EXPECTED FALL 2014
NEW FACULTY FOR THE FOLLOWING RESEARCH AREAS

Computer Science & Engineering
1—Software Engineering
1—Programming Languages

Electrical & Computer Engineering
1—Computer Architecture

Industrial & Systems Engineering
1—Product Lifecycle Management

Mechanical Engineering
1—Advanced Manufacturing Processes
1—CAD
Qian Zou
Ph.D.
Tsinghua University (China)
Associate Professor
Mechanical Engineering Department

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Teaching
Statics and Dynamics; Mechanics of Materials; Analysis and Design of Mechanical Structures; Lubrication, Friction and Wear; Advanced Tribology

Research

Selected Publications
4. “Study of the Motion of Floating Piston Pin against Pin Bore,” SAE Int. J. Engines, 6(2), 2013

Welcome from the Dean

As Dean of the School of Engineering and Computer Science (SECS), I am committed to supporting the advancement of our faculty’s research, which is not only disseminated to their colleagues worldwide, but also integrated into our curriculum for our students’ benefit. Our applied research spans across a wide range of fields, including those related to national security, medical applications, the automotive industry, and military programs. You are invited to explore this booklet as you investigate how our School of Engineering and Computer Science faculty can serve your research needs.

-Louay Chamra, Dean and Professor
SECS comprises four departments:

- Computer Science and Engineering
- Electrical and Computer Engineering
- Industrial and Systems Engineering
- Mechanical Engineering

Approximately 1,400 undergraduate students and 450 graduate students are enrolled in SECS programs, which are administered at the B.S., M.S., and Ph.D. level. Also part of SECS is its SmartZone Business Incubator (oakland.edu/ouinc), which provides entrepreneurial resources and strategic business solutions to develop and commercialize intellectual property. The SmartZone Business Incubator is home to the Clean Energy Research Center (CERC). Primary contacts for the SmartZone Business Incubator are provided below.

Amy Butler
Executive Director
SmartZone Business Incubator
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Jim Leidel
Director of Clean Energy Systems
SmartZone Business Incubator
leidel@oakland.edu
(248) 648-4805

Lianxiang Yang
Ph.D.
University of Kassel (Germany)

Professor
Mechanical Engineering Department

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Teaching
Optical Measurement and Quality Inspection; Advanced Optical Methods in Experimental Mechanics; Mechanics of Materials; Materials Properties

Research
Development and application of advanced optical techniques for experimental strain/stress analysis, nondestructive testing and material evaluation, vibration measurement, microstructure and MEMS measurement; and design validation and optimization. “The high demands on product quality and reliability has led to the need for highly efficient measuring methods. Research on advanced optical techniques that are real time, whole-field and non-contact-based has a significant impact on improvement of product quality and reliability in automotive, aerospace, high tech and biomedical engineering.” Lianxiang Yang, 2013

Selected Publications
2. X. Chen, L.X. Yang (corresponding author), N. Xu, and X. Xie, B. Sia and R. Xu, “Cluster approach based multi-camera digital image correlation: Methodology and its application in large area high temperature measurement,” Accepted by Optics & Laser Technology, in press 2013
Xia Wang
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Rensselaer Polytechnic Institute
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Mechanical Engineering Department
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Teaching
Thermodynamics; Heat Transfer; Fluids Mechanics; Energy Systems Analysis; Fuel Cells; Batteries for EV and HEV

Research
Thermal Management of Battery Systems; Fuel Cell Modeling, Design and Diagnostics; Biomass Pellets Properties Characterization and Optimization; Turbulent Boundary Layers with Separation; Forced Convection Turbulent Boundary Layers.

Selected Publications
Teaching
Computer Architecture, Microprocessor-Based Systems, Logic Synthesis for Digital Systems, and Computer Networks

Research
Design and Optimization of Digital Circuits; CAD for Field-Programmable Devices; Decision Diagrams and Their Applications in VLSI CAD; Innovative Applications of FPGAs

Selected Publications

Teaching
Mechanics of Materials; Statics, Dynamics; Mechanics of Sheet Metal Forming; Materials Properties

Research
Experimental analysis of sheet metal distortion in stamping processes; biomechanics; draw bead simulations; failure criteria in sheet metal; material property characterization. "Most of my research revolves around trying to understand how to stretch and bend sheet metal without tearing it. My discoveries help make your new car purchases more affordable and your new car driving experience safer." Lorenzo M. Smith, 2013

