

RICHARD J. FASENMYER

# ENGINEERING DESIGN CONFERENCE

SATURDAY, APRIL 27, 2019



OUTSTANDING  
CAPSTONE  
PROJECT SPONSOR



BOSTWICK DESIGN PARTNERS

## SCHEDULE OF EVENTS

### 7:30–11:30 a.m.

Refreshments  
112 Burke

### 8:00–11:30 a.m.

Senior Presentations  
Half-hour sessions including Q&A

### 11:45 a.m.–12:15 p.m.

Keynote Speaker  
Brock Allen '03  
Samuel P. "Pat" Black III Conference Center  
180 Burke

### 12:15–12:30 p.m.

Student and Sponsor Award Presentations  
Samuel P. "Pat" Black III Conference Center  
180 Burke

### Class Pictures Immediately Following Awards

Photos will be taken in 180 Burke. Assemble in the hallway outside of 180 Burke and wait to be called to the stage. Class photo times: ME 12:35, ECE 12:40, ECET 12:45, IBE 12:50, IE 12:55, MET 1:00, PLET 1:05, CSSE 1:10.

## KEYNOTE SPEAKER



**Brock Allen '03**  
Founder and Thinker, Tech Tank LLC

Allen is a graduate of Behrend's Plastics Engineering Technology program and owner of Tech Tank, an Erie-based injection molder that offers its clients a combination of turnkey business development, product development, and manufacturing services. He has a wide variety of experiences in plastics extrusion, medical device design, bioresorbable polymers, automation, and business

management, and is co-founder of a medical company that holds multiple patents for orthopedic devices.

Allen also is CTO (Cheese Technology Officer) of The Big Cheese food truck. He and his wife, Marina, have five children.

## ABOUT THE CONFERENCE

The Richard J. Fasenmyer Conference showcases the results of year-long engineering senior capstone projects supervised and managed by students and guided by their faculty and industry advisers. In many cases the projects address applied problems posed by industrial sponsors.

In 2005, the conference was named to honor the legacy of Richard J. Fasenmyer. An Alumni Fellow and Distinguished Alumnus of the University, Fasenmyer was the first alumnus of Penn State Behrend to donate \$1 million to the college.



**PennState**  
Behrend

# RICHARD J. FASENMYER ENGINEERING DESIGN CONFERENCE SENIOR PROJECTS

## Computer Science and Software Engineering

**8:00 a.m.**

***Ecological Momentary Assessment – 106 Burke***

Penn State Behrend, sponsor  
Kegan McCrea, Natalie Boczar, Ralph Eckert  
Dr. Patrick Byrnes, faculty adviser

***Industrial Cloud Computing – 104 Burke***

Process and Data Automation, sponsor  
Fernando Carrillo-Rodriguez, Justin Leone, Zohair Tharani  
Dr. Zhifeng Xiao, faculty adviser

**8:30 a.m.**

***Industrial Data Acquisition System – 104 Burke***

Process and Data Automation, sponsor  
Benjamin Terwilliger, Brett Spangler, Tyler Nutter  
Dr. Richard Zhao, faculty adviser

***Sensor Interface Automated Tester – 107 Burke***

Northrop Grumman Mission Systems, sponsor  
Ali Aldhumeen, Christian Dunn, Jordon Torunian  
Sanaz Takaghaj, faculty adviser

***Animation Tool to Assist in Learning Object Oriented Programming – 106 Burke***

Penn State Behrend, sponsor  
Brett Palmer, Morgan Farabaugh, Maryanne Stallworth  
Thomas Rossi, faculty adviser

***Using a Smart Phone to Measure Firmness of a Bed and Water Pressure – 103 Burke***

Tildstar, sponsor  
John Gaylor, Ripudaman Tomar, Stephen Novak  
Melanie Ford, faculty adviser

