

2022 Fall Engineering Design

CELEBRATION

Awards Ceremony | Wednesday, December 14th



Welcoming Remarks



Dr. Ajay Prasad
Dept. Mechanical Engineering



Dr. Kristi Kiick
Dept. Biomedical Engineering

Fall 2022 Engineering Design



- E³ High School Design Competition
- Statics Wooden Bike Frame Design Challenge
- Mechanical Engineering Junior Design
- Introduction to Industrial Design
- Interdisciplinary Senior Engineering Design

Chairperson's Award: Biomedical Eng.

Presented by Prof. Kristi Kiick

Sponsor: Avkin

Wearable Postpartum Hemorrhage Healthcare Simulator

Team 106

Team Members: Hannah Towhey, Lauren Mottel, Erin Krassan, Cara McKenna, Erin Paisner | Faculty Advisor: Dr. Sarah Rooney

Sponsor: Air Liquide

Frugal Emergency Oxygen Can

Team 204

Team Members: Zoryana Harhas, Catherine Clark, Sophia Smith, Robert Ruggerio | Faculty Advisor: Dr. Julie Karand

Sponsor: UD Athletics

Design and Development of Athletic Protective Equipment to Prevent Hand Fractures

Team 206

Team Members: Haonan Huang, Alyssa Giordani, Raj Shah, Emma FitzGibbon | Faculty Advisor: Dr. Sonia Bansal

Sponsor: Nemours

Design of an Adaptor System to Make Existing Breast Pumps Reusable and Prevent Contamination

Team 208

Team Members: Rachel Swingler, Jessica Leight, Simone Sabnis, Emily Coghlan, Michael McIntire | Faculty Advisor: Dr. Sarah Rooney

Sponsor: Nemours

Design of a Safe Feed Alarm System to Prevent Sudden Infant Death Syndrome

Team 209

Team Members: David Bichara, Hannah Kennedy, Julia Spencer, Victoria Juhasz, Catherine Gaia | Faculty Advisor: Dr. Ashutosh Khandha

Sponsor: Terumo Medical Corporation

Portable Impact Testing for Medical Device Packaging

Team 210

Team Members: Michelle Slomkowski, Caitlin Kazokas, Sean Holly, Esse Orkeh | Faculty Advisor: Dr. Ashutosh Khandha

Chairperson's Award: Mechanical Eng.

Presented by Prof. Ajay Prasad

Sponsor: DowAksa

Design and Fabrication of Drone Bodies & Propellers

Team 113

Team Members: Karlens Senatus, Michael Naab, Aaron Fieger, Maximilian Ferry | Faculty Advisor: Dr. Alex De Rosa

Sponsor: Stanley Black & Decker

Plier Mechanical Advantage and Cut Force Tester

Team 125

Team Members: Vea Hernandez, Dominic Corona, Logan McKinney, Rory van der Steur | Faculty Advisor: Dr. Alex De Rosa

Sponsor: Melissa and Doug
Toys

Play Center Redesign

Team 120

Team Members: Bethany Newton, Sarah Bartlett, Dani Moore, Zoe Smith Faculty Advisor: Dr. Jenni Buckley

Sponsor: Stanley Black & Decker
Build-a-Clamp

Team 126

Team Members: Alexander McCall, Caylin Payne, Claire Cho, Gabe Hall Faculty Advisor: Dr. Jenni Buckley

UD College of Engineering

HIGH SCHOOL COMPETITION

E³: Engineering Education Ecosystem Program



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UD Engineering Education Ecosystem (E³)

High School Design Competition



Padua
A C A D E M Y

High School Design Award

Presented by Prof. Haritha Malladi

Padua Academy: Adjustable Cupholder

Elizabeth Drost, Paige Degnan, Audrey Bruening Padua

Brandywine High: Low Cost Photogate for Introductory Physics

Jacob Valentine, Lucas Kroon, Matthew Andrews, Victoria Poole

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Department of Mechanical Engineering

STATICS DESIGN CHALLENGE

MEEG210: Statics, Sophomore Year



Statics Design Challenge: By the Numbers

136 Students
32 Teams
1 Small Business Partner
20 Sheets of Plywood
6 Weeks of Build Time



People's Choice Award Winner

2022 Statics Wooden Bike Frame Design Competition

Lightning McBike

Team 114: Lauren DeSantis, Thomas Orndorff, Gavin Redgrave, Karen Scharpf

Material Constraint: (PASS)
Minimum FOS: 21.03 (PASS)
Disassembled Size Constraint: (PASS)
Cost of Goods: \$20.84
Weight of Frame: 18 lbs
Time to Assemble: 17 min.



Overall Design Award Winner

2022 Statics Wooden Bike Frame Design Competition

Spensah-Vespa

Team 125: Alexander Ball, Ryan Cole, Chris Marchioni, Ryan Schmidt

Material Constraint: Pass
Min. F.O.S.: Pass (3.96)
Dissembled Size: Pass
Cost of Goods: \$10.06
Time to assemble: 2 minutes
Weight of Frame: 18 lbs



Structural Analysis Award Winner

2022 Statics Wooden Bike Frame Design Competition

[Untitled]

Team 102: Marissa Dailey, Jared Peoples, Sarah Nichols, Nathan Venebles

Material Constraints: PASS

Minimum FOS: 5.59

Disassembled Size Constraint: PASS

Cost of Goods: \$15.58

Weight of Frame: 22 lbs (w/ wheels), 10 lbs (w/o wheels)

Time to Assemble: 1 min 55 s (4 people)



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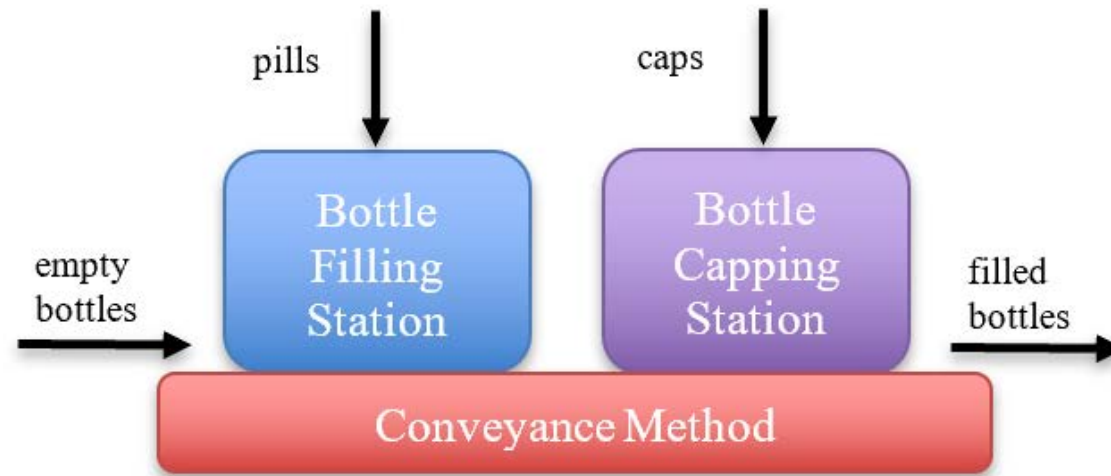
Department of Mechanical Engineering

JUNIOR DESIGN PROGRAM

MEEG301 & MEEG304: Machine Design I & II



MEEG 301 Junior Design Project: Automatic Pill Bottle Filler



By the numbers...

