

Engineering Projects

expo

2026

Friday, April 17



College of Engineering & Applied Science
UNIVERSITY OF COLORADO BOULDER

10:30 a.m.-2 p.m.

Private Judging

Judges will evaluate teams on their capstone projects.

2-5 p.m.

Open to the public

Welcome K-12 students, prospective CU Engineers, community members, family and friends.

5-5:45 p.m.

Awards Ceremony

Announcement of each department's winning teams and the results of the People's Choice Awards.

THANK YOU INDUSTRY SPONSORS

MEET THE TEAMS

Project sponsors listed in bold below team members

Architectural Engineering (AR)

AR01: **Student Learning and Academic Center (SLAC)**

Hailey Bowman
Alianna Rathke
Manuel Lopez
Aiden Smith
Isaac Schwartz
Finn Maloney

AR02: **STIC Building**

Nolan Barry
Patrick Marina
Julian Kotara
Simon Cox
Mary Grace Lehmkuhl
Jack Arndt

University of Colorado Boulder

AR03: **Student Support Building**

Kennan Jones
Alec Villas
Daniil Ziumchenko
Hind Saeed
Said Almohri
Katie Balenzuela

Buff Builders

AR04: **The BLOC**

Grace Apel
Benson Spoor
Mauve Leonard
Laila Al-Ghareeb
Kasem Alarbash

Golden Beavers Inc.

AR05: **Student Success Center**

Evelyn Ingraham
Sophie Mott
Kailey Holden
Grace Reyes
Kenan File
Donovan Smith

Student Success Center

AR06: **Student Academic Prosperity Center**

Smith Dean
Justin Jachimowicz
Max Henzl
Mason Lott
Reeves Kirby
Kieran McCarron

University of Colorado

Aerospace Engineering (AS)

AS01: **Lunar Rover Terrain Exploration and Construction (Team Dogwalker)**

Declan Blodgett
Zach Dyre
Jackson Gabbard
Lilac Le
Kaylan Madrid
Nicholas Rodrigues
Jacob Schleuger
Emily Vaughn
Kota Yamashita
Ursa Major

AS02: **Field Exploration in Lunar Investigation Crossing (Team FELIX)**

Brandon Lee
Eric Fiechtner
Colter Schaefer
Grady Germain
Jorie Myers
Millie Elekovic
Gi Rizzi
Alex Amundsson-Lease
Fernando Gonzales-Clara
Ursa Major

AS03: **Lunar and Mars Rovers (Team MOOSE)**

Kyle Moreland
Maddie Schmidt
Brady Comer
Sophie O'Brien
Chris Chiou
Riley Queisert
Zach Cindrich

(cont'd)
Sebastian Amaya
Cole Writer
Ursa Major

AS04: **Autonomous Rover Exploration System (Team ARES)**

Anthony Storm
Cole Jones
Sam Fallon
Tristan Seeley
Vasco Pereira
Gavin Radtke
Daniala Mohammadi
Matthew Siedlecki
Yaseen Mustapha
Michael Patton
Andreas Wilwerding
Joud Redyan
Nicholas Perron
William Crum
Ash Tribble
Ntoro Akpabio
Dustin Magno
Kong Yu Kang
Mike Kuligowski
Amoun Abdel-Malak Forbes
Shawn Patel
Vishnu Duriseti
Josh Colgrove
Ollie Kaplan
Riley Martin
Allison Byrnes
Aidan Murray
General Atomics

AS05: **Autonomous UAV Navigation Through GPS/GNSS Outages (Team UNDEAD RECKONING)**

Evan Kolodey
Dylan Rohr
Graham Dobbie
Alex Pfankuch
Noah Vavoso
Wesley Alford
Alec Kinsman
Ashley Knight
Elliott Totman
Gustavo Alfonso
John Mongellow
Sebastian Dibildox
Tyler Janiak
Andrew Patella
Jacob Nelson
Bernadette Weigang
Bijan Jourabchi
Erick White
Laura Taylor
Lucas Becker
Myles Deffe
Quinn Levinson
Theo Kishner
James Lambert
Hugh MacLaughlin
Alex Rolland
Blake Bateman
Jack Ryan
Morgan Max
Parker Graham
Parman Kaur
Ricardo Zapata

Aerospace Engineering (AS)

(cont'd)

CJ O'Neill
Dane Shedd
Austin Vera
Elsa Carreras
Jonathan Aragon
Justin Le
Lance Gould
Laurel O'Brien
Peter Mortenson
Sam Hollrah
Benjamin Taylor
Liad Barash
Ashton Unzicker
Cora Williams
Jonah Steiner
Wyatt Schmitt

RTX Corporation

AS06: **Buffalo Aircraft
Advanced Air Transport
(Team BEE)**

Tom Graeub
Jack Cashen
Brandon Ferguson
Zach Purdey
Michael Muehlbradt
Diego Sillas Pinales
Skylar Harris
John Schlichting
Nils Wulfsberg
TJ Hoffner
Lujan Leal De Ibarra
Alexander Freeling
Eduardo Lopez
Anton Akmetov

(cont'd)

Reggie Kim
Chance Pape
Brooklyn O'Laughlin
Ian O'Keefe
Spencer Hoehl
Peter Arnold
Adrian Robinson
Decker Lazzeri
Brock Ullman
Last Huang
Cody Levine
Will Wallingford
William Garner
Keegan Miles
Avi Wolnek
Lana Basta
Enrique Rodriguez Jr
January Geisick
Henry Spradlin
Zak Schmidt
Kavan Bede
Aidan Smith
Felipe Garza Cancino
Jesse Trevino
Josh Wright

