

# ANNUAL REPORT 2025



**STEVENS**  
INSTITUTE OF TECHNOLOGY  
1870

Department of Civil,  
Environmental, and  
Ocean Engineering



## DEPARTMENT STATISTICS

**\$7.98M**

Research Expenditures

**277**

Undergraduate Students

**127**

Masters Students

**5.1**

Ph.D. Students per  
T/TT Faculty

**146**

Published Journal  
Articles/yr

## ABOUT CIVIL, ENVIRONMENTAL AND OCEAN ENGINEERING

The Department of Civil, Environmental and Ocean Engineering at Stevens (CEOE) is a unique department that covers disciplines usually organized in two or more separate departments. We take advantage of this distinctiveness to benefit our students greatly. Our community of expert faculty and researchers train our students to address the complex cross-disciplinary challenges faced in the design, construction and monitoring of urban/interconnected infrastructure systems, sustainable environmental systems, resilient coastal communities, and marine systems.

Through rigorous and flexible curricula, advanced research programs, and extra-curricular activities, we aspire to give our students the knowledge required to face future challenges in these areas. The combined expertise of our faculty and breadth of research programs provides our students with unique opportunities to acquire knowledge across the three disciplines and build capability to address complex cross-disciplinary problems.

### Our mission:

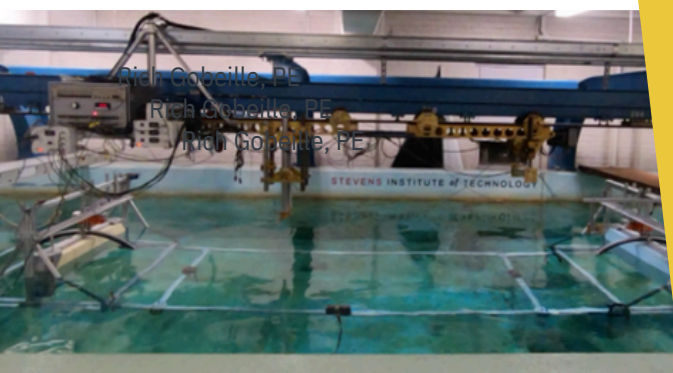
- Provide students with vibrant and diverse degree programs built upon rigorous course offerings, hands-on experience, and opportunities for professional development.
- Instill creativity and innovation in the drive of our graduates to solve real-world problems.
- Perform discovery research to address future challenges.
- Set our graduates on the path to become leaders in their fields.

**AY 2025-2026**

**15** T/TT FACULTY

**5** TEACHING FACULTY

**6** RESEARCH FACULTY



# WELCOME

## MUHAMMAD HAJJ, CHAIR AND GEORGE MEADE BOND PROFESSOR

Dear Friends,

Welcome to the Department of Civil, Environmental and Ocean Engineering (CEOE).

The past year reaffirmed that—even amid significant challenges and uncertainties—the Department of Civil, Environmental and Ocean Engineering (CEOE) is well positioned to advance its mission with excellence. Driven by determination, creativity, and commitment to innovation, our faculty and students continue to push boundaries and produce groundbreaking discoveries to strengthen Stevens' position as a leader in civil, environmental, and ocean engineering.

### Transforming Civil Engineering Through AI

We continued to redefine the future of construction and civil engineering through advanced applications of artificial intelligence. Our researchers are developing self-monitoring infrastructure systems capable of evaluating structural health, recommending maintenance actions, and autonomously adapting to changing conditions. These innovations are improving real-time decision-making, elevating construction-materials quality control, reducing project costs, and minimizing environmental impacts. Recognizing the profound implications of these technologies, CEOE has also prioritized integrating AI across education and industry. In April 2025, we hosted the inaugural workshop in our new Technology in Construction series. AI in Construction convened academic and industry leaders to examine how AI is poised to transform project risk identification and management.

### Innovative Approaches to Forever Chemical Remediation

We advanced innovative solutions to some of today's most pressing environmental challenges, including the removal of PFOS—a member of the PFAS family of “forever chemicals”—from water and wastewater. In a major breakthrough, a CEOE team of faculty and students found that iron powder is 26 times more effective per unit surface area than activated carbon in removing PFOS. Notably, the iron powder retained its adsorption performance even after rusting, highlighting its potential for robust and cost-effective remediation.

