6th Annual EEIC Engineering Capstone Design Showcase

Keynote Speaker: Thornton May
Futurist, Executive Director, and Dean of the IT Leadership Academy

April 23, 2013
Welcome to the 6th Annual Engineering Education Innovation Center (EEIC) Engineering Capstone Design Showcase!

Thank you for joining us at the 6th Annual EEIC Engineering Capstone Design Showcase sponsored by the Engineering Education Innovation Center and ArcelorMittal. The Showcase is a platform for individual, multidisciplinary and industry-sponsored student projects which enables Ohio State engineering students to display their capstone projects and to answer questions about their research, design methods and capstone experience. Senior engineering students spend one to two academic semesters on these projects, which culminate their undergraduate academic experience at The Ohio State University.

This year we are privileged to have Thornton May as our keynote speaker for the Engineering Capstone Design Showcase. Thornton May is an empirical futurist. Educated as a cultural anthropologist and trained as a cognitive scientist, he collects data about how executives think and how organizations prepare for the future. His forecasts of the impact of changing technologies on humans and human institutions have been used to create the national strategic plans for Korea and Singapore. In addition, his projections have informed the 25 year scenarios for the United States Navy and NASA.

http://support.sas.com/publishing/authors/may.html

The title of the Keynote: The Heroic Age of With-Data Entrepreneurship
One of the data points futurists pay attention to is what are the Alphas and the Übers paying attention to. Creating value with data is definitely on the CEO radar screen. It is one of GE CEO Jeff Immelt’s “two big things we do this year.” In addition, for the first time at the Davos World Economic Forum, the conversation about extracting value from data was moved from an “offsite” remote location to a couldn’t-be-missed and must-be-attended main-tent session inside the Congress Center. Davos watchers believe this venue shift signals the arrival of data entrepreneurship and Big Data as a ready for “primetime” top-of-mind issue.

We hope you enjoy learning more about our students and their academic research. Please enjoy the Showcase!
Student Major Key:

AE - Aerospace Engineering  
BME - Biomedical Engineering  
BUG - Business  
CBE - Chemical & Biomolecular Engineering  
CE - Civil Engineering  
CHEM - Chemistry  
CIS - Computer Information Systems  
COM - Communications  
CRP - City & Regional Planning  
CSE - Computer Science Engineering  
DEN - Dentistry  
ECE - Electrical & Computer Engineering  
ECON - Economics  
EE - Environmental Engineering  
ENGL - English  
ENGPHY - Engineering Physics  
FABE – Food, Agricultural, Biological Engineering  
FDS - Food Science  
FIN - Finance  
ID - Industrial Design  
ISE - Integrated & Systems Engineering  
MAR - Marketing  
MBA - Masters Business Administration  
ME - Mechanical Engineering

Computer Science Engineering I

1  
**Pivot**  
Students: Michael Griscom, CSE; David Klimek, CSE; Frans Kurniawan, CSE; Josh Ventura, CSE; Shitianyu Pan, CSE  
Faculty Advisor(s): Roger Crawfis  
Industry Sponsor: N/A  
Industry Contact(s): N/A

2  
**Realm of Kaodith**  
Students: Andrew Buelow, CIS; Mario Carneiro, CIS; Kyle Donovan, CIS; Sam Gutentag, CIS; Stephen Hara, CSE  
Faculty Advisor(s): Roger Crawfis  
Industry Sponsor: The Ohio State University  
Industry Contact(s): Roger Crawfis

3  
**Space Race**  
Students: Evan deLaubenfels, CSE; Clayton Mallory, CSE; David Pittenger, CSE; A. Justin Smith-Eble, CSE; Troy Sullivan, CSE  
Faculty Advisor(s): Roger Crawfis  
Industry Sponsor: N/A  
Industry Contact(s): N/A

4  
**Luximation**  
Students: Stephen Smith, CSE; Mike Johnson, CSE; Chad Travis, CSE; Chris Price, CIS; Lap Hou Chan, CSE; Tim Carpenter, CSE  
Faculty Advisor(s): Roger Crawfis, Matt Boggus  
Industry Sponsor: The Ohio State University  
Industry Contact(s): Roger Crawfis, Matt Boggus
Biomedical Engineering

5  **Wheelchair Center of Gravity**
   Students: Brandon Toms, ME; Jonathan King, ME; Benjamin Jelen, BME; Ankit Prasad, BME; Panayotis Papas, BME
   Faculty Advisor(s): Dr. Carmen DiGiovine, Dr. Mark Ruegsegger
   Industry Sponsor: The Ohio State University
   Industry Contact(s): Dr. Mark Ruegsegger

6  **External Feedback Device for Running Form Modification**
   Students: John Clark, BME; Audrey Nguyen, BME; Hiten Patel, BME; Brian Phillips, ME; Avrey Thau, BME; Jeff Valentin, BME
   Faculty Advisor(s): Dr. Carmen DiGiovine, Dr. Sandra Metzler, Dr. Mark Ruegsegger
   Industry Sponsor: The Ohio State University
   Industry Contact(s): Dr. Mark Ruegsegger

7  **Building Guide System**
   Students: Mikhail Viznyuk, BME; Adam Malek, ME; Mengyu Liu, BME; Rachel Mallonee, BME
   Faculty Advisor(s): Dr. David Lee, Ms. Theresa Berner
   Industry Sponsor: The Ohio State University
   Industry Contact(s): Dr. Mark Ruegsegger

8  **Swappable Front End**
   Students: Ryan Megger, BME; Shamanth Urs, BME; Nicholas Joodi, BME; Leigh Anne Diener, BME; Yi Juin Liew, BME
   Faculty Advisor(s): Dr. David Lee, Theresa Berner
   Industry Sponsor: The Ohio State University
   Industry Contact(s): Dr. Mark Ruegsegger

9  **Mobile Arm Support Device**
   Students: Marston Bender, ME; Kristyn Burks, BME; Adam Greening, ME; Sheheryar Jamali, BME; Samantha Ravindrasingam, ME
   Faculty Advisor(s): Dr. Jane Case-Smith, Dr. Mark Ruegsegger
   Industry Sponsor: The Ohio State University
   Industry Contact(s): Dr. Mark Ruegsegger, Dr. David Lee, Dr. John DeWitt, PT, AT, SCS

10 **Cardiac Phantom for MRE Imaging**
   Students: Mitchell Romito, BME; Ricky Baylis, BME; Marcus Badgely, BME; Ben Hill, BME; Matthew Reynolds, BME
   Faculty Advisor(s): Dr. Mark Ruegsegger, Dr. David Lee, Dr. John DeWitt, PT, AT, SCS
   Industry Sponsor: Ohio State Biomedical Engineering
   Industry Contact(s): Dr. Mark Ruegsegger, Dr. David Lee, Dr. John DeWitt, PT, AT, SCS

