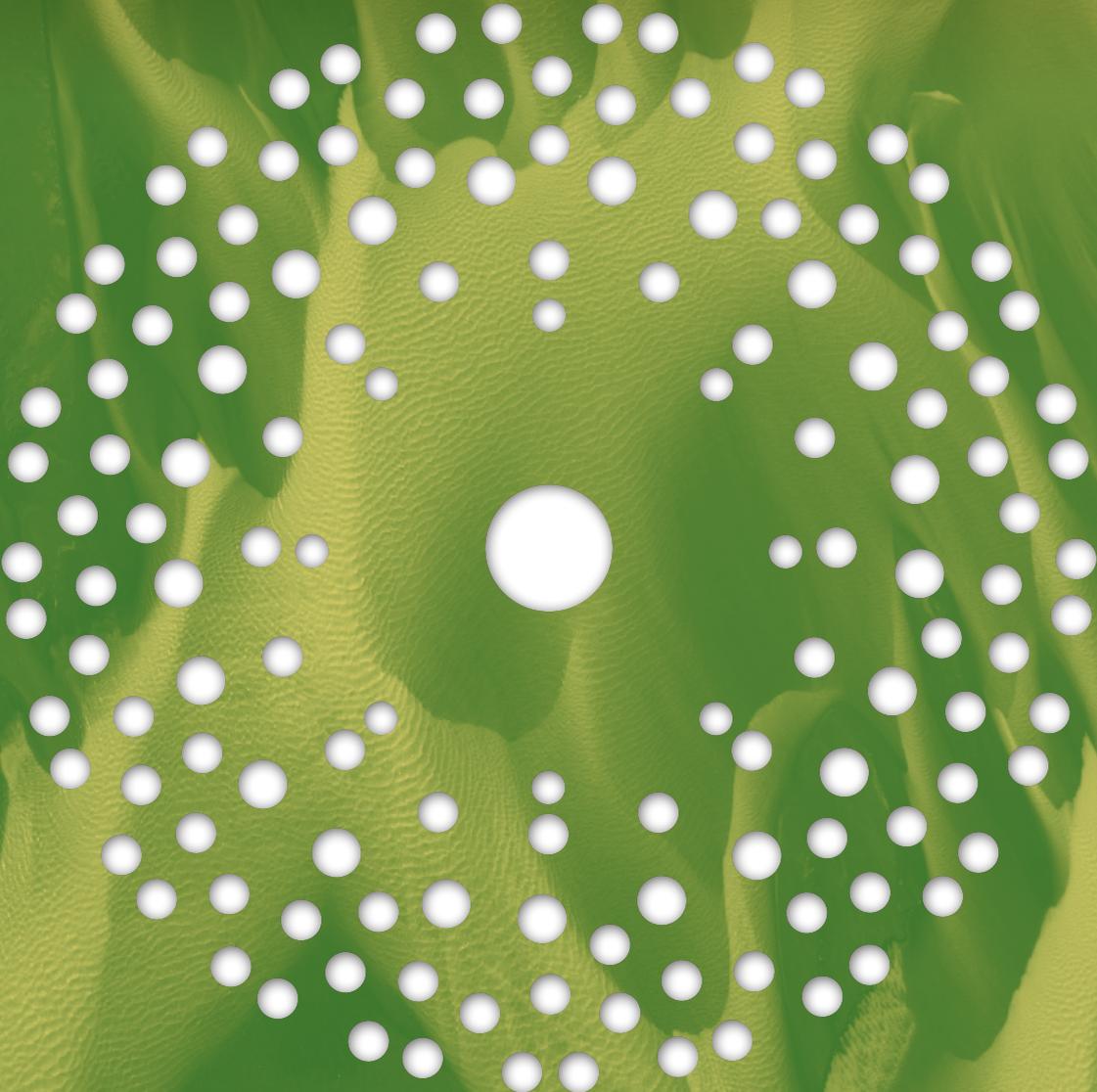


Tufts Institute  
of the Environment

# Welcome to the Tufts Institute of the Environment



## Contents

4  
Letter from  
the Director

6  
TIE's  
Story

8  
The Next Generation  
of Environmental  
Advocates

10  
Shaping Tomorrow's  
Global Leaders

12  
M.S. Sustainable  
Water Management

14  
Impactful  
Programs

18  
Make Your Impact  
With TIE

## Letter from the Director

As the hub of environmental initiatives and scholarship at Tufts University for the past two decades, TIE is in an exciting period of transformation and growth. We are expanding our roster of educational programs—currently anchored by the new, one-of-a-kind Master of Science in Sustainable Water Management and our long-standing certificate in Water Systems, Science, and Society. We are convening faculty and students across disciplines and schools in multiple areas of environmental impact, from food and agriculture to energy and climate change to policy and infrastructure.

Because we so deeply value partnerships as the foundation of innovative, creative solutions to environmental challenges, we strive to build relationships with best-in-class organizations, such as Greentown Labs, the largest clean technology incubator in North America, and the Stockholm Environment Institute, rated among the world's most influential environment policy think tanks.

As we look to the future, TIE seeks to solidify Tufts' position as a leader in environmental education, research, and outreach that will make an actionable difference in the health and resilience of our world and its inhabitants for generations to come. If our mission and programs, as described briefly in the following pages, resonate with your ideals and capture your imagination, I hope that you will seek to learn more about us and consider joining us in pursuit of our dream.

Sincerely,

**Linda M. Abriola,**  
Director, Tufts Institute of the Environment

Tufts Institute of the Environment (TIE) is a university-wide institute that initiates, facilitates, and supports interdisciplinary environmental education, research, and outreach toward a sustainable future.

# TIE's Story



In the early 1960s, Tufts University became one of the first academic institutions to emphasize safeguarding the world's environment—both through its actions and curricular offerings. It was at the heart of this environmentally conscious community that Tufts Institute of the Environment was created in 1998 with the aim to initiate and nurture the university's efforts in environmental research, learning, outreach, and service, across departmental and disciplinary lines. Today, Tufts

