

School of Engineering Research Interests (short)

School Administration

Ralph M. Ford, Director and Professor

Ralph Ford obtained a B.S. in Electrical Engineering from Clarkson University and both the M.S. and Ph. D. in Electrical Engineering from the University of Arizona. Prior to joining Penn State Behrend, he worked as a Senior Associate Engineer for IBM Corporation. His research expertise is in image processing, digital signal processing, and machine vision for industrial applications. Dr. Ford worked on projects in the areas of semiconductor inspection, medical imaging, fluid flow analysis, video analysis, and plastic container inspection.

Kenneth J. Fisher, Associate Director for Research and Technology Transfer and Professor of Engineering

Ken Fisher obtained a B.S. degree in Mechanical Engineering from Gannon University and the M.S. in Mechanical Engineering from Purdue. Prior to joining Penn State Behrend, he worked as a member of the technical staff at Bell Laboratories and as Director of Engineering at the American Sterilizer Co. His research expertise is in mechanical systems design with application to surgical and infection control systems. He worked on projects in the areas of surgical illumination, surgical table, and hospital sterilization systems. Mr. Fisher is recognized as an expert on surgical lighting safety and has ten patents related to his work.

Electrical and Computer Engineering Technology (ECET)

David R. Loker, Program Chair and Associate Professor of Engineering

David R. Loker received the B.E.E. degree from Gannon University, Erie, PA, in 1984, and the M.S.E.E. degree from Syracuse University, Syracuse, NY, in 1986. Prior to joining Penn State Behrend, he worked as a design engineer at General Electric Company, AESD, Utica, NY, in the design and development of military communication systems. Since joining Penn State Behrend in 1988, his research interests have included data acquisition, signal processing, and measurement and instrumentation systems.

Ronald P. Krahe, P.E., Associate Professor of Engineering

Ron Krahe received his B.S.E.E. from Case Institute of Technology, M.S.E.E. from Gannon University, and M.B.A. from University of Utah. He is a Registered Professional Engineer in Pennsylvania. He has over 30 years industrial experience in product design and development related to embedded controls, control networks, sensors and instrumentation. These include medical and pharmaceutical autoclaves and chemical gas sterilizers, miniature low-power ultrasonic generator for the JPL/NASA Mars mission, battery-powered remote-sensing automatic flush valve, DSP and microcontroller based metal detectors, and gas meter temperature compensator. His research interests include mechatronics, embedded controls, sensors and signal processing.

Roger A. Kuntz, P.E., Instructor of Engineering

Roger A. Kuntz obtained a B.S. in Electrical Engineering from The Pennsylvania State University. Prior to joining Penn State Behrend, he worked as a Senior Product Service Engineer/Customer School Administrator for General Electric Co. His interests are programmable logic controls, motor control drives, and process control systems. He has worked on projects in the areas of locomotive propulsion fault analysis and logic control programming.

Ralph Sprang, Lecturer in Engineering

Ralph Sprang joined the faculty of Penn State Erie, The Behrend College, and the School of Engineering in Fall 2009. Mr. Sprang holds a B.S. in computer engineering from the Ohio State University, the M.S. in electrical engineering from The Johns Hopkins University, and is presently working on the Ph.D. at the University of Pittsburgh. He comes to Penn State Behrend with more than twenty years experience in a range of industries that have provided him with a strong background in microprocessors, digital electronics, field programmable gate Arrays (FPGA), computer architecture, and software.

Robert S. Weissbach, P.E., Associate Professor of Engineering

Robert Weissbach obtained a B.S. degree from the University of Florida, an M.S. degree from Rensselaer Polytechnic Institute, and a Ph.D. from Arizona State University, all in electrical engineering. Prior to pursuing his doctoral work, he worked for six years at General Dynamics Electric Boat Division, primarily on the design and construction of submarine turbine generator sets. His research expertise is in power electronics, flywheel energy storage systems, and power systems.

Electrical, Computer, and Software Engineering (ECSE)

Chris S. Coulston, Program Chair and Associate Professor of Electrical and Computer Engineering

Chris Coulston received his B.S and M.S. in Computer Engineering from the Pennsylvania State University in 1991 and 1994 respectively, and his Ph.D. in computer science and engineering from the Pennsylvania State University in 1999. His research interests are in computational intelligence, theoretical computer science and artificial life.