### Advancing Coastal Resilience

We made major strides in enhancing our ability to predict, monitor, and manage coastal flooding and its impacts on both natural and built environments. Building on the Dynamic Underwater Coastal Kinematic Surveying System (DUCKS) and the operational Stevens Flood Advisory System (SFAS), we secured new funding to launch the Stevens Extreme Event Coastal Preparedness and Response System (SEECPRS)—a transformational initiative enabling rapid, high-value data collection before, during, and after extreme coastal events. Leveraging Stevens' elevated location, we installed a state-of-the-art X-band rainfall radar that dramatically improves regional rainfall mapping. In parallel, our researchers are deploying an expanding network of flood-monitoring sensors across vulnerable coastal areas. Together, these investments form a unique, rapidly deployable, multi-platform observing system for extreme flooding.

### Knowledge Exchange and Global Engagement

Our commitment to collaboration and community building remained strong throughout the year. In partnership with Sapienza University of Rome, CEOE hosted the Fourth International Nonlinear Dynamics Conference at Stevens in June 2025. The event featured keynote presentations, workshops, student competitions, and technical sessions showcasing global advances in nonlinear dynamics. Earlier in the year, CEOE also hosted the Coastal Flooding Technical Workshop, bringing together experts to discuss emerging strategies and technologies for addressing coastal-flooding challenges.

### Looking Ahead

We are delighted to welcome Dr. Tao Ye to CEOE as an assistant professor. As we look to the years ahead, our vision remains clear: to advance knowledge, accelerate innovation, and develop sustainable solutions that strengthen communities and infrastructure for generations to come. With the dedication and passion of our faculty, students, staff, and partners, we are exceptionally well positioned to keep up and build on our strong momentum.

Finally, I invite you to explore the accomplishments highlighted in this report and welcome your feedback. Please stay connected with us on LinkedIn and Instagram for updates on our initiatives, and feel free to reach out to learn more about the work we do at CEOE.





# EXCELLENCE FACULTY & STAFF



## Marouane Temimi

Appointed as Gallaher Associate Professor;  
among top three recipients of 2025 Schaefer  
School of Engineering & Science Highest  
Research Expenditure Award



## Cheng Chen

Promoted to Professor; among  
top three recipients of 2025  
Schaefer School of Engineering &  
Science Highest Research  
Expenditure Award

## Sarath Jagupilla

Promoted to Teaching Professor;  
Received 2025 Award for Excellence in  
Undergraduate Advising and Mentoring



## Jon Miller

Promoted to Research Professor



## Dibs Sarkar

Received the Honorary Degree of  
Master of Engineering from Stevens  
and recognized during Commencement



## Raju Datla

Named a Fellow of the Royal  
Institution of Naval Architects

## Yi Bao

Received 2025 Early Career Award  
for Research Excellence from Stevens



## Elizabeth O'Connell

Recipient of the 2025 Academic  
Advisor Award from Stevens





# MAJOR SCHOLARSHIP RECIPIENTS

**Danna Cardenas** and **Kyle Cocks** received the 2025 Moles Scholarships in the amount of \$12,500 each on the basis of their academic achievement and demonstrated interest in the heavy construction industry.

**Matthew Casey** received the 2025 Jerome Frommer Memorial Scholarship through the Utilities and Transportation Contractor's Association (UTCA). This scholarship is awarded to a New Jersey student for the opportunity to further their studies in the field of construction.

**Kyle Cocks** and **Faith Macchione** received the Construction Management Association of America (CMAA) Metro NY/NJ Scholarships.

**Bhagyashri Wani** received the Port Authority Hispanic Society Scholarship through the Port Authority of NY/NJ.

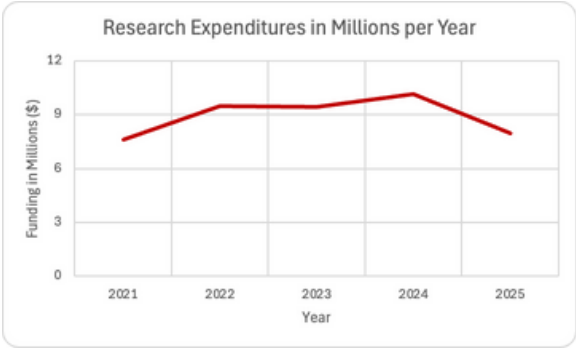
Three civil engineering undergraduate students were awarded the American Society of Highway Engineers (ASHE) Scholarship: **Erin Zebriskie** (first place), **Faith Macchione** (second place) and **Odalys Perez** (third place). This marks the second consecutive year where all three ASHE scholarships have been awarded to Stevens civil engineering students.