incorporates sustainability into everything it does—from LEED-certified buildings to zero-waste orientation events to forward-thinking academic programs—and TIE's work is central to that mission. After more than 20 years of operation, TIE continues to support the Tufts community and beyond by helping students, faculty, and our global partners pursue research, engage in contemporary environmental conversations, and contribute to emerging scholarship

## TIE's History as Environmental Stewards

19  
62

Tufts University becomes one of the first academic institutions to prioritize environmental changes and concerns by offering courses that addressed humanity's impact on the environment.

19  
84

Tufts establishes the Center for Environmental Management (CEM) with EPA funding to support projects, training, and outreach for faculty members conducting environmental research.

19  
98

Evolving out of CEM's enterprises, the Tufts Institute of the Environment (TIE) is created.

20  
04

From 2004-2006, TIE initiates the interdisciplinary Water: Systems, Science and Society graduate certificate program, hosts the first Tufts Energy Conference (TEC), and partners with the Stockholm Environment Institute (SEI).

20  
10

Tufts granted observer status to the United Nations Framework Convention on Climate Change (UNFCCC) Council of the Parties (COP). Each year since, TIE sends student and faculty members of the Tufts community as delegates.

20  
17

Tufts partners with Greentown Labs, the largest green-tech incubator in the U.S., to collaborate with local startup companies for implementation and innovation of green technology.

20  
18

TIE launches its first interdisciplinary graduate M.S. degree program in Sustainable Water Management (SWM) to equip students and water professionals to face global challenges through an intensive, focused year of study.

## TIE's Guiding Principles

TIE is driven by a set of core values that serve as an ethos for all our efforts and initiatives, as well as a guiding light for future endeavors:

### Interdisciplinarity & Diversity

TIE aims to bring together individuals from diverse disciplines and backgrounds, recognizing that collaboration among differing perspectives leads to new approaches and solutions for environmental challenges that would otherwise not exist.