**9:00 a.m.**

***Radar/Video Speed Detector – 107 Burke***

Northrop Grumman Mission Systems, sponsor  
Ian Thompson, Kyle Godfrey, Mark Simon  
Dr. Patrick Byrnes, faculty adviser

***Bystander Intervention Computer Simulation – 106 Burke***

Penn State Behrend Psychology Program, sponsor  
Connor Shearer, Chase Starcher, Vincent Belluomini  
Dr. Jalaa Hoblos, faculty adviser

***Photo Food Nutrition Application – 103 Burke***

Erie Insurance, sponsor  
Jeremiah Krauss, Tyler Barlock, Timothy Kernohan  
Melanie Ford, faculty adviser

**9:00 a.m.**

***Implement IBM Watson AI Speech for VR Training – 206 Burke***

ImmersiMap, sponsor  
Evan Verbus, Julian Marin, Joshua Suttor  
Dr. Meng Su, faculty adviser

***AI-Powered Public Opinion Database from the Media – 104 Burke***

Penn State Behrend Computer Science and Software Engineering Programs, sponsor  
Nikos Koufos, Nicholas Brougher, Taylor Novotny, Zechariah Castillo  
Andrew Yu, faculty adviser

**9:30 a.m.**

***Penn State Canvas Alexa Application for Students – 104 Burke***

Penn State Behrend Computer Science and Software Engineering Programs, sponsor  
Christian Rosales, Nicholas Lindvay, Yehya Awad  
Dr. Ahmed Sammoud, faculty adviser

***Implement Gamification and Social Networking into a Mini Golf Scorecard App – 206 Burke***

HarborView Mini Golf, sponsor  
Brad Carlin, Michael Brink, Zachary Coon  
Dr. Wen-Li Wang, faculty adviser

**10:00 a.m.**

***College For Kids – 104 Burke***

Penn State Behrend Youth Education Outreach, sponsor  
Jacob Fickes, Kyle Ecklund, Mat Partin  
Thomas Rossi, faculty adviser

**10:30 a.m.**

***Drone 3D-Aerial Mapping for Business – 001 Burke***

Erie Insurance, sponsor  
Benjamin Williams, Jacob Scott, Kyle Burns  
Dr. Wen-Li Wang, faculty adviser

***Train Application Model – 202 Burke***

GE Transportation, sponsor  
Alec Slomski, Cole Trexler, Richard Schultz  
Dr. Ziyun Huang, faculty adviser

## Computer Science and Software Engineering, CONTINUED

**11:00 a.m.**

### ***Impacts of Autonomous Vehicles on Consumers and Insurance – 001 Burke***

Erie Insurance, sponsor  
Bradley Schneider, Ian Taylor, Sabuk Muiruri  
Dr. Naseem Ibrahim, faculty adviser

### ***Application to Provide Clarity and Mastery for Chemistry Students – 103 Burke***

Penn State Behrend, sponsor  
Andrew Kroner, Michael Jennewine, Shane Rumbaugh  
George Dudas, faculty adviser

**11:00 a.m.**

### ***Computer Simulated Interactive Child Abuse Screening Tool – 107 Burke***

Penn State Behrend, sponsor  
Christopher Morris, Joseph Craig, Rohith Sunder  
Dr. Richard Zhao, faculty adviser

## Electrical Engineering and Computer Engineering

**8:00 a.m.**

### ***RFID Identifier Tag Continuation –103 Burke***

Truck-Lite Co. LLC, sponsor  
Alexander Ford, Matthew Silloway, Justin Gorny  
Dr. George Walters, faculty adviser

### ***Door Control System for Remotely Operated Telepresence Robots – 204 Burke***

Penn State Behrend, sponsor  
Lucas Tarr, Jacob Coryea, Benjamin Wheeler  
Dr. Kyeiwaa Asare-Yeboah, faculty adviser

**9:00 a.m.**

### ***Energy Harvesting for Rotary Aircraft – 102 Burke***

Boeing Co., sponsor  
Joshua Mayer, Michael Paul, Mitchell Smithbauer  
Dr. Tom Hemminger, faculty adviser

