



**e-Newsletter**

2024-25

Vol. 1

**CCEE Insider**

**SDSU**

College of Engineering  
Civil,  
Construction and  
Environmental  
Engineering



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ENGINEERING



# Letter from the Chair



Dear Colleagues and CCEE supporters,

I hope this newsletter finds you well!

Starting in the Fall 2024 semester, the Department of Civil, Construction, and Environmental Engineering (CCEE) resumed our Newsletters (thanks to Ms. Monica Hughes). I encourage you to stay connected and hope you enjoy reading the many highlights from our department in this issue, which represent a small sampling of the exciting work done by our faculty and students in the 2024-25 academic year. As always, thank you for your support.

Warm Regards,

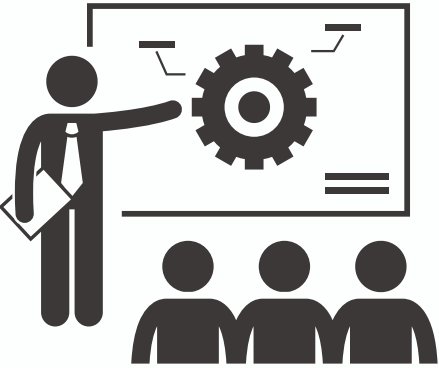
Dr. Dongye Zhao  
Professor and Chair



# CCEE by the Numbers

## AY 2024-2025

### Enrollment



21 Faculty

29 Lecturers

3 Staff



Undergrad

Graduate

SU24 338

5

FA24 844

36

SP25 782

40

Fall 2025

IP MS Admits

51 Apps

IP Intent

0 JDP Admits

0 Apps

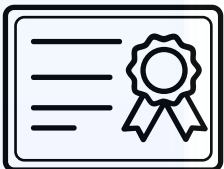
0 Intent



Degrees Awarded  
AY 2023-2024



199 BS



16 MS



0 Ph.D.



# Welcome New Faculty!



## JuHyeon Bae, Ph.D.

Assistant Professor



Construction Engineering & Management

- Course: CON E 320



ED Bldg. | 100F

- [jbae3@sdsu.edu](mailto:jbae3@sdsu.edu)



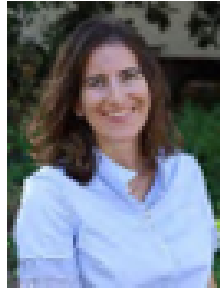
*Fall 2024*



# Faculty Grants & Awards



## 2023-24 Awards



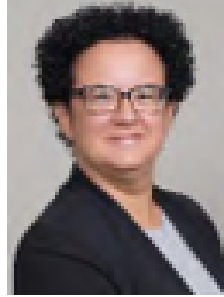
**Dr. Gloria Faraone**  
*Total: \$199,638*

National Science Foundation:  
"ERI: Developing Ductility through Replaceable Concrete Anchorage Connections for Improved Seismic Performance of Mass Timber Structures," **\$199,638**



**Dr. Christy Dykstra**  
*Total: \$136,367*

National Science Foundation:  
"CAREER: Elucidating the Interaction(s) Between Bacteria and Archaea in a Biocathode," **\$136,367**



**Dr. Thais Alves**  
*Total: \$66,220*

Lean Construction Institute:  
"Addressing Construction Worker Mental Health Using Lean Approaches," **\$66,220**



**Dr. Hanyang Li**  
*Total: \$173,583*

California Air Resources Board:  
"TARTA Improvements for Communities," **\$49,999**

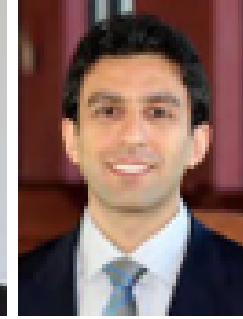
Comite Civico Del Valle Inc.:  
"Toxic Metals Monitoring Regional Network (ToMMoRW): High Time Resolution community-based Monitoring in California's Imperial Valley," **\$117,595**

University of California at Davis:  
"TARTA-XACT Comparison," **\$5,989**



**Dr. Sahar Ghanipoor-Machiani and Dr. Arash Jahangiri**  
*Total: \$75,000*

San Jose State University Foundation:  
"Adoption of Intelligent Speed-Assist Technology," **\$75,000**



**Dr. Marta Miletic**  
*Total: \$198,798*

National Science Foundation:  
"Collaborative Research: CLIMA: Enhancing Soil-based Infrastructure Resilience to Climate Change: Harnessing the Potential of Fractured Soil by Adding Biopolymers," **\$198,798**



