

Richard J. Fasenmyer Engineering Design Conference

April 29, 2006

Schedule of Events

7:30	Refreshments (Roche Hall)
8:00-Noon	Senior Presentations – half hour sessions
12:15-1:00	Keynote Speaker
1:00-1:15	Class Photos
Following Class Photos	Picnic Lunch (Roche Hall)

KEYNOTE SPEAKER



LANE R. MILLER, PH.D.
**Director, Mechanical and
Process Technology
LORD CORPORATION**

Lane R. Miller, director of Mechanical and Process Technology at Lord Corporation in Cary, North Carolina, is the featured speaker at the 2006 Fasenmyer Design Conference. Miller started at Lord in Erie in 1979 and moved to the Cary, North Carolina campus in 1982. He now directs 170 engineers, scientists, and technicians focused on the development of new products for reducing noise and vibration, motion accommodation, and process development.

A 1979 B.S.M.E. graduate from the University of Pittsburgh at Johnstown, Pennsylvania, Miller received the Master's of Engineering and Engineering Science from Penn State Behrend in 1982. He received the Ph.D. in Mechanical Engineering from North Carolina State University in Raleigh, in 1988.

Miller's career at Lord Corporation has focused on the development of new technology and products in the fields of robotics, semi-active vehicle suspensions, and passive and active control of noise and vibration. His area of expertise is vibrations, modeling, design, electro-mechanical devices, and non-linear and adaptive controls, and he has published and presented more than twenty papers in these areas. Miller has also received twelve patents and is a member of the ASME and AHS.

PENNSYLVANIA STATE UNIVERSITY



Erie The Behrend
College

Computer Science

- 10:00 – 10:30 [EnVision: Spatial Courseware](#)
S-114 Robert Budden, Jonathan Hika
- 10:30 – 11:00 [Representation of Abstract Data Structures \(R.O.A.D.S\)](#)
S-114 Paul Corbett, Katie Geiger, Daniel Sweet
- 11:00 – 11:30 [Geo-Science Research Station \(GRS\)](#)
S-114 Daniel Domanski, Michael Sansone, Logan Stack
- 11:30 – 12:00 [Hamot Employee Evaluation System](#)
S-114 Jerode Habas

Electrical, Computer and Software Engineering

- 8:30 – 9:00 [Interactive Bicycling Exercise Game](#)
N-166 David Belasco, Scott Crossley, Tyler Nelson, Robert Ramer
- 9:00 – 9:30 [Great Lakes Radar Surveillance Software](#)
N-166 Joseph Davis, Scott Jackson, Ryan Walker, Keith Walters
- 9:00 – 9:30 [Software System for RNA Image Processing](#)
N-167 Sterling Caler, Alfred Heck, Brian Steen
- 9:30 – 10:00 [Lockheed Martin – Vibration Cancellation System](#)
N-166 Christopher Fildes, Steven Geer, Matthew Gabriel, Xiaonan Zang
- 9:30 – 10:00 [Home Security System](#)
N-167 Catherine Epolito, Matthew Merranko, Robert Offutt
- 10:00 – 10:30 [Impact Technologies – Enhanced Oil Sensor System](#)
N-166 Brian Lezanic, Nicole Novitsky, Jillian Wooldridge
- 10:00 – 10:30 [Climate Controlled Bird House](#)
N-167 Jared Kaib, Michael Shore, Lance Young, Adam Elliott
- 10:30 – 11:00 [Tactile Guidance for the Visually Impaired](#)
N-166 Ryan Andrus, Luis Catoni, Freddy Chiu, Carl Schnur
- 10:30 – 11:00 [A Personal Affordable Oscilloscope](#)
N-167 Toan Doan, Chun-Wai Lin, Thang Nguyen, Cedric Pinder
- 11:00 – 11:30 [Emerson Process Control – Water Level Monitor](#)
N-166 Dewain Murray, Luke Pietroforte, Shane Rock, Gary Rosatelli
- 11:00 – 11:30 [A Brain Wave Controlled Computer Peripheral](#)
N-167 Walter Diethorn, Michael McGrath, Brian Nypaver, Jeffrey Rimko
- 11:30 – 12:00 [Low Cost Flywheel for High School Physics Classes](#)
N-166 Ryan Chase, Kasey Corbin, Robert Lutton, Jeffrey Wolff
- 11:30 – 12:00 [A USB File Transfer Device](#)
N-167 Dennis Darak, Weusi Erskine, Michael Holland, Jesse Scott

