



Message from the Chair

Greetings once again from the Mechanical Engineering Department at San Diego State University!

I'm thrilled to share a monumental achievement for SDSU officially attaining R1 status, recognizing us among the top doctoral universities with the highest research activity in the nation! This is a testament to the dedication and hard work of our faculty, staff, and students, and it significantly elevates our standing as a leading research institution. This exciting development directly fuels our ambition to launch an independent Ph.D. program in Advanced Manufacturing. The

enhanced research environment fostered by our R1 status will be instrumental in attracting top-tier graduate students and securing the resources needed to make this program a resounding success.

We continue to see a record number of talented students joining our department, and the two new faculty members welcomed last semester are already making significant contributions. The energy and innovation within our department are truly inspiring. In this Newsletter, we are once again proud to highlight the recent accomplishments of our exceptional students and faculty. We deeply appreciate the support you have shown us as we embark on this exciting new chapter with R1 status and the development of our Advanced Manufacturing Ph.D.. Thus, your continued engagement is more critical than ever. Whether it's through sharing your expertise, offering mentorship opportunities, or providing philanthropic support, your contributions can directly impact the success of our students and the launch of this vital new program.

We would be delighted to welcome you for a visit to see firsthand the exciting developments on campus. Please do not hesitate to contact us if you would like to explore ways to partner with us in enhancing our Mechanical Engineering program and shaping the future of Advanced Manufacturing education at SDSU.



Sincerely,

Patrick Kwon, Ph.D.
Professor and Chair

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Join Us for Engineering Design Day 2025

32 Mechanical engineering teams will showcase their projects at Design Day on Wednesday May 7th, 2025 in the Viejas Arena. To view the map click [here](#)

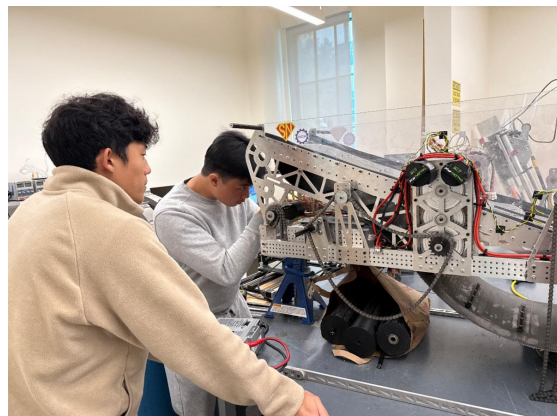
SDSU | College of Engineering

SAVE THE DATE

SENIOR DESIGN DAY '25

Wednesday,
May 7th 1 - 4 PM
Viejas Arena

Students Working on Their Capstone Projects in the Northrop Grumman Fabrication Facility





See What's Happening in the NanoFAB Lab with Prof. Sam Kassegne



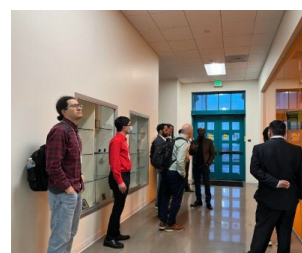
It was a busy week at NanoFAB.SDSU. We hosted Dr. Shannon Ciston and Dr. Laurie Chong, Ph.D. of Molecular Foundry, Nanoscale Science Research Centers (NSRC) funded by U.S. Department of Energy (DOE).

[Click here to read more.](#)



Yesterday (March 6, 2025), we were very much honored to welcome to NanoFAB.SDSU a high-level delegation from #Cote d'Ivoire led by His Excellency Eugène Aka Aouélé, Président of Economic and Social Council of Côte d'Ivoire.

[Click here to read more.](#)

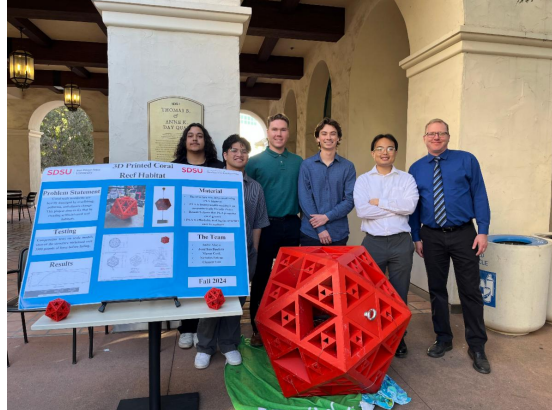


On a rainy Californian afternoon on 2/7/2025, we were delighted to welcome to NanoFAB.SDSU visitors from the the 2025 MonArk Quantum Foundry Workshop in San Diego.