**Dr. Robert Dowell**  
*Total: \$10,908*

Grid Catalyst: "Grid Wrap," **\$2,500**;  
"Structural Testing of 20 Smaller Diameter Wood Telephone/Utility Poles Wrapped with Carbon Fiber Sheets," **\$7,415**; "Structural Testing of Larger-Diameter Wood Telephone/Utility Poles Wrapped with Carbon Fiber Sheets," **\$993**



**Dr. Alicia Kinoshita**  
*Total: \$327,752*

National Aeronautics and Space Administration: "Impacts of Changing Wildfire Regimes on Human Communities and Water Security," **\$327,752**



# Faculty Grants & Awards



## 2023-24 Awards



**Dr. Dongye Zhao**  
**Total: \$225,169**

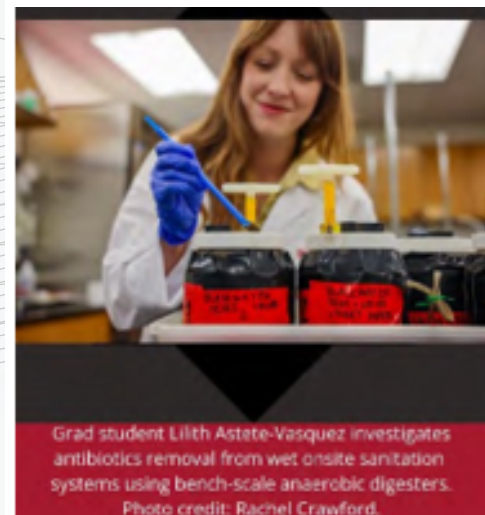
Auburn University: "A 'Trap-and-zap' Technology for Cost-effective Removal and Destruction of Aqueous-phase Per- and Polyfluoroalkyl Substances at Department of Defense (DoD) Sites," **\$96,197**

Geosyntec Consultants:  
"National Science Foundation Convergence Accelerator Track M: Bioinspired and Biocatalytic Degradation of the "Forever Chemicals," **\$114,472**; and "Preliminary Study of Light-Independent Activation of Excess Electrons Stored in Chemically Reduced Transition Metal Oxides (TMOs) or Derivatives for In-situ Per- and Polyfluoroalkyl Substances (PFAS) Degradation," **\$14,500**



**Dr. Natalie Mladenov**  
**Total: \$53,300**

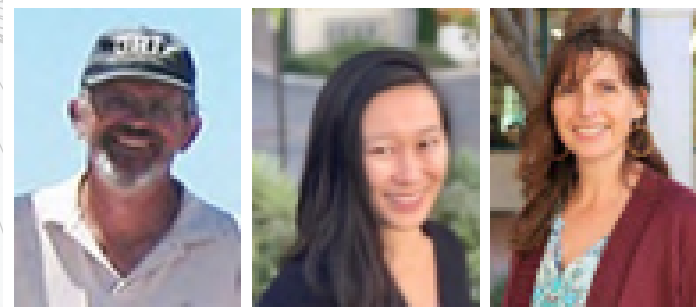
National Science Foundation:  
"Graduate Research Fellowship Program (GRFP) Facilitation Award for Scientists and Engineers with Disabilities (FASED) Supplement - Fellow: L Astete-Vasquez," **\$4,300**; and "Investigating Antibiotics Removal from Wet Onsite Sanitation Systems Using Bench-scale Anaerobic Digesters (Fellowship - Astete-Vasquez)," **\$49,000**



**Mr. Thomas Zink**  
**Total: \$648,417**

U.S. Department of Defense Army Corps of Engineers: "San Clemente Island Botany Program Implementation," **\$606,363**

U.S. Department of Defense U.S. Navy: "Botany Management Program at Naval Auxiliary Landing Field San Clemente Island, California - MOD PO0005," **\$42,054**



**Mr. Thomas Zink, Dr. Alicia Kinoshita, and Dr. Natalie Mladenov**  
**Total: \$1,978,182**

San Diego River Conservancy:  
"Restoration of Alvarado Creek – City of San Diego Phase," **\$1,978,182**



**Dr. Natalie Madlenov**  
University to build One Water Living Learning Laboratory at SDSU Mission Valley River Park.

Scheduled to open in January 2026.  
**\$2,000,000**



**Mr. Thomas Zink**  
National Institute of General Medical Sciences: "Examining a Unique Contractile Injection System Mediating Host-Microbe Interactions." **\$373,321** (May 2024)



# Faculty Grants & Awards



**Dr. Dongye Zhao**

Auburn University: "A 'Trap-and-zap' Technology for Cost-effective Removal and Destruction of Aqueous-phase Per- and Polyfluoroalkyl Substances at U.S. Department of Defense (DoD) Sites,"  
(8/2024).