144 Students

15 Teams

2 Industry Partners

19 Industry Mentors

1 Really Small Work
Room



Thank you to our industry mentors!

AJ Sawyer	Rock West Composites
Alec Scallo	Johnson Matthey
Anthony Dorazio	United Electric Supply
Austin Crouse	WL Gore
Bill Dunfee	Siemens Healthineers
Ed Gargiulo	Siemens
Glenn Seigele	Omega Design
Joe Johnson	Omega Design
Justin Rigg	Omega Design
Kanak Chattopadhyay	Siemens Healthineers
Kevin Cresswell	WL Gore
Kevin Perdue	Consultant
Mel Cerro	OPEX
Mike Seitel	Norwalt Design
Nick Filzen	Norwalt Design
Pablo Reyes	Omega Design
Philip Newman-Sanders	Siemens Healthineers
Richard Griste	Omega Design
Rob Rayfield	Siemens Healthineers

Best Bottle Filling Station

Team 2

Team Members: Hannah Burrowes, Ben Caro, Jessica Cohen, Samuel Farca, Joseph Harwell, Bryant Lambert, Andrew Place, Jacob Prince, Cole Shorter

Team 5

Team Members: Diego Barrios, Samuel Bolan, Marcus Ceglinski, Goodwin Cobb V, Brendan Connors, Maxwell Demsky, Joshua Ford, Michael Kaehler, Charles Spence

Team 6

Team Members: Angel Casanova, Sean Congema, Cameron Emmett, Suneil Harzenski, Brianna Martin, Sean O'Sullivan, Yajaira Vergara-Guzman, Diana Villanueva, Kyle Wolf

Team 7

Team Members: Cameron Aliff, Yue Bao, Ian Crabtree, Joshua Ginsberg, Ethan Hensinger, Connor Jones, James Marsh, Zachary Schiffman, Matthew Treon

Team 8

Team Members: Samuel Beck, Noah Etienne, Sierra Gloria, Kevin Graziose, Grace Hammond, Prasanna Krishnamoorthy, Robert Martin, Ethan Porette, Sibyl Roosen, Andrew Smith

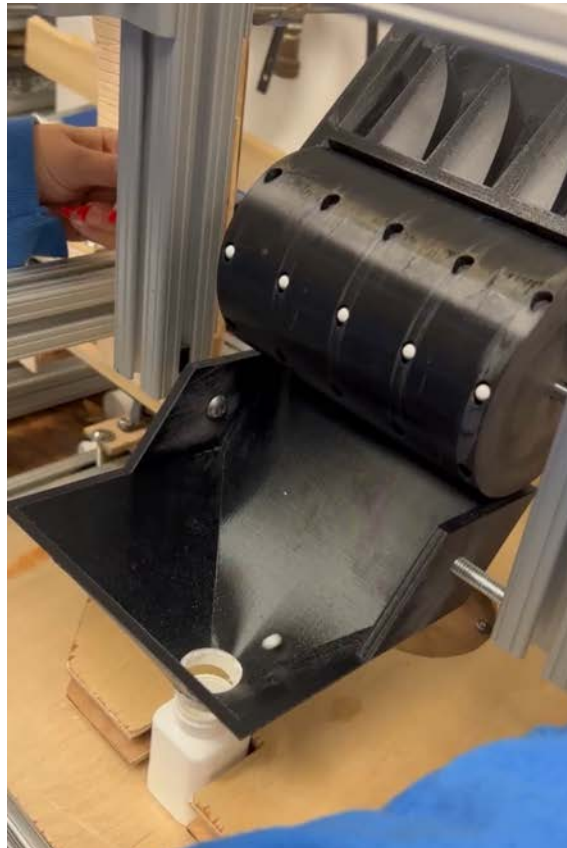
Team 10

Team Members: Sara Dugan, Hannah Epstein, Michael Forte, Michael Graden, Ethan Kacmarcik, Garrett Snyder, Marleen Toney, Ralph Wilkinson, Hunter Wolhar, Tommy Zheng

Team 15

Team Members: Jessica Coto, Brian Coyle, Tyler Devitt, Rory Kooker, Stuart Kotch, Evan Martin, Scott Otto, Corey Sookerman, Sophia Waxman, Maya Zagari

Best Bottle Filling Station



Team 10

Team Members: Sara Dugan, Hannah Epstein, Michael Forte, Michael Graden, Ethan Kacmarcik, Garrett Snyder, Marleen Toney, Ralph Wilkinson, Hunter Wolhar, Tommy Zheng

Best Bottle Capping Station

Team 1

Team Members: Stuart Alexander, Ryan Engel, Yae June Jang, Chloe Kerwin, Connor Lammey, Walden Conan Meredith, Gianni Saracino, Matt Schrock, Bryan Tiamson, Ryan Webb

Team 3

Team Members: Alex Abrams, Adam Grim, Max Leary, Ryan James McLaughlin, Matthew Meredith, Tyler Meyer, Matthew Pham, Andrew Roth, Justin Sayers, Alex Wolff

