Engineering Projects expo 2022

APRIL 22, 2022

Engineering & Applied Science
UNIVERSITY OF COLORADO **BOULDER**

10:30 a.m. - 2 p.m. **Private Judging**
Judges will evaluate teams on their capstone projects.

1-2 p.m. **Industry hour**

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

Architectural Engineering (AR)

AR01: **AEI International Student Design Competition**
Brandon Chavez Morquecho
Maryam Almaian
Cole Wellborn
Liam Daniel
Cole Lindemann
Millennium Associates

AR02: **Tarrant County College District Student Center**
Nate Seale
Caleb MacLean
Alliah Halcomb
Rachel Peterson
Paul Neumann
Buff Consulting

AR03: **Student Success Center - Tarrant County College**
Nicholas Grant
Jackson Brogan
Jana Alshatti
Jonathan Kishaba
Ian Center
BuildTek

AR04: **Student Success Center - Tarrant County College**
Denis Malinin
Megan Adam
Omar Alkharraz
Dalal Alzayed
Architectural Engineering Institute

AR05: **TCCD NW Student Success Center**
Aaron Bush
Anita Ashoury
Allie Wilson
Nethania Ruiz Escobar
Anthony Ramirez-Salinas
Free Bird Design

AR06: **TCC Student Success Center Building Systems Design**
Andrew Dollard
Nicole De Petris
Noah Scott
Frances Applegarth
Sebastian Hayes
Phoenix Concepts

Aerospace Engineering (AS)

AS01: **Suborbital Photography for Crew Experience (SP4CE)**
Aneesh Balla
Jesse Bartlett
Gio Borrani
Jasmin Chadha
Ryan Charles
Zach Fields
Cesario Garcia
Vicki Hurd
Jack Lana
Sarah Leary
Blue Origin

AS02: **Tactical Autopilot Long-Term Overwatch Network (TALON)**
Jason Peloquin
John Oliver
Selmo Almeida
Anthony Danna
Collin Kasunic
Patrick Tippens
Ethan Fleer
Vyacheslav “Slava” Rychenko
Dante Vigil
Zach Vanlangendonck
Christian Williams
Nicholas Boender
HERD-CU

AS03: **CubeSat Integrated Star Tracker (CubIST)**
Chesney Boal
Quaid Garton
Maria Callas
Chad Pflieger
Nicolena Weber
Natalie Link
Chava Friedman
Cameron Humphreys
Josephine Johnson
Matthew Gedrich
Dr. Scott Palo

AS04: **Guided UAS Supplemented by Timing (GUST)**
Anand Trehan
Jake Miles-Colthup
Luke Engelken
Eric Cervantes
Alex Kenyon
Chris Krebs
Billy Weigl
Adam Buencamino
Nic Mayhan
CU Boulder IRISS - Penina Axelrad/ Steve Borenstein

AS05: **Close Range Orbital Attitude Characterization System (CROACS)**
Tyler Gaston
Shawn Stone
Max Morgan
Jash Bhalavat
Jianai Zhao
Zack Hubbard
Nick Herrington
Walter Sabin
Brandon diLorenzo
Jake Pirnack
Jason Le
Astroscale

AS06: **Flow Optimization & Weight Reduction Project (FlOWeR)**
Adriana Lysak
Eric Tate
Angelo Hristopoulos
Anand Kappagantu
Preston Tee
Weston Luke
Max Buchholz
Nathan Portman
Anthony Gregg
Air Force Research Laboratory

Aerospace Engineering (AS)

AS07: **Balloon Altitude Command Control Housing for Unmanned Sensing (BACCHUS)**
Ben Chupik
Bryce Glacken
Connor Baldwin
David Shaw
Derrick Choi
Elijah Vance
Kailey Rex
Leah Selman
Libby Moore
Tanisha Anand
Thyme Zuschlag
Will Gravel
Urban Sky

AS08: **No Emission, Low Drag Airframe (NELDA)**
Emerson Beinhauer
Finn Bailis
Tristan Martinez
Jake Pendergast
Julia Tucker
Fernando Chavez
Nathan Braunstein
Christl Haley
Carlin Hornbostel
Tomaz Remec
Schaden Law (Richard Schaden)