**\$100,783**



**Dr. Robert Dowell**

GridWrap, Inc.: "Structural Testing of 100-Year-Old Wood Telephone/Utility Poles Wrapped with Carbon Fiber Sheets and Carbon Fiber Connector Tests,"  
(9/2024).

**\$4551**



**Dr. Thomas Zink**

U.S. Department of Defense Army Corps of Engineers: "San Clemente Island Botany Program Implementation,"  
(9/2024).

**\$29,983**



**Drs. Sahar Ghanipoor-Machiani  
& Arash Jahangiri**

University of New Mexico: "Center for Pedestrian Bicycle Safety,"  
(10/2024).

**\$328,036**



# Faculty Grants & Awards



**Dr. Natalie Mladenov**

National Aeronautics and Space Administration: "Hyperspectral Remote Sensing of Estuarine and Inland Water Quality: Empirical Line Method-based Atmospheric Correction and Data Fusion with Manifold Learning,"  
(11/2024).

**\$200,000**



**Dr. Thais Alves**

Lean Construction Institute: "Mapping Lean Construction Institute (LCI) Learning Resources to Accredited Design and Construction Programs,"  
(12/2024).

**\$7,000**



**Dr. Hanyang Li**

University of California at Riverside: "Characterization of Train Brake-Wear and Wheel/Rail-Wear Particulate Matter (PM) Emissions,"  
(12/2024).

**\$35,000**



**Dr. Matthew Verbyla**

San Diego Coast Keeper, Microbial surface water quality monitoring in San Diego County.  
2/2025

**\$52,875**



# Faculty Grants & Awards



**Dr. Hanyang Li**

Gift funds from Spiegel Family Fund to study the emissions and exposure risks of the Eaton and Palisades Fires in Los Angeles.  
(March 2025)

**\$50,000**

SDSU RSCA award for the project "Clear-Fires: Community-Level Exposure to Airborne Residues from Wildland-Urban Interface Fires"  
(March 2025)

**\$10,000**

In-kind donation of 150 air quality sensors (\$217 per device, \$32,550 total) from Airthings Inc. to monitor indoor air at fire-affected homes.  
(March 2025)

**\$32,550**

Amendment of the project "TARTA for communities" funded by California Air Resources Board.  
(March 2025)

**\$150,000**



# Faculty Research Update



**Marta Miletić, Ph.D.**

Assistant Professor | CIV E

## **NASA Space Sharks**

My research group successfully advanced to Phase 2 and presented their "spinoff" business concept to the NASA Space Sharks last month at the NASA Johnson Space Center55 in Houston.

Awarded the NASA Space Tech Catalyst Prize.



**Hasan Davani, Ph.D.**

Associate Professor | ENV E

## **Water Resources Engineering**

If the rainfall of 2023 has taught California anything, it's importance of understanding its flooding infrastructure to prevent future inundations. Through his project, "Environmental Sustainability of Combined versus Separate Sewer Systems along the U.S. West Coast," Professor Hassan Davani is working on just that: stormwater flooding and stormwater pollution.

## **Nature Scientific Report, with his two doctoral students and his social scientists collaborators**

This study combines responses from a social survey with compound flood modeling in a marginalized coastal community to assess implementation of green infrastructure, such as rain barrels and rain gardens, in a city scale. This research focuses on the City of Imperial Beach, CA, which is an underserved coastal community located near the border with Mexico.



# Student Research Projects

Joint Doctoral Program, MS Thesis, MS Project, and Undergraduates

**Alexandra Grant**

Researcher | Environmental Engineering

**SDSU researchers find  
dangerous levels of  
pollution in Tijuana River**





# Student Research Projects

Joint Doctoral Program, MS Thesis, MS Project, and Undergraduates



**Andrew Mosqueda**

Undergrad | Environmental Engineering

**Climate-Driven Sea Level Rise  
Exacerbates Alaskan and Cascadian  
Tsunami Hazards in Southern  
California: Implications to Design  
Parameters. March 2025**