**10:00 a.m.**

### ***Process and Machine Simulator for Testing PLC Programs – 105 Burke***

Penn State Behrend, sponsor  
Michael DeLeo, Colby Tarr  
Dr. George Walters, faculty adviser

**10:30 a.m.**

### ***IoT Applications: Cloud-based Computer Vision for Emotion Detection – 106 Burke***

Penn State Behrend School of Engineering, sponsor  
Karina Cuadrado, Kyle Jonas, Morayo Ogunsina  
Dr. Kyeiwaa Asare-Yeboah, faculty adviser

### ***Gator Electric Drive Conversion with A/C – 105 Burke***

Penn State Behrend, sponsor  
Aaron Kostiuk, Colin Kujan, Gordy Garrett, Jordan DeVault  
Dr. Mohammad Rasouli, faculty adviser

**10:30 a.m.**

### ***NASA Mining Robotic Competition-EE Team – 104 Burke***

Penn State Behrend Robotics Club, sponsor  
Andrew DelliPaoli, Samuel Mehalko, Nathan Miller,  
Christopher Mastrianno  
Robin Panda, faculty adviser

**11:00 a.m.**

### ***Implementing Group Theoretic Cryptography on an FPGA – 207 Burke***

SecureRF Corp., sponsor  
Gavin Fawcett, Samuel Clowes, Cameron Makin  
Dr. George Walters, faculty adviser

### ***IoT Applications: Building a Frequency Spectrum Observatory using Software Defined Radios – 106 Burke***

Penn State Behrend School of Engineering, sponsor  
Keith Powell, Nicholas Smith, Nadira Badrul  
Dr. Kyeiwaa Asare-Yeboah, faculty adviser

### ***NASA Mining Robotic Competition-Computer Team – 104 Burke***

Penn State Behrend Robotics Club, sponsor  
Robert Bevard, Aleksey Merkulov  
Robin Panda, faculty adviser

### ***Power Data Acquisition and Signal Conditioning – 105 Burke***

Penn State Behrend Electrical and Computer Engineering Programs, sponsor  
Andrew Gerber, Stephen Scalise, Faheem Khan  
Dr. Mohammad Rasouli, faculty adviser

## Electrical and Computer Engineering Technology

**8:00 a.m.**

### **Radar/Video Speed Detector – 107 Burke**

Northrop Grumman Mission Systems, sponsor  
Benjamin Javens, Zachary Mansfield  
David Loker, faculty adviser

### **Robotic Hamburger Cooker and Flipper System – 102 Burke**

Penn State Behrend Electrical and Computer Engineering Technology Program, sponsor  
Nickolas Dulaney, Peter Lapets  
Dr. Rasoul Milasi, faculty adviser

**9:00 a.m.**

### **Low Cost Industrial Data Acquisition Platform – 207 Burke**

Poseidon Systems, sponsor  
Christopher Barham, William Cirillo, Jerry Yu  
Stephen Strom, faculty adviser

**10:00 a.m.**

### **Graphical Interface for Debugging Propulsion Motor Control Systems – 202 Burke**

GE Transportation, sponsor  
Jarred Robinson, Gregory Sherwin  
Dr. Xinwei Niu, faculty adviser

## Interdisciplinary Business with Engineering Studies

**8:00 a.m.**

### **Undersea Fuel Storage – 001 Burke**

ARL, sponsor  
Kenneth Damits, Robert Quinn, Drew Sorenson  
Robert Patterson, faculty adviser

### **pi lab Phone App – 002 Burke**

pi lab, sponsor  
Case Alexander, Chase Wertz, Shelbi Daniels, Nathaniel Sharrow  
Dr. Liyong Sun, faculty adviser

**8:30 a.m.**

### **Insurance Technology – 001 Burke**

Erie Insurance, sponsor  
Hailey Burgess, Timothy Benedict, Ryan Maurer  
Richard Hedderick, faculty adviser