Vibhuti Dave, Assistant Professor of Electrical and Computer Engineering

Vibhuti Dave obtained a B.S. in electronics and communication from Nirma Institute of Technology, Gujarat University, India in 2000, the M.S. in Electrical Engineering and the Ph.D. both from Illinois Institute of Technology, Chicago, IL in 2002 and 2007 respectively. While studying for her Ph.D. she worked as a graduate teaching assistant, graduate research assistant, and web developer at Illinois Institute of Technology. She worked as an assembly language programmer at P.M. Electronics, in India where she designed a user friendly interface to detect power supply variation on a PCB utilized for the Indian Space Research Organization. Dr. Dave was hired by Penn State Behrend in August 2007. Her research focus areas are in computer arithmetic and computer organization and application specific integrated circuits (ASIC) design.

Xiaocong (Simon) Fan, Assistant Professor of Electrical and Computer Engineering

Xiaocong Fan obtained the master of engineering degree from Zhengzhou University of Technology with a specialized focus in computer software in 1996 and the Ph.D. from Nanning University with a focus in software and theory in 1999; both universities in the People's Republic of China. Dr. Fan was hired at Penn State Behrend in 2007 and taught at Penn State University, University Park in 2005 and 2006. He has published over 20 refereed journal and conference papers and worked as a post-doctoral researcher at TurkuCentre for computer Science, The Abo Akademi University, Finland from 2000-2002 and at the Pennsylvania State University, University Park, PA from 2002-2007. His research interests are in multi-agent systems, human-centric computing, cognitive modeling, machine learning, and agent-oriented software engineering.

Shouling He, Assistant Professor of Electrical and Computer Engineering

Shouling He obtained a Ph.D. in Electrical Engineering from the Erlangen-Nuremberg University, Germany, in 2001. Prior to studying towards her Ph.D. degree, she had worked as a Senior Engineer in the aerospace industry in China, where she was engaged in developing hardware integrated aircraft simulation, software verification and validation, and control system design. She joined Penn State Behrend in 2002. Her current research interest is in the area of microprocessor-based intelligent control with application in bioengineering and robots, neural computation.

Thomas L. Hemminger, Professor of Electrical and Computer Engineering

Thomas Hemminger obtained a B.S. from Cleveland State University, a M.S. from Clarkson University, and a Ph.D. from Case Western Reserve University all in Electrical Engineering. His research encompasses parallel distributed processing, image processing, communications, and machine vision for industrial applications. He has worked on projects employing computer tomography and neural networks. To improve plastics inspection, developed algorithms for underwater target detection, he developed a protocol for minimizing transmission hops in military radios, and is currently working on a machine vision system for diamond cutting tool inspection.

Kathleen Muhonen, Assistant Professor of Electrical and Computer Engineering

Dr. Kathleen Muhonen received the B.S. in Electrical Engineering in 1991 from Michigan Technological University, the M.S. in Electrical Engineering in 1994 from Syracuse University, and the Ph.D. in Electrical Engineering in 1999 from Penn State University. She has seventeen years of industry experience first working as a design engineer at Martin Marietta (formerly GE Aerospace) in Syracuse, New York. She was a research assistant at UC Davis in California; microwave engineer at Hewlett Packard in Folsom, California, a technical staff member at Lucent Technologies Bell Laboratories in Murray Hill, New Jersey, assistant professor for the Department of Electrical Engineering at The Pennsylvania State University, State College, Pennsylvania, and senior design engineer and staff systems engineer for RF Micro Devices, Greensboro, North Carolina. Dr. Muhonen is a member of the ESD Association and sits on the standards committees.

Sudarshan R. Nelatury, Assistant Professor of Electrical and Computer Engineering

Sudarshan Nelatury received a B.S. from JNT University, Hyderabad, India, and both M.S. and Ph.D. from Osmania University, Hyderabad, India, all in Electrical Engineering. Prior to joining Penn State Behrend, he taught at Osmania University and later at Villanova University. His research expertise is broadly in Signal Processing and Electromagnetics. He has worked on several research projects in the areas of time-frequency distributions, blind channel equalization, battery modeling, microstrip antennas, and electromagnetic scattering in double negative meta-materials.