Coastal  
Engineering Lab  
Dr. Ignacio  
Sepúlveda Oyarzaun



# Student Research Projects

Joint Doctoral Program, MS Thesis, MS Project, and Undergraduates



Eaton and  
Palisades fires



**London Fulford**  
Undergrad | ENV E



**Jose Carias**  
Undergrad | ENV E



**Ehsan Goftari**  
Ph.D. | ENV E



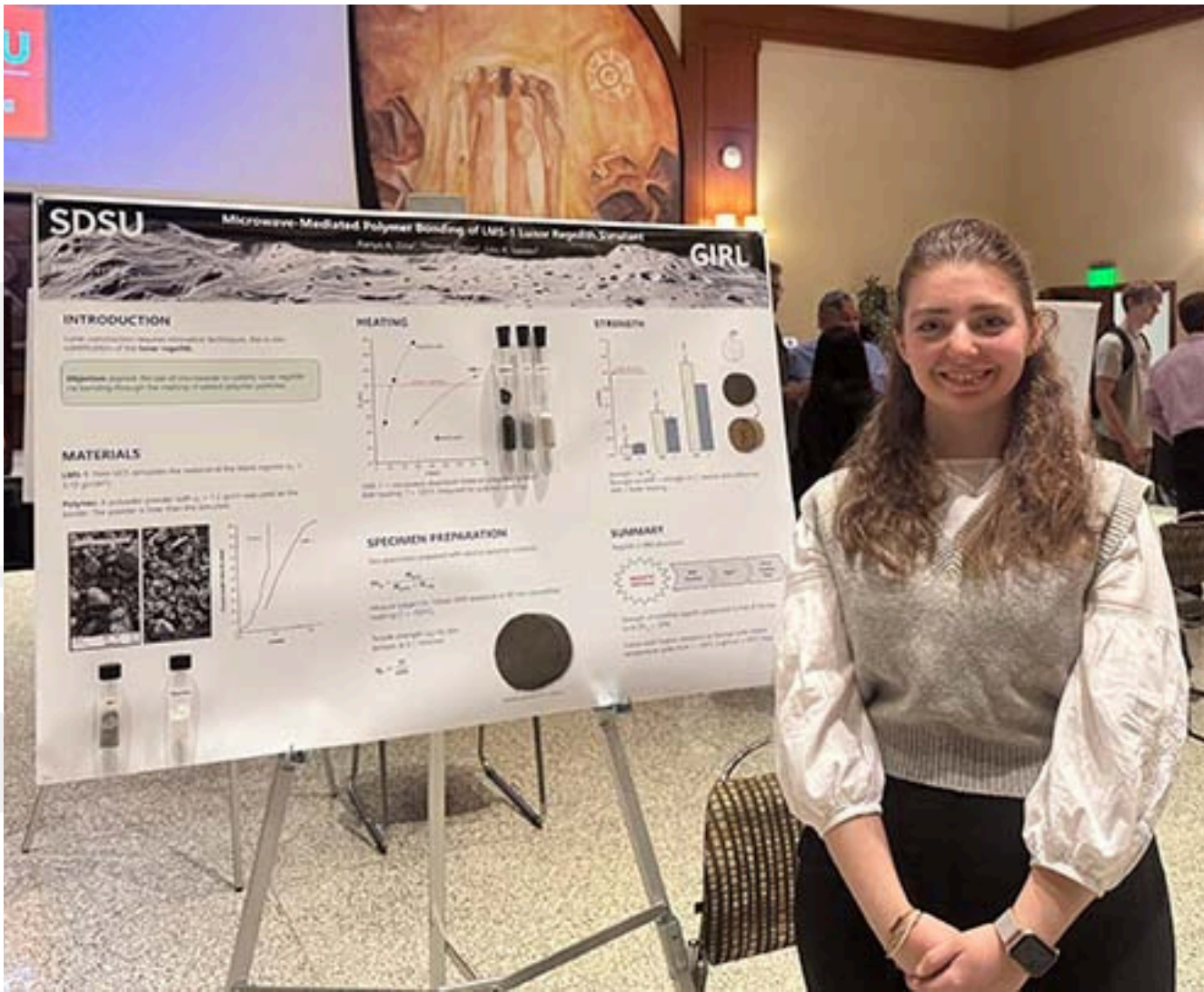
**1)** Between March 6 and 12, 2025, we sampled air quality at 20+ homes impacted by the Eaton and Palisades fires. Despite sampling two months after the fire, we still detected elevated air contamination in some homes, with PM<sub>2.5</sub> exceeding the EPA standard of 9  $\mu\text{g}/\text{m}^3$ . (A few photos above from the field trip)

**2)** The metal analyzer developed by our lab (TARTA) was featured in the New York Times' report on LA's post-fire environments (see the last photo). It was deployed on a mobile sampling platform to track the spatial and temporal variations of particulate metals in ambient airborne dust and ash.