MMO Aviation

AS07: **Buffalo Aircraft
Advanced Air Transport 2055
(Team Stampede Sky)**

Carter Bergman
Aiden English
Jakob Esterkyn
Abby Moon

(cont'd)

Krishna Mehta
Marah Azzam
Abhay Purohit
Tariq Sawaqed
Carina McCartney
Erik Ostlund
Ryan Metcalf
Luke Warrington
Max Kaufmann
Quincy Patterson
Connor Laible
Charles Stude
Michael Chapp
Ryan Cross
Michael Fitzgerald
Conner Gloster
Thomas Doby
Nolan Harris
Raj Bhattarai
David Song
Thomas Hoang
Niko Pappas
Benjamin Hellem
Jacob Halverson
Alex Bauer
Mia Nemkovich
Emily Deyhle
Awie Chubyuk
Jason Cheung
Sujay Basnet
Gabriel Burdan
Sawyer Kuvin

MMO Aviations

Aerospace Engineering (AS)

AS08: **Autonomous Lunar Greenhouse (Team Artemis Gardens)**

Namita Nair
Leya Shaw
Peter Held
Leyla Williams
Max Thornton
Shane Mariae
Charles Fritsch
Linnea Berger
Baylee Burton
Jacob Leonard
Dakota Kelly
Eli Gerber
Stella Cross
Tarik Vranka
Joy Wakimura
Andres Duffy
Shellene Redhorse
Kayla Gill
Andy Gorsky
Clint Carafelli
Henry Gilmore
Kate Mulholland
Taylor Luciani
Vantor

AS09: **Autonomous Lunar Greenhouse (Team Sproutnik)**

Isa Davila
Nicholas Mueller
Diyora Daminova
Ethan Burgess
Katie Kolberg
Barbara De Figueiredo
Lorien Hoshall
Tristan Goodwin
Madeline Hamma
Nicole Reiner
Zack Bacon
Shelby Rock
Xilor Morin
Megan Manning
Luc Willett
Frances Eaton
Isabelle Brown
Kenzie Sanders
Cylin Williams
Jules Pace
Alex Cunningham
Jacob Sadow
Lauren Lajoie
Vantor

AS10: **Persistent Exploration Bot for Boulder Lunar Studies (Team PEBBLS)**

Bryce Smith
Ryan Stevenson
Evelyn Radabaugh
Tyler Boim
Zachary Vozoff
Aditi Chhangani
Nicholas Kieft
Ursa Major

AS11: **Flying Lab for Airborne Isotope Research (FLAIR)**

Connor Arnold
Jarod Utz
Zainalabidin Parkar
Eesha Tolety
Abhitha Singh
Alexa DeMuth
Adhindra VS
Jake Jones
Tristan Brasov
Ashwin Francis
Robert Kaplan
Institute of Arctic and Alpine Research Stable Isotope Lab

Biomedical Engineering (BME)

BM01: Dynamic Volume Test Cavity

Danny Vo
Suhani Amin
Aishna Kumari
Rachel Zamora
Kori Johnson
Payton Campbell
CONMED Corporation

BM02: Residual Limb Warmer for Winter Para-Athletes

Cassandra Eisen
Sara Wissner
Alyssa Radman
David Debretson
Anna Sallee
Matteo Coscia
Nathaniel Day
Project S.E.R.V.E.

BM03: Team FML 2.0

Merci Schneider
Oliver Snidow
Haley Liu
Chris Garrington
Surina Gidha
Aidan Jambor
Julia Hollenbach
Cardiost Inc

BM04: Closed Caption Glasses for Concert Accessibility

Alena Tucker
Aryan Mulgaokar
Ben Finneseth
Maddie Venezia-Ford
Meredith Overton
Shine Music

BM05: Grasptronic - Automatic Grasping Force For Robotic Surgery

Katie Fleming
Mel Strand
Estelle Kennamer
Brendan Cotter
Karisma Leung
Vivian Nguyen
Gabe Wu
Medtronic

BM06: Denver Life Sciences

Jayce Aguilar
Owen Bang
Eileen Liang
Ryan Seaberg
Brigid Teaken
Jordan Heffelfinger
Denver Life Sciences

BM07: Wearable Detection of Pediatric Toe-Walking

Zoe Zeidler
Avery Deringer
Emma Keesey
Anaelle Dutat
Charlotte Rindfuss

BM08: OraStretch Tech: Jaw Rehab Device

Iris Li
Sudhiksha Sivakumar
Charlie Kuhna
Izzy Racine
Kevin Leidig
Raul Luevano
CranioRehab

BM09: Arthroscopic Delivery of Cartilage Tissue Paste

Aidan McAdoo
Aleah Farac
Alisha Kumari
Hayes Griffin
Matteo Campbell
Tanvi Rami
TissueForm

BM10: Custom Sterile Packaging for Flowable Implant

Allie Garner-Hall
Kaitlin Norris
Sophia Waters
Jameson Parks
TissueForm

Biomedical Engineering (BME)

BM11: Development of a Brain Phantom for MRI Calibration

Cody Campos
Breeana Pritchard
Kady Vu
Rohan Gohil
Savannah Presson
Madison Voytko
CaliberMRI

BM12: Multiuser Method for Full Body Sound Electrostimulation

Conall Soon
Beata Wolak
Yoni Bereket
Landon Stampka
Cheranne Wang
Hamza Ahmed
Full Body Sound

BM13: Ferromagnetic Induction for RAS Electrosurgery

Mallory Phillips
Cara Colwell
Natalie Carpenter
St. John Tsuno-Wayne
Vivian Shi
Madison Kuo
Abi Johnson
Medtronic

Computer Science (CS)

CS01: DigiClips: Media Monitoring Search Engine

Farid Ahmadov
Dorjee Zhang
Brandon Reeves
Bhoopender Singh
Michael Ari Gladstone
Carter Cabbage
DigiClips