Wen-Li Wang, Assistant Professor of Electrical and Computer Engineering

Wen-Li Wang obtained a B.S. in Management Information Systems from National Chengchi University in Taiwan, and both a M.S. and Ph. D. in Computer Science from the State University of New York at Albany. Prior to joining Penn State Behrend, he worked as a Technical Assistant at the Center for Technology in Government in New York and then as a Supply Chain Analyst CO-OP for IBM Corporation. His research expertise is in software architecture, software reliability, software validation and verification, and object-oriented design. He has worked on projects in the areas of asset management modeling, distributed agent-based supply chain coordination, and realty management systems.

Mechanical Engineering (ME)**William C. Lasher, Program Chair and Associate Professor of Mechanical Engineering**

William Lasher received his B.S. and M.S. in Naval Architecture from the University of Michigan, and his Ph.D. in Mechanical Engineering from the State University of New York at Buffalo. His area of expertise is in hydrodynamics and aerodynamics, with an emphasis on computational fluid dynamics (CFD). He has worked on problems ranging from fundamental research in turbulence modeling to the application of CFD to specific industrial problems, such as fluid-tuned mounts, turbine flow meters, and sterilization processes. His most recent work has been in using both experiment and CFD to model and understand the flow around sails.

Dean Lewis, Lecturer in Engineering

Mr. Dean Lewis is a lecturer in mechanical engineering at Penn State Erie, The Behrend College. He received the B.S. in engineering (mechanical focus) from LeTourneau University in May 1992; the M.S. in Mechanical Engineering from Rensselaer Polytechnic Institute in 1996 and is finishing his Ph.D. in Mechanical Engineering at Rensselaer. Mr. Lewis comes to Penn State Behrend with eleven years of teaching experience. His engineering skills are in the following areas: finite element analysis, mechanics of solids, plasticity theory, concurrent engineering, design for assembly, design for manufacture, design of experiments, analytic dynamics, and quality control.

Amir Khalilollahi, Assistant Professor of Mechanical Engineering

Amir Khalilollahi earned a M.S. degree in Mechanical Engineering and a Ph.D. in Engineering Mechanics both from The Pennsylvania State University. His research has included topics in finite element analysis and solid/fluid interactions. Specifically he has conducted collaborative research in topics such as modeling/redesign of fluid tuned isolator mounts, analysis of high pressure radial flow valves, hemodynamics of blood flow in large arteries, and flow resistance in irrigation channels. He is currently involved with modeling and analysis of conjugated heat transfer and thermal stress evaluation in composite electronic boards.

Oladipo Onipede, Jr., Associate Professor of Mechanical Engineering

Dipo Onipede obtained his Ph.D. from UCLA in 1995. Prior to joining Penn State Behrend, he was a faculty member in Mechanical Engineering at the University of Pittsburgh. Dr. Onipede's research is on the modeling of complex and non-linear material behavior using primarily finite element methods. Some of the projects he has worked on include: modeling electrostatic-structural coupling, springback in anisotropy sheet steels, and vibration modification of structures using shape memory alloy wires.

John T. Roth, Associate Professor of Mechanical Engineering

John T. Roth obtained a B.S. and Ph.D. in Mechanical Engineering from Michigan Technological University. Prior to joining Penn State Behrend he worked as an Assistant Professor at Arkansas State University and an Adjunct Professor at the University of Arkansas. His research expertise is in signal processing, dynamic system modeling, manufacturing, and materials. He has worked on projects in the areas of metal cutting, micro- and nano-machining, cryogenics, and condition monitoring.

Russell L. Warley, Assistant Professor of Mechanical Engineering

Russell Warley obtained his Ph.D. from Case Western Reserve University in 1993. Prior to joining Penn State Behrend he worked as a staff engineer at LORD Corporation in the area of elastomer processing, test development, and engineering software development. Russ also worked as a researcher at Cabot Corp. in the area of dynamic properties of elastomers. His main research interests are in modeling of polymer processing and elastomer component molding, non-linear dynamic properties of elastomers, and development of methods for engineering design/analysis tools.