AS09: **Satellite Position Estimation Collision Tracking & Event Recognition (SPECTER)**
Gabriel Feldman
Zach Harris
Noah Avery
Sam Alvis
Mary Hanson
Vivien Blumofe
Hanna Galimanis
Nick Spens
Andrew Komitor
Josef Michelsen
Ajay Dhindsa
L3Harris

AS10: **Secondary Payload Adapter Concerned with Eliminating Mass and Optimizing Design (SPACEMOD)**
Kenlyn Darrah
Holland Morris
Donavan Harshfield
Zach Lesan
Ryan Block
Cole MacPherson
Ankrit Uprety
Ryan Collins
Scott Mansfield
Michael Bauer
United Launch Alliance

AS11: **Rapid Autonomous Loiter Program for Highly Increased Endurance (RALPHIE)**
Sunny Sarkar
Andreas Brecl
Kidd Deng
Dawei Zhao
Carson Leppla
Sean Newman
Lorenzo Madera
Gina Staimer
Cooper Dale
Quinlan Lewis
Andrew Thompson
Sam Garza
Ann & H.J. Smead Department of Aerospace Engineering Sciences

AS12: **Nano-Stratospheric Aerosol Measurement III (NanoSAM III)**
Donny Wolfe
Evan Hiemstra
Robert MacFarland
Amanda Nelson
Andrew Haskett
Raymie Fotherby
Austin Bathgate
Peter DiCerbo
Alex Israel
Ball Aerospace

ENGINEERING PROJECTS EXPO 2022

Aerospace Engineering (AS)

AS13: **All-Electric ROver for Sample Storage (AEROSS)**
David Koester
Ricardo Lopez Abadia
Aaron Buller
Adam Trunko
Max Malden
Patrick Riley
Emily Mitzak
Owen Kaufmann
Keaton Paquin
Benjamin Lodwick
Jet Propulsion Laboratory

AS14: **Astro-Robotic Garden Harvester (ARGH)**
Aurash Filsoof
Kyle Fingerhut
Noah Kendall
Evan Luebbert
Cameron Mithcell
Samuel Oberg
Connor O'Reilly
Dominic (Dom) Plaia
Collin Rasbid
Evan Shults
Thomas Shepard
Panitnan (Pan) Yuvanondha
Sierra Space

AS15: **Gravity Offloading and Tethering Somatosensory Enhancement System (GOATSES)**
Grace Antonucci
Quentin Morton
Elena Salgado
Cody Wheeler
Ben Foehr
August Hauter
Jack Harrison
Ike Timko
Nick Taylor
CU Bioastronautics Department

AS16: **Stored Battery Monitoring System (SBMS)**
Jamie Henault
Nathan Zhao
Ben Gavin
Devin Geegan
Evan Meany
Ian Adler
Richard Folsom
Joseph Harrell
Shreeyash Nadella
EnerSys ABSL

AS17: **Ground station Ranged Assessment Satellite Simulator (GRASS)**
Carter Mak
Trey Taylor
Addison Conzet
Cole Sechrist
Daniel Mathews
Ruben Briones
Eric Roeck
Sam Packard
Wil Edwards
Madisen Purifoy-Frie
Marissa Palamara
Gavin O'Connell
Raytheon Technologies

AS18: **Drone Recharging Operational Payload System (DROPS)**
Cody Watson
Nate Kuczun
Alexander Karas
Caroline Dixon
Sid AroraRafael
Figueroa Gonzalez
Daniel Gutierrez Mendoza
Dominic Dougherty
Ian Chakraborty
Ben Capeloto
Mia Abouhamad
Josh Schmitz
TB2 Aerospace

Aerospace Engineering (AS)

AS19: **Ski jump Athletic Development Interface (SKADI)**
Michael Schlittenhart
Mary Sobernheim
Maya Greenstein
Landon Nurge
Max Page
Joaquin Ramirez
Julia Sheeran
Hunter Daboll
USA Nordic

Civil Engineering (CV)

CM50: **Mesa County ADA Transition Plan**
Evan Lavin
Kellisha Ostler
Lauren Schott
Mesa County Public Works

Computer Science (CS)

CS01: **Evaluating Cutting Edge Positioning Technology**
In Ji Chung
Jacob Bonner
Jake Swartwout
Bradley Ma
Robert Meikle
Thomas Deaner
BI Incorporated