### **Rotomolding Polyethelene – 002 Burke**

Shell, sponsor  
Kira Chambers, Ryan Colagiovanni, Nicholas Porter  
Gary Smith, faculty adviser

**9:00 a.m.**

### **Foerster Shoe – 001 Burke**

Foerster, sponsor  
Matthew Dziadosz, Cameron Schwartz, Lawrence Voss  
Dr. Matthew Swinarski, faculty adviser

**9:00 a.m.**

### **Spherical Brakes – 002 Burke**

Sphere Brakes, sponsor  
Deni Pagni, Kenneth Dorn, Jonathan Dippold  
Dr. Victor Sohmen, faculty adviser

**9:30 a.m.**

### **Kent International Mobility Challenge – 001 Burke**

Kent Bicycles, sponsor  
Nick McKee, Olivia Purpura, Jeremy Brosius  
Carol Putman, faculty adviser

### **Cordless Garage – 002 Burke**

Stanley Black & Decker, sponsor  
Robert Postlewaite, Rena Gerber, Steven Brown  
Eric Robbins, faculty adviser

**10:00 a.m.**

### **Peanut Shell Press Board – 002 Burke**

Peanut Shell Board, sponsor  
Michael Fischer, Erik Meacock, Jacob Middleton  
Dr. James Fairbank, faculty adviser

### **Home Security – 002 Burke**

Stanley Black & Decker, sponsor  
Vincent DelleCurti, Mitchell Epstein, Claire Mallick  
Dr. Yohannes Haile, faculty adviser

## Industrial Engineering

**8:00 a.m.**

### **Ergonomically Designed Work Stations – 205 Burke**

SKF Aeroengine, sponsor  
Andrew Devarney, Leo Kim, Miyah Lata  
Dr. Faisal Aqlan, faculty adviser

**9:00 a.m.**

### **Ring Hardening Operations Optimization – 202 Burke**

Kaydon Bearings, sponsor  
Petar Dotchev, Emmanuel Makris, Ricardo Rodriguez  
Dr. Omar Ashour, faculty adviser



## Industrial Engineering, CONTINUED

**9:30 a.m.**

### **Finishing Process Automation – 102 Burke**

Urick Ductile Solutions, sponsor  
Ahmed Ahmed, Noah Esterline, Tessa Munshower  
Dr. Yohannes Haile, faculty adviser

**10:00 a.m.**

### **Bringing a Pattern Catalog System into the 21st Century – 203 Burke**

Duraloy Technologies Inc., sponsor  
Eric Baker, Christopher Lashway, Grant Pearsick  
Dr. Paul Lynch, faculty adviser

### **Implementing Core Storage Units into Current Floor Plan – 102 Burke**

Urick Foundry Co., sponsor  
Hayden Downey, Devon Geib, Amber Nolf  
Dr. Rick Huang, faculty adviser

**10:30 a.m.**

### **Analysis of Clinical Patient Flow and Wait Times – 207 Burke**

Shriners Hospitals for Children–Erie, sponsor  
Benjamin Clark, Emily Miksa, Mitchell Struble  
Dr. Omar Ashour, faculty adviser

### **Machine Shop Scheduling – 203 Burke**

Erie Bronze & Aluminum, sponsor  
Branson Elliott, Jessica Wyckoff, Mert Ulusoy  
Dr. Paul Lynch, faculty adviser

## Mechanical Engineering

**8:00 a.m.**

### **International Aerial Robotics Competition-Mechanical Team – 105 Burke**

Penn State Behrend Robotics Club, sponsor  
Jangik Jin, Noah Kunst, Matthew Makarczyk, Nathan Wagner  
Brian Lani, faculty adviser