Electrical Engineering Technology

- 9:00 – 9:30 [Motor Drive](#)
N-169 Andrew Zilla
- 9:30 – 10:00 [Solar Panel Tracker](#)
N-168 Isaac Aunkst
- 9:30 – 10:00 [SRL Testing Machine](#)
N-169 Mark Kubiak, Matthew Sienicki
- 10:00 – 10:30 [K-12 Classroom Kits](#)
N-168 William Cutter, Timothy Heisler
- 10:00 – 10:30 [Electric Go-Kart](#)
N-169 Alan Owens
- 10:30 – 11:00 [Store Room Monitoring using RFID](#)
N-168 Brian Lee, Andrew Marano
- 10:30 – 11:00 [Wireless Remote Monitoring](#)
N-169 Michael Zielinski
- 11:00 – 11:30 [Memory Expansion Board Test Fixture](#)
N-168 Jason Donnell
- 11:00 – 11:30 [Wireless Network](#)
N-169 Jonathan Glendinning, Brian Trapp
- 11:30 – 12:00 [FishMate Auto Feeder](#)
N-168 Sean Salem, Jediah Smith
- 11:30 – 12:00 [Biomedical Measurement System](#)
N-169 Kenneth Gray, Brian Toler

Mechanical Engineering

- 9:00 – 9:30 [Strip Cooler Rig](#)
N-170 David Hoffman, Christopher McLaughlin, Joseph Persang, Jonathan Romanelli
- 9:00 – 9:30 [Lead Lag Damper Redesign](#)
N-171 Stephen Bytof, Andrew Hein, Christopher Kuhn, Nicholas McEldowney
- 9:30 – 10:00 [Engine Mount Redesign](#)
N-170 Patrick McLaughlin, Brian Roch
- 9:30 – 10:00 [SAE SuperMileage Vehicle Dynamometer](#)
N-171 Eric Blood, David Nyzio, Keith Peoppel, Adam Reardon

Mechanical Engineering (Continued)

- 10:00 – 10:30 **N-170** [Design and Optimization of Bushing for Automotive Sway Bar](#)
Russell Porterfield, Michelangelo Vaccaro, Michael Weismiller, Kyle Zimmerman
- 10:00 – 10:30 **N-171** [Automated Material Handling](#)
Jacob Clarke, James Connell, Carl Ross, Brian Rutledge
- 10:30 – 11:00 **N-170** [Gas Turbine Blade Design](#)
Amanda Evans, Travis Latchaw, Terence Musho, Zachary Sadowski
- 10:30 – 11:00 **N-171** [Injector Spring Mounting](#)
Lisa Buziewicz, Daniel Martin, Timothy Perkins, Joseph Piazza
- 11:00 – 11:30 **N-170** [Turbine Meter Cost Reduction](#)
Kim Bradick, Edward Gindlesperger, Adam Neff, Dustin Yautz
- 11:00 – 11:30 **N-171** [Seaway Composite Panel](#)
Kyle Brocius, Jason Lawrence, Joshua Saunders, Devin Stauffer
- 11:30 – 12:00 **N-170** [Rail Power Battery Tray Cost Reduction](#)
Mark Cipriani, Shawn Stahlman, Jeremy Stokes, Robert Wnek
- 11:30 – 12:00 **N-171** [Self-Enclosed Ampule Breaker](#)
William Fader, John Foerstner, Adam Hovanec, Timothy Johnston

Mechanical Engineering Technology

- 8:30 – 9:00 **N-165** [Study of Railroad Knuckle Pin](#)
(Closed Session)
Darrell Pearson, Stephen Giddings
- 9:00 – 9:30 **N-165** [Study of Vibration Suppression of Class 8 Truck Mirror](#)
Jeffrey Heintz, Bradley Reiter
- 9:30 – 10:00 **N-165** [Truck-Lite LED Thermal Study](#)
Frederick Busse, Joshua Bordon
- 10:00 – 10:30 **N-165** [Flow Analysis of Magnetic Trap](#)
Alan Hopperstead, Thomas Kuhn
- 10:30 – 11:00 **N-165** [Analysis of Brackets for a Line-Array Speaker System](#)
Brandon Good
- 11:00 – 11:30 **N-165** [Composite Construction, HMV](#)
Kenneth Hoovler, Michael Jarzowski, Donald Wetsell
- 11:30 – 12:00 **N-165** [SRL Automated Test Machine](#)
Matthew Kirkpatrick, Anthony Kordecki, Adam Wielobob