**Kyle Cocks** received the John F. Donohoe Scholarship award from the Associated Construction Contractors of New Jersey (ACCNJ) Scholarship Foundation.

## BY THE NUMBERS

### RESEARCH EXPENDITURES IN \$M / YEAR

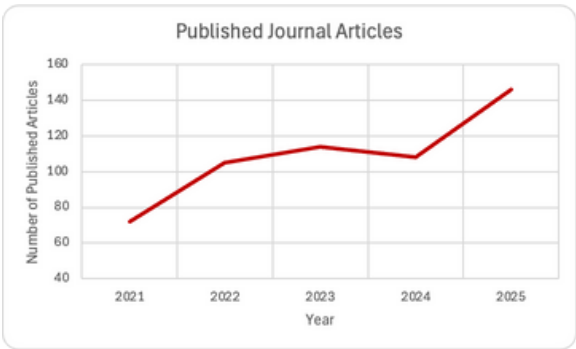
2021	\$7.62
2022	\$9.47
2023	\$9.46
2024	\$10.14
2025	\$7.98



- Research expenditure per T/TT faculty member is ~\$532,000.

### PUBLISHED JOURNAL ARTICLES

2021	72
2022	105
2023	114
2024	108
2025	146



- Published journal articles per T/TT faculty member is ~9.
- Published journal articles increased by about 103% since 2021.

CONTINUED

## MAJOR SCHOLARSHIP RECIPIENTS

**Madeleina Gorri** and **Faith Macchione** received the College Health and Environmental Safety Society (CHESS) NJ Scholarship.

**Taylor Cerafice** received the Tom Galgiano Scholarship through the Jersey Shore Partnership Foundation.

**Faith Macchione** received the American Society of Civil Engineers (ASCE) NJ Scholarship, the Concrete Industry Foundation (CIF) Scholarship, the New Jersey Society of Professional Engineers (NJSPE) Engineering Student Scholarship and the Land Improvement Contractors of America (LICA) Scholarship.

**Emily Leiby** received the 2025 NJ Water Environment Association (NJWEA) Dr. Raymond M. Manganello Scholarship.

**Cora Scolero** received the 2025 Chester L. Long Graduate Scholarship through the Society of Naval Architects and Marine Engineers (SNAME).

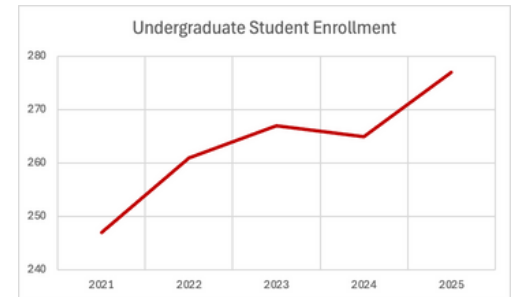
**Julie Garry** and **Emily Leiby** received the International Concrete Repair Institute (ICRI) Metro New York Scholarship.

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## BY THE NUMBERS

### UNDERGRADUATE STUDENTS

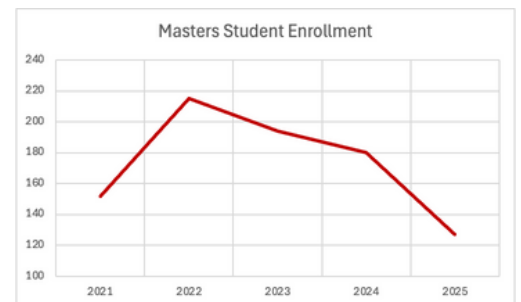
2021	247
2022	261
2023	267
2024	265
2025	277



- The department maintains strong undergraduate degree programs.
- Number of undergraduate students per T/TT faculty member is ~17.

### MASTER STUDENTS

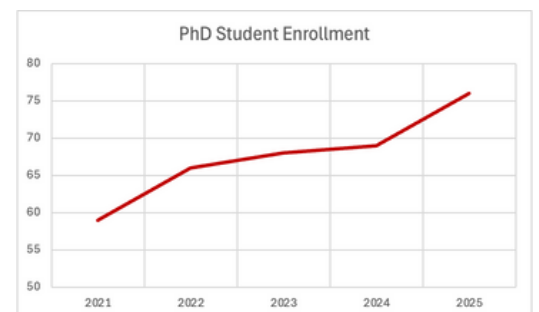
2021	152
2022	215
2023	194
2024	180
2025	127



- Master student enrollment is an area of opportunity for the department.
- Number of master's students per T/TT faculty member is ~8.