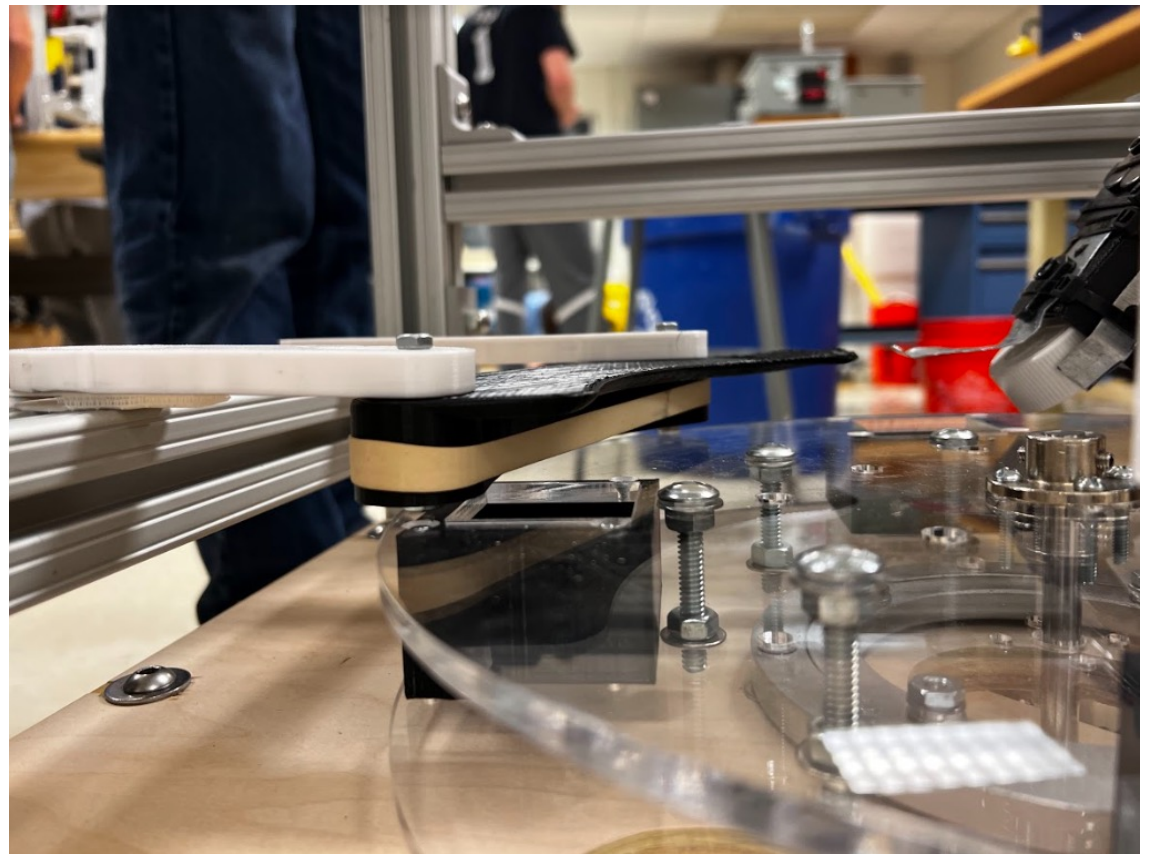
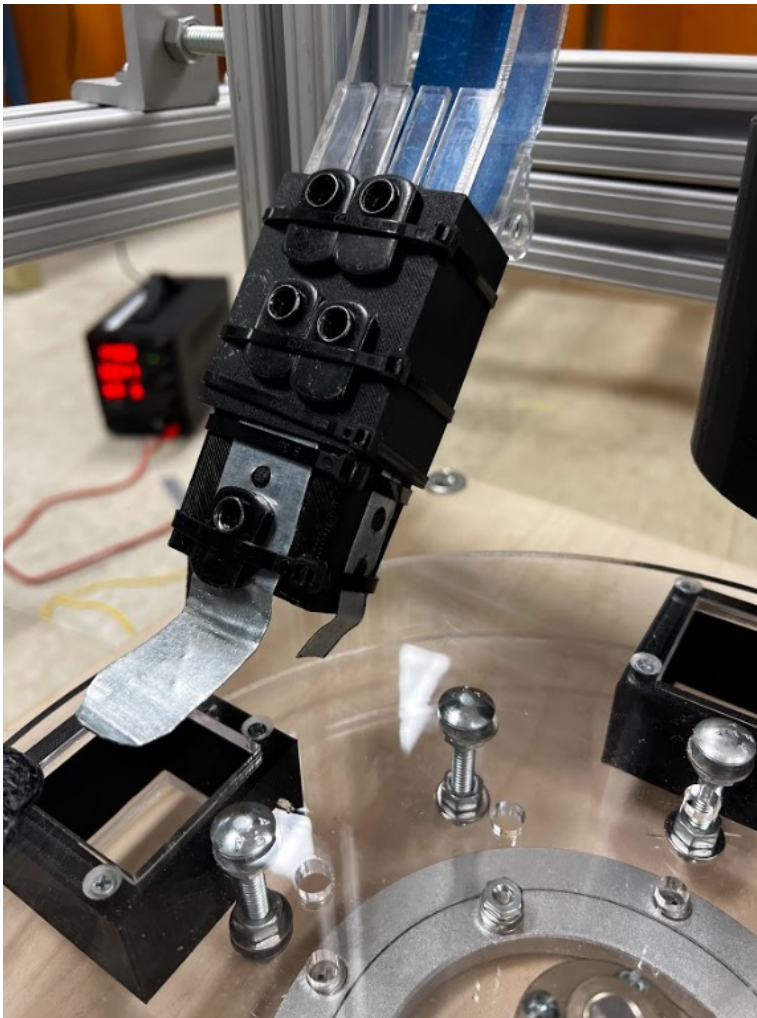
Team 11

Team Members: Matthew Abraham, Nick Bailey, Rafe Garcia-Hidalgo, David Kinney, Nicholas Miller, Sean Moore, Spencer Smith, Owen Stein, Dylan Taylor, John Welborn

Best Bottle Capping Station

Team 1

Team Members: Stuart Alexander, Ryan Engel, Yae June Jang, Chloe Kerwin, Connor Lammey, Walden Conan Meredith, Gianni Saracino, Matt Schrock, Bryan Tiamson, Ryan Webb



Most Innovative Design

Team 2

Team Members: Hannah Burrowes, Ben Caro, Jessica Cohen, Samuel Farca, Joseph Harwell, Bryant Lambert, Andrew Place, Jacob Prince, Cole Shorter

Team 3

Team Members: Alex Abrams, Adam Grim, Max Leary, Ryan James McLaughlin, Matthew Meredith, Tyler Meyer, Matthew Pham, Andrew Roth, Justin Sayers, Alex Wolff

Team 9

Team Members: Mikey Ainsworth, Gwyneth Clarke, Matthew Hansen, Donovan Haverly, Madison Johnson, Jacob Meredith, Tej Patel, Jenna Taylor, Miguel Vasquez, Kevin Wolynetz