11 **Hip Continuous Passive Motion Device**
   Students: Nick Black, BME; Meagan Ita, BME; Andrew Turner, ME; Beth Schlegel, ME; Michael Vignos, BME
   Faculty Advisor(s): Dr. Mark Ruegsegger, Dr. David Lee, Dr. John DeWitt, PT, AT, SCS
   Industry Sponsor: Ohio State Biomedical Engineering
   Industry Contact(s): Dr. Mark Ruegsegger, Dr. David Lee, Dr. John DeWitt, PT, AT, SCS

12 **Infant Mobility Device**
   Students: Rachel Barnes, ME; Lindsay Fischer, BME; Christine Sawchik, ME; Kevin Soong, BME; Alan Witte, BME
   Faculty Advisor(s): Dr. Mark Ruegsegger, Dr. David Lee, Dr. John DeWitt, PT, AT, SCS
   Industry Sponsor: Nationwide Children's Hospital
   Industry Contact(s): Michelle Byars
13 Magnetic Resonance Elastography (MRE): Imaging Driver
Students: Karianne Logan, BME; Robert Sibilia, BME; Kevin Buno, BME; Matthew Baker, BME; Chethan Eleswarpu, BME
Faculty Advisor(s): Dr. Mark Ruegsegger, Dr. David Lee, Dr. John DeWitt, PT, AT, SCS
Industry Sponsor: The Ohio State University
Industry Contact(s): Dr. Mark Ruegsegger, Dr. David Lee, Dr. John DeWitt, PT, AT, SCS

14 My Team Triumph Adult Stroller
Students: Jeff McNeil, BME; Phil Wessinger, BME; Nick Basilius, BME; Karen Johnston, BME; Michael Huhn, BME
Faculty Advisor(s): Dr. Mark Ruegsegger, Dr. David Lee, Dr. John DeWitt, PT, AT, SCS
Industry Sponsor: My Team Triumph
Industry Contact(s): Georgeanna Haviland

15 NASA Sterilization Device
Students: Stephen Kleine, BME; Colton Lloyd, BME; Peter Bielecki, BME; Stephanie Marner, BME; Jenna Hoersten, BME
Faculty Advisor(s): Dr. Mark Ruegsegger, Dr. David Lee, Dr. John DeWitt, PT, AT, SCS
Industry Sponsor: NASA Glenn Research Center
Industry Contact(s): Lauren Best, De Von Griffin

16 Sliderboard Stroke Rehabilitation Device
Students: Jaime Bravo, BME; Matt D’Errico, BME; Marija Ilievska, BME; Jessica Russo, BME; Maria Talarico, BME
Faculty Advisor(s): Dr. Mark Ruegsegger; Adam Spitznagel
Industry Sponsor: Ohio State Biomedical Engineering
Industry Contact(s): Dr. Mark Ruegsegger, Dr. David Lee, Dr. John DeWitt, PT, AT, SCS

17 AgroTools Glove Design
Students: Brian Baird, ME; Andrew Loewenstein, ME; Austin Prakel, BME; Sarah Watzman, ME
Faculty Advisor(s): Dr. Sandra Metzler, Dr. Margaret Teaford
Industry Sponsor: National Institutes of Health
Industry Contact(s): N/A

18 Converted Class Table
Students: Bryan McCaulley, ME; Lisa Allen, ME; Julia Langholt, ME; Handong Jung, BME; Kari Innenberg, BME
Faculty Advisor(s): Dr. Sandra Metzler, Dr. Margaret Teaford
Industry Sponsor: The Ohio State University
Industry Contact(s): Dr. Mark Ruegsegger, Dr. David Lee, Dr. John DeWitt, PT, AT, SCS

19 Brutus Lift
Students: Nicole Beaugrand, BME; Megan Jones, BME; Claude Lawrence, ME; Eric Suszka, ME; Samantha Wadge, BME
Faculty Advisor(s): Dr. Sandra Metzler, Dr. Mark Ruegsegger
Industry Sponsor: The Ohio State University
Industry Contact(s): N/A

20 Wheel Chair Jack
Students: Spencer Dunaway, BME; Thomas Guerrero, BME; Yu Zuo, BME; Jack Martin, ME; Shuo Yang, ME
Faculty Advisor(s): Dr. Sandra Metzler, Dr. Mark Ruegsegger
Industry Sponsor: The Ohio State University
Industry Contact(s): Dr. Mark Ruegsegger, Dr. David Lee, Dr. John DeWitt, PT, AT, SCS

21 Trunk Assistant
Students: Jared Collier, ME; Justin Mesick, ME; Rachael Meyer, ME; Cam Rasey, ME; Eric Ricciardi, ME
Faculty Advisor(s): Dr. Mark Ruegsegger, Dr. David Lee, Dr. John DeWitt, PT, AT, SCS
Industry Sponsor: The Ohio State University
Industry Contact(s): Dr. Mark Ruegsegger, Dr. David Lee, Dr. John DeWitt, PT, AT, SCS

22 Hemiwalker with Wheels
Students: Ethan Traylor, ME; Matt Metka, ME; Kevin Zeng, BME; Eric Moyer, BME; Ernest Levert, BME
Faculty Advisor(s): Dr. Sandra Metzler, Dr. Mark Ruegsegger
Industry Sponsor: The Ohio State University
Industry Contact(s): Dr. Sandra Metzler
Chemical & Biomolecular Engineering

23 **Surfactant Additives for Turbulent Drag Reduction in Recirculating Fluid Flow Systems**  
Students: Frank Trebar, CBE; Cody Dewitt, CBE; Molly Langhenry; Joanna Gobeille, CBE  
Faculty Advisor(s): Andy Maxson  
Industry Sponsor: The Ohio State University  
Industry Contact(s): Jacques Zakin

24 **Characterization of Kibbles and Interactions with Fat and Flavor Enhancers Addition**  
Students: J. Todd Starkey, CBE; Michael Fontaine, CBE; Jessica Jude, CBE; Stacey Sherman, CBE  
Faculty Advisor(s): Dr. David Tomasko  
Industry Sponsor: Procter & Gamble  
Industry Contact(s): Dr. Maria Villagran

25 **Design of a Rapid Start-Up Solid Oxide Fuel Cell System**  
Students: David Chmielewski, CBE; Sarah Isherwood, CBE; Goutham Putta, CBE; Katie Zorc, CBE  
Faculty Advisor(s): Dr. David Tomasko  
Industry Sponsor: NexTech Materials  
Industry Contact(s): Dr. Maria Villagran

26 **Economics and Scale-up of Landfill Gas Recovery at SWACO**  
Students: Cornelius Cilliers, CBE; David Benco, CBE; Westley Russel, CBE; Michael Simmons, CBE  
Faculty Advisor(s): Dr. David Tomasko  
Industry Sponsor: Adsorption Research, Inc.  
Industry Contact(s): Kent Knaebel