### PH.D. STUDENTS

2021	59
2022	66
2023	68
2024	69
2025	76



- Number of Ph.D. students has increased by about 28.8% since 2021.
- Number of advised PhD students per T/TT faculty member in fall 2025 is 5.0.
- Fifteen Ph.D. students graduated in the 2024-2025 academic year.

# IMPACT



Weina Meng

**Weina Meng** was appointed to the Editorial Board of *Cement and Concrete Composites*, a leading journal in the field. This prestigious appointment reflects her growing international recognition as a researcher and thought leader in advanced cementitious materials. As an editorial board member, she will play a critical role in shaping the direction of cutting-edge research, influencing publication standards, and fostering innovation in the development of sustainable and high-performance concrete technologies.



Mohammad Ilbeigi

**Mohammad Ilbeigi** received an NSF award from the Research on Innovative Technologies for Enhanced Learning (RITEL) program. This project focuses on the design and development of an AI-enhanced system called CELENS (Civil Engineering Lens) that is able to analyze visual and audio data from construction sites and explain them to civil engineering students.



Jia Mi

**Jia Mi** was appointed to the American Society of Mechanical Engineers (ASME) Technical Committee on Energy Harvesting (TCEH) in September 2024 and completed service on the Board of Directors for the University Marine Energy Research Community (UMERC) in December 2024.

**George Korfiatis** served as an external reviewer for university applications to establish new international university sites in Greece on behalf of the Hellenic Authority for Higher Education. Additionally, he was featured by NJ.com as an expert explaining the factors contributing to sinkhole formation in New Jersey. The video is accessible [here](#).

The department launched its new **Technology in Construction** series to explore innovation amid rapid industry growth. The inaugural event in April focused on AI in Construction, emphasizing advances in project risk identification and management. Keynote speaker Tony Bazzini, Former Chief Project Management Engineer at ExxonMobil Global Projects Company, shared valuable insights with attendees and engaged with undergraduate, master's, and Ph.D. students. The event featured experts from both academia and industry speakers who contributed to dynamic discussions and practical perspectives.

**Muhammad Hajj** co-chaired the Fourth International Nonlinear Dynamics Conference (NODYCON 2025), which was hosted in person by the Stevens Institute of Technology, along with its virtual twin event, NODYCON 2025 Virtual, June 22–25, 2025. The conference offered a rich scientific and social program featuring keynote presentations, workshops, student competitions, and oral sessions that highlighted recent advances across many areas of nonlinear dynamics. Full-length papers presented at the conference were published by Springer Nature in the journal *Nonlinear Dynamics* and in the Springer Book Series *Advances in Nonlinear Dynamics*. The prestigious Springer Ali H. Nayfeh Awards were presented to the authors of the best student papers.



George Korfiatis



# IMPACT

**Yi Bao** secured a grant from the U.S. Department of Transportation to advance technologies for preventing stress corrosion cracking in pipelines, and an award from the Department of Energy to develop AI-powered wireless fiber optic sensors for hydrogen production in gasification systems. Additionally, Yi serves as Associate Editor for *Elsevier's Engineering Structures* and ASCE's *Journal of Bridge Structures*, both leading journals in their respective fields.



Yi Bao

**Sarath Jagupilla** was a panelist at the "Environmental Engineers Solving Problems of Planetary Health" session held at the American Society for Engineering Education (ASEE) National Conference. He discussed the role of academia in broadening the impact of environmental engineers, both in academic preparation and in industry.



Sarath Jagupilla

The Sustainability Management Program hosted its annual **Friends of Sustainability Event** during Alumni Weekend, bringing together students, alumni, faculty, and industry professionals. The event honored the Class of 2025 and recognized PSEG Undergraduate Research Scholars for Environmental Justice. A panel discussion on sustainability challenges and innovations was a highlight. The gathering celebrated student achievements and reinforced the program's commitment to advancing sustainability through collaboration and lifelong learning.

**Reza Marsooli** received funding from the US-Japan Foundation for a collaborative project led by Stevens, in partnership with the University of Maryland and the University of Tokyo. The project fosters US-Japan research collaboration and focuses on nature-based solutions (NBS) for coastal flood mitigation. Activities include a comprehensive review and database development of implemented NBS in both countries.



Reza Marsooli

In March, the department hosted the **Third Annual CEOE Networking Event**. The event brought together more than 250 CEOE students, alumni, industry professionals, and faculty. Attendees formed connections to foster opportunities for students and industry professionals, faculty, and alumni established new partnerships and enhanced their relationships.