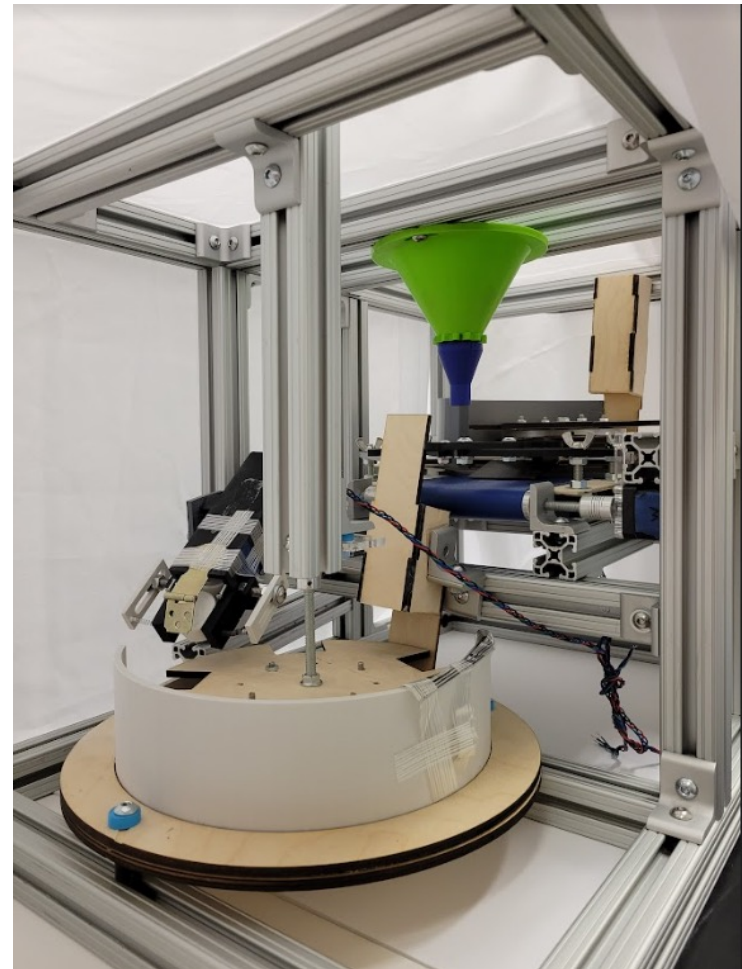
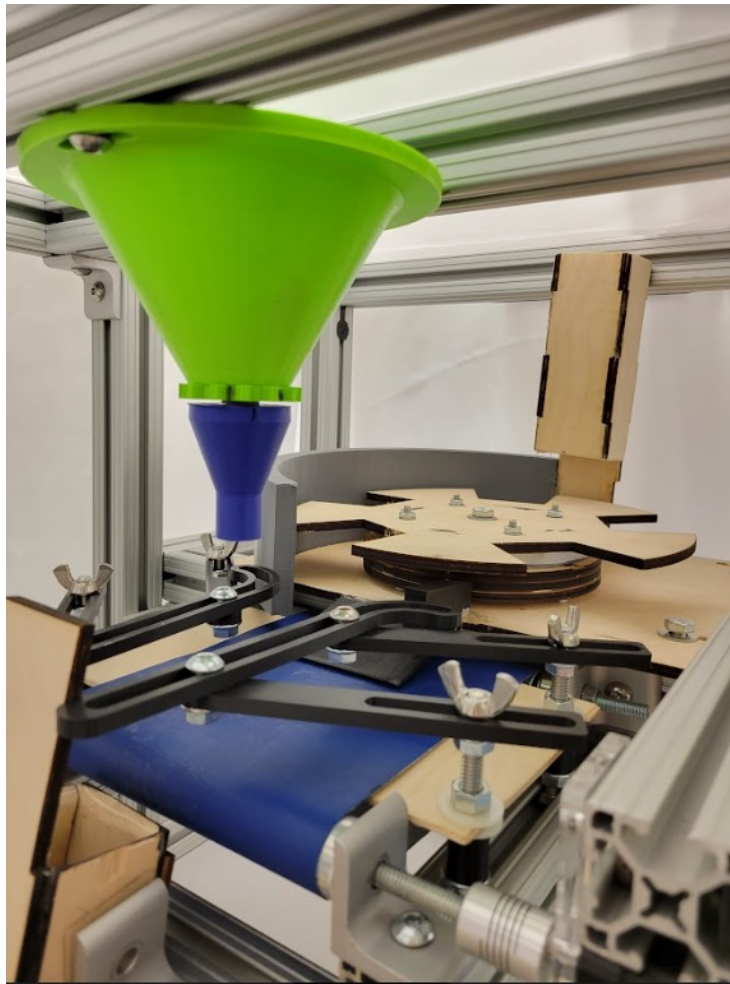
Team 14

Team Members: Joseph Beck, William Gaither, Raymond Gusakov, Julieta Fe Honrubia Andrino, Zachary Mckennedy, Samuel Parker, Gianna Patti, Alexandra Pfeifer, Samantha Schultz

Most Innovative Design

Team 9

Team Members: Mikey Ainsworth, Gwyneth Clarke, Matthew Hansen, Donovan Haverly, Madison Johnson, Jacob Meredith, Tej Patel, Jenna Taylor, Miguel Vasquez, Kevin Wolynetz



People's Choice Award

Team 8

Team Members: Samuel Beck, Noah Etienne, Sierra Gloria, Kevin Graziose, Grace Hammond, Prasanna Krishnamoorthy, Robert Martin, Ethan Porette, Sibyl Roosen, Andrew Smith

Best Overall Design

Team 1

Team Members: Stuart Alexander, Ryan Engel, Yae June Jang, Chloe Kerwin, Connor Lammey, Walden Conan Meredith, Gianni Saracino, Matt Schrock, Bryan Tiamson, Ryan Webb

Team 6

Team Members: Angel Casanova, Sean Congema, Cameron Emmett, Suneil Harzenski, Brianna Martin, Sean O'Sullivan, Yajaira Vergara-Guzman, Diana Villanueva, Kyle Wolf

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Team Members: Cameron Aliff, Yue Bao, Ian Crabtree, Joshua Ginsberg, Ethan Hensinger, Connor Jones, James Marsh, Zachary Schiffman, Matthew Treon