CS02: **VR House Simulation/ Data Visualization in VR**
Yongqi Yu
Ilya Zinyakin
Nicolas Price
Johnny Chabin
Gregorio Figueroa
Zach Richardson
BI Incorporated

CS03: **Crime Maps**
Anton Machkasov
Layan Makhtoum
Andres Montealegre
Wesley Shen
Tyler Tomlin
Leon Shen
Caliber Public Safety

CS04: **Pediatric Tracheostomy Complications Training Simulator**
Tobias Jacobson
William Francis
Katelyn Singh
Jessie Ryce
Jack Humphrey
Childrens Hospital Colorado

CS05: **Predictive Analytics Solution**
Yibo Yang
Emma King
Jacob Reynolds
Jacob Klus
Parker Morris
Evan Linden
Congruex

CS06: **FaceRace**
Logan Mann
Naif Alassaf
Yosan Russom
Ryan Drew
CU Boulder Psych Department

Computer Science (CS)

CS07: **BATP Collect**
Vanessa Reyes
Priscila Trevino
Connor Horn
Edward Alder
Salvatore Pacifico
Amy Dunbar-Wallis, CU Ecology and Evolutionary Biology

CS08: **Romantic Circles Site Rebuild**
Elly Landrum
Laura Kaiser
Andrew Weller
Josephine Martin
Angel Dong
Yifan Chen
Michelle Tran
CU English Department

CS09: **CU LEEDS**
Joe Taylor
Tiancheng Shao
Vanessa Zhang
Sebastian Brunet
Yi Hou
Jingqi Liu
CU LEEDS

CS10: **Talk Moves**
Reese Green
Kevin Xu
Alex Ho
Tongxin Zhu
Curve 10

CS11: **CurveTen Baseball**
Trevor Green
Muluken Chekilie
Ben Dashiell
David Zhao
Graham Gier
Will Yelton
CurveTen

CS12: **Administration Website**
Sam Williams
Sarah Lundell
Tyler McGinnis
Jacob Felknor
Elijah Aldinger
Jaclyn Stickrod
DigiClips

CS13: **PUPpy**
Will Huynh
Andrew Yamane
Drew McFaul
Angus Fiedler
Rees LaBree
Festo

CS14: **iSAT Data Collection and Dashboard**
Ryan Long
Tamer Shahwan
Yvonne Liu
Isabell Deak
Alexandra Charland
Asher Farr
Vineet Belur
iSAT

CS15: **Guaranteed Execution Over Unreliable Networks**
James Isenhart
Robert Dumitrescu
Connor Tribbett
Andres Varela Robles
Spencer McCormick
David Gao
L3Harris

CS16: **Supplier Resilience Tool**
Raya Alotaibi
Max Banks
Yuxi Liu
Conlan Mcconvey
Kate Reynolds
Jonathan Wick
Fengyuan Zhang
Lockheed Martin Space

CS17: **Loopsketch**
Ara Anner
Megan McGinnis
Justin Murillo
Filip Nedelkov
Austin Ritz
Gabriela Tolosa Ramirez
Loopsketch

CS18: **PUPPY Alert System 2.0**
Lucas Webb
Grayson Arstingstall
Aanvi Guliani
Will Mardick-Kanter
Phalgun Taman
Sahand Setareh
Medtronic

Computer Science (CS)

CS19: **MindBeWell Well-Being Journal Expansion**
Divya Bhat
Tanvi Gopalabhatla
Devin Sharpe
Dhruv Patel
Sophia Chaltas
Numair Baig
Ishan Kumar
Zahraa Abbasi
MindBeWell

CS20: **Parallelizing the Geometric Calculations of a NASA Science Planning Tool**
Chris Boyd
John Fletcher
Shawn Jaffe
Haley Hartin
Ryan Horn
Amaica Webb
Matt Nguyen
NASA/JPL

CS21: **Quantum AI at the Edge**
Jarek Reynolds
John Ortiz
Cade Gorman
Noah Svensson
Giovanni Visco
Adam Hoerger
Jorge Ortiz
Alan Yu
Northrop Grumman