Selected Publications
**James David Schall**  
Ph.D.  
North Carolina State University  
Assistant Professor  
Mechanical Engineering Department  
Email: schall@oakland.edu  
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**Teaching**  
Electromechanical Systems; Materials Properties and Processes; Polymer Materials; Polymer Processing

**Research**  
Molecular simulation of tribology; Molecular simulation of diamond and diamondlike carbon films; Experimental and theoretical measurement of thermal and tribological properties of nanofluids; Hydrogen embrittlement of wind turbine bearings; Nanoindentation of graphene and graphane films; Development of interatomic potentials

**Selected Publications**  

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**Laura Dinsmoor**  
M.S.  
Oakland University  
Special Instructor  
Computer Science and Engineering Department  
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Phone: (248) 370-4591

**Teaching**  
Computer Problem Solving in Computer Science; Introduction to Computer Programming

**Research**  
Computer Science Education; Increasing recruitment of women into Computer Science degrees. “(I am) involved with National Center for Women & Information Technology (NCWIT), Michigan Celebration of Women in Computing (MICWIC) and outreach activities to encourage young women and girls to explore opportunities in the computer science field.” Laura Dinsmoor, 2013
Huirong Fu
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Nanyang Technological University
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Computer Science and Engineering Department
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Teaching

Research
Information Assurance and Security; Wireless and Mobile Networks; Sensor Networks; Networks / Protocols / Applications; Internet Data Ctr; Multimedia Communication Systems; Resource Management and Quality of Service (QoS)

Selected Publications
1. Qing Wang, Supeng Leng, Huirong Fu, and Yan Zhang, “An IEEE 802.11p-based Multi-channel MAC Scheme with Channel Coordination for Vehicular Ad Hoc Networks,” IEEE Trans. on Intelligent Transportation Systems, accepted.

Brian P. Sangeorzan
Ph.D.
University of Wisconsin, Madison
Professor
Mechanical Engineering Department
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Teaching
Fluid Mechanics; Heat Transfer; Thermodynamics, Combustion, Nuclear Power Plants

Research
Internal Combustion Engines; Instrumentation and Optical Diagnostics; High-Speed Motion Photography; Heat Transfer and Fluid Mechanics in Thermal Systems. “Engine efficiency is often limited by component temperatures. Understanding and optimizing thermal processes are important steps toward improving engine efficiency.” Brian Sangeorzan, 2013

Selected Publications
Sayed A. Nassar  
Ph.D.  
University of Cincinnati  
Professor and Director of FAJRI  
Mechanical Engineering Department  
Email: nassar@oakland.edu  
Phone: (248) 370-3781

Teaching  

Research  
Solid mechanics, Fastening and Joining, Laminated Composites, Experimental Mechanics, NDE

Selected Publications

Dae-Kyoo Kim  
Ph.D.  
Colorado State University  
Associate Professor  
Computer Science and Engineering Department  
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Phone: (248) 370-2863

Teaching  
Object-Oriented Programming; Software Engineering and Practice; Fundamentals of Software Modeling; Software Prototyping and Validation; Software Engineering

Research  
Software Design and Specification; Pattern-Based Software Development; Aspect-Oriented Design; Access Control Modeling; Smart Grid Data Modeling. “My research focuses developing high quality software systems with less cost. Quality software is more reliable, maintainable, and secure.” Dae-Kyoo Kim, 2013

Selected Publications
**Lunjin Lu**  
Ph.D.  
University of Birmingham (London)  
Associate Professor and Interim Chair  
Computer Science and Engineering Department  
Email: l2lu@oakland.edu  
Phone: (248) 370-2225  

**Teaching**  
Programming languages, Theory of computation, Object Oriented Programming, Data structures, Parallel & concurrent programming  

**Research**  
Software verification; Static Program analysis; Programming languages; Constraint and logic programming  

**Selected Publications**  
1. “A Polymorphic Type Dependency Analysis for Logic Programs,” *New Generation Computing*  

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**Zissimos P. Mourelatos**  
Ph.D.  
University of Michigan  
Professor and Chair  
John F. Dodge Chair of Engineering  
Mechanical Engineering Department  
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**Teaching**  
Design under Uncertainty; Reliability Methods; Vibrations and Controls; Random Vibrations; Noise, Vibration and Harshness (NVH)  

**Research**  
Design and Decision Making under Uncertainty; Reliability, Safety and Quality; Probabilistic Methods; Reliability-Based Design Optimization; Model Validation and Verification; Design Optimization of Large-Scale Vibratory Systems; Random Vibrations; Noise, Vibration and Harshness (NVH); Bearing Lubrication; I.C. Engine Dynamics.  

