2016-17 | NEW FACULTY

DEPARTMENTS

Biological Systems Engineering
Forrest Kievit
Theo Lioutas
Tiffany Messer
Aaron Mittelstet
Yeyin Shi
Rebecca Wachs
Mark Wilkins

Chemical & Biomolecular Engineering
Shudipto Konika Dishari
Siamak Nejati
Rajib Saha

Civil Engineering
Jongwan Eun
Ashraf Aly Hassan
George Hunt
Seunghee Kim
Christine Wittich

Computer Science & Engineering
Hamid Bagheri
Brady Garvin
Thashvo Nguyen

Electrical & Computer Engineering
Andrew Harms

Mechanical & Materials Engineering
Jae Sung Park
Pralalada Rao
Ruiguo Yang

The Durham School of Architectural Engineering & Construction
Fadi Alsaleem

Hamid Bagheri
Assistant Professor, Department of Computer Science and Engineering
B.S., Computer Science, University of Tehran / M.S., Software Engineering, Sharif University of Technology / Ph.D., Computer Science, University of Virginia

Previous Experience:
- Postdoctoral researcher, School of Information and Computer Sciences, University of California, Irvine
- Postdoctoral research fellow, Massachusetts Institute of Technology

Research:
- Software engineering, particularly in practical software analysis and synthesis
- Compositional analysis of Android inter-app vulnerabilities, synthesis of application-specific frameworks, synthesis of tradeoff spaces for object-relational databases

SHUDIPTO KONIKA DISHARI
Assistant Professor, Department of Chemical and Biomolecular Engineering
B.S., Chemical Engineering, Bangladesh University of Engineering and Technology / Ph.D., Chemical and Biomolecular Engineering, National University of Singapore

Previous Experience:
- Postdoctoral researcher, Chemical Engineering Department/Materials Science & Engineering, Pennsylvania State University

Research:
- Research spans biotechnology to energy applications, including polymers and nanomaterials, thin films and membranes, energy, chemobiorecognition and biomedical applications

JONGWAN EUN
Assistant Professor, Department of Civil Engineering
B.S., Yonsei University, South Korea / M.S., University of Texas at Austin / Ph.D., Civil and Environmental Engineering (Geoenvironmental Engineering emphasis), University of Wisconsin-Madison

Previous Experience:
- Lecturer and research associate, New York University Abu Dhabi
- Postdoctoral work, UW-Madison
- Field engineer, Dongmyung E&C Co.

Research:
- Analysis and design optimization of geotechnical and geoenvironmental systems, energy geotechnics, radioactive material disposal facility

BRADY GARVIN
Assistant Professor of Practice, Department of Computer Science and Engineering
B.S., Computer Science, Mathematics, University of Nebraska-Lincoln (J.D. Edwards Honors Program in Computer Science and Management) / M.S., Software Engineering, University of Nebraska / Ph.D., Software Engineering, University of Nebraska

Previous Experience:
- Lecturer, Nebraska Wesleyan University
- Projects with Mutual of Omaha, Design Data, IBM, and NASA

Research:
- Software engineering focusing on feature-interaction faults, faults that are only detectable when certain combinations of features appear in a system’s configuration
ANDREW HARDS
Assistant Professor, Department of Electrical and Computer Engineering
B.S., Electrical Engineering, University of Notre Dame / Ph.D., Electrical Engineering, Princeton University
Previous Experience:
- Postdoctoral researcher, Duke University
- Air Force Research Labs
Research:
- Statistical signal processing, efficient sampling and processing of signals, information theory, signal processing for radar systems

GEORGE HUNT
Assistant Professor of Practice, Department of Civil Engineering
B.S., Physics, Miami University (Oxford, Ohio) / M.E., Ph.D., Civil Engineering (Environmental Engineering), University of Virginia
Previous Experience:
- Senior civil engineer, Burns and McDonnell
- 13 years of professional experience in civil engineering, including North Carolina Division of Water Quality and U.S. Army Corps of Engineers
Research:
- Surface water hydrology, hydrodynamic and water quality modeling, watershed management

FORREST KIEVIT
Assistant Professor, Department of Biological Systems Engineering
B.S., Bioengineering; Ph.D., Materials Science and Engineering Department, University of Washington
Previous Experience:
- Postdoctoral and research faculty, Neurological Surgery Department, University of Washington
Research:
- Developing nanoparticle-based delivery vehicles for transport into the brain for more effective brain cancer and brain injury treatments
- Nanoparticle-mediated delivery of nucleic acids into brain tumors