# Engineering Graduate Research Symposium

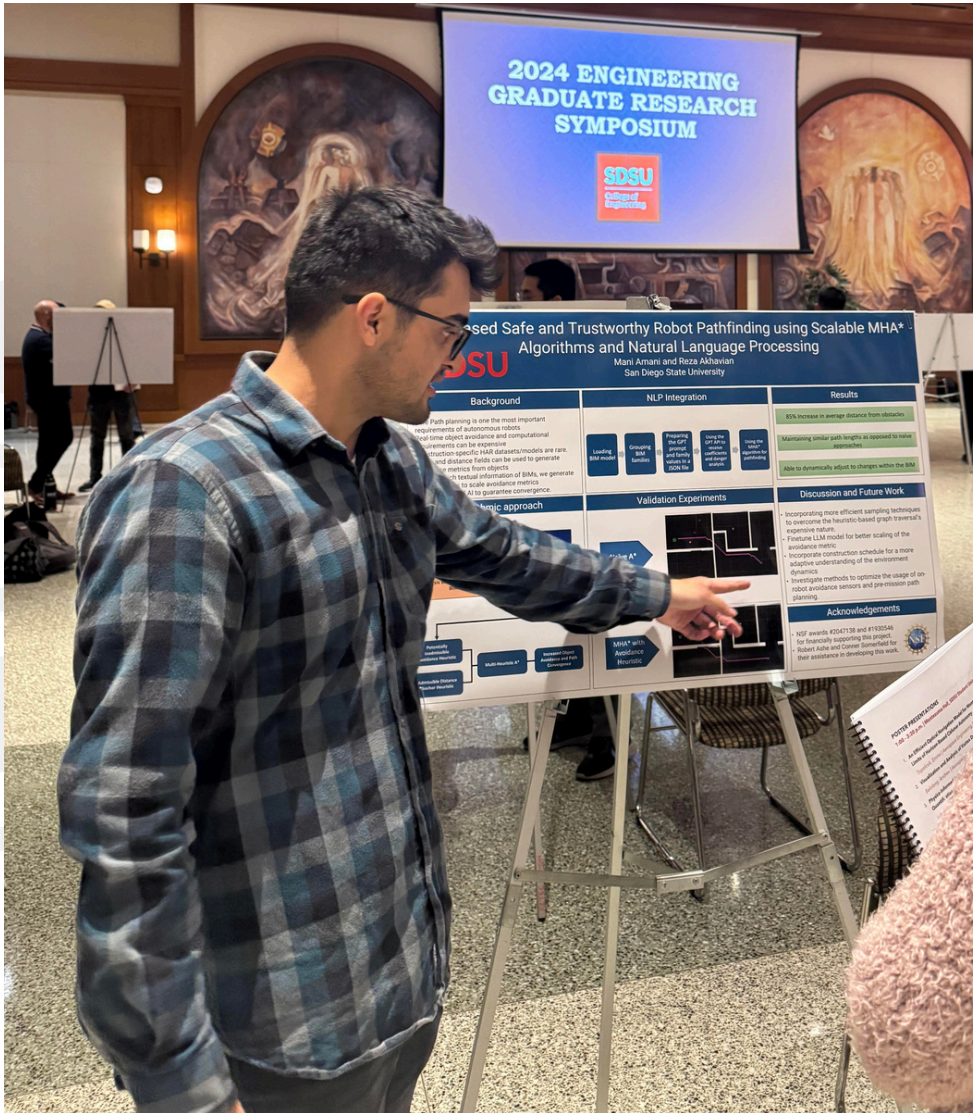
Master’s students shine at engineering research symposium



**Ranya Zina**

RESEARCHER | CIV E  
Dr. Julio Valdes

[17] Microwave-Mediated Polymer Bonding of LMS-1  
Lunar Regolith Simulant



**Mani Amani, Ph.D.**

RESEARCHER | ECE  
Dr. Reza Akhavian

[29] BIM-based Safe and Trustworthy Robot Pathfinding using  
Scalable MHA\* Algorithms and Natural Language Processing



**“Best Poster” Award!**



# CCEE Undergraduates | Reno, NV

## ASC Regions 6 & 7 Student Competition | February 7 – 9, 2025

Drs. Thais Alves and Panagiotis Mitropoulos

» [LEARN MORE](#)



- Helix Electric coached the Electrical team which placed 3rd.
- Clark Construction coached the Commercial team.
- Swinerton coached the Preconstruction team.
- Filanc coached the Heavy Civil team.

Won 3rd Place among 14 schools nationwide!



Electrical Team



REGION 6  
ROCKY MOUNTAIN REGION  
AK, AZ, CO, ID, MT, NV, NM, UT, WY



REGION 7  
FAR WEST REGION  
CA, HI, OR, WA



# CCEE Research Laboratories

SDSU | College of Engineering | Research Laboratories

CLICK HERE!