Yi (Elisa) Wu, Assistant Professor of Mechanical Engineering

Yi Wu obtained a B.S. degree in Mech-electrical Engineering from Beijing Institute of Technology and both the M.S. and Ph.D. degrees in Mechanical and Aerospace Engineering from the University of Virginia. Prior to joining Penn State Behrend she was an electromechanical engineer at China Aerospace Corporation in Beijing, China.

Mechanical Engineering Technology (MET)

David H. Johnson, P.E., Program Chair and Associate Professor of Engineering

Dave Johnson earned both a B.S. and M.S. degree in Mechanical Engineering from Penn State University. His work experience includes five years as a Development Engineer for Airco Carbon, St. Mary's, PA, and seven years as a Customer Support Engineer for Swanson Analysis Systems, Inc., Houston, PA, now, ANSYS Inc. His professional and academic career focus and research interest is applied finite element analysis (FEA).

Thomas D. Briselden, Lecturer in Engineering

Tom Briselden earned a B.S. in Mechanical Engineering from the University of Wisconsin in 1985 and a M.S. in Mechanical Engineering from Cleveland State University in 1999. His work experience focuses on the application of efficient energy utilization in industrial processes. This included: Senior Research Engineer, Pyronics, Inc.; Principal Combustion Engineer, Institute of Gas Technology; Manager New Technology, CNG; and Director, New Technology, Industrial Center. He has been awarded two patents for inventing technologies that reduce NOx emissions from natural gas fired equipment (Low NOx Porus Matrix Surface Combustor, Non-Catalytic High Temperature IR Heater for Thermoforming Applications). His applied research focus is currently on enhancing the heat transfer rate and improving efficiencies in high temperature furnaces found in the Steel, Aluminum and Chemical Industries.

Robert C. Edwards, Lecturer in Engineering

Robert Edwards earned a B.S. from Rochester Institute of Technology and an M.S. from Gannon University, both degrees in Mechanical Engineering. His work experience includes Project Engineer for Smith Meter Systems, Erie, PA (nine years); Senior Engineer for American Sterilizer (six years), Erie, PA; and Test Engineer for LORD Corporation (4 years), Erie, PA. His professional and academic career focus and research interest is fluid flow and heat transfer. His specific interests include the cooling of electronic equipment.

Richard B. Englund, P.E., Associate Professor of Engineering

Rich Englund obtained a B.S. from Washington State University in 1974 and an M.S. from SUNY at Buffalo in 1990, both in Mechanical Engineering. Prior to his current position he worked at Bettis Atomic Power Laboratory (refueling; 3 years) and CE (now Alstom)-Air Preheater (design and analysis; ten years). His research interests are in machine design, and measurement of mechanical systems including biomechanics.

Edward R. Evans, Jr., P.E., Senior Lecturer in Engineering

Edward Evans earned a Bachelor of Architectural Engineering from Penn State University and a M.S. in Civil Engineering from Youngstown State University. Prior to joining Penn State Behrend, he was an engineer with Kurtanich Engineers and Associates in Hermitage, PA. He consults and performs applied research for local companies in the areas of solid modeling, finite element analysis, and the manufacture of carbon fiber reinforced composites.

David R. Forsman, Senior Lecturer in Engineering

David R. Forsman received his B.S. in Engineering Technology from the Pennsylvania State University and his M.E. in Manufacturing Systems Engineering from SUNY at Buffalo. He has been involved with engineering computer analysis since 1974. He has experience in teaching Computer Graphics, Programming, CAD, and Rapid Prototyping for the last 19 years.

Kathryn Holliday-Darr, Senior Lecturer in Engineering Graphics

Kathryn Holliday-Darr received her B.A. in Industrial Arts at the University of Northern Colorado, and her M.S. in Industrial Arts Education at the State University of New York at Buffalo. She has been an Instructor of Engineering Graphics in the School of Engineering at Penn State Behrend since 1985. She taught Industrial Arts at the high school level for seven years. Her research and teaching interests include engineering graphics, visualization, and working with freshmen enrolled in engineering technology.