27 **Extensional Rheology - Viscous Tailing in the Filling Process of Shampoo Bottles**  
Students: David Chen, CBE; Amanda Hansen, CBE; Karl Kroll, CBE; Binbin Wu, CBE  
Faculty Advisor(s): Dr. David Tomasko  
Industry Sponsor: Procter & Gamble  
Industry Contact(s): Dr. Fei Wang

28 **Fumigation of Psyllium Husks via Methyl Bromide**  
Students: Zach Adams, CBE; Alex Woll, CBE; Zach Ballantyne, CBE; Adam Clifford, CBE; Humaid Alghassani, CBE  
Faculty Advisor(s): Dr. David Tomasko  
Industry Sponsor: Procter & Gamble  
Industry Contact(s): Steve Cammarn, Matt Kaczanowski

29 **Impact of Catalyst Improvement to Direct Methanol Fuel Cells (DMFCs)**  
Students: Kyle Hatton, CBE; Nicholas Wood, CBE; Patrick Shoemaker, CBE; Nikita Kevlich, CBE  
Faculty Advisor(s): Dr. David Tomasko  
Industry Sponsor: pH Matter, LLC  
Industry Contact(s): Dr. Paul Matter

30 **Low Cost Solar Powered Refrigeration for Storing Antiretroviral Drugs Used in the Treatment of HIV Infection in Botswana**  
Students: Garrett Price, CBE; Kristi Olesik, CBE; Lucas McBride, CBE; Lianwan Huang, CBE  
Faculty Advisor(s): Dr. David Tomasko  
Industry Sponsor: The Ohio State University  
Industry Contact(s): Dr. Michael Paulaitis

31 **PEI Foam Extrusion**  
Students: Nirupa Manohar, CBE; Alex Elchert, ChBE; Ted Elliott, CBE; Dina Cahyadi, CBE  
Faculty Advisor(s): Dr. David Tomasko  
Industry Sponsor: Advanced Materials Technologies  
Industry Contact(s): Dr. Akbar Fard, Hrishikesh Munj
32 Processing Natural Gas from Utica Shale
Students: Michele Brizgys, CBE; Ryan Menasco, CBE; Terhi Reponen, CBE; Zacharias Obermeyer, CBE
Faculty Advisor(s): Dr. David Tomasko
Industry Sponsor: Ohio State Chemical and Biomolecular Engineering
Industry Contact(s): Dr. David Tomasko

33 Thin-Film-Composite Membranes for CO2 Separation
Students: Andrea Adam, CBE; Meg Butts, CBE; Josh Lisheid, CBE; Jo Pi, CBE
Faculty Advisor(s): Dr. David Tomasko
Industry Sponsor: Dr. W.S. Winston Ho
Industry Contact(s): GTA Varun Vakharia

34 Centrifugal Separation of Algae for Biofuel Applications
Students: Brian Marshall, CBE; Timothy Kananen, CBE; Jason Su, CBE; Ryan Gallagher, CBE
Faculty Advisor(s): Dr. Jeffrey Chalmers
Industry Sponsor: Dr. Jeffrey Chalmers
Industry Contact(s): Dr. Jeffrey Chalmers, Clayton Deighan

35 Development of a Continuous Process for Growing Carbon Nanofibers using Ohio Coal
Students: Chenxi Li, CBE; Daniel Manning, CBE; Derek Mason, CBE; Jesaiah King, CBE
Faculty Advisor(s): Dr. Umit Ozkan
Industry Sponsor: The Ohio State University
Industry Contact(s): Dr. Umit Ozkan

36 Life Cycle Modeling of 1,3-Propanediol
Students: Kara Bihn, CBE; Megan Hoppe, CBE; Adam Reckless, CBE; Maddie Shirk, CBE
Faculty Advisor(s): Robert Urban
Industry Sponsor: Dr. Bhavik Bakshi
Industry Contact(s): Dr. Bhavik Bakshi

37 Aerosols: Scalable, Semi-continuous Production of Micelles via Coaxial Electrospray
Students: Patrick Merrilees, CBE; Ben Bailey, CBE; Zeke McVey, CBE; Andrew Taris, CBE
Faculty Advisor(s): Dr. David Tomasko
Industry Sponsor: Barbara Wyslouzil
Industry Contact(s): Barbara Wyslouzil

38 Modeling the Decay in Reactivity of Limestone-based CaO Sorbent Towards CO2 Over Multiple Cycles
Students: Jasline Sahota, CBE; Joseph Huntley, CBE; Nicholas Deerhake, CBE; Karen Kwong, CBE
Faculty Advisor(s): Niranjani Deshpande, Dr. L. S. Fan
Industry Sponsor: The Ohio State University
Industry Contact(s): Niranjani Deshpande

39 Evaluation of Separation Methods for Recovery of Butanol from Fermentation Broth
Students: Steven Hoover, CBE; Gannon Kast, CBE; Andrew Motz, CBE; Andrew Toro, CBE
Faculty Advisor(s): Dr. Chihae Yang
Industry Sponsor: The Ohio State University
Industry Contact(s): Yinming Du
Civil & Environmental Engineering

40  **Student Housing Tower Framing Study**
Students:  TBD, CE
Faculty Advisor(s):  Dr. John George, Dr. William Wolfe
Industry Sponsor:  N/A
Industry Contact(s):  N/A

41  **Dublin Road Water Plant Ozone/Biologically-Active Carbon Upgrades**
Students:  TBD, EE
Faculty Advisor(s):  Dr. Linda Weavers
Industry Sponsor:  MWH, City of Columbus
Industry Contact(s):  Tim Wolfe, MWH; Mark Eppich, City of Columbus

Computer Science Engineering II

42  **Biziprocity**
Students:  Maxwell Elliott, CSE; Zhixuan Jia, CSE; Tim Raphael, CSE; Paul Wisniewski, CSE
Faculty Advisor(s):  Moez Chaabouni
Industry Sponsor:  Fisher College of Business
Industry Contact(s):  Kyle Gantos

43  **Find Brutus**
Students:  Michael Jodon, CIS; Mark Mathis, CSE; Jacob Peddicord, CSE; Carl Shotwell, CSE
Faculty Advisor(s):  Moez Chaabouni
Industry Sponsor:  EduTechnologic
Industry Contact(s):  Brad Henry

44  **Proteomics Workbench**
Students:  Trevor Holl, CIS; Dan Tucholski, CSE; Steve Ruiz, CIS; Robert Ditmars, CIS
Faculty Advisor(s):  Moez Chaabouni
Industry Sponsor:  The Ohio State University
Industry Contact(s):  Michael Freitas

45  **Tag**
Students:  Lisa Krauss, CSE; Nathan Braid, CSE; Jack Miller, CIS; Aaron Shortridge, CSE; Jay Hines, CIS
Faculty Advisor(s):  Moez Chaabouni
Industry Sponsor:  Zach Huber
Industry Contact(s):  Zach Huber