CS22: **Mind Body Voice**
Isha Karki
Amey Erdenebileg
Shuhui Wu
Noorain Baig
Vananh Le
Calista Nguyen
Renee Crown Wellness Institute

CS23: **Saga Education - Video Conferencing**
Evan Kuehr
Antonio Narro
Alexis Acevedo
Will Loughlin
Saga Education

CS24: **Augmented Guidance Using Perception Sensors**
David Crockett
Alex Mazur
Cody Weaver
Lara Chunko
Kaylee Engelhardt
Niharika Kunapuli
Ege Telatar
Trimble Autonomous

CS25: **Trimble Cloud Geofence Live**
Henry Wang
Jake Hugenburg
Ailish Skinner
Andrew McQueary
Liam Hollins
Trimble Cloud

CS26: **Choose Our Future**
Christian Fin
Jess Hamlin
John Willard
Jess Ryan
Kai Schuyler Gonzalez
Jason Yuan
Timothy Hartt
University Corporation for Atmospheric Research

CS27: **SortaTrains**
Kyle Stewart
Kathleen Tran
Kaden Ostendorf
Ben Conner
Connor Ely
Richard Terrile
Jose Calderon
Sasha Farhat
Union Pacific

CS28: **Zayo PoP Selection**
Paul Scheufele
Lars Knutson
Mason Dobbins
John Salame
Zayo

Electrical, Computer & Energy Engineering (EE)

EE01: **FID Frequency Extraction Engine**
Phaedra Curlin
John Lettang
XuTao Ho
David Schmitt
Dreightyn Godfrey
Nanu Dahal
FieldLine Inc.

EE02: **Electric Vehicle Ecosystem Exhibit**
Noah Saidy
Alexander Burg
Maxwell Pettit
Dafna Margalit
Carson Syberg
Mickey Brown
Mission Zero

EE03: **Particulate Patrol**
Sydney Evans
Ella Wawrzynek
Zach Sents
Will Pryor
Athena Parker
Kat Edfors
Eric Bogatin

EE04: **Implement Pose Device (IPD)**
Ben Rautio
Cousteau Reinig
Jiamiao He
Sam Freed
Alexander Bork
Tim Bauer
Trimble Autonomous Solutions

EE05: **3-axis Flying Bulls Eye® High Performance Electronic Test and Measurement System**
Kanin McGuire
Connor Peskin
Samuel Diaz
Aditya Gopalan
Aidan King
Wade Pearce
Samtec

EE06: **Robotic Nurse Assistant**
Dustin Horn
Nick Machemer
Alex England
Hasan Khadadah
Maurice Takeda
Michael Lucky
Medtronic

EE07: **Process Monitor Droid**
Gabriel Altman
Darren Schultz
Amanda Sterling
Christian Polanco
Hannah Shahba
Sanmina

EE08: **Helios and the Bumble Bot**
Michael Stewart
Nicholas Wroblewski
Rosie Setter
Isaiah Montejano
Evan Williams
Nathan Elsen
Animal Inspired Movement and Robotics Laboratory

EE09: **The FRANKLIN**
Matt Hartnett
Elisabetta Medici
Case Chrisbacher
Aileen Ma
Eytan Mizrahi
Blake Novak
Albin Gasiewski

EE10: **Monitor Pods**
Brad Oren
Adam Chehadi
Michael Marques
Sam Siemer
Augustus Hartgrove
Miles Bush
Amazon

EE11: **DESTINY**
Joe Cordaro
Luis Mendez
Aidan Rogers
John Carberry
Trey Venners
Ali Alalwan
Eric Bogatin

EE12: **Orpheus**
Rylee Beach
James Brennan
Lena Hunicke-Smith
Anirudh Kapoor
Stephen Lasko
Kaitlin McConnell
Eric Bogatin

Electrical, Computer & Energy Engineering (EE)

EE13: **ShroomRoom**
Ibrahim Alqattan
Abdullah Alghafli
Tufi Alhabshi
Ahmad Alramadan
Abdallah Esmael
Nayef Bourisli
Eric Bogatin

EE14: **Person Portable Soil Moisture Mapping System**
Spencer Jones
Brandon Little
Calvin Ulsh
Abiel Tewolde
Wenqian Xu
John Jin
Albin Gasiewski

