Paulette Suro

paulette.suro@gmail.com | (619) 494-7626 | https://www.linkedin.com/in/paulette-suro

EDUCATION

San Diego State University | College of Engineering **San Diego, CA**
Bachelor of Science in Mechanical Engineering with Emphasis in Bioengineering |August 2021-May 2025
Masters of Science in Bioengineering |August 2025-May 2026

SKILLS

Computer: Microsoft Office, CAD (SOLIDWORKS, AutoCAD, CoventorWare), MATLAB, Arduino
Skills: R&D, Mechanical Design, Testing, Data Analysis, Project Leadership, Collaboration, Presentation & Technical Communication, Photolithography Fabrication, Mask Development, Hardware Integration, Electronics Testing.
Languages: English, Spanish

WORK EXPERIENCE

Hardware Intern **Poway, CA**
Universal Electronics *May 2024- August 2024*

- Built a power wall system to test thermostat reliability under fluctuating voltages; wrote control scripts, validated outputs with an oscilloscope, and conducted multi-day stress tests to ensure proper reboot behavior and hardware stability.
- Investigated sensor inconsistencies during thermal validation by performing a thermal distribution study using thermistors, MATLAB, and a data acquisition system, identifying uneven heat distribution and recommending soak-time adjustments to improve accuracy.

Senior Design Project Suspension Lead **San Diego, CA**
SDSU Senior Design - Aztec Baja *August 2024- May 2025*

- Aided in design, fabrication, and integration of a double wishbone front suspension for a student-built off-road SAE Baja car, implementing a user-controlled shock stiffness adjustment for optimized handling and stability.
- Developed and tested electronic shock control systems, including wiring, soldering, and test stand validation.
- Presented suspension design and performance results at the Arizona SAE Baja competition, showcasing testing outcomes, handling improvements, and turn radius reduction.

Lab Assistant Manager (Mask Layout Lead) **San Diego, CA**
SDSU Research Foundation - NanoFAB.SDSU *May 2023- Current*

- Train graduate and undergraduate students in MEMS fabrication by conducting hands-on instruction in photolithography techniques, thin film deposition, etching, and computer-aided design of masks. Conduct thorough design reviews, individually and in groups, to identify and resolve potential issues early in the mask design process, minimizing rework and project delays for all lab members' projects.
- Manage lab operations, ensuring a well-stocked inventory of chemicals and supplies and proper waste disposal.
- Conduct Electrochemical Impedance Spectroscopy (EIS) testing on fabricated devices to test for real-time monitoring, characterize the electrode-electrolyte interface, and optimize electrode design for iterative design.
- Led a summer internship for high school and undergraduate students, mentoring and training students in hands-on cleanroom nano-fabrication, design principles, and the documentation process.

Robotics Instructor **Chula Vista, CA**
Smart Mind Robotics *October 2020 - April 2023*

- Taught interactive robotics classes focused on robotics principles, programming, and problem-solving to elementary and middle school students from grades 3-8.
- Kept students actively engaged by adapting lesson plans to cater to different learning types and levels, including students with disabilities such as autism and visual impairments.

PROJECTS

3D Printed Transtibial Prosthetic: Designed and prototyped an affordable, mobility-enhancing ankle attachment for 3D-printed prosthetics using SolidWorks and resin 3D printing. Developed a seahorse tail-inspired attachment to provide passive ankle articulation, to improve gait stability on uneven terrain without costly electronics or hydraulics.
Bioelectronic Device for Epilepsy Treatment: Managed a team and designed a closed-loop vagus nerve stimulation device using CoventorWare and fabricated it in SDSU's cleanroom with MEMS-based glassy carbon electrodes for real-time sensing of glutamate and lactate, enabling responsive epilepsy treatment through neurochemical feedback.
Bioelectronic Device for Diabetes Treatment: Collaborated with students to design, fabricate, and characterize a MEMS-based cuff electrode for vagus nerve stimulation to enhance insulin sensitivity, supporting the development of a bioelectronic alternative to traditional diabetes therapies. This project was presented at the 2024 SDSU Student Symposium and won the undergraduate research excellence award.

LEADERSHIP EXPERIENCE & ACTIVITIES

Biomedical Engineering Society (BMES) **San Diego, CA**
Vice-President *June 2024 -Current*

- Lead professional development initiatives by coordinating industry facility tours, guest speakers, and lab tours.
- Help manage the project team to prepare the team for the BMES Annual Conference.

American Society of Mechanical Engineers (ASME) **San Diego, CA**
Co-President *June 2024 -May 2025*

- Organized and led general body meetings, creating presentation slides, executing activities, and delivering engaging discussions with guest speakers.
- Worked closely with the treasurer and project manager to oversee budgeting and project execution.
- Organized networking, career development, and social events for ASME members.

Treasurer *June 2023 -May 2024*

- Won a $17,000 grant by writing a proposal for our hovercraft project team.
- Coordinated events using financial insights to ensure events were cost-effective and engaging.
- Managed membership costs and processed reimbursements, ensuring accurate financial tracking.