### **Stick-Slip Phenomena in Slow Rotation – 202 Burke**

Kaydon Bearings, sponsor  
Joshua Kassimatis, Conor Kessy, Ryan Saunders, Timothy Suttor  
Dr. Baiou Shi, faculty adviser

### **Ultrasonic Transducer and Accessory Design and Optimization – 206 Burke**

Med-Sonics Corp., sponsor  
Kaitlin Hulings, Maxwell Livingood, Brandon McLean,  
Meredith Sander  
Dr. Elisa Wu, faculty adviser

**8:30 a.m.**

### **Polyethylene Pipe Cutter – 207 Burke**

Pipeline Equipment Resources Co. LLC, sponsor  
Kathryn DeAngelo, Brandon DeBrakeleer, Edward Heubel,  
Andrew Wells  
Dr. Chetan Nikhare, faculty adviser

### **Alternative Ring Hardening – 202 Burke**

Kaydon Bearings, sponsor  
Nicole Boyer, Tyler Herrmann, Mark Patterson, Amanda Ray  
Jill Johnson, faculty adviser

### **MATE Underwater ROV Competition-Mechanical Team – 105 Burke**

Penn State Behrend Robotics Club, sponsor  
Shaun Craig, Emily McAuley, Angelica Miller, Brandon Stitt  
Brian Lani, faculty adviser

**8:30 a.m.**

### **Single Ball Lapper – 205 Burke**

SKF Aeroengine, sponsor  
Ryan Louder, Mario Rombold, Garrett Traggiai, Joseph Welch  
Dr. Hamid Sanei, faculty adviser

**9:00 a.m.**

### **National Robotics League-BattleBots – 105 Burke**

Penn State Behrend Robotics Club, sponsor  
Brock Grabiak, Logan Kalina, Gabriel Kim, Landon Mix  
Dr. Vishwanath Somashekar, faculty adviser

### **Bearing Analysis Tools – 205 Burke**

SKF Aeroengine, sponsor  
Leah Berry, Nicole Chemini, Paul Lutz, William Snyder  
Dr. Samaneh Fooladi, faculty adviser

### **Energy Harvesting for Rotary Wing Applications – 102 Burke**

Boeing Co., sponsor  
Bradley Pier, Corey Supel  
Dr. William Lasher and Dr. Charlotte de Vries, faculty advisers

**9:30 a.m.**

### **NASA Mining Robotic Competition-ME Team – 105 Burke**

Penn State Behrend Robotics Club, sponsor  
Kristin Capenos, Andrew Hvizdzak, Anthony Malone,  
Brent McFarland  
Dr. Elisa Wu, faculty adviser

### **Pipe Penetration Seal Design for Heat Recovery Steam Generators – 106 Burke**

CMI Energy, sponsor  
Mallory Collins, Tyler Dulaney, Zachary Lash, Mariah Penland  
Jill Johnson, faculty adviser

## Mechanical Engineering, CONTINUED

**9:30 a.m.**

**Wheelchair Back Mounting Hardware – 207 Burke**

PRM Inc., sponsor  
Daniel Ament, Christian Bostich, Elizabeth Gaughan,  
Karam Ghazalah  
Dr. Baiou Shi, faculty adviser

**Automated Direct Product Marking System – 202 Burke**

GE Transportation, sponsor  
Andrew Arndt, Bryan Hansen, Adam Hasson, Andrew Wilkinson  
Dr. Barukyah Shaparenko, faculty adviser

**Plastic Nut Carrier for Engine Flywheel Coupling – 107 Burke**

LORD Corporation, sponsor  
Alex Burnett, Conner Coppersmith, Heidi Langhorst,  
John Olevnik  
Dean Lewis, faculty adviser

**Adaptive Headlight Module Design – 103 Burke**

Truck-Lite Co. LLC, sponsor  
Courtney Cole, Randall Doles, Andrew Lewis, Amanda Marley  
Peter Ingram, faculty adviser