[Click here to read more.](#)

Fall 2024 Design Day Photos

The Fall 2024 Design Day was held December 10th, 2024 in the EIS Courtyard. Sixteen teams showcased their projects to sponsors and visitors. The photos below are images from the displays. [Read More!](#)



Student Spotlight



Chase Duncan is honored to receive SDSU's 2025 Sustainability Champion Award in recognition of his leadership and contributions to advancing energy efficiency through the Department's Industrial Training Assessment Center (ITAC) (PI **Asfaw Beyene) .** He contributed to identifying energy-saving opportunities that resulted in nearly \$2 million in cost reductions and over 840,000 lbs of CO₂ emissions prevented across facilities in Southern California. Dr. Camacho and Dr. Beyene were instrumental to Chase and the team's success, serving as mentors who guided them in translating

classroom knowledge into real-world applications to support manufacturing plants with innovative energy solutions. Chase is proud to have helped SDSU's ITAC stand out among the many centers nationwide by combining technical work, mentorship, and outreach. Through these efforts, he has worked to foster a culture where sustainability through innovative engineering can thrive.

Designing long-duration toxin sensors



Mieko Hirabayashi is a PhD graduate student from the ME department who was recently featured in a news article published by Sandia National Laboratories. [Click here](#) to read the article!

Upcoming Events



Dr. Kwon is giving a keynote paper at the International Conference on PRecision Engineering and Sustainable Manufacturing (PRESM) in Chiang Mai, Thailand between July 6 and 12. The title is, 'My Journey into Additive Manufacturing'. He will be presenting another paper titled, 'Flank Wear Prediction when Turning Low Alloy Pearlitic Steel using Machine Learning and FEM' by a JDP student, A. A. Tejada-Diaz, and Profs.

John Kang. Prof. Kwon will also be giving a seminar in the Manufacturing Science Division at

Oak Ridge National Laboratory in Knoxville, Tennessee on May 12, 2025. The title of his talk is "The Genesis of Tool Wear in Machining," where he will summarize his 30 years of research in understanding tool wear in a scientific framework, which is a major obstacle in completely automating machining processes.

Recent Faculty Awards



Dr. Meysam Heydari Gharahcheshmeh's AMED lab featured on the cover of Advanced Functional Materials. Click [here](#) to read more.



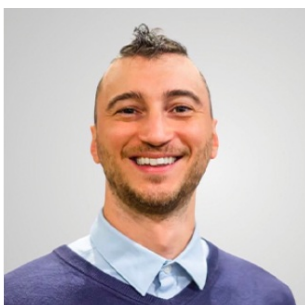
Dr. Amneet Bhalla, was awarded the American Society of Mechanical Engineering (ASME) Rising Stars of Mechanical Engineering award at the ASME International Mechanical Engineering Congress and Exposition (IMECE) in Portland, Oregon on November 19, 2024.

[Read More](#)

Dr. Sam Kassegne was awarded the RSCA Mentor Award. Click [here](#) to check out the awards ceremony.



Dr. George Youssef has been selected as the Innovation awardee for the 2025 SDSU Outstanding Faculty RSCA Awards. This honor comes with a \$2,000 prize as well as recognition at the 2025 Albert W. Johnson Award Ceremony on March 12th, 2025, from 3 pm – 6 pm at the Tula Community Center. Click [here](#) to read more.



Dr. Luca Carmignani has been interviewed by six different outlets about San Diego's recent wildfires. Click [here](#) for links to his most recent interviews.

He was also awarded funding from the Joint Fire Science Program to support the work of the California Fire Science Consortium (CFSC), where he serves as the Principal Investigator for the Central and Southern California region. Click [here](#) to read more!



Dr. Naseradinmousavi was invited to serve as Subject Editor in the most prestigious journal of "Nonlinear Dynamics" in the field of nonlinear analysis and control of dynamical systems. For more information please click [here](#).



College of Engineering Dean Eugene Olevsky received , in collaboration with colleagues from Tbilisi, Georgia, a 400,000 EUR (= \$438,192) grant from NATO on “Unmanned Aerial Vehicles Detection and Tracking Device Based on Novel Spectroscopic System”. The project is on the creation of the innovative optical scanning device that is capable of detecting and tracking large number of even the smallest drones at distances of at least 500 m in real time.