## Air Quality Monitoring Lab

Dr. Hanyang Li



## Biomass Engineering Lab

Dr. Temesgen Garoma



## Coastal Engineering Lab

Dr. Ignacio Sepulveda Oyarzun



Vlab

## Data-informed Construction Engineering (DICE) Research Lab

Dr. Reza Akhavian



Dr. Alicia Kinoshita



## Environmental Biotechnology Lab

Dr. Christy Dykstra



## GIRL

Geo-Innovations Research Laboratory

Dr. Julio Valdes



## Resilient and Sustainable Civil Infrastructure Lab

Dr. Marta Miletić



## The Safe WaTER Lab

Dr. Matthew Verbyla



## SDSU Structural Engineering Lab

Drs. Gloria Faraone and Robert Dowell



## Smart Transportation Analytics Research Lab

Drs. Sahar Ghanipoor Machiani and Arash Jahangiri



## Urban Water Lab

Dr. Hassan Davani



Dr. Natalie Mladenov



## Chemical oxidation / Instrumentation Lab

Dr. Dongye Zhao

## Remediation of Contaminated Water and Soil Lab

Dr. Dongye Zhao





# CCEE Student Organizations & Faculty Advisors

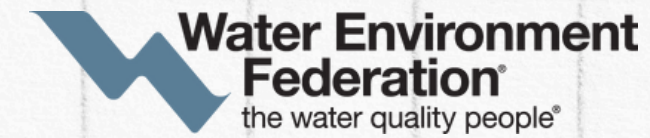
Dr. Marta Miletic



Dr. Natalie Mladenov



Dr. Christy Dykstra



Dr. Matthew Verbyla



Dr. Thais Alves



Dr. Arash Jahangiri



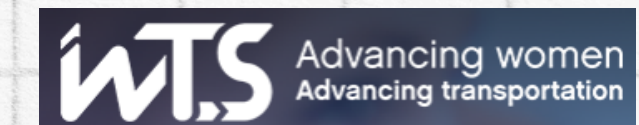
Dr. Gloria Faraone



Drs. Julio Valdes and Christy Dykstra



Nensi Lakrori, PE





01

**Dr. Natalie Mladenov** | JUL 2024

Congratulations! Received her Professional Engineers license today from the State of Colorado.

02

**SDSU Fiscal Year 2024-25 Budget Outlook** | SEP 17, 2024 | *Agnes Wong Nickerson, MBA*

Vice President for Business and Financial Affairs and Chief Financial Officer

03

**Dr. Hanyang Li** | OCT 2024Congratulations for making the **AAEES | 40 UNDER 40 for 2025**, a rising star in environmental engineering & science!

04

**Water Day** | OCT 2024

Great success! Drs. Kinoshita, Mladenov, Davani, Dykstra, Sepulveda, and Miletic.

05

**Dr. Thais Alves** | OCT 2024 | First episode in Season five of CTL**Podcast** by SDSU Faculty Futures Lab with DJ Hopkins (Co-director CTL) and Pam Lach (Digital Humanities Librarian)

06

**Dr. Thais Alves** | OCT 2024

attended advisory board meeting; \$200k short; Mark Filanc gave a \$100k match!

07

**Dr. Dongye Zhao** | NOV 2024invited to an NSF panel on **PFAS** in semiconductors

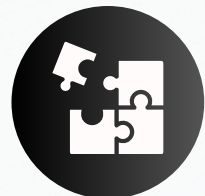
08

**SDSU Milestone Awards** | NOV 2024

Drs: Alves (15); Kinoshita (10); Mladenov (10); Lecturers: Jorge Meneses (15); and Akash Patel (10)

Thank you, awardees, for your unwavering commitment and for being an integral part of the university.

09

**Dr. Ignacio Sepulveda Oyarzaun** | JAN 2025Appointed as Editor of a very popular journal (**Geophysical Journal International**).

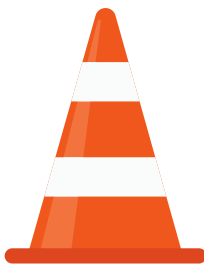




**NO WORK ZONE**

Please join us for a  
**Retirement Celebration**  
in honor of

**B R U C E**  
**U R Q U H A R T**



Thursday, May 15, 2025  
11:30 am - 1:30 pm  
SDSU Faculty & Staff Club







# 15-Minutes of Fame!

01

**Dr. Sepulveda | Aug 2024**

Meaning of Clustered Earthquakes in Southern California NBC San Diego | Telemundo 20