Environmental Engineering (EV)

EV03: **South Platte Renew Biosolids Management Plan**
Angie Alvarado
Cassidy Brand
Nick Freeman
Paige Small
Madison Meissnest
South Platte Renew

EV04: **RMWEA Student Design Competition**
Grady Colgan
Layla Denissen
Madeline Karr
Kara Moore
Savannah Niedrick
Judah Tressler
RMWEA

EV011: **Solar District Cup Collegiate Design Competition**
Joe Ning
Max Morrison
Charles Candon
Annie Coaty
Mark McClure
Luke Waeldner
Department of Energy and National Renewable Energy Laboratory

EV012: **NREL Geothermal Competition**
Calvin Malkoski
Natalie Alvarado
Alise Gladbach
Alex Martin
Titus Ellison
I Have A Dream Foundation

Mechanical Engineering (ME)

CM48: **Vertical Bike Rack Wheel Basket**
Chance Lewis
Quintin Kurtz
Colt Futter
RockyMounts

CM49: **Prototype Electric Motor Dynamometer**
Parker Smith
Julio Puentes
Sean Bohling
Danfoss

ME01: **Machine Chip Disposal System**
Aleksey Volkov
Andrew Stiller
Wesley Schumacher
Kate Nichols
Blake Fardulis
Casey Cole
Matthew An
Accu-Precision

ME02: **Deformable Surgical Needle**
Ian Sanford
Nic Rutkoski
Trey Nevitt
Jose Soto
Carl Savage
Catherine Rieke
Children's Hospital Colorado

ME04: **Modular Filler/Extractor**
Jordan Jalufka
Kyi Soe
Jackson Prescott
Alekh Nagarkar
Anthony Nguyen
Blake Adams
Festo

ME05: **Pneumatic Attack Tool**
Courtney Cooper
Danielle Burke
Nick Doffing
Maggie Hubbeling
Jacob Semrow
Timothy Cooper
Los Alamos National Laboratories

ME06: **Lighted Electrosurgical Pencil**
Anthony Arnopoulos
Evan Wetzel
Ami Tat
Quinton Uradomo
Dexter Budrys
Eric Swanson
Landon Cramer
Aashay Choksi
Abhi Kumar
Medtronic

ME07: **A Soft Robot for Surgical Interventions**
Maxwell P. Anderson
Sean Dunkelman
Isaac Martinez
Caitlyn Robinson
Bradley Nam
William Watkins
William Wang
Christopher Gonzalez-Millan
Renée Schnettler
Brady King
Medtronic

ME08: **Dry land Hockey Sled**
Parker Saltiel
Abdulrhman Almutawtah
Alana Brummel
Salvador Vargas
Ryan Thompson
Ryan Wells
Andrew Beiter
QL+

ME09: **Project Index**
Haley Passov
Kelly Sikora
Jose Sandoval
Emmalie Markham
Isaai Urbina
Ahmad Alhashmi
Cullen Flynn
Nate Gillaspy
Quality of Life Plus

Mechanical Engineering (ME)

ME10: **Deployable Baffle and Lens Alignment System**
Jack deBloois
Patrick Murphy
Kenny Colanto
Isaac Brighton
Isaac Gordon
Max Nyffenegger
Connor Jarolimek
Sandia National Laboratories

ME11: **Space Based Optical Alignment and Deployable Baffle**
Sean Barton
Hagan Kolanz
Tyler Greene
Nick Moraga
Alex Kelling
Antoni Meyer
Matthew Tonn
Sandia National Laboratories

ME12: **Cessna Citation CJ4 Seat Mount**
Hannah Badger
Tyler Cash
Bryce Gallo
Ethan Hall
Clare Hudson
Chris Keating
Melvin Vang
Katie Simon
Textron Aviation

ME13: **Autonomous device/ system for ground-based Warfighter protection, supply and/or evacuation**
Liam Vlasimsky
Abby Browne
Nate DeCecco
Steele Brizzolara-Dove
Wilson Long
Ben Massik
Gabe Williams
Jaskrit Singh
Thomas Gira
United States Army Research Office

ME14: **SAE Baja**
David Betz
Ethan Stein
Evan Bickel
Patrick McSpadden
Tyler Merchant
Joseph Sullivan
Matthew Gilster
Max Ptasiewicz
Stolle Machinery