Networking Event



Jorge Bravo

# EXCELLENCE GRADUATE STUDENTS

**Jorge Bravo**, a PhD candidate at i-SMART lab, has been selected as a member of the American Meteorological Society (AMS) Action Weather Center (AWF) Committee on Weather Analysis and Forecasting. Jorge was invited to attend and share his research in multiple conferences including: Improving Scientific Software Conference (ISS25), AGU Data Visualization Student Showcase, and World Climate Research Programme (WCRP) Global km-Scale Hackathon. Under the guidance of Prof. Marouane Temimi, Jorge's work focuses on advancing weather analysis and forecasting, making this a well-deserved recognition for his contributions to the field.



Meng Ji from 3MT

**Meng Ji** received the Best Graduate Abstract Award at the TechConnect World Expo and Innovation. Additionally, Meng Ji earned 2nd Place in the Stevens Institute of Technology Schaefer School of School of Engineering and Science Three Minute Thesis (3MT) Final Competition. She is advised by Prof. Xiaoguang Meng



Jinxin Chen

**Jinxin Chen's** paper, "Multi-agent large language model framework for code-compliant automated design of reinforced concrete structures," has been accepted for publication in the journal *Automation in Construction*. The research presents an innovative multi-agent large language model framework that enhances the efficiency and accuracy of structural design, reducing design time by approximately 90% compared to traditional manual methods. The preprint version of this work was highly recognized, ranking #3 on the SSRN Robotics eJournal's "Recent Top Papers (60 days)" list with 127 downloads. Jinxin is advised by Prof. Yi Bao.



Ian Day

**Ian Day** won first place at the Student Poster Competition at Florida Shore & Beach Preservation Association (FSBPA) 2025 National Conference on Beach Preservation Technology for his poster, "Beach Dune Design Template Adjustments or Sea Level Rise: A Data-Driven, Risk-Based Approach". He is advised by Prof. Jon Miller.



Ismail Gul

**Ismail Gul** was selected to participate in the 2025 USGS Future Leaders in Observation of Water (FLOW) Academy, hosted by the Alabama Water Institute at the University of Alabama in Tuscaloosa. The program, sponsored by the USGS and organized by CIROH, offers participants hands-on experience working in teams to address real-world hydrologic research challenges focused on hydrologic extremes. Ismail is advised by Prof. Maroune Temimi.

# EXCELLENCE UNDERGRADUATE STUDENTS

**Gregory Harrison** and **Adam Cohen** received first place in the student paper competition at the Society of Naval Architecture and Marine Engineers (SNAME) Maritime Convention for their paper, "Concept Design and Hydrodynamic Analysis of a Small Dry Submersible".

A student team from Stevens Institute of Technology composed of **Andrew Vallent**, **Gabriel Pust** and **Cian Gahan**, won first place and a \$10,000 prize in the Department of Homeland Security's Designing Actionable Solutions for a Secure Homeland (DASSH) challenge. Their innovative project, the LiDAR LASSO, uses LiDAR spoofing technology to safely stop autonomous vehicles while allowing human-driven vehicles to pass. Designed with recent vehicle-based threats in mind, the system also alerts law enforcement to suspicious activity, offering a novel approach to enhancing security.

In April, members of the Stevens Chapter of the American Society of Civil Engineers (ASCE) attended the ASCE Metropolitan Student Symposium. The team placed second for the 2025 Construction Institute Competition. **Evan Papageorge** received the Outstanding Speaker Award.

Stevens Institute of Technology's Electric Boat Team won first place at the Planing Hull Championship during the ASNE PEP competition in Virginia Beach. The team showcased strong engineering expertise, effective collaboration, determination, and exemplary sportsmanship throughout the event. Team members included undergraduate students **Jack Ceriello**, **Jack Falen**, **Emily Lossman**, **Oscar McMahan**, **Liam Ruane**, **Luke Saletta**, **Ellie Yu**, and **Peter Zmijewski** and were led by Davidson Laboratory Senior Researcher Michael DeLorme.