# Calendar of Events

## FEB

- ▶ **2/11 CoE Faculty Meeting**  
11–12:30 | BioScience Center | Gold Rm
- ▶ **2/13 CoE Staff Meeting**  
1:30–2:30 | Dean’s Conf Rm
- ▶ **2/18 PreGame Bball Reception**
- ▶ **2/24 SDSU Scholarship Luncheon**
- ▶ **2/27 Evening with the Dean**  
6 – 8 pm | EIS 106, SDSU Campus  
Food and beverages provided

[RSVP here](#)

[Senate Approved  
Academic/Holiday Calendar](#)

## MAR

- ▶ **3/8 PreGame Bball Reception**  
11–12:30 | BioScience Center | Gold Rm
- ▶ **3/12 [AWJ Distinguished Professor  
Dr. Ping Lu Reception](#)**  
3 pm | Tula Community Hall  
Outstanding Scholar Award winners will also  
be recognized. Food and drinks to follow  
lecture.
- ▶ **3/12 SDSU Day of Giving**  
Mt. West Tournament | CENG Alumni Bball  
Watch Party

**Mar 31** Holiday—Cesar Chavez Day. Campus closed.

**Mar 31–Apr 4** Spring recess.

**May 8** Last day of classes before final exams

**May 9–15** Final examinations.

**May 22** Last day for submission of incomplete and RP grade removals (excluding thesis) for May 2025 graduation with an advanced degree.

**May 22** [Grades](#) due from instructors, 11 p.m. deadline.

**May 22** Last day of spring semester.

## APR

- ▶ **4/8 CoE Faculty Meeting**  
11–12:30 | BioScience Center | Gold Rm
- ▶ **4/10 CoE Staff Meeting**  
1:30–2:30 | Dean’s Conf Rm
- ▶ **4/12 [SDSU Explore Day!](#)**  
9 am – 2 pm

## MAY

- ▶ **5/6 CCEE Advisory Board Meeting**  
12n–5:30 pm | Dean’s Conf. Rm
- ▶ **5/7 Dean’s Advisory Board Meeting**  
7:30 am–1:00 pm  
Mezzanine Suite | Viejas Arena
- ▶ **5/7 Senior Design Day High School  
Sneak Peek**  
12–1 pm | Viejas Arena
- ▶ **5/7 [Senior Design Day](#)**  
1–4 pm | Viejas Arena
- ▶ **5/8 [Commencement Ceremonies](#)**

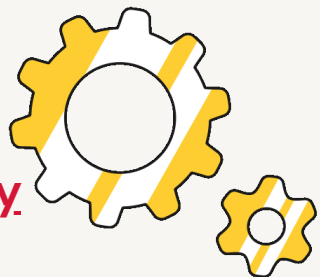
**CoE Graduate**

1:00 pm | Viejas Arena

**CoE Undergraduate**

5:00 pm | Viejas Arena

[2025 Digital Brochure](#)







IMPORTANT

**KEEP READING IF  
YOU ARE INTERESTED**





# In A Class All Our Own

5%

Top 5% of  
U.S.  
institutions

19

Colleges are  
R1 & HSI

1st

and only R1  
CSU

# SDSU IS R1

## What is R1?

San Diego State University has achieved R1 status, signifying its place among the top research universities in the United States. R1 status represents the highest level of research activity and doctorate production, reflecting SDSU's dedication to excellence in both innovation and education.

## Why R1 Matters

Being an R1 university means more opportunities for students, faculty, and the community. This designation elevates the prestige of SDSU degrees, attracts more leading researchers and industry partners, and strengthens our capacity to solve global challenges through cutting-edge research.



LEARN MORE



# University Library | CCEE Research Guide

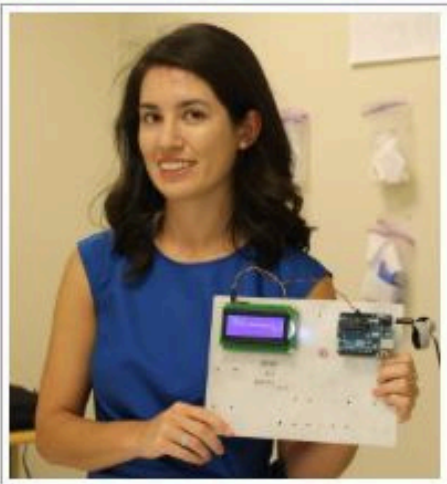
San Diego State University / Research by Subject / Guides / Civil, Construction, and Environmental Engineering / Home

## Civil, Construction, and Environmental Engineering

A guide to finding resources in the field of Civil, Construction, and Environmental Engineering.