CS02: Enhancing recruitment tools for collegiate dance

Macy Crow
Tai Karuna
Carli Repass
Ragan Lee
Liam Smith
Tucker Banks
Studio2Stadium

CS03: Coursera System for Evaluation and Benchmarking of Course Integrity

Jacob Lowry
Keegan Gore
Colin Carlson
Micah Dew
Rodolfo Martinez-Maldonado
Vladimir Hristovski
CU MS-CS Online

CS04: Online Course Manager

Alex McDonald
Holden Eckert
Abhi Chalise
Matt Dean
Andrew Best
Darwin Ortiz Garcia
CU Boulder CS-MS Coursera

CS05: Unearthing Futures - Desenterrando Futuros

Cameron Maynor
Abigail Garner
Anna Soukhovei
Harrison Martin
Nora Su
Andrew Wang
Harwood Museum of Art

CS06: Unearthing Futures Mobile App

Duncan Britt
Gervis Ramos Garcia
Daniell Hill
Beauregard Cave
Idir Dahmouh
Harwood Museum of Art

Computer Science (CS)

CS07: Ozone Interactive Story

Tyler Campbell
Linh Tran
Charles Wheeler
Quinn Nicodemus
Logan Bird
Matthew Harper
Matthew Kind
UCAR

CS08: Parchment/ Shared Spaces

Jake Tucker
Connor Julson
William Hardee
Tyler Haskins
Cade Mather
Cal Duffy
Daniel Gagnier
Captured Sun

CS09: CheatMaps

Brendan McCall
Carson Mattei
Evan Pradhan
Matthew Long
Olivia Newton
Samuel Buckler
Winter Russell
Gunnison Sage Brush Alliance

CS10: Digital Prenatal Credit System for Pregnant Women in Somaliland

Kelly McVeigh
Bruce Filippone
Joanne Li
Micah Gagerman
Luke Robinson
Nolan Tibbles
NYAGI

CS11: iSAT: Design and Develop Expansive Group Interactions with AI

Bianca Gautam
Carson Bleich
Robert Burns
Grigory Shatalin
Yongqing Huang
iSAT

CS12: Vision Language Models for Deep Space Spacecraft

Patrick Hunt
Kaile Suoo
Jerry Li
Nathan Khazam
Peyton Barger
Axel VandenHeuvel
Parker Secrest
NASA Jet Propulsion Laboratory (JPL)

CS13: National Animal Foster Network (NAFN)

Caroline Steely
Allie Dehaan
Emma Kalikstein
Sonia Purisai
Isabelle Godfrey
Langston Denning
National Animal Foster Network (NAFN)

CS14: Hive

Adlai Sotelo
Elizabeth Long
Jeremy Varghese
Justin Goh
Robyn Luo
Tiya Saini
Trish Le
Trimble

CS15: EcoLocate

R Sophia Soka
Scott Davis
Noah Turner
Daniel Busch
Brady Gagerman
Paul Drews
Griff Monster LLC

Computer Science (CS)

CS16: Agentic AI-Driven Custom Frontend Generator Aligned with Company Standards for DevOps

Alexis Marez
Adan Esparza
Olivia Zhu
Tawhid Ather
Henry Miller
Jenna Jones
Festo

CS17: Agentic AI Driven Custom Frontend Generator Aligned with Company Standards Dev Ops

Christopher Delisle
Oscar Carlek
Matthew Lieng
Quinn Turner
Patrick Nguyen
Grant Parker
Festo

CS18: AI-Powered Malnutrition Screening Tool for Afghanistan

Ali Haroon
Sergio Lopez
Brook Dagne
Tai Polanowski
Toby Moore
Nguyen Pham
Barakat Nutrition

CS19: Polymer Social

Ojas Baral
Yatharth Brahmabhatt
Juan Cedeno
Liz Cutting
Joseph De Lisa
Alen Ramic
Levi Rotte
Faav LLC

CS20: I'm Puzzled

Max Wool
Calvin Bonomo
Ananya Nepal
Cole Downs
Eli Jones
Benjamin Burkhalter-Castro
GriffMonster, LLC

CS21: Climate Adaptation and Resilience Monitoring with STELLA

Robert Lashway
Cameron Arlert
Laura Zang
Xavier Rudnick
Jerry Wang
Harumi Booth
Renata Zurita
Kyle Johnson
Climate Adaptation and Resilience Monitoring Alliance

CS22: Environmental Variance Analyzer

Eric Gosnell
Kayla Zhong
Ryen Johnston
Ryan O'Leary
Celaena Thomas
Wei Jiang
Will Lockhart
Colorado Space Grant

CS24: Just Tell Me

Ethan Kissell
Elizabeth Coleman
Michael Ellis
Benjamin Getches
Nolan Hofle
Mariana Vadas-Arden
BI Incorporated

CS25: ClaireCraft

Matthew Simpson
Yash Singh
Nathan So
Logan Haase
Vesuan Shrestha
Connor Short
CultureCampAI

Computer Science (CS)

CS26: **Faav App**

Quincy Carter
Joshua Huang
Kailash Kalaiselvan
Alex Chekal
Aaron Semones
Luke Wu
Hamed Sidiqyar
Faav App

CS27: ROW-PRO: **Real-time On-Water Performance & Rowing Output**

Trevor Schmuckley
Austin McCutcheon
Jayas Basnet
Abdullah Yassine
Sepehr Rezaei
7D Imaging

CS28: **CADUS**

Ari Goldman
Cameron Kounthapanya
Grace Mudd
Sarthak Paithankar
Grayson Richard
Tyler Schmitz
Leon Vayedjian
NYAGI Project