### Creativity & Innovation

TIE calls for innovation and ingenuity across disciplines in approaching the critical issues facing our environment.

### Leadership & Activism

As thought leaders for environmental progress and research, TIE encourages all Tufts affiliates to strive for unique solutions in their community and participate in activism for a more justly sustainable future.

### Community & Partnerships

TIE strives to build a focused community of leaders, researchers, and activists, and encourages individuals and institutional partners to support and foster environmental progress.

# The Next Generation of Environmental Advocates



## Ifeanyi Mbah

**Degree:** Ph.D. in Civil Engineering '22  
**Hometown:** Southeastern Nigeria  
**TIE Connections:** COP25, Environmental Research Fellowship

"My research is on the sustainable reuse of materials in construction by turning ingredients such as recycled plastic waste and coal ash into a concrete substitute that is sustainable and structurally sound. When I attended COP25 in Madrid, I got to see the big picture of how far-reaching the impact of my research could be from a global climate change perspective.

Also through TIE, I received a fellowship to study carbon sequestration—both traditional concrete and the sustainable concrete substitute are able to slowly capture carbon dioxide from the atmosphere and contain it. These funds will help me look at ways we can speed up this process to make the materials we build with support the environment."

**Dream Career:** University professor

## Gabriela Garcia

**Degree:** Ph.D. in Biology '21  
**Hometown:** Somerville, MA  
**TIE Connections:** Environmental Research Fellowship

"I used my TIE Fellowship funds to mitigate travel costs to continue my research in Costa Rica. I work with coffee farmers in Santa Maria de Dota to help better understand year-to-year fluctuations in their crop yield, which can be problematic for small farms. I'm applying ecological theory to see what drives these high- and low-yield years, as well as promoting farmer agency in improving and/or stabilizing their yield through ecological understanding and management strategies."

**Future Plans:** Garcia wants to keep conducting applied research at the intersection of plant biology and humanity, working to improve both environmental services and farmer livelihoods, either through academia or non-profits.



## Andrea Becerra

**Degree:** Master of Arts in Law and Diplomacy '18  
**Hometown:** Santiago, Chile  
**TIE Connections:** WSSS Graduate Certificate (2018); TIE-SEI (Stockholm Environment Institute) Fellow

"Being in the WSSS program was one of the highlights of my entire Tufts experience. I loved the idea of focusing on water more specifically with experts and less from a policy perspective.

As part of our WSSS practicum, my group traveled to al-Walaja in the West Bank to help establish an environmental monitoring program in the local community. We did water sampling, looking for different bacteria in about 50 households, and then we left the equipment there so the community could continue to monitor for their own health and safety. I still can't believe how meaningful that time in my life was, both personally and professionally."

**Career:** Improving data transparency for water resources for the Natural Resources Defense Council (NRDC) in Chile.

## Justin McCollum

**Degree:** Bachelor of Science in Economics and Bachelor of Science in Sociology, '20  
**Hometown:** Glen Rock, NJ  
**TIE Connections:** TIE Intern; Chair of TEC 2020

"I first learned about TIE when I started working on the Tufts Energy Conference (TEC) my sophomore year. This year, I'm serving as chair for TEC, and it is by far the biggest but most rewarding undertaking of my life.

I also began my internship with TIE in the summer before my junior year, so I've been working there for half of my college career. It's through my work with TIE that I've been able to hone my interests and chart my future career path in renewables and clean technology. And through my experience, I was able to land a great summer internship with Prime Investment Fund, which is a venture capitalist firm that invests in clean tech—it's directly related to what I want to do in the future."