SEUNGHEE KIM
Assistant Professor, Department of Civil Engineering
B.S., M.S., Korea Advanced Institute of Science and Technology / Ph.D., Georgia Tech
Previous Experience:
- Postdoctoral fellow, Bureau of Economic Geology, University of Texas at Austin
- Assistant professor, Department of Civil and Environmental Engineering, Western New England University
Research:
- Energy geotechnology: modeling and experiment for hydro-chemo-thermo-mechanically coupled processes
- Reactive and/or multiphase fluid flow in porous media
- Induced seismicity/earthquakes

THANH-VU NGUYEN
Assistant Professor, Department of Computer Science and Engineering
B.S., M.S., Computer Science, Pennsylvania State University / Ph.D., Computer Science, University of New Mexico
Previous Experience:
- Postdoctoral work, University of Maryland
Research:
- Intersection of software engineering and programming languages, with a particular focus on using static and dynamic analyses for automatic invariant generation and program repair

THEO LIOUTAS
Research Professor, Department of Biological Systems Engineering
B.S., Chemistry, University of Athens, Greece / M.S., Agricultural Engineering; Ph.D., Food Chemistry and Food Science, University of Illinois
Previous Experience:
- Chief Science and Technology officer, McCain Foods Limited
- Senior vice president of Global Research and Development, Brown-Forman
- Positions with General Mills, Campbell Soup, Kraft Foods, Jacobs-Suchard, Tropicana/PepsiCo
Research:
- Integrating R&D and innovation into global functions to fuel new business growth
- Managing and utilizing agricultural science and technology to produce proprietary crop innovations

AARON MITTELSTET
Assistant Professor, Department of Biological Systems Engineering
B.S., Zoology, Oklahoma State University / M.S., Environmental Science / Ph.D., Biosystems and Agricultural Engineering Department, Oklahoma State University
Previous Experience:
- Peace Corps in Guatemala, focus on animal husbandry
- Taught English in Spain; Spanish and English as a Second Language, Enid Public Schools in Oklahoma
Research:
- Basic and applied research in hydrologic processes and water resources management at multiple scales: emphasis on understanding water resources within watersheds, specifically the water balance

SIAMAK NEJATI
Assistant Professor, Department of Chemical and Biomolecular Engineering
B.S., M.S., Chemical Engineering, Sharif University of Technology / Ph.D., Chemical Engineering, Drexel University
Previous Experience:
- Postdoctoral research associate, Department of Chemical and Environmental Engineering, Yale University
Research:
- Polymeric materials, nanostructures and coatings - developing economically viable and advanced methods for addressing the current challenges to water and energy supplies and security
RAJIB SAHA
Assistant Professor, Department of Chemical and Biomolecular Engineering
B.S., Chemical Engineering, Bangladesh University of Engineering and Technology / M.S., Ph.D., Chemical Engineering, Costas Maranas Lab, Pennsylvania State University

Previous Experience:
- Postdoctoral research associate, Himadri Pakrasi Lab (Biology Department), Washington University in St. Louis
- Assistant professor, System Science and Industrial Engineering, Binghamton University

Research:
- Sensor-based monitoring and diagnosis of complex bio-physical and manufacturing processes (e.g., additive manufacturing, ultraprecision machining, semiconductor planarization, and neurophysiology)

PRAHALADA RAO
Assistant Professor, Department of Mechanical and Materials Engineering
B.Engg., Production Engineering, Victoria Jubilee Technical Institute, Bombay University, India / M.S., Ph.D., Industrial Engineering, Oklahoma State University

RAJIB SAHA
Assistant Professor, Department of Chemical and Biomolecular Engineering
B.S., Chemical Engineering, Bangladesh University of Engineering and Technology / M.S., Ph.D., Chemical Engineering, Castas Maranas Lab, Pennsylvania State University

Previous Experience:
- Postdoctoral research associate, Himadri Pakrasi Lab (Biology Department), Washington University in St. Louis
- Assistant professor, System Science and Industrial Engineering, Binghamton University

Research:
- Sensor-based monitoring and diagnosis of complex bio-physical and manufacturing processes (e.g., additive manufacturing, ultraprecision machining, semiconductor planarization, and neurophysiology)

MARK WILKINS
Professor, Department of Biological Systems Engineering
B.S., Agricultural and Biological Engineering, Purdue University / M.S., Ph.D., Agricultural Engineering, University of Illinois at Urbana-Champaign

Previous Experience:
- Postdoctoral research associate, Himadri Pakrasi Lab (Biology Department), Washington University in St. Louis
- Assistant professor, System Science and Industrial Engineering, Binghamton University

Research:
- Reconstruction and analysis of genome-scale and community models, systems-level analysis of 'omics' data, development of genetic toolkit and engineering metabolic pathways, redesign of photosynthetic apparatus and carbon fixing mechanism

TIFFANY MESSER
Assistant Professor, Department of Biological Systems Engineering / School of Natural Resources
B.S., Biosystems and Agricultural Engineering, University of Kentucky / M.S., Ph.D., Biological and Agricultural Engineering, North Carolina State University