- Home
- Find Engineering Articles
- Top Journals
- Find Books
- Find Standards & Codes
- Find Technical Reports
- Find Dissertations & Theses
- Find Map Data
- Find Patents & Trademarks
- Find Material Properties
- Find Manufactures
- Writing, Citing, Publishing
- Research Data Management

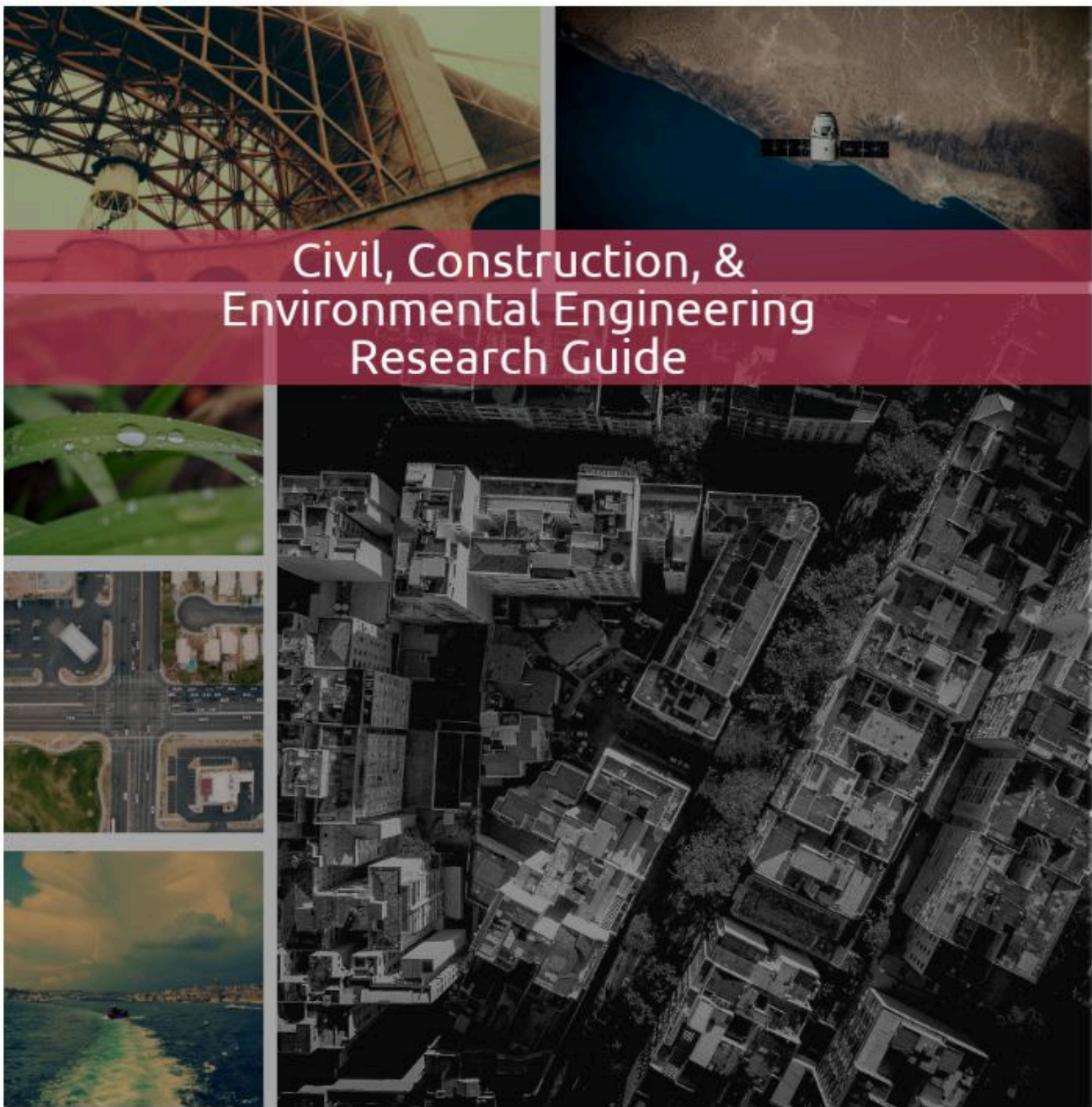
### Librarian



Jenny Wong-Welch

She/Her/Hers

Email Me



### Get Help

## Get Help



### Library Hours

#### SDSU Library

Sun, February 23: 12pm - 10pm  
Mon, February 24: 7am - 10pm  
Tue, February 25: 7am - 10pm  
Wed, February 26: 7am - 10pm  
Thu, February 27: 7am - 10pm  
Fri, February 28: 7am - 6pm  
Sat, March 01: 10am - 4pm

24/7 Research Chat

LEARN MORE