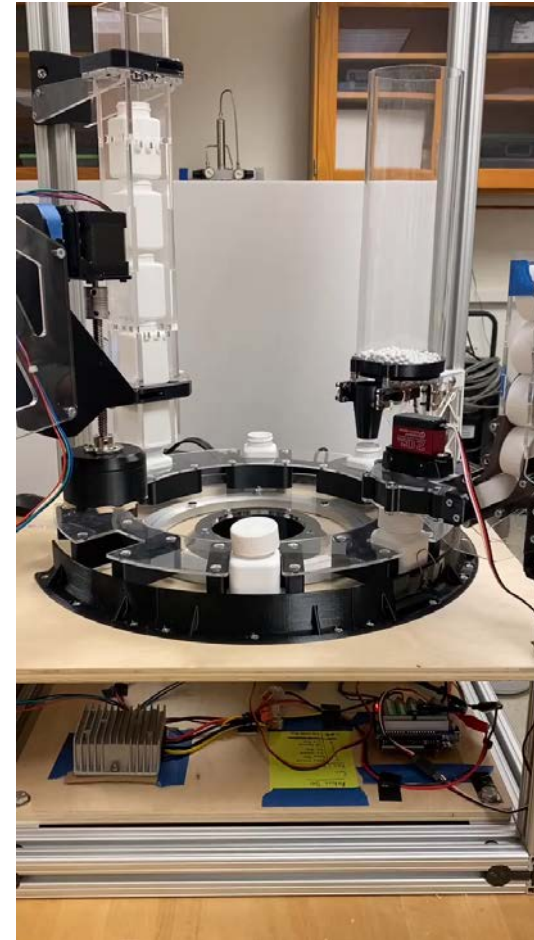
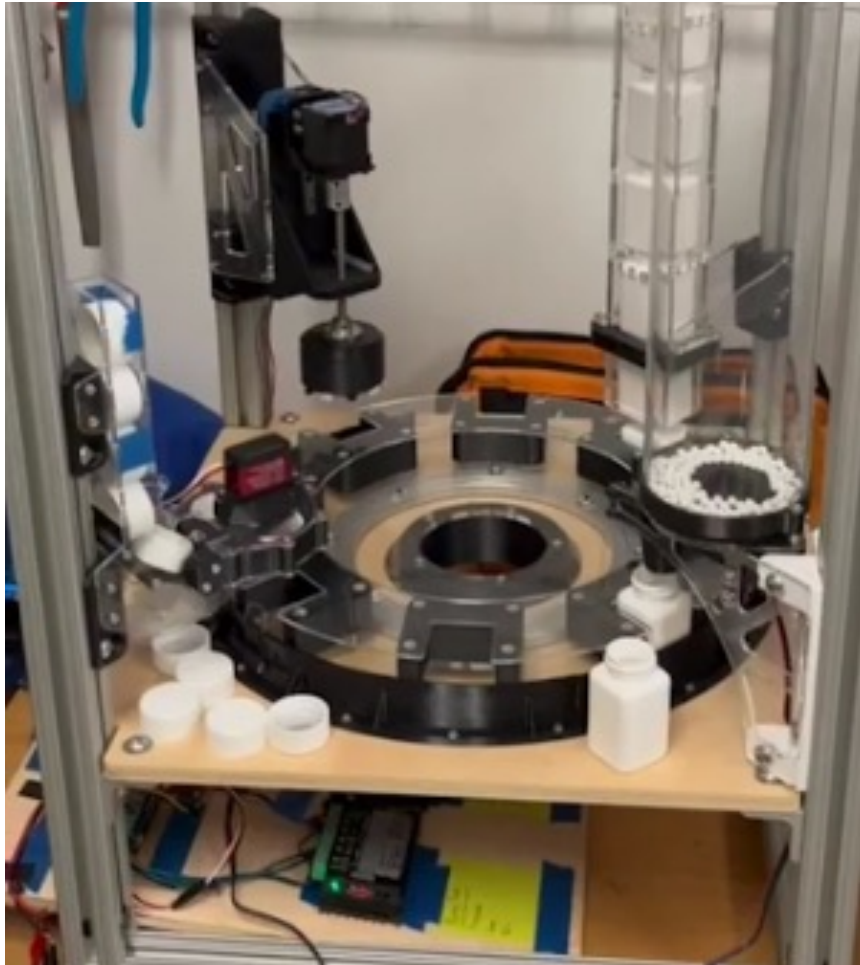
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Team 14

Team Members: Joseph Beck, William Gaither, Raymond Gusakov, Julieta Fe Honrubia Andrino, Zachary Mckennedy, Samuel Parker, Gianna Patti, Alexandra Pfeifer, Samantha Schultz

Best Overall Design



Team 14

Team Members: Joseph Beck, William Gaither, Raymond Gusakov, Julieta Fe Honrubia Andrino, Zachary Mckennedy, Samuel Parker, Gianna Patti, Alexandra Pfeifer, Samantha Schultz

Fall 2022 Engineering Design



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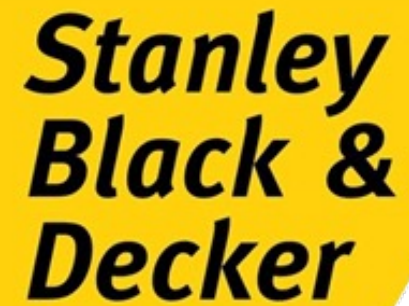
Intro Industrial Design: **By the Numbers**

31 Students

9 Teams

1 Industry Partners

1 Industrial Designer

The logo for Stanley Black & Decker, featuring the company name in a bold, italicized, black sans-serif font. The text is set against a bright yellow background that is shaped like a parallelogram, tilted to the right.

***Stanley
Black &
Decker***

Individual Skills Mastery (ISM) Honors

1st Sebastian Graper

2nd Jacob Flenner & Mike Naab

3rd Caylin Payne
& Harrison Silverston

Team Design Challenge Winners

1st Team 5: PEX Cutter

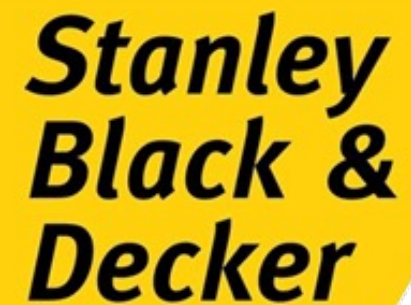
Team Members: Sarah Bartlett, Sebastian Graper, Hollyann Tobon

2nd Team 8: Power Drill

Team Members: Michael Hall, Mike Naab, Tyler Phommachanh, Harrison Silverston

3rd Team 4: Knife Slider

Team Members: Dominic Corona, Christina Genario, Mickayla Harris, Bethany Newton

The Stanley Black & Decker logo is displayed on a yellow background with a diagonal cut on the right side. The text "Stanley Black & Decker" is written in a bold, black, sans-serif font, with "Stanley" on the top line, "Black &" on the middle line, and "Decker" on the bottom line.

**Stanley
Black &
Decker**

Fall 2022 Engineering Design



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Dept Mechanical & Biomedical Engineering

SENIOR ENGINEERING DESIGN

MEEG401, MEEG402, BMEG460



Senior Engineering Design: **By the Numbers**

201 Students

49 Teams

4 Engineering Majors

37 Sponsors

12 Faculty

13 Staff Members

53 Evaluators

16 Weeks of Hard Work

Many thanks to our CORPORATE SPONSORS



StanleyBlack&Decker



Bloomenergy



SIEMENS



ASML



Many thanks to our
STAFF

Whitney Sample
Scott Nelson
Ron Cantrell
Brian Brant
Al Lance
Design Studio TAs
Machine Shop TAs

Elaine Nelson
Vicky Tosh-Morelli
Ann Connor
Amy Adams
Allie Andrews
Michele Schwander
Nancy England



Senior Engineering Design

The Awards

Design Discipline Awards

Process Improvement Award

Presented by Prof. David Burris

Sponsor: Agilent Technologies
Improved Slurry Addition Device

Team 102

Team Members: Frederick Sanchez, Jason Kelsch,
Prathmesh Naik, Dominic d'Agostino | Faculty Advisor: Dr.
Michael Keefe

Sponsor: KVI
EDM Autofill Attachment

Team 119

Team Members: Ezekiel Dela Cruz, Cade Keeler,
Harrison Silverston, Elias Navarro | Faculty Advisor:
Dr. Michael Keefe

Sponsor: J&J – Ethicon Inc
Improved Suture Diameter Measurement Fixture

Team 116

Team Members: Nicholas Sobocinski, Dean Shaw,
Bridget Fisher, Christina Genario | Faculty Advisor:
Dr. Jenni Buckley