CS29: **Crowdsolve**

Lucas Stackhouse
Trey Verhelle
Jonah Tatterson

(cont'd)

Charan Sai Kakula
Tanmay Met
Crowdsolve

CS30: **Betty Boulder**

Calvin Schaller
Charlotte Hauke
Manav Shah
Sharon Xiang
Nathan Reed
Sansh Goel
Beckmann Consulting

CS31: **Malnutrition Metrics App**

Mason Lee
Helen Garabedian
Layla Seefried
Colin OConner
David Benson
Bethlehem "Beth" Belay
Lalmba Association

CS32: **Digital Art Link**

Lachlan Murphy
Adhithya Narayanan
Zachary Erdley
Andrew Zirger
Deep Singh
Aloken Chaudhari
Michael Wertz

CS33: **adLibre**

Oscar Rodriguez
Miguel Ramirez
Noam Tuchman
Jaron Rothbaum
Caleb Bettcher
Kevin White
adLibre

CS34: **Aspect**

Joey Tursi
Jace Simons
Imad Dar
Owen Wright
Colin Wallace
Aspect

CS35: **CodeSlice**

Nathan Delcid
Patrick Cromer
Marcus Winton
Brice Parrott
Ethan Meli
CodeSlice

CS36: **DopaMind**

Chloé de Grivel
William Writer
Jake Carroll
Daniel Desmond
Aiden Zavala
Saul Drantch
DopaMind

Computer Science (CS)

CS37: **FoundIt**

Ian Keeler
Eldin Basic
Nabil Djaber
Sharvita Paithankar
Jacob Steigler
Lucas Fiedler
FoundIt

CS38: **Huckle**

Eddie Kiernan
Vishal Vunnam
Tyler Onsted-Cran
Neel Tomar
Joao Nicastrro Silveira
Huckle

CS39: **Recurra**

Sameer Kulkarni
Fernando Picoral
Mitch Kubina
Guilherme Loges
Jon Lee
Recurra

CS40: **Rent-A-Buff**

Jack Mathews
Kyle Okura
Evy Ng
Ephram Cukier
Rent-A-Buff

CS41: **Ribbn**

Andrew Rho
Jack Coan
Rowan Zeszut
Jason Gao
Eliot Pontarelli
Rohan Adepu
Caleb Anderson
Ribbn

CS42: **BlitzBetz**

Noah Slatkin
Owen Brown
Ethan Sachs
Vincent Frazzini
Agam Singh
Jack Van Dyke
BlitzBetz

CS43: **Big Data for Financial Applications**

Abdul Rafay Ahmed Khan
Harsh Chaudhari
Mandar Mahesh Deshmukh
Sagar Gokhale
Varshitha Sathish
**Leeds School of Business,
CU Boulder**

CS44: **Farming Robot for Autonomous Cultivation**

Jake Ludwigson
Shuyu Song
Sierra Reschke
**Jumping Mouse LLC,
MASA Seed Foundation**

CS45: **Generative AI Tool for PPAP Document Review**

Arjyahi Bhattacharya
Mohit Gupta
Sheng Qu
Boyu Shen
Nirmit Karkera
Medtronic

CS46: **Triage Assistant**

Sri Harsha Vallabhaneni
Varun Shankar Hoskere
Chaitanya Mahajan
Pritam Chavan
Hima Varshith Reddy Paduru
Cisco Systems

CS47: **2D Floorplan Vectorizer**

Amr Barakat
Srinath Muppala
Chetan Badiger
Harini Padamata
Nidhi Sankhe
Inovonics

CS48: **AI-powered Professional Learning System**

Ruban Chakaravarthi Vairava
Sundaram
Pranay Andra
Vijay Poloju
Shanmukha Vamshi Kuruba
Vishnu Vardhan Mahajan
pWin.ai

Computer Science (CS)

CS49: BioCollate: Decentralized Multilingual Communication via P2P Protocol

Somya Pathak
Dhruv Pathak
Divita Phadakale
Meghasrivardhan Pulakhandam
Anthony Monte
BioCollate

CS50: Engineering Development Tool for Endoscopic Systems

Siddhant Kodolkar
Thomas Davis
Sylvia Chang
Sumanth Sai Prasad
Kshitij Jadhav
Medtronic

CS51: GridIt

Tarun Kumar Nagelli
Joel Carlson
Ramyashree Mummuderlapalli
Krishnaiah
GridIt

CS52: Intent-based topology aware router configuration with Cisco routers and AI

Ayush Mishra
Pratik Bhirud
Aniket Singh
Venkateswarlu Mopidevi
Sai Gautham Ghanta
Cisco

CS53: Offline AI Tutor for Digital Empowerment in Rural Kenya

Neha Kolambe
Progga Parmita Priya
Jayesh Reddy
Likhith Sai Kothapalli
Lalmba Association

CS54: Online Portal for AI-driven Data Exploration

Ashwini Dubbawar
Vansh Pandav
Girish Jeswani
Yashwanth Reddy Mali
Jyotirmoy Karmakar
Credible

CS55: Open Split Time

Sneha Nagaraju
Owen Flack
Justin Chan
Open Split Time

CS56: Premium Resource Scheduling Application

Arunava Ghosh
Sri Vamsi Andavarapu
Venkata Sai Sanath Narayan
Kavatooru
Heera Menon
Arnav Purushotam
Rule4

CS57: Project Horizon: AI-Powered Data Analytics Business Development

Rakesh Vijay Kumar
Darsh Thakkar
Ujwal Karippali Chandran
Sheetal Sharma
Jayanth Vunnam
Gravity Foundation

CS58: Rule 4 - LLM Integration

Sanjay Baskaran
Shashidhar Reddy Ananthula
Rigved Thorat
Scott Tang
Prajwal Naik
Rule 4