46  **Zembretta Semantic Search**
Students:  Ananth Muralidharan, CSE; Chris Sedar, CSE; Michael Johnson, CSE; Ryan Brown, CSE; Siva Baskaran, CSE
Faculty Advisor(s):  Moez Chaabouni
Industry Sponsor:  Zembretta
Industry Contact(s):  Richard Wagner
47 Grange Insurance Audubon Center Visitor Engagement Application
Students: Donald Bacharowski, CIS; Mihir Amin, CSE; Neha Mazumder, MS CSE; Sam Meier, CSE, Alexander Lee, CSE
Faculty Advisor(s): Moez Chaabouni
Industry Sponsor: Grange Insurance Audubon Center
Industry Contact(s): Christie Vargas, Amy Boyd

48 3D Motion Capture
Students: Jason Kao, CSE; Kevin David, CSE; James Sosan, CSE; Depak Kumar, CSE; Kyle Albert, CSE
Faculty Advisor(s): Dr. Igor Malkiman
Industry Sponsor: David Zimbeck
Industry Contact(s): David Zimbeck

49 Bucket List Match
Students: Everly Okorji, CSE; Shi Ho Wang, CSE; Christopher Hartman, CIS; Mike Sustarsic, CSE
Faculty Advisor(s): Dr. Igor Malkiman
Industry Sponsor: The Ohio State University
Industry Contact(s): Benjamin Wierwille

50 Data Visualization for DoubleCheck LLC
Students: Anil Sunke, MS CSE; Cynthia Godwin, MS CSE; Miao-chen Chou, MS CSE; Yen Nei Lee, BS CSE
Faculty Advisor(s): Dr. Igor Malkiman
Industry Sponsor: Sanford S. Brown
Industry Contact(s): Sanford S. Brown

51 DigiClips
Students: Calvin Goodman, CSE; James Hickman, CSE; Jonathon Hickman, CSE; Kevin Landers, CSE; Jianan Zheng, CSE
Faculty Advisor(s): Dr. Igor Malkiman
Industry Sponsor: DigiClips
Industry Contact(s): Robert Shapiro

52 Inter-building Guidance System
Students: David Burl, CSE; Shao Zheng, CSE; Nathaniel Dikeman, CSE; Sada Diallo, CSE
Faculty Advisor(s): Dr. Igor Malkiman
Industry Sponsor: Ohio State Biomedical Engineering
Industry Contact(s): Dr. David Lee, Dr. Mark Ruegsegger

53 Leading EDJE Recruitment System
Students: Jeffrey DePassio, CSE; Adam Stutz, CSE; Yi Mei, CSE; Ben Kracker, CSE
Faculty Advisor(s): Dr. Igor Malkiman
Industry Sponsor: Leading EDJE
Industry Contact(s): Dave Michels, Erica Krumlauf, Kate Sutter

54 Outlook Media Sales Application Version 2
Students: Scott Beaber, CSE; Michael Detwiler, CSE; Simeon Georgiev, CIS; Anthony Zuccarelli, CSE
Faculty Advisor(s): Dr. Igor Malkiman
Industry Sponsor: Outlook Media
Industry Contact(s): Brad Henry

55 PI-COLA
Students: Jesse Akers, CSE; Yan Xu, CSE; William Dazey, CSE; Karl Racke, CSE
Faculty Advisor(s): Dr. Igor Malkiman
Industry Sponsor: The Ohio State University
Industry Contact(s): Professor Neelam

56 Teacher’s Classroom Aid
Students: Emily Smith, CSE; Joel McCance, CSE; Ben Davis, CSE; Joe Chirico, CSE
Faculty Advisor(s): Dr. Igor Malkiman
Industry Sponsor: EduTechnologic
Industry Contact(s): Brad Henry
MotorSports Capstone Projects

57 Veterinary Anesthesia SOAP Applications
Students: Nick Rotonda, CSE; Jacob McConnell, CSE; Vince Fonte, CSE; Mike Timko, CSE
Faculty Advisor(s): Dr. Igor Malkiman
Industry Sponsor: Dr. Phillip Lerche, OSU Veterinary School
Industry Contact(s): Dr. Phillip Lerche, Brad Henry

58 yesgoody Online Data Collector
Students: Sergiy Borysov, CSE; Dave Hewitt, CSE; Amasi Elbakush, CSE; Aneeth Krishnamoorthy, CSE; Conor Dockry, CSE
Faculty Advisor(s): Dr. Igor Malkiman
Industry Sponsor: yesgoody, Inc.
Industry Contact(s): Andrew Yates, Yixue Li, Dami Shogunro, Xingzhong Xu

59 EcoCAR Virtual Showroom Assistant
Students: Vishal Bhatnagar, CSE; Patrick Carfrey, CSE; Dan Steck, CSE; Nishita Yalamanchili, CSE
Faculty Advisor(s): Dr. Igor Malkiman
Industry Sponsor: Dr. Shawn Midlam-Mohler
Industry Contact(s): Dr. Shawn Midlam-Mohler

60 Infotainment System App
Students: Sudheer Tumu, CSE; Royden Lewis, CSE; Viswanathan Munirajan, CSE; John Brown; CSE
Faculty Advisor(s): Dr. Igor Malkiman
Industry Sponsor: Dr. Shawn Midlam-Mohler
Industry Contact(s): Dr. Shawn Midlam-Mohler

61 Actuation of an Automated-Manual Transmission
Students: Christopher Burns, ME; Luke Debruin, ME; Josh Hendricks, ME
Faculty Advisor(s): Dr. Shawn Midlam-Mohler
Industry Sponsor: Ohio State Motorsports Capstone Program
Industry Contact(s): Dr. Shawn Midlam-Mohler

62 Buckeye Bullet 3 Vehicle Lift and Mobilization System
Students: Matt Gittings, ME; Josh Kohli, ME; Dustin Rose, ME
Faculty Advisor(s): Dr. Shawn Midlam-Mohler
Industry Sponsor: Ohio State Buckeye Bullet
Industry Contact(s): Dr. Shawn Midlam-Mohler

63 Converting an Engine to E85 and Design of Electrically Heated Catalyst System
Students: Adriana Leslie, ME; Andrew Spiegel, ME; Jason Ward, ME
Faculty Advisor(s): Dr. Shawn Midlam-Mohler
Industry Sponsor: Ohio State Motorsports Capstone Program
Industry Contact(s): Dr. Shawn Midlam-Mohler

64 EcoCAR2 Suspension
Students: Aaron Ressa, ME; Brad Shear, ME; Allen Sun, ME
Faculty Advisor(s): Dr. Shawn Midlam-Mohler
Industry Sponsor: Ohio State EcoCAR
Industry Contact(s): Dr. Shawn Midlam-Mohler