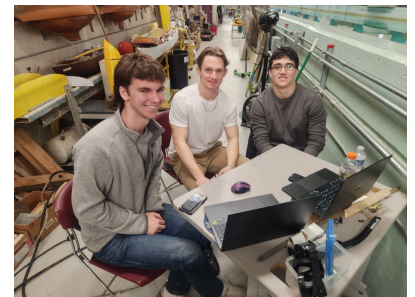
The Construction Industry Advancement Program (CIAP) of New Jersey awarded eleven undergraduate and graduate students scholarships and summer internships: **Diego Bendezu** (J. Fletcher Creamer & Son), **Faith Macchione** (Kiewit), **Cameron McEwan** (Northeast Remsco Construction), **Jesus Monegro** (Hall Construction), **Isabella Moretti** (Weeks Marine), **Elizabeth O'Connor** (Northeast Remsco Construction), **Neylan Preetanchal** (NJ Transit), **Aylin Salto** (Dynamic Engineering), **Nishaant Santhakumar** (Trevon Construction), **Nisargh Acharya** (EE Cruz) and **Lucas Arp** (CAC Industries).

Senior design team, The Sebago Recovery Group, with civil engineering students, **Alison Lax**, **Julia Lupo**, **Jasmine Marque**, **Moises Menjivar**, and **Christopher Scapati** received the CEOE Best Senior Design Award. The project, advised by Prof. Reza Marsooli and sponsored by Stantec, detailed the designs of a comprehensive restoration plan for Lake Sebago Beach.

Students across all three undergraduate programs and among all academic years, received scholarships totaling more than **\$421,000** for the academic year.



Greg Harrison and Adam Cohen



Andrew Vallent, Gabriel Pust  
and Cian Gahan



Electric Boat Team



The Sebago Recovery Group





Rebecca Mazzolla, PE



Liza Pope



David Tanzi, PE and Allie Moss, EIT



Morgan Westerby and Jenna Scuteri



Prof. Jagupilla and Bernie McNeilly, PE



Rick Gobeille, PE



AISC Funded Steel Day Trip

2025-2026

## NEW FACULTY MEMBER



**Dr. Tao Ye** joined Stevens Institute of Technology in Fall 2025 after serving four years on the faculty at the South Dakota School of Mines and Technology. He earned his Ph.D. in Environmental Engineering from The George Washington University. His research combines machine learning and environmental chemistry to improve water quality monitoring, sustainable materials, and toxicity prediction. He has published over 40 journal papers, holds a U.S. patent, and is the recipient of an NSF CAREER Award and the 2026 AAEES 40 Under 40 recognition.

## SPECIAL APPRECIATION

Throughout the year, the department held its Professional Development Series where industry partners provide seminars to students to learn how applications in the classroom can be applied to the real world and early career advice. The 2024-2025 seminar presenters included, **Rebecca Mazzolla, PE** (BE '04, ME '08 ) from WSP USA; **Liza Pope** from HC Contractors, Inc.; **Allie Moss, EIT** (BE '22, ME '22 ) and **David Tanzi, PE** (BE '97, ME '98) from CDM Smith; **Jenna Scuteri** (BE '24) and **Morgan Westerby** (BE '23) from Gladstone Design; **Bernie McNeilly, PE** (BE '85, ME '89) from the LiRo Group; **Rick Gobeille, PE** (BE '80, ME '83) from Stantec. Their time and support is greatly appreciated.

In October, department undergraduate and graduate students participated in a field visit to the NY Ironworkers training facility in Queens, NY. The trip allowed students to learn first hand how industry fabricates steel used to in infrastructure. The department is appreciative of this opportunity, which was made possible through a grant generously provided by the **American Institute of Steel Construction (AISC) Education Foundation**.

In March, **Boswell Engineering** hosted a site visit for second year environmental engineering majors in Garfield, NJ. The department is appreciative of their time, support, and outreach efforts to make the trip possible.

In April, undergraduate members of the American Society of Civil Engineers (ASCE) participated in the ASCE Student Symposium. The department appreciates the generous support from the **New Jersey Professional Engineers in Construction (NJPEC) Foundation**, which made their participation possible.

In 2024-2025 eleven senior design projects were sponsored by industry professionals. These included: **IH Engineers, McLaren, WSP-USA, Thornton Tomasetti, Pegasus Partners, Langan Engineering, De Simone, Stantec, HDR, Leidos - Gibbs and Cox, New Jersey Economic Development Association (NJEDA), Hall Construction, and PRA-Consulting**. The time and support provided by these industry professionals have been invaluable in shaping the future of engineering. Their guidance and sponsorship not only enriched the senior design projects but also had a lasting impact on the students' career and personal trajectories.



## Schaefer School of Engineering and Science

Department of Civil, Environmental,  
and Ocean Engineering

Learn more about the Department of Civil,  
Environmental and Ocean Engineering at Stevens:

**[STEVENS.EDU/CEOE](https://stevens.edu/ceoe)**