CS59: Running up for Air : Trailpulse

Ardon Kotey
Aayushi Waghela
Mukund Mahesan
Running up for Air

CS60: See My Race

Tejus Paturu
Thomas Paul
Sahasraditya Thyadi
Jeevana Kalvakuntla
GriffMonster LLC

Quantum Forge (QF)

QF01: Automated Screening and Characterization of VCSELs

Yannick Hoenger
Eric Reed
Aaron Price
Henri Mueh
Greg Krohn
Mesa Quantum

QF02: Freespace QKD calibration using a PCD

Alexander Pavlovic
Ashley Tams
Lucas Rossi
Braden Yonano
Adrian Ayala
Xairos

QF03: Automated Neutral Rubidium Atom Chip Test Bench

Logan Hearne
Sean Webb
Maxwell Weiss
Koen Oder
Inflection

Electrical, Computer & Energy Engineering (EE)

EE01: Scanner for Polarized Anisotropic Materials (SPAM)

Dillon Brown
Griffin Sweeney
Kevin Huang
Jeremy Kiarie
Brock Street
William Van Atten
Cody Scarborough

EE03: Automated Probing Station For Resistance

Alison Bloomfield
Will Fraser
Jack Haggard
Leo Rasmussen
Frankie Sharman
Stephanie Torres
Teradyne

EE05: Intelligent Cow Monitoring System

Avery Peterlin
Tre Cade
Dakota Augenstein
Thomas Ghirmatsion
Mitchell Potocsnak
Hayden Gromer
Mona El Helbawy,
Mohammed Abo-Ismael

EE02: Mobile PLSCX Surface Scanning Spectrometer

Luis Reveles
Alexander Economakis
Ethan Lam
Jeremy Cope
Liam Mcalexander
Will Pfaltzgraff
Weather Stream

EE04: The Kat Klaw

Dominic Gonzales
Rui Ye
Will Cockrell
Davis Huynh
Benjamin Jacobsen
Laurence Bristol
David Lowe

EE06: Wireless Heart Pump Charger

Connor Desrosiers
Declan Clark
George Ware
Grant Dreasher
Noah Bernstein
Riley Moore
Cardiost

Electrical, Computer & Energy Engineering (EE)

EE07: **Automated Time Domain Reflectometer Tester for PCBs**

Sean Kim
Sean Kadkhodayan
Elias Haro
Julian Werder
Leon Weigert
Alejandro Valenzuela
HYPERLABS

EE08: **RF Connectivity Analyzer**

Colton Belleau
Samir Dherar
Ethan Edwards
Taite Hartman
Evan Poon
Max Whitney
Qualcomm

EE09: **Arc Supply**

Amanda Figueroa Diaz
Ava Ginsburg
Melissa Chavez
Jeffrey Allen
Peter Dessev
Pico Technology

EE10: **Portable Benchtop Multimeter**

Cam Chalmers
Clay Kress
Cody Jacobs
Jacob George
Wyatt Massey
Andrew Rusin
Pico Technology

EE11: **DemoSat RadTest**

Connor Sorrell
Faris Balubaid
Ryan Buckley
South Livermore
Ilya Vitkovskiy
NASA Colorado Space Grant Consortium

EE12: **Analog Computer**

Logan Caskey
Dakota Golden
Joel Ramos Silva
Eric Chen
Zanghyeoun Shim
Marco Nicotra

EE13: **Mars Hard Lander Electrical System**

Conner Neuhart
Abdulrahman Almutairi
Nasser AlMuaili
Ahmad Sai
Bilim Sydykov
Anthony Hamamji
NASA JPL

EE14: **Easy-Z**

Kylie Auerbach
Kyle Franklin
Ceara Johannson
Jonah Yunes
Derek Bauer
Hafsa Shaukat
Abdulaziz (Aziz) Alenezi
Medtronic

EE15: **Broadband Circular Phased Array Design Through the Quasi-Conformal Transformation Optics**

Edward Wawrzyniek
Antenna Research Group

EE16: **CBE1**

Parker Gust
Matthew Gorbald Mccardle
Ryan Geist
Eli Garcia
Samuel Turner
Thomas Ho
Christian Green
Ivan Calderon
Colin Lees
Arjun Dalwadi
Bufs Racing Formula SAE Electric

EE17: **Firefly Burn In System**

Kira Cenderelli
Aaron Van
Jimmy Shapiro
Lucy Hudson
Phoebe Wu
Kamyar Dargahi
Samtec

Electrical, Computer & Energy Engineering (EE)

EE18: Jukebox Jr.: Music Player for Toddlers

Zarin Saifee
Alexa King
Brendan McMahon
Skyler Naclerio
Zach Schultz
Isabelle Lindfors
Vega Paithankar

EE19: On Algorithm–Hardware Co-Design With Commercial Acceleration Technologies

Drew Ajamian
Tamara Lehman (thesis)

EE20: Pentaflar helical antenna

Derek Allen
Antenna Research Group

EE21: SI-ML: Classifying pathological PCB design topologies from their S-Parameters

Sam McDiarmid-Sterling
Prof. Eric Bogatin

EE22: Direct and Indirect Data-Driven Control with Prior Information about the Equilibrium Manifold

YiChun Liao

Environmental Engineering (EV)

EV01: HeroX: Optimizing Solar PV Integration for Xavier University of Louisiana

Alejandro Montgomery
Ahmad Alsaleh
Kathryn Coggins
Emma Shugart
Hope Robinson
HeroX Solar District Cup Challenge

EV03: City of Boulder Sediment Transport Model and Trail Crossing Infrastructure Design

Darwin Hanson
Zoe Katres
Garrick Newland
Kathleen Lucas
City of Boulder Open Space & Mountain Parks