**Polymer Impeller Phase 02B – 204 Burke**

Dresser-Rand/Siemens, sponsor  
Dustin Cowan, Jordan Edwards, Brian Holder,  
Zachary Westover  
Dr. Jiawei Gong, faculty adviser

**10:00 a.m.**

**Design and Do a Cost Analysis for an A/C Unit for a John Deere Gator – 103 Burke**

Penn State Behrend, sponsor  
Frank Gardone, Giulio Gimiliano, Kiel Light, Joshua Servey  
Dr. Vishwanath Somashekar, faculty adviser

**Heat Recovery Steam Generator Design Life Optimization – 106 Burke**

CMI Energy, sponsor  
Heston Briant, Zachary Campbell, Ryan Hamm, Timothy Zikos  
Jill Johnson, faculty adviser

**Adjustable Diffuser – 204 Burke**

Dresser-Rand/Siemens, sponsor  
Trevor Flinn, Madison Leasure, Emily Mogel, Matthew Tamski  
Dr. David Beevers, faculty adviser

**10:00 a.m.**

**Heat Affected Zone and Recast Layer in Typical Aerospace Materials when Utilizing Laser Cutting Methods – 107 Burke**

LORD Corporation, sponsor  
Jesse Ambrose, Justin Gregory, Amanda Henry, Grant Lange  
Dr. Jun Zhou, faculty adviser

**10:30 a.m.**

**John Deere Gator Sound Reduction – 103 Burke**

Penn State Behrend, sponsor  
Andrew Bessetti, Maxwell Magera, Jacob Migitsch,  
Benjamin Murphy  
Dr. Jiawei Gong, faculty adviser

**Standardized Transparent Armor – 206 Burke**

Ibis Tek Inc., sponsor  
Frank Ambroselli, Matthew Heider, John Nolan  
Dr. Hamid Sanei, faculty adviser

**Effects of Repetitive Shot Peening on Key Material Properties for Aerospace Applications – 107 Burke**

LORD Corporation, sponsor  
Kerrigan Burrell, Isaac Burton, Aleksey Checkeye, Mitchel Grossman  
Dr. Chetan Nikhare, faculty adviser

**Polymer Impeller Phase 2A – 204 Burke**

Dresser-Rand/Siemens, sponsor  
Hunter Andree, Christopher Beamesderfer, Shane MacMahon,  
Blaine Santi  
Brian Lani, faculty adviser

**11:00 a.m.**

**12" Miter Saw – 205 Burke**

Stanley Black & Decker, sponsor  
Joseph Cornell, Dominic Fontaine, Gregory Kinzler,  
Benjamin Sheldon  
Dr. Jun Zhou, faculty adviser

**Thermal Expansion Compensation 3D Print – 202 Burke**

General Electric, sponsor  
Tyler Altmire, Spencer Anderson, Collin Berdis, Christopher Davis  
Dr. David Beevers, faculty adviser

**Heat Treat Quench Handling Optimization – 203 Burke**

Ellwood Crankshaft Group, sponsor  
Shayne Brody, Ryan Calderwood, Cameron Hennon,  
Cody Reinstadtler  
Dr. Vishwanath Somashekar, faculty adviser

## Mechanical Engineering Technology

**8:00 a.m.**

**Finite Element Analysis of a CNC Lathe – 207 Burke**

Penn State Behrend, sponsor  
Keith Spehalski, Jared McDowell, Adam Smith  
Fred Nitterright, faculty adviser

**8:00 a.m.**

**ECS Rotor Test Stand Design – 203 Burke**

Eriez Manufacturing Co., sponsor  
Caleb Moyer, William Rahenkamp, David Fredley  
Shannon Sweeney, faculty adviser

## Mechanical Engineering Technology, CONTINUED

**8:30 a.m.**

### ***Vibration Characterization and Control of an Air Compressor – 204 Burke***

Penn State Behrend, sponsor  
Robert Monteparte, Dylan Mort, Charles Burdick  
Phil Jones, faculty adviser