**Dream Job:** Working with and investing in clean tech startups.



# Shaping Tomorrow's Global Leaders

## Silvia Bottinelli

Senior Lecturer, School of the Museum of Fine Arts

**TIE Affiliated Faculty** At Tufts Since: 2010

**Education:** Ph.D., University of Pisa, Italy

My first student project that was supported by TIE was “nARTure. Reshaping Eco-Art” at the Slater Concourse at the Tufts Art Gallery. This exhibition allowed students to reflect on the boundaries between art and nature—if there are such boundaries—as well as the concept of art being the defining line between humans and other animals.

We featured both 2D work (such as photos, paintings, collages, textiles, and more), as well as 3D installments. One of the most memorable was one by a student who ordered fresh moss and grass from the Amazon rainforest and displayed it alongside the amount of packaging materials that came along with it to show how we see nature as a commodity; that student has graduated from the MFA program and is now teaching in academia and a full-fledged artist.”



## David M. Gute

Professor, Civil and Environmental Engineering, School of Engineering  
 Professor, Tufts University School of Medicine  
 Professor, Friedman School of Nutrition Science and Policy

**TIE Affiliated Faculty** At Tufts Since: 1987

**Education:** Ph.D., Chronic Disease Epidemiology, Yale University M.P.H., Health Services Administration, Yale University B.A. cum laude, European History, Connecticut College

“As an epidemiologist, I’m inherently interested in access to collaborators outside of my discipline to move my research forward, so my affiliation with TIE has offered me great opportunities to gain contributions from across Tufts’ community.

For my students, the TIE fellowships and travel funds they have received are so significant because they fill in gaps in the support they receive and enable them to make moves toward their end goals. For example, a Ph.D. student in my department was awarded an Environmental Research Fellowship from TIE to subsidize travel costs to Nebraska. She’s interested in the impact of concentrated animal feeding operations (CAFOs)—or commercial feedlots—and how waste is handled and returned to the ambient.”



## Shafiqul Islam

Professor, Civil and Environmental Engineering  
 Professor, Fletcher School of Law and Diplomacy

**TIE Affiliated Faculty** At Tufts Since: 2004

**Education:** Sc.D., Hydrometeorology and Hydroclimatology, MIT

“As the director of the Water Diplomacy Program at Tufts, I regularly teach SWM students pursuing the Water Diplomacy track. What’s unique about this track is that it synthesizes numbers and narratives of water problems to develop economically efficient engineering solutions that are socially acceptable, environmentally sustainable, and politically feasible.

Tufts is all about interdisciplinary scholarship—the students and faculty here cross disciplinary lines more as a rule, not as an exception, to use science for societal impact. For example, two of my former PhD students who received support from TIE are now working in academia—one at the intersection of water, climate, and human health, and the other on factors influencing the sustainability and resilience of urban water supply systems—and are now making a real difference in the world.”



78

TIE Affiliated Faculty across nine Tufts Schools

7 TIE Programs

TIE Affiliated Faculty participate in

25

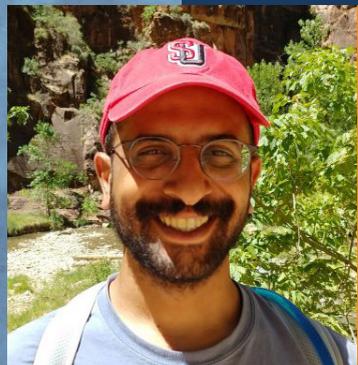
TIE has Affiliated Faculty across 25 Tufts departments

# Master of Science in Sustainable Water Management



**The Master of Science in Sustainable Water Management (SWM)** equips you to tackle global water challenges through a personalized curriculum, a strong professional network, and hands-on, real-world experiences—all in just one year.

Our SWM students come from an array of backgrounds—from engineering and the natural and life sciences, to political and social sciences and law—with a shared intent to approach sustainable, global water management from a holistic point of view.