65 EcoCAR2 Charging System
Students: Alex Bergman, ME; John Swigart, ME; Xue Yang, ECE
Faculty Advisor(s): Dr. Shawn Midlam-Mohler
Industry Sponsor: Ohio State EcoCAR
Industry Contact(s): Dr. Shawn Midlam-Mohler
Multidisciplinary Engineering

66  **Burden Airplane Manufacturing**  
Students: Ryan Cahill, ME; Sagar Dave, ECE; Yue Li, ECE; Andrew Martin, ME; Diana Merriam, ME  
Faculty Advisor(s): Bob Rhoads  
Industry Sponsor: Chris Burden  
Industry Contact(s): Nigel Briand

67  **Honda Composite Suspension Arm for Mass-Market Passenger Car**  
Students: Kyle Ginaven, ME; Peter Roser, ME; Gaurav Krishnaraj, ME; Jeremy Valentine, ME; Steven Haidet, ECON  
Faculty Advisor(s): Bob Rhoads  
Industry Sponsor: Honda R&D America  
Industry Contact(s): Josh Johnson, Evan Martin, Daniel Gross

68  **Aquaponics**  
Students: Andrew Stratton, FABE; Alex Aurand, ME; Samantha Fisher, FDS; Collin Greer, FIN; Nick Weithman, ME; Bo Jiang, ME  
Faculty Advisor(s): Bob Rhoads  
Industry Sponsor: Honda R&D America  
Industry Contact(s): Josh Johnson, Evan Martin, Daniel Gross

69  **Accelerated Saltwater Corrosion Testing on Subsea Equipment**  
Students: Rosa Nemec, ME; Jake Detec, ME; Jonathan Schuler, ME; Daniel Miller, ME; David Smith, CHEM  
Faculty Advisor(s): Bob Rhoads  
Industry Sponsor: Honda R&D America  
Industry Contact(s): Daniel Baxter, Kevin Minnock

70  **Localized Corrosion Rate Measuring Tool Phase II**  
Students: Zijian Huang, ME; Dan Marrinan, ENPHYS; Bo Peng, ECE; Chungho Song, ECE  
Faculty Advisor(s): Bob Rhoads  
Industry Sponsor: Honda R&D America  
Industry Contact(s): Kyle Chapman

71  **John Deere Autonomous Tractor**  
Students: Kyle Steinkerchner, ME; Jason Schriner, ME; Jacob Kilver, ECE; Sara Bidar, ECE  
Faculty Advisor(s): Dr. Joanne Degroat, Bob Rhoads  
Industry Sponsor: John Deere  
Industry Contact(s): Dennis Jeffries, Jeffery Runde

72  **AMETEK Wall-Mounted Digital Battery Charger**  
Students: Matt Ricciardi, ME; Luke Sobota, ECE; Tianyi Chen, ECE; Sam Stuard, ENPHYS  
Faculty Advisor(s): Dr. Keith A. Redmill, Bob Rhoads  
Industry Sponsor: AMETEK SOLIDSTATE CONTROLS  
Industry Contact(s): Phil Irwin

73  **Lakeshore Cryotronics Virtual Board**  
Students: Steve Shaull, ISE; Akul Kakumani, ME; Kean Mervis, ME; Grant Haldeman, COM  
Faculty Advisor(s): Dr. Peter Rogers  
Industry Sponsor: Lakeshore Cryotronics  
Industry Contact(s): Ed Maloof

74  **Stainbuster®, A Novel Composite Dental Bur**  
Students: Brian Needham, MBA/MHA; Alexander Tipton, DEN; Samantha Crance, BME; Daniel Petrarca, BME; Jonathan Occkial, ME; Katherine Bakken, MAR  
Faculty Advisor(s): Dr. Peter Rogers, Dr. Dale Kanner  
Industry Sponsor: Abrasive Technology, Inc.  
Industry Contact(s): Eric Sagun

75  **Stickee Shapes**  
Students: Madelyn Gruseck, ME; Phillip Eisner, ME; Joseph Nurre, CBE; Jacob Tinlin, ENGL; Rob Reznick, MBA; Rachel Clingman, ID  
Faculty Advisor(s): Dr. Peter Rogers  
Industry Sponsor: Auld Technologies and COSI  
Industry Contact(s): Esther See, Auld; Laura Leon, COSI
76 Storm-Water Exfiltration BMP
Students: Andrea Jungers, ME; Phoebe Low, EE; Laura Reisenauer, EE; John Simmons, ME
Faculty Advisor(s): Dr. Peter Rogers
Industry Sponsor: Water Quality Solutions, LLC
Industry Contact(s): Nelson Kohman

77 EnergyHAWC
Students: James Rowland, ME; Scott Heckler, ME; Sarah Weals, ME; Marcy Kaercher, ME; Chris Schleich, ME; Lee Trask, ME; Brendan O'Shaughnessy, ME; Yufan Ling, ME; Fandi Peng, ECON
Faculty Advisor(s): Dr. Mark Walter
Industry Sponsor: Lawrence Berkeley Research Laboratory, US Department of Energy
Industry Contact(s): Stacy Pratt

78 Honda Vehilcle Tank Fuel Level Measurement
Students: James Ren, ME; David Reed, ME; Jonathon Roan, ME
Faculty Advisor(s): Michael Hoffmann, Bob Rhoads
Industry Sponsor: Honda R&D America
Industry Contact(s): Luke Walker

79 John Deere Bearing Lubrication Effectiveness
Students: Isaac Hong, ME; Qiuchi Xiong, ME; Ryan Holland, ISE; Shawn Spencer, ME; Jeff Wheeland, ME
Faculty Advisor(s): Michael Hoffmann, Bob Rhoads
Industry Sponsor: John Deere
Industry Contact(s): Dennis Jeffries

80 Marion Industries Material Flow Analysis and Improvement Project
Students: Emily Yu, ISE; An Fu, ME; Alexander Skippers, ISE; Guenzhe Sun, ME
Faculty Advisor(s): Dr. Rajiv Shivpuri, Dr. Peter Roger
Industry Sponsor: Marion Industries LLC
Industry Contact(s): Art Faulkner, Gelver Vergeldedios

81 Future Commercial Truck Seat
Students: Sudanshu Agrawal, ME; Justin Bechstein, ID; Aaron Cornell, MBA; Kai Jiang, BUG; Mary McKay, CRP; Jordan Tollet, ME; Jonathan Wocher, ME
Faculty Advisor(s): Scott Potter
Industry Sponsor: Commercial Vehicle Group
Industry Contact(s): Paul Bennett

82 Cap13-Transmet Waterfall Team
Students: Clinton LeHotan, ME; Ryan Johnson, ME; Katie Jones, CBE; Tracie Sorvillo, MBA
Faculty Advisor(s): Dr. Scott Sink
Industry Sponsor: Transmet Corporation
Industry Contact(s): Doug Shull
83  **Yield Loss Reduction Project**  
Students: Shaoxuan Li, ISE  
Faculty Advisor(s): Dr. Scott Sink  
Industry Sponsor: Transmet Corporation  
Industry Contact(s): Doug Shull