(“I am) a nationally and internationally recognized expert in engineering design and automotive R&D with substantial contributions in reliability methods, quality, and safety, as well as in engine design and dynamics.” Zissimos Mourelatos, 2013  

**Selected Publications**  
Keyu Li  
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Johns Hopkins University  
Professor  
Mechanical Engineering Department  
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Phone: (248) 370-2862

Teaching  
Engineering Mechanics; Mechanics of Materials; Materials Science; Stress Analysis; Optical Methods

Research  
Optical Techniques for Measurements of Strains and Stresses; Smart Materials to Measure Permanent Deformations and Residual Stresses Induced from Manufacturing Processes; Material Evaluation and Characterization; FEM Modeling of Material Behavior and Structural Mechanics; FEM Simulation of Manufacturing Processes such as Quenching; Noncontacting Methods for Dynamic and Vibration Measurement; Fatigue, Creep and Fracture Mechanics; Tribology Modeling

Selected Publications
5. “An Experimental Analysis of Improved Mechanical Properties Achieved During the Tempering of Parking Gears,” SAE Trans, 2010

Khalid Mahmood  
Ph.D.  
Tokyo Institute of Technology, Japan  
Visiting Assistant Professor  
Department of Computer Science & Engineering  
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Phone: (248) 370-3542

Teaching  
Object Oriented Programming; Advanced Web Design and Applications; Computer Networks; Interactive Web Systems; Software Project Management.

Research  
“My research is on Semantics based Sensor Web, Semantic based Information Security & Data Loss Prevention and Semantic Web based analytics. The research aims at collaboration of machines (computers, sensors, handheld devices) to perform decisions (for example evidence based medicine decision support system using research literature present on machines and data present on sensors in environment) by understanding the semantics (synonymy, polysemy and context) of our natural language & environment.”  
Khalid Mahmood, 2013

Selected Publications
Jerry E. Marsh
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Special Instructor
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Teaching
Computer Problem Solving in Engineering and Computer Science; Introduction to Computer Programming; Online Education

Research
"I develop innovative ways to introduce problem solving and computer programming techniques to Engineering and Computer Science students, using online delivery methods." Jerry Marsh, 2013

Selected Publications

Michael A. Latcha
Ph.D.
Wayne State University
Associate Professor
Mechanical Engineering Department
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Teaching
CAD Drafting; statics, dynamics, vibrations; mechanics of materials; machine design, numerical methods

Research
Research interests: Modeling of multi-body dynamic systems; structural, numerical and viscothermal acoustics; vibrations; computational mechanics; machine design; numerical methods

Selected Publications
Teaching
• Recipient of the 2013 Dr. Wilbert J. McKeachie International Poster Prize for best poster at the 7th Annual OU-Windsor Conference on Teaching and Learning, May 2, 2013.

Research
Clean Energy Applied Research; Energy Efficiency, Energy Management, Transient and Unstable Behavior in Two-Phase Evaporating and Condensing Flow; Single and Multitube Systems; Combined Forced and Natural Convective Heat Transfer; Boundary Layer Theory; Analytical and Experimental Techniques Associated with Steady-State and Time Varying Fluid and Thermal Systems, Components, and Processes. “One of my research areas is in energy efficiency in maintaining our standard of living, but minimizing the environmental footprint necessary to do so. The biggest challenge to humanity has historically been survival, but now is sustainability and that affects everything and everyone.” Krzysztof Kobus, 2013

Selected Publications

Teaching
Object Oriented Computing 2, computer Problem Solving, computer Programming, Ruby for Web Developers, Intro to C Programming and Unix

Research
New Effective Teaching Tools and Techniques for Object oriented programming and its applications in multidisciplinary areas. “I am mainly focusing on changing some of the teaching techniques to improve understanding of Object Oriented Programming languages. One of the goals is to increase interest for Computer Science from other disciplines. Studying the effects of different variables such as including more technology use, social media…etc. Improving some of our teaching techniques will help students grasp better understanding in some of the more challenging concepts.” Sebnem Onsay, 2013