ME15: **GmAPD Thermal Management Study**
Ben Carnicelli
Galen Graham-Bell
Josh Sloat
Sim Sulwer
Ben Hall
Riley McVaugh
Ball Aerospace

ME16: **SMARTCubeS**
Ryan Oroke
Cole Smith
Corey Schroeder
Garrett Schmitz
Jake Thames
Holly Young
Grant Maclachlan
Johnathan Neptune
Brody Austin
Jared Baumert
Jet Propulsion Laboratory

ME17: **Silicon Wafer Center-Finding Improvement**
Jack Carver
Dario Garcia
Ethan Plott
Hank Kussin-Bordo
Noah Sgambellone
Prem Griddalur
Marty LaRocque
Gavin Zimmerman
KLA

ME18: **Passive Shock Switch**
Zach Majors
Ricky Orban
Justin McMahon
Luc Bollen
Ayla Gotoh-Mack
Greg Textoris
Los Alamos National Laboratory

ENGINEERING PROJECTS EXPO 2022

Mechanical Engineering (ME)

ME19: **Deployable Helical Antenna**
GillianGrace T. Brachocki
Nicolas Garzione
Hector Calar
Caleb Morford
Ayden Flynn
Ahmed Bechir Ferjani
Manuel Preston de Miranda
Isaac Nagel-Brice
Jackson Bilello
Benjamin Capek
Lockheed Martin Space

ME20: **Electrosurgical Generator Electromechanical Load**
Patrick Doyle
Jack Woods
David Reeder
Moayad Sindi
Faisal Fadhil
Yue Wu
Reginaldo Rosales
Micaela V. Bara
Medtronic

ME21: **Positioning and Clamping Mechanism for Coriolis Flow Meter Subassembly**
Chanel Sturm
Zachary Klaus
Aidan Lyons
Max Karp
Andrew Karoly
Jonathan Zimmer
Caroline Norris
MicroMotion

ME22: **NOAA ADLS-9**
Desmond McReynolds
John Schlaerth
Ben Fonte
Zack Lindsay
Kellen Monestime
Connor Krause
Phillip Wu
Tobin Price
Sam Feig
NOAA

ME23: **Reusable Pacemaker Lead Extraction Device**
Hannah Niew
Noah Johnson
Claire Richards
Imaan Sheikh
Jamie Warren
AJ Spencer
Justin Won
Philips

ME24: **Magnetic Field Steering System**
Andrew Fine
Trevor Peterson
Thomas Brewster
Cole Sites
Dean Allison
Steven Coyan
Nick Elsasser
Aaron Li
Nate Howard
FieldLine Inc

ME25: **Wind Turbine Blade Tip Tracker**
Austin Spafford
Elena Stirk
Joel Carlson
Josh Umiamaka
Keaton Jones
Eric Wagner
Alexei Kazantsev
Justin Hall
William Dellinger
Siemens Gamesa Renewable Energy

ME26: **Reinfusion Module**
Kieran Weiszmann
Cordelia Kim
Dominic Scolari
Luke Veratti
Iain Morgan
Joel Trantham
Bridget Cain
Terumo BCT

ME27: **How to get rid-of ovality of the tubing received on the spool and before it gets on to the automation.**
Isaiah Curtis
Kyle Mcdonnell
Yiwen Shen
Alex Seymour
Brad Kittrell
Nick Brahill
Terumo BCT

Mechanical Engineering (ME)

ME28: **Collegiate Wind Competition**
Aaron Schwan
Alec Kostovny
Anika Levy
Charles Candon
Erik Feiereisen
Luke Walker
Graham Blanco
Kirollos Gerges
Simon Grzebien
Claire Isenhart
Collegiate Wind Competition

ME40: **Acoustically Actuated Transfection Device**
Pete Snyder
Owen Grace
Jacob Allen
Andrew Virden
Sean Spindler
AcoustaMed

ME41: **Big SUR**
Heather Hunt
Dorothea French
Josh Ayers
Justin Kirchner
Zach Sorscher
Jacob Lawrence
Urchin Merchants