84  **Body Build Cycle Time Reduction**  
Students: Benjamin Zimmer, ISE  
Faculty Advisor(s): Dr. Scott Sink  
Industry Sponsor: Sutphen Corporation  
Industry Contact(s): Drew Sutphen

85  **BronShoe Silver Restoration**  
Students: Victor Lopez, ISE  
Faculty Advisor(s): Dr. Scott Sink  
Industry Sponsor: Bron-Shoe Company  
Industry Contact(s): Bob Kaynes

86  **Design and Implementation of an Energy Management Process**  
Students: Dominic Ruggerie, ISE  
Faculty Advisor(s): Dr. Scott Sink  
Industry Sponsor: Sherwin Williams  
Industry Contact(s): Chuck Kletrovets, Bryla Potter

87  **General Internal Medicine Call Center Wait Time Reduction Project**  
Students: Nilav Ranpara, ISE  
Faculty Advisor(s): Dr. Scott Sink  
Industry Sponsor: The Ohio State Wexner Medical Center  
Industry Contact(s): Valery Tarver, Pamela Gray, Neeraj Tayal

88  **Heavy Capacity Assembly Optimization**  
Students: James (Joey) Miller, ISE  
Faculty Advisor(s): Dr. Scott Sink  
Industry Sponsor: METTLER TOLEDO Masstron  
Industry Contact(s): Stephanie Viehman

89  **Implementation of OneNote in OSU Clinic Call Center Office**  
Students: Jing Xin Yu (Allie Yu), ISE  
Faculty Advisor(s): Dr. Scott Sink  
Industry Sponsor: The Ohio State Wexner Medical Center  
Industry Contact(s): Pam Gray, Ann Henry, Charlotte Boyer, Julia Degood, Joann Matthews

90  **Implementing 5S at Bron-Shoe**  
Students: Christopher Nester, ISE  
Faculty Advisor(s): Dr. Scott Sink  
Industry Sponsor: Bron-Shoe  
Industry Contact(s): Bob Kaynes

91  **Improve Physical Therapy Patient Satisfaction Scores in Pilot Rehabilitation Center**  
Students: Rachael Dilenschneider, ISE  
Faculty Advisor(s): Dr. Scott Sink  
Industry Sponsor: Ohio Health  
Industry Contact(s):

92  **Improving Inventory Accuracy**  
Students: Daniel Garfield, ISE  
Faculty Advisor(s): Dr. Scott Sink  
Industry Sponsor: Sherwin Williams  
Industry Contact(s): Chuck Kletrovets, Bryla Potter

93  **Improving Order Accuracy and Customer Satisfaction**  
Students: Andrea Allison, ISE  
Faculty Advisor(s): Dr. Scott Sink  
Industry Sponsor: Donatos  
Industry Contact(s): Travis Howard
94 Increasing Process Throughput in Abrasive Wheels Production
Students: Kaylane Robbins, ISE
Faculty Advisor(s): Dr. Scott Sink
Industry Sponsor: Diamond Innovations
Industry Contact(s): Michael Mathews

95 Labor Utilization Optimization
Students: Joe Kontak, ISE
Faculty Advisor(s): Dr. Scott Sink
Industry Sponsor: METTLER TOLEDO
Industry Contact(s): Stephanie Viehman

96 Operational Improvement in the Asset Management Process
Students: Gina Manacci, ISE
Faculty Advisor(s): Dr. Scott Sink
Industry Sponsor: The Ohio State University
Industry Contact(s): Lisa Plaga

97 Optimizing Franchise Value: Improving EBITA Growth Rates & Process Maturity
Students: Eihab Alammar, ISE
Faculty Advisor(s): Dr. Scott Sink
Industry Sponsor: Adham Alammar
Industry Contact(s): Adham Alammar

98 Order Fulfillment Lead Time Reduction at Donatos Pizza
Students: Stephen Tweel, ISE
Faculty Advisor(s): Dr. Scott Sink
Industry Sponsor: Donatos Pizza
Industry Contact(s): Travis Howard

99 Overtime and Comp Time Reduction at the Eye and Ear Institute
Students: Sara Vinson, ISE
Faculty Advisor(s): Dr. Scott Sink
Industry Sponsor: The Ohio State Wexner Medical Center
Industry Contact(s): Valery Tarver, Sheryl Burch, Sarah Miller, Dr. Arick Forrest, Wendy Dobie, Heather Kincai

100 Quality of Worklife Improvement
Students: Simon William Prasetyo, ISE
Faculty Advisor(s): Dr. Scott Sink
Industry Sponsor: Bron-Shoe
Industry Contact(s): Jim Jackson, Robert Kaynes

101 Redesign of Non-Nettable Inventory Processes
Students: Ryan Arnold, ISE
Faculty Advisor(s): Dr. Scott Sink
Industry Sponsor: Emerson Network Power
Industry Contact(s): Terri Douglas, Aaron Nartker

102 Reduction of Changeover Downtime
Students: Michael Bingman, ISE
Faculty Advisor(s): Dr. Scott Sink
Industry Sponsor: Royal Building Products
Industry Contact(s): Shannon Stehman, John Mosher

103 Reduction of Frequency and Severity of Issues in the Movement of WIP Inventory
Students: Patrick McHugh, ISE
Faculty Advisor(s): Dr. Scott Sink
Industry Sponsor: METTLER TOLEDO
Industry Contact(s): Stephanie Viehman

104 Reduction of Missing Surgical Documents on the Morning of Surgery
Students: Leslie Weist, ISE
Faculty Advisor(s): Dr. Scott Sink
Industry Sponsor: The Ohio State Wexner Medical Center
Industry Contact(s): Heather Kincaid, Jill Treece

105 Reengineering Business Development
Students: Amelia Quilon, ISE
Faculty Advisor(s): Dr. Scott Sink
Industry Sponsor: American Bronzing Company
Industry Contact(s): Robert Kaynes
106 Resource Utilization
Students: Jagjit Singh, ISE
Faculty Advisor(s): Dr. Scott Sink
Industry Sponsor: The Ohio State University: Purchasing, Receiving, Stores and Mail
Industry Contact(s): Nathan Andridge

107 Risk Priority Number Reduction in the Assisted Move-In Process
Students: Michael Fitzsimons, ISE
Faculty Advisor(s): Dr. Scott Sink
Industry Sponsor: Ohio State Department of Student Life
Industry Contact(s): Daren Lehman, Aubrie Smith

108 Standardization of Grange Mutual Insurance New Product Development Process
Students: Evan Slavik, ISE
Faculty Advisor(s): Dr. Scott Sink
Industry Sponsor: Grange Mutual Insurance
Industry Contact(s): 