Selected Publications
Nilesh Patel  
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Computer Science and Engineering Department  
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**Teaching**  
Software Engineering, Mobile Computing, Smart phone application development, Pattern Recognition and Data mining

**Research**  
Data mining and knowledge discovery, Pattern Recognition, Image processing, Multimedia Information systems, Distributed and Multicore Computing, Embedded Software Engineering, Mobile Computing, Bioinformatics, Telematics and Automotive Computing

**Selected Publications**  
4. “Multi Camera Multi Object Tracking using Block Search over Epipolar Geometry,” *NUiCone*, 2010

Ching Long Ko  
Ph.D.  
University of Oklahoma  
Associate Professor  
Mechanical Engineering Department  
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Phone: (248) 370-2694

**Teaching**  
Engineering Mechanics; Finite Element Analysis; Mechanics of Materials; Fluid Mechanics

**Research**  
Mechanics of Composite Materials and Structural Design; Finite-Element Analysis of the Metal-Forming Process; Computational Fluid Mechanics and Numerical Heat-Transfer Analysis; Vibration Analysis of Plate and Shell Structures; Hot-wire and LDA Measurements in Fluid Flows; Analytical Modeling of Fluid-Structure Interaction; Dynamics and Nonlinear Vibration; Impact Dynamics and Plasticity

**Selected Publications**  
Laila Guessous
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University of Michigan
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Phone: (248) 370-2183

Teaching
Fluid Mechanics; Heat Transfer; Computational Fluid Dynamics; Thermodynamics; Numerical Methods

Research
Computational fluid dynamics and computational heat transfer; Thermal modeling of wear and scuffing processes; Simulation and modeling of pulsating flows with emphasis on heat transfer enhancement; Computational investigation and optimization of wind turbine farm layouts using spectral Element Methods. “My research interests lie in the areas of computational fluid dynamics and computational heat transfer. I strive to use numerical tools to improve our understanding and modeling of various fluid/thermal problems, including wind turbines, engine flows, and problems related to wear and scuffing of materials.” Laila Guessous, 2013

Selected Publications

Guangzhi Qu
Ph.D.
University of Arizona
Associate Professor
Computer Science and Engineering Department
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Teaching
Operating Systems; Wireless Networking; Network Security; System Administration; Data Mining; Machine Learning

Research
Data Mining; Machine Learning; Healthcare Computing; Information and Network Security; Discrete Event Simulation; Graph Databases

Selected Publications
Ishwar Sethi  
Ph.D.  
Indian Institute of Technology (Kharagpur)  
Professor  
Computer Science and Engineering Department  
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Teaching
Intro Computing with Excel, Computer Vision, Data mining, Machine Learning, Pattern Recognition, and Research Methods

Research
Data Mining; Text, Image and Video Databases; Neural Networks Design & Applications; # Motion Analysis & Object Tracking; Document Image Processing; Pattern Recognition; Machine Learning

Selected Publications

Randy J. Gu  
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State University of New York, Buffalo  
Professor  
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Teaching

Research

Selected Publications
Teaching
Statics, Dynamics, CAD/CAM/CAE; Kinematics and Mechanisms; Vibrations, Controls, Vehicle Dynamics, Tire/Terrain Mechanics; Vehicle System Design

Research
Vehicle Dynamics; Tire/Terrain Mechanics; NVH; Vibrations; Control; Kinematics and Mechanisms; Machine Design; Solid Mechanics; Finite Element Analysis; Multi-Body Contact-Impact modeling: Optimization.
“Machine Design, Vehicle Dynamics and Tire/Terrain Mechanics research will improve vehicle’s riding comfortability and increase its safety and stability.” Yin-Ping Chang, 2013

Selected Publications
Teaching
Visual Computing; Advanced Visual Computing; Pattern Recognition and Machine Learning; Computer Problem Solving; Design and Analysis of Algorithms

Research
Research interests include Medical Signal and Image Processing, Computational Anatomy & Physiology and Medical Informatics. The goals are utilization of the wealth of available medical data to the fullest for data-driven and patient-specific diagnosis, treatment planning and prognosis.