EV05: Improving the Grit and Grease Removal System at the City of Boulder Water Resource Recovery Facility

Taylor Hilger
Cami Danielski
Mary Dowd
Kienan Block
Boulder Water Water Recovery Facility

EV02: Arvada Targeted Nutrient & Sediment Load Reduction System

Parker Rosenthal
Bridget Jewell
Cady Stieber
Sam Levy
Luke Whitenight
City of Arvada

EV04: Greeley WTRF Odor Control

Andy Greer
Abdulahman Mokhtar
Ethan Richter
Ayden Hinerfeld
City of Greeley

EV06: Quincy Reservoir Protection Plan

Benjamin Center
Chloe Hoffmeister
Justin Heggemeier
Clare Gagnard
Matthew Racenstein
City of Aurora

Environmental Engineering (EV)

EV07: Recycled Water System: Chlorine-Boosting and Ambient Heat Recovery

Laura Ouellette
Caroline Mays
Yoshi Asefa
Morgan McDonough
Maggie Holland
Denver Water

EV08: Soil Vapor Extraction System Design to Remediate Condensate Tank Spill

Sophia Hrywnak
Elizabeth Chandler

(cont'd)

Erin Stucky
Chase Nathanson
Trihydro Corporation

EV09: Educational Wind Turbine Models

Alexa Crossley
Chloe Caulk
Shane Gavney
Callum McCabe
Katy Ruelle
Kelsea Souders

EV10: RMWEA Student Design Competition

Jenna Blatchford
Colin Yeh
Molly Monroe
Julia Dykstra
Elyse Panagakos
Plum Creek Water Reclamation Authority Wastewater Treatment Facility (PCWRA WWTF)

Mechanical Engineering (ME)

ME01: LittleBite Dynamics: A Pediatric Dental Device for Occlusal Equilibration in Children

Stefan Wroblewski
Samantha Diener
Jeffrey Slocum
Patrick Zorc
Kylie McHugh
Jonathan De Grandpre
Ethan Zmola
Tanner Sones
Sabir Saklayan
Children's Hospital Colorado

ME02: SkyMount: Design for Autonomous Mounting of a Sensor Package on Vertical and Angled Surfaces

Colton Swank
Shalom Busse
Aidan Wyse
Ethan Baldwin
Kevin Hernandez
Charles Richards
Nick Wey
Ashley Withnell
Casey LeBlanc
Benson Zou
Incubix Inc.

ME03: Bowfishing Arrowhead Project

Nabor Alvarez
Ikaika Apilado
Sean McCarthy
Luke Gleason
Hannah Miller
Calvin Kelly
Grayden Rauba
Iron Will Outfitters

Mechanical Engineering (ME)

ME04: Hybrid Expandable Broadhead

Madelyn Hardee
Leo Barringer
Andrew Chamberlain
Josh Hodgson
Harrison Perlstein
Liam Ryan
James Appelhans
Iron Will Outfitters

ME05: Automated Radiographic Panel Positioner

Aidan Halloran
Gavin Lopez
Audra Rissmeyer
Jack Buster
Spencer Ballard
Nicholas Anthony Fournier
Jose Diaz-munoz
Madeline Kloud
Los Alamos National Laboratory

ME06: Precise Positioning Instrument Door

Paxton Fetters
Ty Laves
Braden Hurley
Ryan Seals
Nick Chandler
Lucas Soubra
Kaylee Putnam
Lockheed Martin Space

ME07: Multi-Use Laparoscopic Stapler

Carson Pete
Cason Lane
Pranav Maddali
Sharlene Alonso
Ted Bruno
Maryann Gorka
Noah Hefferon
Medtronic

ME08: Portable Massage Table

Nicholas Durecki
Zachary Miller
Lukas Haug
Christine Cole
Kyle Bygness
Hayden Huckaby
Clay Copenhaver
Milwaukee Bucks NBA Basketball Team

ME09: G.U.A.R.D. - Ground to UAS Autonomous Response Device

Reid Benfield
Jack Carden
Anna Stevens
Patrick Wiliarty
Fabrizio D'Antonio
William Jenkins
Micheal Ta
Jevan Wiltz
Matthew Schneider
Zara Chandra
Kenji Ramcharansingh
Practical Scientific Solutions Inc.

ME10: Automated Mold Release Applicator for High Compression Molding

Cameron Quintero
Ryan Brown
Tenzin Dorje
Cameron Foppe
Adam Gebben
Silas Leeson
Mitchell Lewis
Oscar Miller
Jay Nedrow
Zach Sherritt
Pretred Inc.

ME11: Wheelchair-Mounted Fishing Launcher

Aidan Stamp
Megan Jones
Jadin Zaccagnino
Fabiola Torres
Cameron Piggott
Aleksander Kilstrom
Adam Brookes
Adam Johnson
Project S.E.R.V.E.

ME12: Wheelchair-Mounted Disc Golf Launcher

Claire Ferla
Paige Greenfield
Anders Martinson
Elijah Jones
Ben Wigginton
Tor Skogsholm

Mechanical Engineering (ME)

(cont'd)

Zach Breaux
Rich Swyers
Carter Daigle
Project S.E.R.V.E.