Previous Experience:
- Completing her postdoctoral appointment, Nicholas School of the Environment, Duke University, December 2016

Research:
- Emerging technologies such as nutrient recovery from animal manures; arising issues in water quality associated with the fate, transport and remediation of emerging contaminants in stream, wetland, and agricultural ecosystems; assessing risk management and/or mitigation of water-borne contaminants

JAE SUNG PARK
Assistant Professor, Department of Mechanical and Materials Engineering
B.S., Mechanical Engineering, Hanyang University, Seoul, South Korea / M.S., Ph.D., Mechanical Engineering, University of Illinois at Urbana-Champaign

Previous Experience:
- Postdoctoral associate, Department of Chemical and Biological Engineering, University of Wisconsin-Madison

Research:
- Wide range of fluid mechanics, covering from low Reynolds number flows (Ph.D. research) to high Reynolds number flows (postdoctoral research), focusing on complex fluids, colloidal suspensions, electrokineatics, and turbulent flow

RUIGUO YANG
Assistant Professor, Department of Mechanical and Materials Engineering
B.S., Mechanical Engineering, M.S., Mechatronics Engineering, Nanjing University of Aeronautics and Astronautics / Ph.D., Electrical and Computer Engineering, Michigan State University

Previous Experience:
- Postdoctoral fellow, Department of Mechanical Engineering, Northwestern University
- Research scientist, iNfinitei'mal llc (nanotechnology startup)

Research:
- Nanorobotics, bioMEMS and mechanobiology
- Micro/nanosystems for cellular engineering to manipulate cells through delivery of biomolecules, to study cell-cell interactions and to understand mechanotransduction under physio/pathological conditions, all at the single cell level
YEYIN SHI
Assistant Professor, Department of Biological Systems Engineering
B.S., Mechanical Engineering, Nanjing Forestry University, China / M.S., Ph.D., Agricultural Engineering, Oklahoma State University

Previous Experience:
- Postdoctoral experience, University of Florida and Texas A&M University

Research:
- Agricultural information systems, including developing and transforming state-of-the-art technologies to record, transmit, manage, analyze and utilize digital information to address the nexus of health, productivity and sustainability in agricultural production systems
- UAV applications in agronomic research and high-throughput field-based phenotyping

VITALY ALEXANDROV
Assistant Professor, Department of Chemical and Biomolecular Engineering
B.S., Electrochemistry; M.S., Quantum Chemistry, St. Petersburg State University / M.S., Computer Science, Georgia Institute of Technology (ongoing) / Ph.D., Computational Chemistry, Max-Planck Institute for Solid State Research and University of Stuttgart

Previous Experience:
- Research associate, Pacific Northwest Laboratory
- Postdoctoral researcher, University of California, Davis / University of California, Berkeley

Research:
- Modeling of coupled electron/ion transport dynamics through polycrystalline oxide networks, absorption phenomena and interfacial electron transfer and selecting oxidation of Ni-based alloys

REBECCA WACHS
Assistant Professor, Department of Biological Systems Engineering
B.S., Mechanical Engineering, Worcester Polytechnic Institute / Ph.D., Biomedical Engineering, Rensselaer Polytechnic Institute

Previous Experience:
- Senior engineer in research and development, RTI Surgical, Inc.
- Postdoctoral studies in neural engineering, University of Florida

Research:
- Novel interventions for the treatment of low back pain using three major arms of research: engineered biomaterials to prevent and reverse nerve growth, targeted delivery of antioxidants to modulate inflammation, and development of in vitro test beds to mimic disease progression

CHRISTINE WITTICH
Assistant Professor, Department of Civil Engineering
B.S., Civil Engineering, Lafayette College / M.S., Ph.D., Structural Engineering, University of California, San Diego

Research:
- Structural dynamics, engineering mechanics, and full-scale experimentation of structures
- Recent projects include shake table tests of multi-body rocking systems, experimental modal analysis of cultural heritage structures, and probabilistic assessments of precariously balanced rocks

JUSTIN BRADLEY
Assistant Professor, Department of Computer Science and Engineering
B.S., Computer Engineering, Brigham Young University / M.S., Electrical Engineering, Brigham Young University / M.S., Ph.D., aerospace engineering, University of Michigan

Previous Experience:
- Postdoctoral research fellow in aerospace engineering, University of Michigan

Research:
- Co-director of the NIMBUS Lab; design of robotic systems with emphasis on aerospace systems and unmanned aircraft systems
BRITTANY DUNCAN  
Assistant Professor, Department of Computer Science and Engineering  
B.S., Georgia Institute of Technology / Ph.D., Texas A&M University  
CITY CAMPUS