Sponsor: Siemens Healthcare
Diagnostics
Bulk System Fluids Bottle Stopper/Crimp Assembly
Automation

Team 123

Team Members: Alexandra Zurzolo, Cole Hirsch, Timothy
Lamberta, Jacob Permar | Faculty Advisor: Dr. Michael
Keefe

Sponsor: W.L. Gore
Scrape Abrasion Testing on Insulated Wiring

Team 132

Team Members: Pearce Bragaw, Joseph Gugerty,
Avery Recicar | Faculty Advisor: Dr. Michael Keefe

New Product Development Award

Presented by Prof. Ashu Khandha

Sponsor: Datacolor

Mechanism to Control Placement of a Color
Measuring Instrument on a Sample

Team 111

Team Members: Hollyann Tobon, Jay Castro, Sean Morrison, Megan Monteleone | Faculty Advisor: Dr. Michael Keefe

Sponsor: Nemours

Design of an Adaptable Device to Help Bicycle Steering with
One Hand for Children with Congenital Below-Elbow
Amputation

Team 202

Team Members: Nicholas Wickersham, Gavin McMahon, Brendan Cohen, Michael Trainor, Suzannah Hoguet
Faculty Advisor: Dr. Sonia Bansal

Sponsor: Stanley Black & Decker

Build-a-Clamp

Team 126

Team Members: Alexander McCall, Caylin Payne, Claire Cho, Gabe Hall
Faculty Advisor: Dr. Jenni Buckley

Sponsor: Nemours

Design of a Safe Feed Alarm System to Prevent Sudden
Infant Death Syndrome

Team 209

Team Members: David Bichara, Hannah Kennedy, Julia Spencer, Victoria Juhasz, Catherine Gaia | Faculty Advisor: Dr. Ashutosh Khandha

Thermal/Fluids Award

Presented by Prof. Alex De Rosa

Sponsor: Andrew Meyer

Optimization of Aircraft Engine Cowling

Team 104

Team Members: Samuel Rauch, Shaktisinh Zala, Brandon Burrows, Katelyn Young | Faculty Advisor: Dr. Adam Wickenheiser

Sponsor: University of Cape Town

Design of a Mechanical Device to Assist Patients Suffering from Respiratory Problems

Team 203

Team Members: Mickayla Harris, Hayley Sussman, Erika Siegel, Hannah Bockius, Meghan Bolt | Faculty Advisor: Dr. Julie Karand

Sponsor: UD Mechanical

Engineering: Dr. Tyler Van Buren

NASA Turbulent Flow Experiment for the International Space Station

Team 133

Team Members: Galen Nare, Brenden Swanik, Andrew Marino, Nicholas Ulizio | Faculty Advisor: Dr. Tyler Van Buren

Sponsor: Nemours

Design of an Adaptor System to Make Existing Breast Pumps Reusable and Prevent Contamination

Team 208

Team Members: Rachel Swingler, Jessica Leight, Simone Sabnis, Emily Coghlan, Michael McIntire | Faculty Advisor: Dr. Sarah Rooney

Sponsor: UD Department of Mechanical Engineering – Aero SAE

Team- Wings

Team 301

Team Members: Calandra Christopher, Nikki Pilla, Omar Romero, Andrew Brillate, Thomas Kaifer, Jarred McIntire, Valerie Moore, Evan Eng, Harrison Muller, Cam Schultz, Derik Spedden
Faculty Advisor: Dr. Adam Wickenheiser

System/Dynamics Award

Presented by Prof. Adam Wickenheiser

Sponsor: CNH

Combine Feeder Crop Sample Door

Team 110

Team Members: Jacob Flenner, Owen Brinker,
John Palitto, David Harkins | Faculty Advisor: Dr.
Steve Timmins

Sponsor: Datacolor

Mechanism to Control Placement of a Color
Measuring Instrument on a Sample

Team 111

Team Members: Hollyann Tobon, Jay Castro, Sean
Morrison, Megan Monteleone | Faculty Advisor: Dr.
Michael Keefe

Sponsor: Terumo Medical
Corporation

Portable Impact Testing for Medical Device Packaging

Team 210

Team Members: Michelle Slomkowski, Caitlin Kazokas,
Sean Holly, Esse Orkeh | Faculty Advisor: Dr. Ashutosh
Khandha

Sponsor: Norwalt Design

Filler and Capper for Cirkul

Team 121

Team Members: Jordan Carton, Chris Bond,
Trevor Seitel
Faculty Advisor: Dr. Adam Wickenheiser

Biomedical Award

Presented by Prof. Julie Karand

Sponsor: Abbott International LLC
Training Model for a Minimally Invasive Procedure for the Left Heart Pathology

Team 101

Team Members: Cole Leyson, Andrew Martin, Melissa Cline, Casey Martin, Lauren Shipp | Faculty Advisor: Dr. Curtis Johnson

Sponsor: Avkin
Wearable Postpartum Hemorrhage Healthcare Simulator

Team 106

Team Members: Hannah Towhey, Lauren Mottel, Erin Krassan, Cara McKenna, Erin Paisner | Faculty Advisor: Dr. Sarah Rooney

Sponsor: UD Biomedical Engineering
External Knee Loading Platform

Team 205

Team Members: Shu-Jin Kust, Madeline Mauriello, Tamryn Whyte, Katy Strand, Carly Smith | Faculty Advisor: Dr. Sonia Bansal

Sponsor: Nemours
Design of an Adaptor System to Make Existing Breast Pumps Reusable and Prevent Contamination

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Sponsor: Terumo Medical Corporation
Catheter with Variable Bending and Torsion Capabilities

Team 211

Team Members: Megan Gatchel, Olivia Reeves, Robert Petrow, Asad Shehzad | Faculty Advisor: Dr. Ashutosh Khandha

Natural Resources Award

Presented by Prof. Steve Timmins

Sponsor: UD Agricultural
Entomology Lab

Mechanical Separation of Darkling Beetles from Poultry
Litter Prior to Field Application

Team 128

Team Members: Michael Danski, Connor McNamire, Lance
Adrian Mendoza | Faculty Advisor: Dr. Sonia Bansal

Sponsor: Precision Air Convey
TrimPac EZ Static Elimination

Team 122

Team Members: William Testa, Matthew
Ricciardi, Jackson Yeatts Faculty Advisor: Dr. Steve
Timmins

Sponsor: UD Agricultural: Dr.
Ladman

Redesign of a Training Device to Ensure Humane
Euthanasia for Avian Species

Team 129

Team Members: Eric Williams, Joseph Tantillo, Noah
Stiebritz Faculty Advisor: Dr. Curtis Johnson

Composites Award

Presented by Prof. Steve Timmins

Sponsor: DowAksa

Design and Fabrication of Drone Bodies & Propellers

Team 113

Team Members: Karlens Senatus, Michael Naab, Aaron Fieger, Maximilian Ferry | Faculty Advisor: Dr. Alex De Rosa