Plastics Engineering Technology

- 8:00 – 8:30 **H-143** [The Affect of Accelerated Aging and Physical Aging on Molecular Weight in Medical Polymers](#)
Travis Hunter, Joshua Sindlinger
- 8:00 – 8:30 **H-144** [Study of Cooling Line Location and Flow Rates in an Injection Mold](#)
Benton Lewis, Luke Miller
- 8:30 – 9:00 **H-143** [Investigating How Stress will Affect the Weatherability of Plastic Materials](#)
Michelle Newland, Erica Smith
- 8:30 – 9:00 **H-144** [Utilizing Gas-Assist for Hollow Elastomer Parts](#)
Scott Colgan
- 9:00 – 9:30 **H-143** [Effect of Overflow Tabs on Affected Area and Dimensional Stability](#)
Joshua Glessner, Trevor Thorwart
- 9:00 – 9:30 **H-144** [Duplicating an Injection Molding Process using Cavity Pressure Curves](#)
Andrew Meier
- 9:30 – 10:00 **H-143** [Evaluation of Temperature Effects on Blow Molding Pinch-Off Strength](#)
Andrew Lesser, Benjamin McElhaney
- 9:30 – 10:00 **H-144** [Laminar Flow Study of a Two-Shot Injection Mold](#)
Shawn Gedman
- 9:30 – 10:00 **S114** [The Effects of Orientation on Film Permeability](#)
John Williams, Laura Stuart
- 10:00 – 10:30 **H-143** [Optimization of Ovalized Tooling Using Computer-Aided Engineering](#)
Dane Taylor
- 10:00 – 10:30 **H-144** [Evaluating Corner Effects on Shear Induced Imbalances in Injection Molding](#)
Joshua Hoover, Raymond McKee
- 10:30 – 11:00 **H-143** [Characterizing Surface Orientation caused by Shear-Induced Flow](#)
Luke Kwisnek
- 10:30 – 11:00 **H-144** [Controlling Intra-Cavity Gas Distribution in Gas Assist Injection](#)
Matthew Harp, Christopher Sandieson
- 11:00 – 11:30 **H-143** [Silane Crosslinking of Polypropylene Copolymers](#)
Patrick Slater
- 11:00 – 11:30 **H-144** [Controlling Molded Part Warpage through Melt Rotation](#)
Joseph Huegel, Mason Myers
- 11:30 – 12:00 **H-143** [Effects of Shear-Induced Flow on Impact Strength](#)
Matthew Jackson
- 11:30 – 12:00 **H-144** [Optimizing Runner Geometry and Simulation Evaluation for TPEs \(Closed Session\)](#)
Raymond McKee, Christopher Sandieson

FACULTY ADVISORS

Computer Science

Charles Burchard
Ronald McCarty
Kevin Norton
Gregor Olšavský
Gary Walker

Electrical, Computer & Software Engineering

YoungJoon Byun
Chris Coulston
Ludek Crha
Ralph Ford
Shouling He
Thomas Hemminger
Sudarshan Nelatury
Wen-Li Wang
Xuping Xu

Mechanical Engineering

Amir Khalilollahi
William Lasher
Oladipo Onipede
John Roth
James Sonnenmeier
Russell Warley
Yi Wu

Electrical Engineering Technology

Robert Gray
Ronald Krahe
Roger Kuntz
David Loker
Robert Weissbach

Mechanical Engineering Technology

Thomas Briselden
Robert Evans
Richard Englund
Kenneth Fisher
David Forsman
Kathryn Holliday-Darr
David Johnson
Mike Lobaugh
Robert Michael
Frederick Nitterright
David Roth
Shannon Sweeney

Plastics Engineering

John Beaumont
Martin Dropik
Bradley Johnson
Paul Koch
Jonathan Meckley
Brian Young

SPONSORS

A-Line Acoustics, Corry, Pennsylvania
Advanced Elastomer Systems, Akron, Ohio
Bacou-Dalloz, Franklin, Pennsylvania
Cardinal Health, Creedmoor, North Carolina
CladMetals, Canonsburg, Pennsylvania
Corry Rubber Corporation, Corry, Pennsylvania
Cummins Industry, Lakewood, New York
Dresser-Rand, Olean, New York
Eriez Magnetics, Erie, Pennsylvania
Hamot Hospital, Erie, Pennsylvania
Ingersoll-Rand, Portsmouth, New Hampshire
Institute of Electrical and Electronic Engineers
(IEEE), Erie Section, Erie, Pennsylvania
Lockheed-Martin, Manassas, Virginia

Lord Corporation, Erie, Pennsylvania
McConway & Torley Corporation, Pittsburgh,
Pennsylvania
NASA
Precision Metal Products Inc., Denver,
Pennsylvania
Rail Power Inc., Erie, Pennsylvania
Respironics, Murrysville, Pennsylvania
SAE
Seaway Manufacturing, Erie, Pennsylvania
Truck-Lite Corporation, Falconer, New York
Urick Foundry, Division of Ridge Tool
Manufacturing Co., Erie, Pennsylvania
US Steel Corporation, Dravosburg,
Pennsylvania

This publication is available in alternative media upon request.
Penn State is committed to affirmative action, equal opportunity, and the diversity of its workforce.

Penn State encourages persons with disabilities to participate in its programs and activities. If you anticipate needing any type of accommodations or have questions about the physical access provided, please contact Patty Lanich at 814-898-6133 in advance of your participation or visit. U.Ed.EBO 06-330