### ***Improve Cantilever Arm Design for 80-Inch Rare Earth Roll – 203 Burke***

Eriez Manufacturing Co., sponsor  
Jeffery Burns, Matthew Szerszen, Daejshon Norton  
Edward Evans, faculty adviser

### ***Recirculating System for Predator-Prey Experiments – 102 Burke***

Penn State Behrend Biology Program, sponsor  
Edward Owens, Raymond Pituch, Khem Pandey  
Dr. David Clippinger, faculty adviser

**9:00 a.m.**

### ***Eriez Magnetics 48" Wet Drum Analysis – 203 Burke***

Eriez Manufacturing Co., sponsor  
Andre Johnson, Nicholas Huggler, Benjamin Miller  
Mike Lobaugh, faculty adviser

### ***Water Cooling System for Toxicity Testing – 204 Burke***

Penn State Behrend, sponsor  
Edward Laird, Joseph Reynolds, Zachery Hillhouse  
Bob Edwards, faculty adviser

**9:30 a.m.**

### ***Eriez Magnetics Metal Detector IP69K – 203 Burke***

Eriez Manufacturing Co., sponsor  
Alex Duchinni, Michael Manno, Brett Johnson  
Michael Lobaugh, faculty adviser

**10:30 a.m.**

### ***Load Fixture Designs – 102 Burke***

Zurn Industries, sponsor  
Shawn Mehaffey, Jonathan Klase, Robert Holder  
Dr. Ihab Ragai, faculty adviser

**11:00 a.m.**

### ***Pressure Testing Manifold – 102 Burke***

Zurn Industries, sponsor  
Douglas Grubbs III, Timothy Dietz, Anthony Ramella  
Dr. Leo Sun, faculty adviser

### ***Polymer Impeller Phase 02C – 204 Burke***

Dresser-Rand/Siemens, sponsor  
Daniel Wiesen, Cameron Crow, Zachary Held  
Dr. Nancy Study, faculty adviser

## Plastics Engineering Technology

**8:30 a.m.**

### ***Effect of Aramid Short Cut Fibers and Pulps on Thermoplastics – 206 Burke***

Finite Fiber, sponsor  
Richard Buletko, Scott Sada  
Dr. Alicyn Rhoades, faculty adviser

**9:00 a.m.**

### ***Ski Binding Research Project – 208 Burke***

Penn State Behrend, sponsor  
Chris Vrana, Brian Fennell  
Jonathan Meckley, faculty adviser

**9:30 a.m.**

### ***Flow-Line Study – 205 Burke***

SPE Detroit Section-TPO Conference Committee, sponsor  
Jacob Tingley, Robert McMaster  
Brad Johnson, faculty adviser

### ***FTIR Microscopy of Composite Interfaces – 208 Burke***

Penn State Behrend, sponsor  
Erik Steinmetz, Justin Foreman  
Dr. Alicyn Rhoades, faculty adviser

**10:00 a.m.**

### ***Power Drill Auto Screw Feed – 206 Burke***

Jason Wokutch, sponsor  
Curtis Boggs, Caleb Kiefer  
Jason Williams, faculty adviser

### ***Weld/Meld Line Study – 205 Burke***

SPE Detroit Section-TPO Conference Committee, sponsor  
Collin Gilarno, Hunter Hewett  
Brad Johnson, faculty adviser

### ***Thermal, Mechanical, and Spectroscopic Evaluation of Ultrasonic Molded PLA – 208 Burke***

Penn State Behrend, sponsor  
Molly Joyce, Randy Kincel  
Dr. Israd Jaafar, faculty adviser

**10:30 a.m.**

### ***Low Warp Material Analysis – 205 Burke***

Delphi, sponsor  
Dalton Scott, Zeke Kljucaric  
Gary Smith, faculty adviser

**11:00 a.m.**

### ***Overmolded Promotional Tumbler – 206 Burke***

Penn State Behrend, sponsor  
Kyle Kozura, Anthony Crivelli  
Jason Williams, faculty adviser