ME13: Locomotive Motor Rotor Lock Redesign

Teagan Moss
Jack Rutherford
Dylan Veit
Carson Malpass
Nik Larson
Colin O'Rourke
Evelyn MacKenzie
Wabtec Corporation

ME14: Passive Exosuit to Reduce Back Pain during Pregnancy

Ava Rost
Olivia Fritts
Abigail Batterson
Collin Schellenbach
Jacob Broderick
Relia Reed
Vanessa Gonçalves
Welker Lab

ME15: OralSim

Dominic Hoff
Caden Byrnes
Sam Cech
Charlie Peterson
Dania Serrano

(cont'd)

Ivan Sidorov
Solomon Kamusiime
Ethan Richter
Colette Wells
Children's Hospital Colorado

ME16: One-Axis Tilt Propulsion System for UAV Thrust Vectoring

Hannah Brothers
Leo Fisher
Kurt DeBates
Henry Grotheer
Ben Archuleta
Keegan McCarthy
Christian Gonzalez
Natalie Wilson
David Camargo
Renesh Panchal
Esotaira

ME17: Modular Heat Recovery Test Unit

Robert Gosser
Alex Aronov
Jack Kriekels
Sean Farrar
Stefan Rosenboom
Ian Wright
Pete Reeves
Fire2Fission

ME18: Hysteroscopic Surgery Fluid Management System

Hayden Hotchkis
Madison Seckman
Henry Stevens
Kieran Dempsey
David Wardlaw
Jack Dozoretz
Joyce Garofalo
Ryan Strong
Kaia Schiff
Logan Bayani
Hologic, Inc.

ME19: Mars Low-Cost Hard Lander Mechanical Design

Claire Holt
Noah Sentnor
Kyle Parliament
Kevin Hart
Eli Greenfield
Griffin Kuuini
Jake Myers
NASA Jet Propulsion Laboratory

ME20: High Pressure, Small Diameter Tubing Hot Tap

Stefan Ferla
Lena Rosario
Darrah Boyle
Max Rearick
Andrew Heck
Evan Jones
Will Porter
Los Alamos National Laboratory

Mechanical Engineering (ME)

ME21: Portable, Adaptive Sleep Cooling System with Smart Sensor and App Integration

Andrew O'Brien
Ben Harming
Kendall Gallegos
Ivan Roan
Mason McGaffin
Jack McGuffee
Ben Goughnour
Zach Conroy
Cole Proestos
Litchfield Partners

ME22: Software Controlled Robotic-Assisted Surgery Guidance System

Evelyn Romine
Emily Martinez
Spencer Frank
Daniel Pagatpatan
Jenna Beagle
Enrique Garcia
Joseph Hanley
Jack Pregler
Evan Curtis
Dylan Bomgardner
Medtronic

ME23: Package Drop Tester

Andrew Bates
Anselme Idoine
Remy Allen
Tegan Chanders
Nicholas Woolsey

(cont'd)

Dylan Hansen
Al Harith Al Rushaidi
Riley Lafreniere
Francine Palmos
Isaac Rodriguez
Micro Motion

ME24: Rev Kombucha

Aden Faris
Jeffrey Reiling
Charles Matyas
Chris Hildebrand
Corey Smith
Isabelle Hoff
Divyanshi Mishra
Oliver Page
Alexis Villarose
Rev Kombucha

ME25: Automated Precision Seed Dispensing System for Agricultural Nursery Applications

Emilie Feve
Dylan Teeples
Anthony Radke
Breanne Roberts
Ethan Vuong
James Vakoc
Dylan Schneider
Lucien Fehrenbach
Rooted Robotics

ME26: Aerodynamic Performance Analysis of Re-entry Aero-shell to Inform Design of CG-Shifting Mechanism

Isabel Dudney
Zachary Rempell
Chloe Busick
Carter Harris
Carter Hass
Sarah Lancy
Andrew Dumbleton
Ella Packard
Matthew Lee
Sierra Space

ME27: Deployable Thermal Radiator

Frank Roth
Isabella Wheeler
Sydney Shortridge
Dani Swen
Colin Clarkin
Milo Ruiz
Jake Fleishauer
Miriam Nieberg
Dhruv Singh
Sierra Space

ME28: Locomotive Diesel Engine Oil Strainer Inspection Process

Nathan Petryk
Andrew Lototskiy
Mari Sippel
Jose Saucedo
Katrina Pauley

Mechanical Engineering (ME)

(cont'd)

Carter Biesemeyer
Ellie Dunham
Leo Carnicelli
Wabtec Corporation

ME29: M-BUR: Modular Bioinspired Underwater Robot

Alex Hansen
Anthony Javier
Carter Winkelman
Topher Prokopius
Ilsa Runge
Jose Cabrera
Leon Steinbach
Owen Allison
Sean Curry
The Xu Lab

ME31: CU Boulder Baja SAE

Julian Olivieri
Kelly Clingan
Aaron Shray
Kyle Chinn
Joe Selke
Taylor Clark
Narayan Eselius
Joe Lenehan
Mitch Moeller
Nate Schindler
Nick Gettinger
Cole Rutkowski
Aidan Botham
Braxton Fox
Nicolo Stella
Baja SAE

ME32: Collegiate Wind Competition

Trinity Johnston
Chance McDonald
Peter Job
Joe Michaud
Luke Plotnick
Michael Petronino
Tyler Van Hare
Jose Cervantes
Suren Sargsyan
Sam Bryan
Elizabeth Roggenbauer
Emalee Santacroce
Whitney Le
Michael Richtsmeier
Oliver Browne
**National Laboratory of the Rockies,
Department of Energy**

ME40: Ascent Assist

Domenic DeCaro
Bela Voglund
Tobias Tsinker
Finn O'Boyle
Jonah Kelley
James Madden
Ascent Assist

ME41: Flotech

Gavi Fox
Asaiah Gifford
Jasmine Bieniek
Keiron Hannula
Zach Weiner
Ian McLeod
Flotech

ME42: GP Hydroponics

Karinne Bratkowsky
Friderik McMahan
Beck Hermann
Ali Alسادah
Nathaniel Wheaton
David Li
GP