Michael J. Lobaugh, Lecturer in Engineering

Michael Lobaugh earned a B.S. in Mechanical Engineering from the University of Illinois and a M.S. in Engineering Management from the University of Massachusetts. His work experience includes Project Engineer for Babcock and Wilcox, Barberton, OH (4 years) and Manufacturing Engineer/Supervisor at LORD Corporation, Cambridge Springs, PA (11 years). His professional and academic career focus and research interest is applied to Manufacturing methods, Lean Manufacturing, Quality Control, and Graphics.

Robert J. Michael, Lecturer in Engineering

Robert Michael obtained B.S. and M.S. degrees in Mechanical Engineering from Akron University and Case Western Reserve University respectively. He is currently pursuing Ph.D. studies at Case Western Reserve. Prior to coming to Penn State Behrend, he worked as a Senior Engineering Specialist for LORD Corporation in Erie and as General Manager for a small construction equipment manufacturer. He has extensive experience in the area of elastomeric product design including vibration isolators, motion accommodators, elastomeric dampers, helicopter HCL (high capacity laminated) bearings, and seals. His research interests include finite element analysis, optimization and design of elastomeric components, vibration analysis and material selection and testing. He holds several patents related to elastomer product design.

Fredrick A. Nitterright, Lecturer in Engineering

Fred Nitterright obtained a B.S. in Mechanical Engineering Technology from Penn State Erie, The Behrend College, and an M.S. in Manufacturing Systems Engineering from the University of Pittsburgh. Prior to joining Penn State Behrend, he worked in both the injection molding field and the metals field. His last position was that of a Team Leader/Project Engineer for Classic Industries, Inc. At Classic Industries, he worked on projects in the areas of plastic components product development, injection mold design, statistical mold qualification, ISO 9000, and manufacturing systems integration. The injection-molded components were primarily from the medical, surgical, and filtration industries. Prior to his employment with Classic Industries, he was employed as a Mechanical Process Engineer at AML-Doduco, Inc. He worked on projects in the areas of manufacturing electrical contacts and electrical contact assemblies.

David E. Roth, P.E., Associate Professor of Engineering (Emeritus)

David Roth earned a B.A.E. and M.A.E. (1970) degrees in Architectural Engineering from Penn State University. His work experience includes six years full-time employment as an engineer with Sonntag, Amthor, and Schmeider, Inc, and Consulting Structural Engineers, Erie, PA. Since coming to Penn State Behrend in 1976, his continuous scholarly activities have allowed him to remain current in structural engineering practices, applications, and codes by performing structural engineering consulting services to attorneys, contractors, fabricators, realtors, and other engineers. His teaching is focused toward material science, finite element analysis to the plastics majors, and both freshmen and capstone experiences. He coordinates the year-long senior projects with industry for the Mechanical Engineering Technology Major. His academic career research interests are applied finite element analysis (FEA) and material science.

Shannon K. Sweeney, Associate Professor of Engineering

Shannon Sweeney obtained B.S. and M.S. degrees in Mechanical Engineering from West Virginia Institute of Technology and Case Western Reserve University respectively. Prior to coming to Penn State Behrend, he worked as a Senior Engineering Specialist for LORD Corporation in Erie. His research interests are materials selection and testing, industrial statistics, and vibration analysis. He has worked on projects in the areas of vibration isolator and damper design, statistical tolerancing, and statistical analysis of fatigue test data.

Yongfang Zhong, Assistant Professor of Engineering

Dr. Zhong joined received her bachelor's of science and master's degree in 1999 and 2002, respectively in the Department of Energy Engineering at Zhejiang University, China. She earned her doctoral degree in Mechanical Engineering from the University of Illinois at Urbana-Champaign in 2008. Prior to her work at Penn State Behrend, Dr. Zhong worked as a lecture instructor at the University of Illinois at Urbana-Champaign. She provided training for laboratory assistants and conducted fundamental and applied research at the Air-Conditioning and Refrigeration Center (ACRC) in Urbana, IL. She was a senior engineer at Modine Manufacturing Company in Racine, WI. Her experience ranges from fundamental research on transport phenomena, to component design and characterization, and to system development and optimization. Dr. Zhong's teaching focuses on the fundamental and applied courses in thermal and fluid science. Her research interest is in the field of energy and environment related issues.