109 Standardizing Hegman Testing Procedures to Reduce Rework at AkzoNobel
Students: Kyle Ley, ISE
Faculty Advisor(s): Dr. Scott Sink
Industry Sponsor: AkzoNobel
Industry Contact(s): Casey Shoemaker

110 Transportation Routing System
Students: Courtney Stuetzer, ISE
Faculty Advisor(s): Dr. Scott Sink
Industry Sponsor: National Church Residences
Industry Contact(s): Erica Drewry

Integrated & Systems Engineering

111 American Electric Power - Synchrophasors
Students: Sultan Alsaif, ISE; Derek Bernsdorf, ISE; Thadd Burns, ISE
Faculty Advisor(s): Dr. Steve Lavender
Industry Sponsor: American Electric Power
Industry Contact(s): Carlos Casablanca

112 Caterpillar Logistics Packaging Table Model Development Project
Students: Matthew Brinkmeier, ISE; Thomas Cheesman, ISE; Yixiao Ding, ISE
Faculty Advisor(s): Dr. Steve Lavender
Industry Sponsor: Caterpillar Logistics
Industry Contact(s): Jeff Slocum, Adam Farmer

113 CICMHE Facility Retrofit
Students: Andrea McWhirter, ISE; Terry Tan, ISE; Shannon Kieny, ISE
Faculty Advisor(s): Dr. Steve Lavender
Industry Sponsor: Ohio State Integrated & Systems Engineering
Industry Contact(s): Dr. Jerald Brevick

114 DATA Bus Route Expansions in the Polaris Parkway Region
Students: Steven Hwang, ISE; Aaron Jones, ISE; John Minor, ISE
Faculty Advisor(s): Dr. Steve Lavender
Industry Sponsor: DATA Bus
Industry Contact(s): Crystal James

115 DB Schenker SKU Consolidation
Students: Kalyaan Rao, ISE; Atikah Adnan, ISE; Jacob Schnieders, ISE
Faculty Advisor(s): Dr. Steve Lavender
Industry Sponsor: DB Schenker
Industry Contact(s): Jeff Weinland
<table>
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<th>Project Title</th>
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<td>DB Schenker Two Pallet Project</td>
<td>Chris Treiss, ISE; Muhammad Mod-Rokbi, ISE; Anis Md-Hashim, ISE; Nur Misrin, ISE</td>
<td>Dr. Steve Lavender</td>
<td>DB Schenker</td>
<td>Jeff Weinland</td>
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<td>DB Schenker: Two-Pallet Jack Vs. Single Pallet Jack</td>
<td>Nur Misrin, ISE</td>
<td>Dr. Steve Lavender</td>
<td>DB Schenker</td>
<td>Jeff Weinland</td>
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<td>Developing Ergonomic Solutions for Cracker and Cookie Line</td>
<td>Christopher Schwinkendorf, ISE; Stephen Sparks, ISE; Rustyn Stoner, ISE</td>
<td>Dr. Steve Lavender</td>
<td>Kroger Bakery</td>
<td>Bridget Andrews</td>
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<td>Reducing Physical Demands on Employees When Handling Linen Bag</td>
<td>Mary McCarroll, ISE; Diego Robledo-Garcia, ISE; Mohd Ahmad-Jafri, ISE</td>
<td>Dr. Steve Lavender</td>
<td>The Ohio State Wexner Medical Center</td>
<td>Ray Welty</td>
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<td>Transportation at the Association for the Developmentally Disabled</td>
<td>Courtney Kasuboski, ISE; Jason McNamara, ISE; David Silvashy, ISE</td>
<td>Dr. Steve Lavender</td>
<td>The Association for the Developmentally Disabled</td>
<td>Sara Eppard, Jesse Roberts</td>
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<td>AEP Health Asset Monitoring Solution</td>
<td>Renee Ulstad, ISE; Trevaun Wiley, ISE; Raymond Sharp, ISE</td>
<td>Dr. Steve Lavender</td>
<td>America Electric Power</td>
<td>Kyle Phillips</td>
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<td>Improving the Efficiency and Ergonomic Impact of Water Transportation</td>
<td>Andrew Lien, ISE; Ryan Patton, ISE; Aubrey Shapiro, ISE; Lacey Shearer, ISE</td>
<td>Dr. Steve Lavender</td>
<td>Pack H2O</td>
<td>Tony Somers</td>
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<td>Reconfiguration of Horton Emergency Vehicles Assembly Layout to Prevent Missed Takts</td>
<td>Michael Criss, ISE; Cody Scharenberg, ISE; Michelle Stroup, ISE</td>
<td>Dr. Steve Lavender</td>
<td>Horton Emergency Vehicles</td>
<td>Ricky Loar</td>
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<td>Waste Reduction in Material Handling at Whirlpool Marion</td>
<td>Michael Deegan, ISE; Ethan Hannah, ISE; Matt Stuckey, ISE</td>
<td>Dr. Steve Lavender</td>
<td>Whirlpool Marion</td>
<td>Reinaldo Milan</td>
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<td>OSU Medical Center Cart Design Project</td>
<td>Tim Hollenbeck, ISE; Kyle Hermiller, ISE; Megan Scott, ISE</td>
<td>Dr. Steve Lavender</td>
<td>The Ohio State Wexner Medical Center</td>
<td>Janet Collins, Marc Dutro</td>
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126 **Effective Capacity Planning of the Virtual Environment Using Enterprise Architecture**  
Students: Arati Mahimane, CSE  
Faculty Advisor(s): Dr. Jay Ramanathan  
Industry Sponsor: Nationwide Insurance  
Industry Contact(s): Zahid Hossain

127 **The Impact of Administrative Policies on Dynamically Composed Workflows in the Healthcare Domain**  
Students: Andee Peabody, CSE; Gerrit Kitts, CSE  
Faculty Advisor(s): Dr. Jay Ramanathan  
Industry Sponsor: N/A  
Industry Contact(s): N/A

128 **Surfacing Personas from Enterprise Social Media to Boost Engagement**  
Students: Ramiya Venkatachalam, MS CSE  
Faculty Advisor(s): Dr. Jay Ramanathan  
Industry Sponsor: Nationwide Insurance  
Industry Contact(s): Bruce Craig, Tara Paider

129 **Complexity in Enterprise Architectures**  
Students: Heesung Lee, CSE; Akanksha Lonhari, CSE  
Faculty Advisor(s): Dr. Jay Ramanathan, Dr. Rajiv Ramnath  
Industry Sponsor: Nationwide Insurance  
Industry Contact(s): Zahid Hossain

130 **Oral Reading Fluency**  
Students: Thomas Lynch, PHD CSE  
Faculty Advisor(s): Dr. Jay Ramanathan, Dr. Rajiv Ramnath, Gwendolyn Cartledge, Eric Fosler-Lussier  
Industry Sponsor: Institute of Education Services  
Industry Contact(s): Rajiv Ramnath, Gwendolyn Cartledge