Selected Publications

Bhushan L. Bhatt
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Oakland University
Professor
Mechanical Engineering Department
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Teaching
Thermodynamics; fluid mechanics; heat transfer; fluid and thermal systems design

Research
Thermal-hydrodynamics of two-phase flows, and electronic component cooling. “My research is in the area of time dependent characteristics of two-phase condensing and evaporating flows, which is important, partly, in the safe operation of conventional as well as nuclear power plants.” Bhushan Bhatt, 2013

Selected Publications
Gary Barber  
Ph.D.  
University of Michigan  
Professor  
Mechanical Engineering Department  
Email: barber@oakland.edu  
Phone: (248) 370-2184

**Teaching**  
Properties of Materials; Material Properties and Processes; Lubrication, Friction and Wear; Machine Design

**Research**  
Director, Automotive Tribology Center; Tribology of Engine Cylinder Kits; Engine Valve Wear, Effect of Tool Wear on the Surface Topography of Machined Surfaces

**Selected Publications**  

Gautam B. Singh  
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Associate Professor  
Computer Science and Engineering  
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**Teaching**  
Database Design and Implementation, Bioinformatics, Computer Forensics, Senior Design Project

**Research**  
Knowledge Representation, Innovation and Discovery; Cyber Laws, Forensics and Computer Crimes; Intellectual Property Identification and Management; Bioinformatics; Parallel Computing and Algorithms

**Selected Publications**  
1. “Learning Information Patterns in Biological Databases - Stochastic Data Mining,” *Data Mining and Knowledge Discovery Handbook*, 2010  
Ching-Seh Wu
Ph.D.
Texas A&M University
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Computer Science and Engineering Department
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Teaching
Database Systems; Object Oriented Programming; Web Services and Cloud Computing; Advanced Web Design and Applications; Software Testing and Verification; System Analysis & Design

Research
Web Services and Cloud Computing in Healthcare; Web/Cloud Services Workflow Composition and Optimization; Heterogeneously Distributed Data Integration; Software Engineering for Web/Cloud Services; Development and Testing on Critical Software Systems. “One of the most important issues in e-Healthcare information systems is to optimize the medical data quality of healthcare workflow extracted from distributed and heterogeneous environments, which can extremely improve diagnostic and treatment decision making. My research explores solutions for e-healthcare and software development in the Cloud.” Ching-Seh Wu, 2013

Selected Publications

Christian C. Wagner
Ph.D.
Michigan State University
Associate Professor
Industrial and Systems Engineering Department
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Web: drchriswagner.com

Teaching
Advanced Web Design, Artificial Intelligence, Artificial Intelligence in Manufacturing, E-Commerce and ERP using SAP and Dynamics, Introduction to Industrial and Systems Engineering, Statistical Quality Analysis, Systems Engineering

Research
Artificial Intelligence Techniques in Manufacturing; Natural Language Understanding; Web based PLM Systems, Artificial Intelligence and Learning Mechanisms; Cognitive Database Systems; Spiritual Engineering

Selected Publications
Robert P. Van Til  
Ph.D.  
Northwestern University  
Pawley Professor of Lean Studies  
Chair  
Industrial and Systems Engineering Department  
Email: vantil@oakland.edu  
Phone: (248) 370-2211

Teaching  
Flexible and Lean Manufacturing Systems, Robotic Systems, Lean Principles and Application, Senior Design, Introduction to Industrial and Systems Engineering

Research  
Analytical and simulation modeling of manufacturing systems, application of lean to manufacturing and healthcare, Product Lifecycle Management (PLM)

Selected Publications  

Jie Yang  
Ph.D.  
Stevens Institute of Technology  
Assistant Professor  
Computer Science and Engineering Department  
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Teaching  

Research  
Cyber Security and Privacy: wireless security, secure localization, security in smart grids and cloud computing; Mobile and Pervasive computing; Wireless Localization Systems; Wireless and Sensor Networks; Cellular Networks

Selected Publications  
Teaching
Human Computer Interaction, Scientific Visualization, Biomedical Image Analysis, Computational Neuroscience, Bioinformatics

Research
Interdisciplinary and collaborative research on powerful computational models, algorithms, image analysis and interactive visualization tools for medical imaging, brain and life science

Selected Publications

Sankar Sengupta
Ph.D.
Clemson University
Associate Professor
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Teaching
Production Systems and Work Flow Analysis; Computer Simulations Discrete Events; Manufacturing Processes; Quality