Sponsor: UD Department of
Mechanical Engineering – Formula
SAE Team

Team 400

Team Members: Riley O'Connor, Matthew Wood, Doug DiDomenico, Nick Benzi, Nick Capriotti, Jonathan Jimenez, Patrick Mraz, Zachary Cantrell | Faculty Advisor: Dr. Steve Timmins

Mechanoelectrical Award

Presented by Prof. David Burris

Sponsor: KVI

EDM Autofill Attachment

Team 119

Team Members: Ezekiel Dela Cruz, Cade Keeler,
Harrison Silverston, Elias Navarro | Faculty Advisor:
Dr. Michael Keefe

Sponsor: Stanley Black & Decker

Plier Mechanical Advantage and Cut Force Tester

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Team Members: Vea Hernandez, Dominic Corona, Logan
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De Rosa

Sponsor: W.L. Gore

Scrape Abrasion Testing on Insulated Wiring

Team 132

Team Members: Pearce Bragaw, Joseph Gugerty,
Avery Recicar | Faculty Advisor: Dr. Michael Keefe

Sponsor: TheraV

Design and Optimization of a Post-Amputation Therapy Device

Team 207

Team Members: Manju Sivasankar, Sharvari Apte, Anaya
Lund, Michael Mihalow, Colin Moyer | Faculty Advisor: Dr.
Ashutosh Khandha

Sponsor: Avkin

Wearable Postpartum Hemorrhage Healthcare
Simulator

Team 106

Team Members: Hannah Towhey, Lauren Mottel, Erin
Krassan, Cara McKenna, Erin Paisner | Faculty Advisor:
Dr. Sarah Rooney

Sponsor: UD Mechanical

Engineering: Dr. Tyler Van Buren

NASA Turbulent Flow Experiment for the International
Space Station

Team 133

Team Members: Galen Nare, Brenden Swanik, Andrew
Marino, Nicholas Ulizio | Faculty Advisor: Dr. Tyler Van
Buren

Sponsor: UD Plant & Soil

Sciences

Soil Surface Displacement Sensors

Team 130

Team Members: Andrew Stack, Alaysia Longmire,
Drew Lenkaitis,
Tucker Smith | Faculty Advisor: Dr. Curtis Johnson

Rehabilitation Devices Award

Presented by Prof. Mike Santare

Sponsor: UD Athletics

Design and Development of Athletic Protective
Equipment to Prevent Hand Fractures

Team 206

Team Members: Haonan Huang, Alyssa Giordani, Raj
Shah, Emma FitzGibbon | Faculty Advisor: Dr. Sonia
Bansal

Sponsor: TheraV

Design and Optimization of a Post-Amputation Therapy Device

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Team Members: Manju Sivasankar, Sharvari Apte, Anaya
Lund, Michael Mihalow, Colin Moyer | Faculty Advisor: Dr.
Ashutosh Khandha

Sponsor: Under Armour

Smart Skins

Team 131

Team Members: Ryan Polino, Camren
Monteverdi, Jacob Bishop, Harman Ugra | Faculty
Advisor: Dr. Jenni Buckley

Experiment/Education Tool Award

Presented by Prof. Mike Keefe

Sponsor: Avkin

Wearable Postpartum Hemorrhage Healthcare Simulator

Team 106

Team Members: Hannah Towhey, Lauren Mottel, Erin Krassan, Cara McKenna, Erin Paisner | Faculty Advisor: Dr. Sarah Rooney

Sponsor: DuPont

Multi-Station Creep Testing Equipment

Team 114

Team Members: Oscar Marino, Sebastian Graper, Timmy Hough, Brian Fischer | Faculty Advisor: Dr. Jenni Buckley

Sponsor: Nemours

Development and Optimization of a Low Cost Motion Capture System to Analyze Joint Kinematics During Martial Arts

Team 201

Team Members: Stephen Mondoro, Madison Lennon, Zachary Hill, Catherine Peluso | Faculty Advisor: Dr. Sonia Bansal

Sponsor: Fujikura

Golf Ball-Club Impact Replicator

Team 115

Team Members: Timothy Laird, Ryan Rudek, Tyler Mehigan, Daniel Borsykowsky | Faculty Advisor: Dr. Michael Santare

Sponsor: Stanley Black & Decker

Plier Mechanical Advantage and Cut Force Tester

Team 125

Team Members: Vea Hernandez, Dominic Corona, Logan McKinney, Rory van der Steur | Faculty Advisor: Dr. Alex De Rosa

Cell/Tissue Award

Presented by Prof. Julie Karand

Sponsor: UD Biomedical
Engineering

External Knee Loading Platform

Team 205

Team Members: Shu-Jin Kust, Madeline Mauriello,
Tamryn Whyte, Katy Strand, Carly Smith | Faculty
Advisor: Dr. Sonia Bansal

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Dr. Sarah Rooney



Senior Engineering Design

The Awards

Prototyping Awards

Design Studio Prototyping Award

Presented by Whitney Sample

Sponsor: Avkin

Wearable Postpartum Hemorrhage Healthcare
Simulator

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Sponsor: Stanley Black & Decker

Build-a-Clamp

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Claire Cho, Gabe Hall Faculty Advisor: Dr. Jenni
Buckley

Sponsor: Melissa and Doug Toys
Play Center Redesign

Team 120

Team Members: Bethany Newton, Sarah Bartlett, Dani Moore,
Zoe Smith Faculty Advisor: Dr. Jenni Buckley

Machine Shop: Most Chips Award

Presented by Scott Nelson & Ron Cantrell

Sponsor: ASML

EDM Fatigue Testing Machine

Team 105

Team Members: Eli Haiko, Daniel Drewnowski, Dean Vanegas | Faculty Advisor: Dr. David Burris

Sponsor: DowAksa

Design and Fabrication of Drone Bodies & Propellers

Team 113

Team Members: Karlens Senatus, Michael Naab, Aaron Fieger, Maximilian Ferry | Faculty Advisor: Dr. Alex De Rosa

Sponsor: DuPont

Multi-Station Creep Testing Equipment

Team 114

Team Members: Oscar Marino, Sebastian Graper, Timmy Hough, Brian Fischer | Faculty Advisor: Dr. Jenni Buckley

Machine Shop: Best Machining

Presented by Scott Nelson & Ron Cantrell

Sponsor: Stanley Black & Decker

Build-a-Clamp

Team 126

Team Members: Alexander McCall, Caylin Payne,
Claire Cho, Gabe Hall Faculty Advisor: Dr. Jenni
Buckley

Sponsor: Air Liquide

Frugal Emergency Oxygen Can

Team 204

Team Members: Zoryana Harhas, Catherine Clark,
Sophia Smith, Robert Ruggiero | Faculty Advisor: Dr.
Julie Karand

