

# Robotics Engineering

**POSTER SESSION, 8:45am to 12:00pm**

**Robot Pits**

**PRESENTATIONS, 1:30pm to 3:00pm**

**Sports and Recreation Center Meeting  
Room 1**

## **A Mergeable Infrastructure for Swarm Programming**

*Team Members:* Lorenzo Manfredi Segato; Filippo Marcantoni; Emma Pollak  
*Advisor:* Carlo Pinciroli

## **A System for Watering and Autonomously Monitoring Plants (SWAMP)**

*Team Members:* Emilia Gutman; Lauren Harrison; Jessica Hart; Isabella Lucas; Colleen Mullane  
*Advisor:* Gregory C. Lewin

## **Advanced Autonomous Tour Guide Robot**

*Team Members:* Jacob Ellington; Aashi Goel; Sukriti Kushwaha; Vivek Voleti  
*Advisors:* Nitin Sanket; Greg Lewin; Fiona Yuan; Jing Xiao

## **Advancing Humanoid Robots: Development of Balancing and Assisted Walking Along with Improved Hardware**

*Team Members:* Gabriel Bohorquez; Ethan Glasby; Jai Jariwala; Lily Jones; Sahil Mirani; Alana Reid; Jessica Wong  
*Advisors:* Pradeep Radhakrishnan; Taylor Andrews

## **Ball Catching Drone**

*Team Members:* Sebastian Baldini; Connor Thompson; Enrique Pohl  
*Advisor:* Nitin Sanket

## **BiQu**

*Team Members:* Wyatt Harri; Adam Kalayjian; Sean Lendrum; Jared Morgan; Kai Nakamura; Owen Sullivan  
*Advisors:* Mahdi Agheli; Jing Xiao; Guanrui Li

## **Developing an Autonomous Drone for Avalanche Search and Rescue**

*Team Members:* Kevin Chin; Samuel Honor; Chad Nguyen; Brianna Sahagian  
*Advisor:* Kevin Leahy

## **Development of Elbow Exoskeleton with Printed Stretchable Electronics and Sensors**

*Team Members:* Connor Ehrensperger; Ethan Lilley; Panayotis (Perry) Pesiridis  
*Advisors:* Pratap Rao; Lane Harrison

## **Disc Golf Inventory Automation Machine**

*Team Members:* Anthony Gonzales; Aiden Higuera; Jenna Marcinkowski; Katy Stuparu; Cassie Youn; Keyla Zelaya  
*Advisors:* Greg Lewin; Jing Xiao; Zimming Zhang

## **Expanding Human-Robot Interaction in an Open-Source, Toddler Sized 3D-Printed Humanoid Robot: YOLO- Based Vision, Voice Commands, and Gripper- Based Manipulation**

*Team Members:* Shivek Agarwal; Elowyn Akers; David Alex; Gabriel Bohorquez; An Phan; Preston Van Fleet  
*Advisors:* Taylor Andrews; Pradeep Radhakrishnan

## **General Robot Assistant for Common Errands (GRACE)**

*Team Members:* Brent Weiffenbach; Alexander Beck; Gwenaelle Deleo  
*Advisors:* Reza Ebadi, Constantinos Chamzas, Jing Xiao

## **HexaFlex: Design and Testing of a Hexapod with a flexible Origami-Inspired Spine**

*Team Members:* Dongquan Ji; Yanbo Hua; Jiaming Du; ZeHai Li  
*Advisors:* Cagdas Onal; Robin Hall; Gabrielle Conrad

### **Integration of Open-Source Controls and Sensors in a Low-Cost Desktop CNC Mill**

*Team Members:* Michael Primavera; Camren Chraplak; Echo Baumer; Perrin Kristoff; Andrew Petro; Daniel Petro; Dante Uccello; James Carroll; JR Thaiprayoon; Michael Doucette; Rafael Caballero  
*Advisors:* Professor Radhakrishnan; Professor Kadam; Professor Cuneo

### **Lunabotics**

*Team Members:* Sam Rooney; Jonathon Tran; Matthew Copeland  
*Advisors:* Kenneth Stafford; Loris Fichera

### **Meissa Microgrid | Multi-Tenant Renewable Energy Monitoring Platform with Solar PV Tracker Controls**

*Team Members:* Edward Dang; Vien Le; Yinuo Zhao; Andrew Qi; Aliaa Hussein  
*Advisors:* Berk Calli; Seyed Zekavat

### **Motion Control Photography**

*Team Members:* Matthew Winchell; Michael Conroy  
*Advisors:* Andre Rosendo; Ralph Sutter

### **PRIMO (Mobil Printer)**

*Team Members:* Warwick Barker; Colin McGinty; Luke Sanneman; Marc Wehbe  
*Advisor:* Mahdi Agheli

### **SACRED: Strain-Aware Continuum Robot for Estimating Deformation**

*Team Members:* Nikesh Walling; Cameron Wian; Shivangi Wirsawal  
*Advisors:* Loris Fichera; Cagdas Onal

### **SailBot 24-25**

*Team Members:* Max Berman; Bryce McKinley; James Purnell; Gavin Tingley  
*Advisors:* Kenneth Stafford; William Michalson

### **SMAC 6.0**

*Team Members:* Sakshi Gauro; Al Jarmoszko; Minh (Mo) Nguyen; Katarzyna Racka; Jingxu (Rick) Wang; Tracy Wang  
*Advisors:* Carlo Pincioli; Gregory Lewin; XinMing Huang

### **Soft Aerial Robot (SoAR)**

*Team Members:* Andrew Roush; Ao Jiang; Chris Walczak  
*Advisors:* Cadgas Onal; Timothy Jones

### **Soft Robotic Eel**

*Team Members:* Natalie Essig; Christopher Hunt; Pranav Jain; Dexter Stark  
*Advisors:* Cadgas Onal; Robin Hall

### **Terrawarden Drone Cleanup**

*Team Members:* Mark Caleca; Zephyr Conley; Jakub Jandus; Samuel Markwick; Kevin Siegal; S. Taylor  
*Advisors:* Berk Calli; Kevin Leahy; Guanrui Li

### **The Design and Prototyping of a Low-Cost & Efficient Ocean Cleanup Robot**

*Team Members:* Yan Acevado; Samantha Booher; Evan Carmody; John Hall; Renata Kaplan; Joshua Keselman; Cooper Mann  
*Advisors:* Vincent Aloï; Selcuk Gucerî

### **UAV/UGV Docking and Charging System**

*Team Members:* Myrrh Khan; Albert Lewis; Michael Monda; Istan Slamet  
*Advisors:* Kevin Leahy; Nitin Sanket

### **Ultrasound Guided Needle Insertion Device for Percutaneous Nephrolithotomy**

*Team Members:* Vishali Baker; Emerson Shatouhy; Ethan Zhong  
*Advisors:* Haichong Zhang; Yichuan Tang

### **VR Telepresence Robot**

*Team Members:* Maxwell Friedman; Luis Garcia Valecillos; Prahladh Raja; Tristin Youtz  
*Advisors:* Andre Rosendo; Fabricio Murai