“For a long time I’ve had an interest in water in arid regions, especially in my home country of Saudi Arabia. What attracted me to SWM was the emphasis on the idea that understanding and preserving this resource requires knowledge of both science and social systems. My grandparents were Bedouins who migrated in search of water. I find myself following a similar journey as I search for solutions to scarcity issues back home.”

**Trad Alroweilly, SWM (Water Diplomacy) '20**

**Hometown:** Riyadh, Saudi Arabia

**Dream Career:** Working or consulting with the Ministry of Environment, Water, and Agriculture of Saudi Arabia to help implement sustainable water preservation and distribution strategies

12

Month Program

4

Program Tracks

22

Faculty Mentors

10

Interdisciplinary Courses

\$3k

Summer Funding



“In my senior year, I focused on agriculture and the environment, and SWM offered the perfect opportunity to concentrate my studies further in the Water, Food, and Energy track. The interdisciplinary nature of SWM was really rewarding—I took classes in everything from hydrology to water law and economics. My cohort was a really tight-knit international group with lots of different interests and backgrounds.”

**Hannah Moshay, SWM '19**

**Hometown:** Los Angeles, CA

**Career:** Extension and Outreach Program Specialist, Ogallala Water Coordinated Agriculture Project, Colorado State University

## Tailor Your Degree with Specialized Tracks

### Water Diplomacy

Examine how water diplomacy is central to preventing conflict and supporting equitable water management practices around the globe.



### Water, Food, and Energy

Discover the dynamic nexus of water, food, and energy, and learn how these vital systems interact and contribute to human well-being.



### Water Infrastructure for Human Settlements

Explore water infrastructure challenges around the world, with an emphasis on the development of sustainable and resilient communities.



### WASH in International Development and Humanitarian Response

Study how water management is applied in international development and humanitarian emergencies to improve public health.



# Impactful Programs

TIE is proud to support interdisciplinary environmental research and lifechanging experiential opportunities at Tufts and beyond for students, faculty, staff, and the community. These programs are all informed by our four core values and guiding principles, and many exemplify several or all of them at once.

## Creativity & Innovation

Ingenuity in approaching the critical issues facing our environment.

### Tufts Energy Conference (TEC)

TEC is a collaborative annual event that convenes professionals, students, and experts from the private, public, and nonprofit sectors to discuss critical global energy issues. TEC is the longest-running, fully student-organized energy conference in the U.S., first held in 2006.

### Venture Grants

Faculty teams across the Tufts community can receive funding to foster new collaborative environmental education and research initiatives, work to create new TIE educational programs or degrees, or host groundbreaking workshops.

### Event Sponsorships

TIE co-sponsors a variety of interdisciplinary events and initiatives led by our collaborators and partners throughout the academic year, including speaker presentations, workshops, conferences, art exhibitions, and more. Current Tufts students, faculty, and staff are eligible to apply.



“When I started working with TEC in my sophomore year, it was my first exposure to the energy world. This incredible event spoke to my dual sides as both an activist and a pragmatist and allowed me to envision what it’s like to work on problems from within to create real and impactful solutions for the world.”

**Justin McCollum**  
School of Arts & Sciences '20

## Interdisciplinarity & Diversity

Academic and professional collaboration from different perspectives leads to new approaches and solutions.

### Environmental Research Fellowships

TIE’s Environmental Research Fellowships allow students to conduct interdisciplinary research and obtain mentorship and guidance from Tufts faculty and TIE staff. Matriculated graduate students at any of Tufts’ graduate programs and professional schools are eligible to apply.

### Water: Systems, Science & Society Graduate Certificate (WSSS)

Since 2004, WSSS has been providing graduate students from across Tufts’ schools with valuable tools and perspectives to address real-world water issues.



“WSSS helped me formalize what had become an independent passion of mine from a side project to a recognizable presence in my professional development. The program allowed me to demonstrate my interest in and commitment to solving water problems.”