ME43: DropSense

Jack Mulvaney
Josh Shewbridge
Jonathan Trigg
Bryce Sohayda
Jojo Pearson
Sam Ceraso
DropSense

ME44: Lawn Chair Lifty

Ian Manz
Dale Harris Jr
Kevin O'hara
Chase Kriebel
Alejandro Sáenz Flores
Senior Solutions

ME45: GreenView Designs: Automatic Compost Sorter

Dylan Parmley
William Berbaum
(cont'd)
Jeremy Tierney
Brayan Hernandez
Ethan Gongora
GreenView Designs

Mechanical Engineering (ME)

ME46: Air Alert Technologies

Jacob Berry
Robert Stephens
Cooper Wyrick
Mauricio Gutierrez
Timothy Nemchuk
Air Alert Technologies

ME47: Accessible and Modular Prosthetics (AMP)

Brendan Acosta
Noah Imm
Daniel Torres-herandez
Alexandria Munoz
Michael Rearden
MechMinds

ME48: Hydrokinetic Turbine

Anthony Papaianache
Saisaketh Janga
Miles Johnston
James Rossano
Ivan Rivera

ME49: PreVent

Nicky Mallouk
Justis Inscore
Austin Staley
Jake Gordinier
Cort Sommer
PreVent

ME51: TECII - Transcanal Endoscopic Cochlear Implantation Instrument

Seth Strayer
Dev Mahajan
Karthik Gudavalli
Dhruvil Khatri
Quentin Sabathier
Children's Hospital Colorado

ME52: Pneumatic Drive Unit Feasibility Study

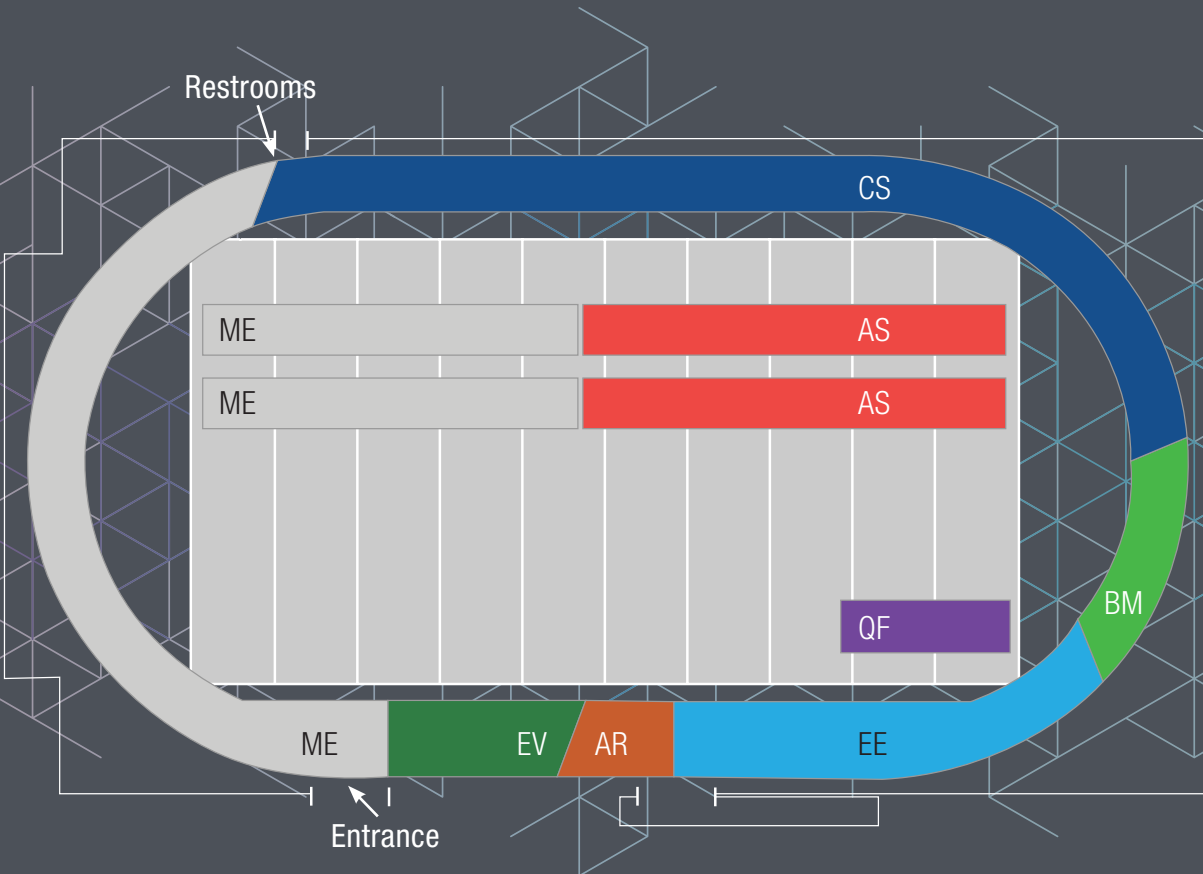
Luke Jensen
Het Mistry
Sadhvik Kotha
Medtronic

ME53: Project R.O.C.K









Sarthak Dalvi
Tanmay Mhatre
Naga Pallapu
Practical Scientific Solutions,Inc.

ME54: Low Cost Star Tracker

Pablo Argandona
Nathan Braunstein
Reid Godbey
Oliver Sumners
Sierra Space



Departments

- | | |
|---|---|
|  Aerospace Engineering (AS) |  Electrical, Computer & Energy Engineering (EE) |
|  Architectural Engineering (AR) |  Environmental Engineering (EV) |
|  Biomedical Engineering (BM) |  Mechanical Engineering (ME) |
|  Computer Science (CS) |  Quantum Forge (QF) |



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& Applied Science

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