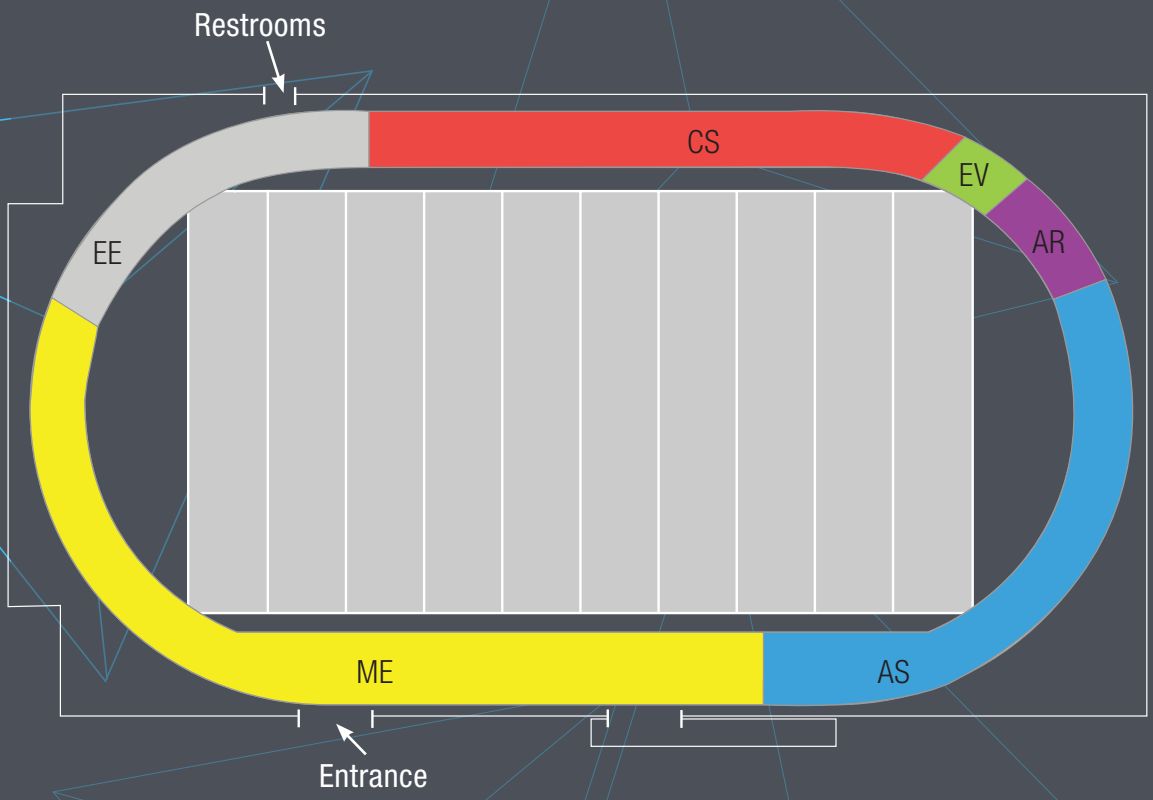
ME42: **Thermoelectric Cooling Vest**
Alexander Hernacki
Paula Pérez
Aven Hart
Ethan Street
Maia Freedberg
Jacqueline Solis-Armenta
Rime Systems

ME43: **Peace of Mind Braking System**
Ashley Atkins
Ben Finan
Julia Beattie
Evan Hanson
Brandon Cyrus
Tiana Decolati
Delta Horizons

ME44: **Vibratory Sensor**
Alejandro Cancio
Mohammad Alqahtani
Jordan Hinds
Josh Greenburg
Andrew Brown
Jacob Galan
SET Products

ME51: **Surgical Robot and it's Digital Twin**
Sean Connelly
Jared Beshai
Athish Ram Das
Doncey Albin
Dreycey Albin
Medtronic

ME53: **Free-Piston Linear Generator**
Brett Walker
Andres Vargas
Colin Baxter
Woodward Inc.



Departments

- Aerospace Engineering (AS)
- Architectural Engineering (AR)
- Computer Science (CS)
- Electrical, Computer & Energy Engineering (EE)
- Environmental Engineering (EV)
- Mechanical Engineering (ME)

College of Engineering
& Applied Science

UNIVERSITY OF COLORADO **BOULDER**