Plastics Engineering Technology (PLET)

John P. Beaumont, Program Chair and Professor of Engineering

John Beaumont obtained his B.S. and M.S. in Plastics Engineering from the University of Massachusetts at Lowell. Prior to joining Penn State Behrend, he held several positions within the plastics industry including Technical Manager for Moldflow Inc. 's U.S. operations and Engineering Manager for Ciba Vision Corp. His research expertise is in plastics injection molding simulation, part design, mold design, and rheology. Mr. Beaumont is the founder and Director of the Plastics CAE Center at Penn State Behrend and has several patents including those on the MeltFlipper® technology which he licenses through his company Beaumont Technologies Inc. He has authored three books related to plastics and contributed two chapters on a third.

Brad Johnson, Lecturer in Engineering

Brad Johnson holds both B.S. and M.S. degrees in chemical engineering from Virginia Tech, and a M.B.A. from Gannon University. Prior to joining Penn State Behrend, he accumulated eleven years of industrial experience, most of which were spent as program manager, design engineer, project/processing engineer, and production supervisor at OSRAM SYLVANIA, Inc. His primary expertise is in injection molding and process optimization. Along with developing some of the processing classes, he also teaches plastic materials and quality control classes here at Penn State Behrend. He is an active member of the Society of Plastics Engineers' Injection Molding Divisions Board. Mr. Johnson also directs the plastics engineering technology outreach training programs which provide numerous short technical programs for industry throughout the year.

Paul E. Koch, Associate Professor of Engineering

Paul Koch obtained his B.S. in Chemical Engineering from the University of Detroit, and his Ph.D. in Engineering from the University of Massachusetts-Lowell. Prior to joining Penn State, he was the manager of commercial development for Standard Oil. His areas of interests include global sourcing of plastic parts and materials, permeation in plastic packaging, and plastic failure analysis. His project work includes novel plastics drainage systems, active barrier packaging systems, and environmental stress cracking analysis.

Jonathan A. Meckley, Associate Professor of Engineering

Jon Meckley holds an A.S. and B.S. in Mechanical Engineering Technology, a B.S. in Plastics Engineering Technology from Penn State Erie, The Behrend College and a M.S. in plastics engineering from the University of Massachusetts at Lowell. Prior to joining the Penn State Behrend faculty, Jon was employed at Penn State Erie's Plastic Technical Center, working with solids modeling and operating the Center's stereolithography machine, and with the Penn State Erie Plastics Technology Deployment Center (PTDC) as a senior plastics engineer. He was also a design engineer and co-owner of Innovation Design Services, Inc., a computer-aided engineering consulting firm for the plastics industry. His research interests are in plastics processing and computer-aided design.

Gary F. Smith, Lecturer in Engineering

Dr. Gary F. Smith is a lecturer in engineering at Penn State Erie, The Behrend College. He earned the B.S. in Mathematics, Magna cum Laud in 1973, and the Ph.D. in Organic Chemistry in May 1979 from the State University of New York at Albany. Dr. Smith is a scientist with over 29 years leading global technology, innovation and setting business vision in engineering thermoplastic resins, composites, process and product development from the lab to the manufacturing to customer. He is recognized as the foremost expert in polyester with extensive experience in polycarbonate process and product technology. He was most recently employed at Adzel, Inc. in Forest, Virginia. Dr. Smith comes to Penn State Behrend with 23 patents, the Dan Fox Award from GE Plastic Worldwide Technologist of the Year in 1988 as well as twelve GE managerial awards.

Brian A. Young, Assistant Professor of Engineering

Brian Young holds a both a B.S. in Plastics Engineering Technology and the M.S. in Manufacturing Systems Engineering from Penn State University. Before joining Penn State Behrend as a lecturer in engineering, Brian Young accumulated 16 years of industrial experience as a processing/project engineer at Omni Plastics, Inc. His primary area of expertise is in the processing of thermoplastic materials. His research interests include emerging packaging technologies, material property phenomenon, control systems, and process refinement.