**Charles Van Rees**  
Graduate School of Arts & Sciences '18





“It was an honor to attend COP24 as a Tufts delegate. [...] As I look toward launching my career post-graduation, the opportunity to attend side events, observe negotiations, and network with such a vast array of climate change actors was invaluable. Attending the conference solidified my passion for working in this field, and I felt like I had a window into what my future could hold.”

**Grace Tamble**

Fletcher School of Law and Diplomacy '19

## Leadership & Activism

Positioned as thought leaders for environmental progress and research who inspire environmental activism.

### TIE Internships

The Student Internship Program allows graduate and undergraduate students from across the Tufts community to work with TIE, learning program management skills, developing professional connections, and being mentored by TIE staff and faculty.

### United Nations Climate Conference/COP

Each year, TIE sends delegates to represent Tufts University at the United Nations Framework Convention on Climate Change (UNFCCC) annual Conference of the Parties (COP) to gain important insight into the discussions that frame global climate change policy and action. All members of the Tufts community, including undergraduate students, graduate students, faculty, staff and alumni, are eligible to apply to attend COP.



“The Tufts/Greentown partnership is powerful because it connects idea generators and new technologies from a great research university to the ecosystem of a world-class cleantech incubator. It opens up all kinds of opportunities for Tufts students and faculty, and enables opportunities to go from the lab to the marketplace.”

### Dr. Barbara Kates-Garnick

Professor of Practice at the Fletcher School at Tufts University and TIE-Greentown Advisory Committee member



## Community & Partnerships

Leaders, researchers, activists, and institutional partners unite.

### Greentown Labs

As part of this collaboration, Greentown Labs member companies engage with Tufts students through internship and team projects, and the cutting-edge ideas of Tufts students and faculty are developed into successful businesses.

### Stockholm Environment Institute (SEI) Internships

This one-year internship is co-sponsored by TIE and SEI, an international, non-profit, research organization that works to shift environmental policy and practice towards sustainability. TIE-SEI interns travel abroad to work on a designated research project and network with colleagues and leaders in the field.

### Affiliated Faculty

An integral part of our programs and mission, TIE's Affiliated Faculty support and inform our initiatives, advise our educational programs, facilitate research

opportunities, and are eligible for exclusive funding opportunities. We work with faculty ranging from the natural and biological sciences to engineering to the social sciences.

### Travel Grants

TIE travel grants facilitate research, learning, and outreach for Tufts students and faculty, from supporting dissertation fieldwork to presenting research at international conferences.

### Shared Spaces

As part of its offices in the heart of the Medford campus, TIE has a large workspace dedicated to graduate students and faculty exploring environmental issues and conducting interdisciplinary research.

# Make Your Impact with TIE

Whether you are a current or aspiring Tufts student with a passion for the environment; a Tufts faculty member on the verge of innovating the “next big thing” that will tackle climate change, water scarcity, and more; or a local or global organization that wants to partner with a world leader in environmental research and education, we want to hear from you.

## Prospective Students

Enroll in a life-changing program, travel the globe making an impact on the environment, or intern with an international frontrunner in sustainability at [environment.tufts.edu/students](http://environment.tufts.edu/students)

## Faculty

Affiliated Faculty are the backbone of TIE’s initiatives, educational programs, and research opportunities—learn more about joining us at [environment.tufts.edu/faculty](http://environment.tufts.edu/faculty)

## Partners

To learn more about collaborating with TIE on our creative, interdisciplinary solutions to worldwide environmental challenges, visit [environment.tufts.edu/partners](http://environment.tufts.edu/partners)

## Donors / Alumni / Friends

Whether you can make a gift of your resources or your time as a volunteer, TIE could not succeed without the support and dedication of our inner circle. To make your contribution, visit [environment.tufts.edu/donors](http://environment.tufts.edu/donors)



[environment.tufts.edu](http://environment.tufts.edu)



**Tufts Institute of the Environment**

Barnum Hall

163 Packard Ave, Room 238

Medford, MA 02155

[environment.tufts.edu](http://environment.tufts.edu)