# A BRIEF HISTORY OF THE RICHARD J. FASENMYER ENGINEERING DESIGN CONFERENCE

*The first public presentation of senior design projects took place on Saturday, April 22, 1995 in the Hammermill and Fasenmyer buildings on the west end of campus. Seventy-nine students participated, presenting thirty-one projects.*

Seventeen industry sponsors supported projects presented at the first conference. We gratefully acknowledge these organizations' early commitment to Penn State Behrend's engineering students:

Autoclave Engineers Inc.  
Bliley Electric  
CONAIR Inc.  
Contine Corp.  
Copes-Vulcan Inc.  
Erie Press Inc.  
expERIENCE Children's Museum  
General Electric Co.  
Hamot Medical Center  
Huber Reversible Fan Co.  
Hydro-Pac  
IBM  
LORD Corporation  
Titan Tool  
Weld Tooling Inc.  
Werner Co.  
ZURN Industries

In 2005, the conference was named to honor the legacy of Richard J. Fasenmyer. An Alumni Fellow and Distinguished Alumnus of the University, Dick Fasenmyer was the first Penn State Behrend graduate to donate \$1 million to the college.

From its beginning, the conference has had an exceptional track record of distinguished keynote speakers. Previous keynote addresses were given by:

## 1995

### **Thomas Sorovetz**

Chrysler Rapid Prototyping Lab  
Jeep and Truck Engineering Facility

## 1996

### **Dr. Henry Stone**

Jet Propulsion Laboratory  
California Institute of Technology

## 1997

### **Frank Zaffino**

Equipment Manufacturing  
Kodak

## 1998

### **P.C. "Hoop" Roche '96H**

President  
Erie Plastics

## 1999

### **John Swanson**

Founder  
ANSYS

## 2000

### **Dr. James Pawelczyk**

Payload Specialist, U.S.  
Space Shuttle Columbia  
NASA

## 2001

### **James Davis**

President and CEO  
Aalborg Industries Inc.

## 2002

### **George Jamesson**

Senior Vice President  
Engineering  
Fisher-Price

## 2003

### **Michael Chesley**

Plant Manager  
Dana Brake Parts

## 2004

### **Thomas Lennox**

CEO  
BTC Solutions Inc.

## 2005

### **Kenneth Schultz**

Engineering Manager  
Lockheed Martin

## 2006

### **Lane Miller**

Director of Mechanical and  
Process Technology  
LORD Corporation

## 2007

### **John Dineen**

President and CEO  
GE Rail

## 2008

### **H. Allan Kidd**

Director  
Emerging Technologies  
Dresser-Rand

## 2009

### **Dr. Michael Mankosa**

Vice President, Operations  
Eriez Magnetics

## 2010

### **John Golombeck**

Director  
Systems Engineering  
Northrop Grumman  
Corporation

## 2011

### **Salvatore (Sam) Dedola**

Director, Sterile Disposables  
Manufacturing Strategy  
Medrad Inc.

## 2012

### **Jim Ertl**

Vice President and General  
Manager  
Measurements Solutions  
FMC Technologies Inc.

## 2013

### **John Twerdok**

Digital Simulation Products  
Autodesk

## 2014

### **George Dodworth '99**

Owner  
Lightwave International

## 2015

### **Greg Zimmerman '02**

Director, Global Application  
Engineering  
SKF Aerospace

## 2016

### **Mary (Good) Lawrence '01**

Flight Director  
International Space Station  
NASA

## 2017

### **Tiffany Beers '02**

Senior Innovator  
Nike

## 2018

### **Brian Kupchella '90**

President and CEO  
Truck-Lite

If your company is interested in sponsoring a Senior Capstone Project or you'd like more information about industry partnerships, visit [behrend.psu.edu/capstone](http://behrend.psu.edu/capstone).