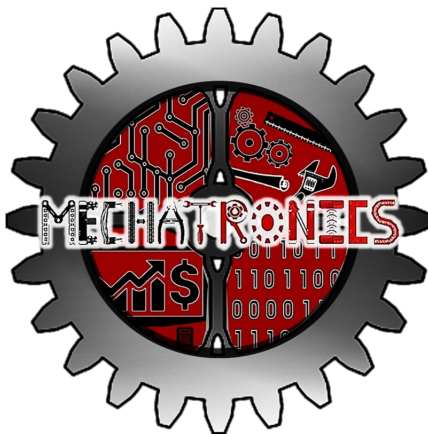
Speakers from our Spring ME Seminar Series

- **February 4th, 2025- Engineering Your Career, Brian Austin, Solar Turbines**
- **February 18th, 2025 - An electrowetting-driven liquid prism array: from material studies to optofluidic applications for tunable optics and solar energy, Dr. Sung-Yong (Sean) Park, San Diego State University**
- **February 25th, 2025 - Physics-Informed Generative Modelling for Structural Prediction of Amorphous High Entropy Materials, Dr. Wanlu Li, University of California, San Diego**
- **March 4th, 2025 - Next-Generation Medical Devices for Minimally Invasive Procedures: Design, Manufacturing, and Translation, Dr. Youngjae Chun, University of Pittsburgh**
- **March 18th, 2025 - Exploring Cardiovascular Fluid Dynamics with Advanced Time- Resolved Particle Tracking, Dr. Huang Chen, University of Nevada, Las Vegas**
- **April 22nd, 2025 - Advanced Manufacturing of High-Performance Thermoplastic Composites, Dr. Mehran Tehrani, University of California, San Diego**
- **April 24th, 2025 - Complex Metal Nanostructures in Biomedical Applications from Diagnosis to Treatment, Dr. Maryam Hajfathalian, New Jersey Institute of Technology**

STUDENT ORGANIZATIONS



Baja SAE team consists of 35+ members who are challenged every school year to design, test, and build a single seat off road buggy that will compete in 3 nation-wide events where 100 global universities are evaluated in static and dynamic events.



The **Mechatronics Club** consists of 40 members who are developing an Autonomous Underwater Vehicle (AUV) for the 2019 RoboSub Competition.



Aztec Electric Racing, commonly referred to as AER, is a 501(c)3 nonprofit, electric Formula SAE team at SDSU. They design, build, and race a small-scale, high performance race car each year.



ASME Club sponsors workshops, tours and guest speakers to prepare students for a career in the field of Mechanical Engineering.



BMES Mission:

Our mission is to promote the education of our members by supporting academic and professional excellence, and innovative research.



Quality of Life + brings together America's brightest engineering students at leading universities nationwide to create life-transforming assistive technology for our country's injured and ill heroes. Their mission is to foster and generate innovations that aid and improve the quality of life for those who have served our country.

SDSU FACULTY PAGES

**Dr. Patrick Kwon, Dept
Chair**

Dr. Sara Adibi

Dr. Asfaw Beyene

Dr. Amneet Bhalla

Dr. Subrata Bhattacharjee

Dr. Joaquin Camacho

Dr. Luca Carmignani

**Dr. Meysam Heydari
Gharahcheshmeh**

Dr. Sungbum (John) Kang

Dr. Samuel Kassegne

Dr. Fletcher Miller

Dr. Kee Moon

Dr. Khaled Morsi

**Dr. Peiman
Naseradinmousavi**

**Dr. Zahra Nili
Ahmadabadi**

Dr. Eugene Olevsky

**Dr. Sung-Yong (Sean)
Park**

Dr. Elisa Torresani

Dr. Wenwu Xu

Dr. Yang Yang

Dr. Parag Katira

Dr. George Youssef, PE

Dr. Santosh KC

ME Dept. Website

Dr. Lingping Kong

Dr. Karen May-Newman

From the Baja Car to Senior Capstone Projects to Scholarship support, your generous giving makes a tremendous difference for our students. Please consider making a gift to support the Department of Mechanical Engineering

[Give to the Department](#)



Welcome | Mechanical Engineering | College of...

The Department is the vibrant home to about 1400 undergraduate and graduate students, several active and award-winning student clubs and organizations, multiple teaching and research laboratories, internationally-renowned faculty who are...

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