Sponsor: Terumo Medical
Corporation

Portable Impact Testing for Medical Device Packaging

Team 210

Team Members: Michelle Slomkowski, Caitlin Kazokas,
Sean Holly, Esse Orkeh | Faculty Advisor: Dr. Ashutosh
Khandha

Machine Shop: Best Fabrication

Presented by Scott Nelson & Ron Cantrell

Sponsor: Andrew Meyer

Optimization of Aircraft Engine Cowling

Team 104

Team Members: Samuel Rauch, Shaktisinh Zala, Brandon Burrows, Katelyn Young | Faculty Advisor: Dr. Adam Wickenheiser

Sponsor: Stanley Black & Decker

Plier Mechanical Advantage and Cut Force Tester

Team 125

Team Members: Vea Hernandez, Dominic Corona, Logan McKinney, Rory van der Steur | Faculty Advisor: Dr. Alex De Rosa

Sponsor: Piasecki Aircraft Corp & UD
Mechanical Engineering – DOE
Collegiate Wind Competition

Team 500

Team Members: Miles Pleasanton, John Papadopoulos, Lorrha Hitchner, Andrew Brown, Benjamin Donohue, Maredy Felipe-Lucas | Faculty Advisor: Dr. David Burris



Senior Engineering Design

The Awards

Open Categories

MVP Award

Presented by Prof. Sonia Bansal

Sponsor: Siemens Healthcare
Diagnostics

Bulk System Fluids Bottle Stopper/Crimp Assembly
Automation

Team 123

Team Members: Alexandra Zurzolo, Cole Hirsch, Timothy
Lamberta, Jacob Permar | Faculty Advisor: Dr. Michael
Keefe

Sponsor: UD Mechanical

Engineering: Dr. Tyler Van Buren

NASA Turbulent Flow Experiment for the International
Space Station

Team 133

Team Members: Galen Nare, Brenden Swanik, Andrew
Marino, Nicholas Ulizio | Faculty Advisor: Dr. Tyler Van
Buren

Sponsor: Air Liquide

Frugal Emergency Oxygen Can

Team 204

Team Members: Zoryana Harhas, Catherine Clark,
Sophia Smith, Robert Ruggerio | Faculty Advisor: Dr.
Julie Karand

Sponsor: UD Athletics

Design and Development of Athletic Protective
Equipment to Prevent Hand Fractures

Team 206

Team Members: Haonan Huang, Alyssa Giordani, Raj
Shah, Emma FitzGibbon | Faculty Advisor: Dr. Sonia
Bansal

Sponsor: Terumo Medical
Corporation

Portable Impact Testing for Medical Device Packaging

Team 210

Team Members: Michelle Slomkowski, Caitlin Kazokas,
Sean Holly, Esse Orkeh | Faculty Advisor: Dr. Ashutosh
Khandha

The Grit Award

Presented by Prof. Jenni Buckley

grit

n.

The capacity to recover quickly from difficulties; toughness.

Sponsor: CNH

Combine Feeder Crop Sample Door

Team 110

Team Members: Jacob Flenner, Owen Brinker, John Palitto, David Harkins | Faculty Advisor: Dr. Steve Timmins

Sponsor: DowAksa

Design and Fabrication of Drone Bodies & Propellers

Team 113

Team Members: Karlens Senatus, Michael Naab, Aaron Fieger, Maximilian Ferry | Faculty Advisor: Dr. Alex De Rosa

Sponsor: Melissa and Doug Toys

Play Center Redesign

Team 120

Team Members: Bethany Newton, Sarah Bartlett, Dani Moore, Zoe Smith Faculty Advisor: Dr. Jenni Buckley

Sponsor: University of Cape Town

Design of a Mechanical Device to Assist Patients Suffering from Respiratory Problems

Team 203

Team Members: Mickayla Harris, Hayley Sussman, Erika Siegel, Hannah Bockius, Meghan Bolt | Faculty Advisor: Dr. Julie Karand

Sponsor: TheraV

Design and Optimization of a Post-Amputation Therapy Device

Team 207

Team Members: Manju Sivasankar, Sharvari Apte, Anaya Lund, Michael Mihalow, Colin Moyer | Faculty Advisor: Dr. Ashutosh Khandha

Sponsor: Terumo Medical Corporation

Catheter with Variable Bending and Torsion Capabilities

Team 211

Team Members: Megan Gatchel, Olivia Reeves, Robert Petrow, Asad Shehzad | Faculty Advisor: Dr. Ashutosh Khandha

Prof. Michael Keefe Award

Presented by Prof. Michael Keefe

Sponsor: Air Liquide

Hydrogen Refueling Station Safety Improvements

Team 103

Team Members: Audrey Herzig, Andrew Autuore, Michael Molesworth, Victor Riso | Faculty Advisor: Dr. Ajay Prasad

Sponsor: DuPont

Multi-Station Creep Testing Equipment

Team 114

Team Members: Oscar Marino, Sebastian Graper, Timmy Hough, Brian Fischer | Faculty Advisor: Dr. Jenni Buckley

Sponsor: Stanley Black & Decker

Plier Mechanical Advantage and Cut Force Tester

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Team Members: Vea Hernandez, Dominic Corona, Logan McKinney, Rory van der Steur | Faculty Advisor: Dr. Alex De Rosa

Sponsor: Stanley Black & Decker

Build-a-Clamp

Team 126

Team Members: Alexander McCall, Caylin Payne, Claire Cho, Gabe Hall | Faculty Advisor: Dr. Jenni Buckley

Sponsor: UD Mechanical

Engineering: Dr. Tyler Van Buren

NASA Turbulent Flow Experiment for the International Space Station

Team 133

Team Members: Galen Nare, Brenden Swanik, Andrew Marino, Nicholas Ulizio | Faculty Advisor: Dr. Tyler Van Buren

The People's Choice Award

Presented by Prof. Jenni Buckley

2nd

Sponsor: J&J – Ethicon Inc
Improved Suture Diameter Measurement Fixture

Team 116

Team Members: Nicholas Sobocinski, Dean Shaw, Bridget Fisher, Christina Genario | Faculty Advisor: Dr. Jenni Buckley

Sponsor: UD Department of Mechanical Engineering – Aero SAE Team

Team 300

Team Members: Calandra Christopher, Nikki Pilla, Omar Romero, Andrew Brillate, Thomas Kaifer, Jarred McIntire, Valerie Moore, Evan Eng, Harrison Muller, Cam Schultz, Derik Spedden
Faculty Advisor: Dr. Adam Wickenheiser

3rd

1st

Sponsor: Under Armour
Smart Skins

Team 131

Team Members: Ryan Polino, Camren Monteverdi, Jacob Bishop, Harman Ugra | Faculty Advisor: Dr. Jenni Buckley

2022 Fall Engineering Design CELEBRATION

Congrats & Have a Wonderful Evening!

Unofficial After-Party Start Location
Profs will join you at 9 pm