Research
Application of OR methods to Manufacturing Systems Design and Control; Quality Control; Design Methodologies for Product Design; CIM

Selected Publications
Michael P. Polis
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Purdue University
Professor
Industrial and Systems Engineering Department
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Phone: (248) 370-2743

Teaching
Circuits; modeling and statistical methods; controls; operations research

Research
Identification, estimation and control of distributed parameter systems, that is systems described by partial differential or delay equations. Transportation systems, and particularly in optimization and signaling for subway systems. Parametric approach to robust control. Smart-grid problems relating to optimizing the electric power grid of the future. “This research enables systems to work more efficiently.” Michael Polis, 2013

Selected Publications

Hoda Abdel-Aty-Zohdy
Ph.D.
University of Waterloo (Canada)
John F. Dodge Endowed Chair Professor of Engineering, Director of the Microelectronics & Bio-Inspired Systems Design Lab, Electrical and Computer Engineering Department, Professor
Email: zohdyhsa@oakland.edu
Phone: (248) 370-2243

Teaching
Electronic Materials and Devices; Electronic Circuit Design; Integrated Circuits and Devices

Research
Director of the Microelectronics & Bio-Inspired Systems Design Lab; biotechnology with intelligent signal processing on integrated chips for medical; wireless accurate Classification applications, on sub-micro-electronics

Selected Publications
Daniel N. Aloi  
Ph.D.  
Ohio University  
Professor and Chair  
Electrical and Computer Engineering Department  
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Phone: (248) 370-2177

Teaching
Antennas, Electromagnetics, Communications & Global Navigation Satellite Systems

Research
Research Director of the Applied EMAG & Wireless Lab (AEWL); Applied Electromagnetics, Antenna Design, Antenna Measurements, Antenna Modeling

Selected Publications

Barbara Oakley  
Ph.D.  
Oakland University  
Associate Professor  
Industrial and Systems Engineering Department  
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Teaching
Probability and statistics, neuroscience, bioengineering, electrical circuits, thermodynamics and electromagnetics; Specialize in collaborative learning approaches and online learning

Research
Pathological altruism and altruism bias; Translational research that provides simple ways to understand how to learn math, science, engineering and technology more easily, using insights from neuroscience and cognitive psychology. “Pathological altruism and altruism bias: I use scientific perspectives and insight to better understand how good intentions can lead to bad outcomes. Learning: I write insidiously readable popular books and research articles that provide deep, yet practical insight into learning based on neuroscience and cognitive psychology.” Barbara Oakley, 2013
Megan Conrad
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Marquette University
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Industrial and Systems Engineering Department
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Phone: (248) 370-4896

Teaching
Ergonomics; Human Factors Engineering

Research
Ergonomics, Neuromechanics; Rehabilitation Engineering

Selected Publications

Ka Chai Cheok,
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Oakland University
Professor
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Teaching
Automotive Mechatronics; Microcomputer-based Control Systems; Electric Drive Systems; Adaptive Control Systems; Intelligent Control Systems; Autonomous Vehicle Systems

Research
Basic theoretical research on control and estimation, signal and image processing, computational intelligence and decisions. Exploratory experiments in embedded controls and mechatronics; virtual & physical simulators; autonomous mobile robots; positioning & navigation system. Applications to self-navigating unmanned ground vehicles and omnidirectional vehicles, auto-lane centering automobile system, mine-detection robots, and automated IR cancer detection system. “My academic research strives to grasp deep insights of the subjects and extend their potential so they can be developed into useful tools. I work with professionals and entrepreneurs to bring these ideas to meaningful real world applications.” K.C. Cheok, 2013

Selected Publications
Manohar Das
Ph.D.
Colorado State University
Professor
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Phone: (248) 370-2237

Teaching

Research
Adaptive Signal Processing and Control, Digital Signal and Image Processing, Data Compression, Pattern Recognition, System Modeling and Identification.