131 **A Framework for Academic Collaboration**  
Students: Mitesh Kanjariya, CSE  
Faculty Advisor(s): Dr. Jay Ramanathan  
Industry Sponsor: Dr. Caroline Wagner  
Industry Contact(s): Dr. Caroline Wagner

132 **Impact Driven Regression Test Selection for Mainframes**  
Students: Abhishek Dharmapurikar, CSE  
Faculty Advisor(s): Dr. Jay Ramanathan  
Industry Sponsor: Nationwide Insurance  
Industry Contact(s): Carmen DeArdo

133 **GeneAnn**  
Students: Matt Seffernick, CSE; Kripa Durgaprasad, CSE; Jahi Crouch, CSE; Raja Tummala, CIS; Cheng Guo, CSE; Brad Chambers, CIS  
Faculty Advisor(s): Dr. Perumal Ramasamy  
Industry Sponsor: The Ohio State Wexner Medical Center  
Industry Contact(s): Dr. Kun Huang, Andrew Yates

134 **Women’s Heart Health**  
Students: Dmitriy Pilipenko, CSE; Alex Pelletier, CSE; Brandon Smith, CIS; Deven Pandya, CSE; Zack Hall, CSE  
Faculty Advisor(s): Dr. Perumal Ramasamy  
Industry Sponsor: The Ohio State Wexner Medical Center  
Industry Contact(s): Dr. Martha Gulati, Dr. Lise Worthen-Chaudhuri

135 **SMART Web Application Framework**  
Students: SaranyaDevi Ganesan, MS CSE  
Faculty Advisor(s): Dr. Rajiv Ramnath  
Industry Sponsor: Ohio State Nursing School  
Industry Contact(s): Dr. Vicki Von Sadovszky
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<td>136 Fingerprinting Building Spaces for Indoor Navigation</td>
<td>Gordon Yen, MS ECE</td>
<td>CETI</td>
<td>Dr. Rajiv Ramnath</td>
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<td>137 Drupal Portals at Ohio Supercomputer Center</td>
<td>Piyush Diwan, PhD CSE; Yixue Li, MS CSE</td>
<td>Dr. Rajiv Ramnath</td>
<td>Ohio Supercomputer Center</td>
<td>Dr. Dave Hudak</td>
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<td>138 Computerized Rehabilitation Forms</td>
<td>David Spetz, CIS; Alex Perry, CSE; Matthew Bear, CIS; Abdulwasi Abdulkarim, CSE; Abdirashid Hassan, CSE; Christopher Ashton, CSE</td>
<td>Dr. Perumal Ramasamy</td>
<td>The Ohio State Wexner Medical Center</td>
<td>Lise Worthen-Chaudhari</td>
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<td>139 Economic Impact of ACA Expansion for Ohio</td>
<td>CSE</td>
<td>Anand Desai</td>
<td>John Glenn School of Public Affairs</td>
<td>Anand Desai</td>
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<td>140 Risk Assessment</td>
<td>Sudheer Tumu, CSE; Rohit Manakata, CSE</td>
<td>Dr. Jay Ramanathan</td>
<td>Nationwide Insurance</td>
<td>Dr. Jay Ramanathan</td>
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<td>141 Knowledge Management at the Help Desk: Enhancing Responsiveness and Automation</td>
<td>Kayhan Moharreri, CSE; Naman Mody, CSE; Prasad Bhandari, CSE</td>
<td>Dr. Jay Ramanathan</td>
<td>Nationwide Insurance</td>
<td>N/A</td>
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<td>142 MyIM</td>
<td>Hyun Jeong Yoo, CSE; Yu Qiao, CSE</td>
<td>Dr. Jay Ramanathan</td>
<td>The Ohio State Wexner Medical Center, Integrity Health Partners</td>
<td>James Paat, Ann Scale, Lise Worthen-Chaudhar</td>
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<td>143 Analysis and Categorization of Multi-Touch 2D Gesture Recognition Techniques</td>
<td>Aditi Singhal, CSE</td>
<td>Dr. Jay Ramanathan, Dr. Rajiv Ramnath</td>
<td>Micro Industries</td>
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<td>144 OCLC Library Video Scanning Project</td>
<td>Sudheer Tumu, CSE</td>
<td>Dr. Jay Ramanathan, Dr. Rajiv Ramnath</td>
<td>Dr. Rajiv Ramnath, Mike Teets, OCLC</td>
<td>Dr. Rajiv Ramnath</td>
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<tr>
<td>145 Citra</td>
<td>Alex Notwell, CSE; Michelle Rush, CSE; Matthew Meade, CSE</td>
<td>Dr. Perumal Ramasamy</td>
<td>Dr. Peter Rogers</td>
<td>Dr. Peter Rogers</td>
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</table>
Engineering Capstone Design Program

The College of Engineering at The Ohio State University is a leader in creating and implementing substantive industry experiences for undergraduate engineering students. Our engineering programs have a rich history of using projects developed and sponsored by industry for student capstone design courses. All programs within the College of Engineering require a capstone design experience for graduation. The capstone design course integrates design skills and engineering practice with a focus on authentic design challenges presented and supported by industry partners and faculty. The EEIC fosters industry partnerships with The Ohio State University through the EEIC Multidisciplinary Capstone Design program and through all engineering departments by connecting companies with appropriate programs.

For more information, visit http://eeic.osu.edu/capstone or contact:

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Engineering Education Innovation Center

The College of Engineering is recognized nationally for its commitment to outstanding undergraduate education through our First-Year Engineering Program; providing practical, hands-on engineering experience through project-based design courses; providing opportunities for undergraduate research experiences; and our individualized attention to undergraduate students to facilitate their academic and professional success. To further enhance efforts in providing the highest quality engineering education, Ohio State established the Engineering Education Innovation Center in May 2007 with the mission of enriching the student experience and strengthening the academic credentials of our undergraduates. Simultaneously, the Honda Professorship for Engineering Education was established to supply leadership to the new Center.

The EEIC is the focal point for the College’s innovative instructional programs, building upon our outstanding reputation for and commitment to innovative undergraduate education. The EEIC provides academic, personal, and professional activities, enriching the undergraduate experience inside and beyond the classrooms. The EEIC also created new courses and programs, and strengthened existing ones to empower students for an ever-expanding range of career and entrepreneurship opportunities.

The Performance Goals of the EEIC include:
• Promotion, innovation, and creativity in all of our undergraduate programs
• Offering multidisciplinary courses and opportunities for students that enhance experience
• Fostering scholarship of teaching and learning across the college

For more information, visit http://eeic.osu.edu/ or contact:

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Acknowledgements

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Industry Partners
The Blackwell

The committee would also like to show its appreciation for the students who are involved with the projects displayed today.

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