“Research in adaptive signal processing and control involves development of filtering, detection, identification and control algorithms in presence of uncertainties and incomplete information about a process or system” Manohar Das, 2013

Selected Publications

Mohamed A. Zohdy
Ph.D.
University of Waterloo (Canada)
Professor
Electrical and Computer Engineering Department
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Phone: (248) 370-2234

Teaching
Signal and Linear Systems Analysis; Optimal Control Theory; Automatic Control Systems

Research
Advanced control and estimation, intelligent pattern information processing, neural, fuzzy, evolutionary systems, chaos control, smart simulation, hybrid systems. Potential extensions to government, industry; recent seed funds on Fuel Cell modeling and control for transportation, hold considerable promise for improving vehicle energy supply

Selected Publications
2. “Unscented Kalman Filters for Continuous Phase FSK Equalizations,” ICIIS, 2011
5. “Robust Motion Control of Biped Walking Robot,” WSEA Trans Systems and Control, 2010
Jing Tang
Ph.D.
University of Illinois, Urbana
Assistant Professor
Electrical and Computer Engineering Department
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Teaching
Biomedical Imaging; Digital Image Processing; Digital Signal Processing

Research
Image reconstruction, evaluation, and analysis in emission computed tomography. “To develop and improve medical imaging techniques to advance clinical diagnosis and disease treatment.” Jing Tang, 2013

Selected Publications

Brian Dean
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University of Wyoming
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Electrical and Computer Engineering Department
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Phone: (248) 370-2822

Teaching
Bioengineering, Computer, Computer Hardware, Embedded Systems, Computer Architecture

Research
Biomedical Instrumentation, Biomedical Signal and Image Processing, Biomimetic Systems, Computer Architecture, Embedded Systems, Machine Learning

Selected Publications
Pieter A. Frick
Ph.D.
London University (England)
Professor
Electrical and Computer Engineering Department
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Phone: (248) 370-2242

Teaching
Electric Circuits, Random Signals and Processes

Research
Real time computer systems, optimization and optimal control, parallel computing in systems and control, power system modeling and control, stochastic processes, and system identification

Andrew Rusek
Ph.D.
Warsaw Technical University (Poland)
Professor
Electrical and Computer Engineering Department
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Phone: (248) 370-2181

Teaching

Research
Electromagnetic Compatibility, High Frequency Electronics. "The major part of research is related to measurements, modeling and simulations of high speed twisted pair transmission lines applied in automotive industry." Andrew Rusek, 2013

Selected Publications
3. "Improving Student Understanding of Instrumentation and Measurements in US Engineering Undergraduate Programs," 2009 ASEE, North Central Section Conference, Grand Valley State University, Grand Rapids, MI, April 3-4, 2009
Osamah Rawashdeh
Ph.D.
University of Kentucky
Associate Professor
Electrical and Computer Engineering Department
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Teaching
Digital Design; Embedded Systems; Mechatronics; Fault-Tolerant Computing

Research
Fault-tolerance and reconfigurable computing; aerial and ground robotics; biomedical instrumentation; embedded system design; product development. “Microprocessors are increasingly embedded into all kinds of products and systems we use every day to make them more intelligent and able. (My) research is focused on the efficient implementation of such computer-controlled devices with special focus on enhancing reliability, performance, and power consumption.” Osamah Rawashdeh, 2013

Selected Publications

Subraminiam Ganesan
Ph.D.
Indian Institute of Science (Bangalore)
Professor
Electrical and Computer Engineering Department
Associate Director Center for Robotics, Unmanned and Intelligent Systems
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Teaching
Graduate level courses: Real time systems, FPGA based embedded systems, microprocessor based embedded systems, DSP in embedded systems, Validation and verification of embedded systems, Parallel computer architecture

Research
Divisible Load Scheduling in multi-core and multi-processor systems; Condition Based Maintenance, Real Time DSP/Multiprocessor Systems for Specific Applications, Model Based Systems design. “Doing research and development on micro-computer based applications like engine control for low cost and high gas mileage, advanced techniques to reduce the maintenance cost of cars and military vehicles. This is application of computer engineering for assistance to the needy, and also safety and comfort of the world.” Subraminiam Ganesan, 2013

Selected Publications
Edward Y. Gu
Ph.D.
Purdue University
Professor
Electrical and Computer Engineering Department
Email: guy@oakland.edu
Phone: (248) 370-2219

**Teaching**
Robotic Systems and Control; Analysis of Nonlinear Control Systems; Electromechanical Energy Conversion; Automatic Control Systems

**Research**
Kinematics, Task-Planning, Dynamic Modeling and Control of Robotic Systems; Nonlinear Systems Modeling, Analysis, Adaptive Control and Computer Simulations, Human Biomechanical and Biodynamic Modeling and Digital Simulations; Learning and Intelligent Control of Human-Machine Interactive Systems. "The major research interests are in the areas of robotic kinematics, dynamics and control, nonlinear control systems, and digital human modeling and applications. Robotics research and technology development have been helpful in industrial applications for decades, and are now at the cutting-edge of making another big leap to create a robot that imitates the entire human capability and intelligence. The impact will be tremendous on society and economics in the near future." Edward Y.L. Gu, 2013

**Selected Publications**

Hongwei Qu
Ph.D.
University of Florida
Associate Professor
Electrical and Computer Engineering Department
Email: qu2@oakland.edu
Phone: (248) 370-2205

**Teaching**
Electronic circuits and devices, Fundamentals of MEMS, Integrated devices and circuits, Advanced electronics design

**Research**
Micro-electro-mechanical systems (MEMS), CMOS-MEMS technology, CMOS-MEMS inertial sensors, Applications of MEMS in biomedicine and security, Nanotechnology and devices, MEMS/NEMS modeling and applications. "My research is at more bottom level and centered on physical devices. It’s my belief that innovations at device level on micro/nano dimensions always have more impacts on other systems and ultimately, the improvement of human life." Hongwei Qu, 2013

**Selected Publications**
Khalid Mirza
Ph.D.
The Ohio State University
Visiting Assistant Professor
Electrical and Computer Engineering Department
Email: mirza@oakland.edu
Phone: (248) 370-4629

Teaching
Industrial Robotics; Robotic Systems and Control; Machine Vision; Intelligent Control Systems; Real-Time Programming Techniques; Electric Circuits; Introduction to Electrical and Computer Engineering.

Research
Vision guided robotics; Advanced robotic platforms; Safe robotics and adaptive programming through the use of sensors; Intelligent robot teaching interfaces and methods. “I do fundamental research to help realize the next generation industrial robots which are a key component to industrial automation and advanced manufacturing.” Khalid Mirza, 2013

Selected Publications
1. “General formulation for force distribution in power grasp,” IEEE International Conference on Robotics and Automation
5. “Neural network control of force distribution for power grasp,” IEEE International Conference on Robotics and Automation

Darrin M. Hanna
Ph.D.
Oakland University
Associate Professor
Electrical and Computer Engineering Department
Email: dmhanna@oakland.edu
Phone: (248) 370-2170

Teaching
Embedded Systems; Computer Problem Solving; Digital Logic and Microprocessors; Information Networks

Research
Using mixed-mode microprocessorless systems such as FPGAs, ASICs, and MEMS with Artificial Intelligence for embedded systems

Selected Publications
5. “3D Virtual Videos of Brain Chemistry Using Spatiotemporal Neural Networks,” Journal of Pattern Recognition, 2010
Jia Li
Ph.D.
University of Michigan
Associate Professor
Electrical and Computer Engineering Department
Email: li4@oakland.edu
Phone: (248) 370-2661

Teaching

Research
Statistical Signal Processing with applications in biomedical imaging and communications. The current and past projects include image segmentation, construction and registration of different imaging modalities, UWB channel modeling and capacity evaluation, and intra-vehicle wireless sensor network.

“My research is in the area of statistical signal processing with applications in biomedicine and communications. The extraction, modeling and analysis of signals or parameters from noisy measurements have broad range of practices in science and engineering, and in the industries of defense, finance, health care and telecommunications.” Jia Li, 2013

Selected Publications

Robert N. K. Loh
Ph.D.
University of Waterloo (Canada)
Professor
Electrical and Computer Engineering Department
Email: loh@oakland.edu
Phone: (248) 370-2222

Teaching
Control systems; Estimation Theory, Kalman Filters, Observers; Signals and Systems

Research
Linear and nonlinear controls, adaptive controls; automotive engineering, suspension systems; robotics, unmanned robotic vehicles, underwater robotic vehicles; estimation theory, linear and nonlinear observers, Kalman filters, systems identification; stochastic processes, Kalman-Bucy filtering; biomedical engineering.

“My research consists of securing research grants/contracts from funding agencies, government organizations and industries, up-dating research and teaching labs, publishing scholarly papers and technical reports, and supervising graduate students, with a commitment to excellence and a solid record of academic and professional achievements.” Robert N. K. Loh, 2013

Selected Publications