Previous Experience:  
- Postdoctoral study, California Institute for Quantitative Biosciences, UC Berkeley

Research:  
- Focused at the intersection of Artificial Intelligence, Human-Robot Interaction, and Unmanned Systems
- Research the ethical ramifications of warfare robots and the interactions between humans and robots in rescue environments, with a specific focus on small Unmanned Aerial Vehicles

WILLIAM CHARLTON  
Associate Vice Chancellor for Research / Professor, Department of Mechanical and Materials Engineering  
B.S., M.S., Ph.D., Nuclear Engineering, Texas A&M University  
CITY CAMPUS

Research:  
- Nuclear nonproliferation and counter proliferation
- Nuclear detection and nuclear forensics
- Nuclear security and reducing nuclear threats

JIONG HU  
Associate Professor, Department of Civil Engineering  
B.S., Computer Engineering, Brigham Young University / M.S., Electrical Engineering, Brigham Young University / M.S., Ph.D., aerospace engineering, University of Michigan  
SCOTT CAMPUS

Previous Experience:  
- Assistant and associate professor, Texas State University

Research:  
- Eco-efficient concrete, self-consolidation concrete (SCC), fresh concrete properties and rheology of concrete, ultra-high performance concrete (UHPC), concrete with recycled materials
- Sustainable civil engineering materials and construction

QING HUI  
Associate Professor, Department of Electrical and Computer Engineering  
B.S., Aerospace Engineering, National University of Defense Technology in China / M.S., Automotive Engineering, Tsinghua University / M.S., Applied Mathematics, Georgia Institute of Technology / Ph.D., aerospace engineering, Georgia Institute of Technology  
CITY CAMPUS

Previous Experience:  
- Associate professor of mechanical engineering, Texas Tech University

Research:  
- Thermoelasticity analysis and design for robustness and resilience in complex systems engineering
- Human-interactive neuromorphic supercomputing networks via mobile autonomous and semi-autonomous systems
- Model-based and data-driven fault detection and diagnosis methods for large scale distributed hybrid networks
- Nature-inspired swarm intelligence algorithms and methods

RANDY PETERS  
Associate Professor of Practice, Department of Civil Engineering  
B.S., Civil Engineering, University of Nebraska-Lincoln  
CITY CAMPUS

Previous Experience:  
- Deputy director - engineering, planning and project development engineer, state traffic engineer, assistant roadway design engineer, Nebraska Department of Roads
- Chief executive officer, Nebraska Department of Roads
- Adjunct professor of Civil Engineering, University of Nebraska-Lincoln

NICOLE IVERSON  
Assistant Professor, Department of Biological Systems Engineering  
B.S., Biomedical Engineering, University of Minnesota / M.S., Ph.D., Rutgers University  
EAST CAMPUS

Previous Experience:  
- NIH postdoctoral fellow, Massachusetts Institute of Technology

Research:  
- Delivery, monitoring and analysis of in vivo nanoparticles that act as biological sensors
- DNA-wrapped single wall carbon nanotubes in alginate microspheres
- Modifying chemical structures of nanoparticles for use in noninvasive intravenous delivery

SUZETTE PERSON  
Associate Professor of Practice, Department of Computer Science and Engineering  
Director, Software Engineering Program  
B.S., Computer Science, Iowa State University / M.S., Software Engineering, National Technological University / Ph.D., Computer Science, University of Nebraska  
CITY CAMPUS

Previous Experience:  
- Research Computer Scientist, Formal Methods Group, NASA Langley Research Center, Hampton, VA

Research:  
- Development and application of software testing and program analysis techniques, especially in the context of evolving software
JOHN SANGSTER
Assistant Professor, Department of Civil Engineering
B.S., Civil Engineering, University of Missouri / M.S., Ph.D., Civil Engineering, Colorado State University

Previous Experience:
- V.O. Smith Professor of Civil and Architectural Engineering, Professor, department head and associate dean, University of Wyoming

Research:
- Building information systems, software engineering, bridge engineering
- Big data related to asset management, seismic engineering
- Structural dynamics including aeroelastic phenomena, multiphysics simulations

WEN QIAN
Research Assistant Professor, Department of Mechanical and Materials Engineering
Manager, Nano-Engineering Research Core Facility (NERCF)
B.S., Structural Engineering, Anhui University of Architecture / M.S., Materials Engineering, Southeast University / Ph.D., Materials Physics and Chemistry, University of Science and Technology of China

Previous Experience:
- Research Scientist, Ocean Nanotech LLC (San Diego, CA)
- Adjunct Research Assistant Professor, Portland State University

Research:
- Materials science, focus on production, hybridization, characterization and structural analysis of novel graphene related to two dimensional materials, as well as renewable energy applications

CHUNGWOOK SIM
Assistant Professor, Department of Civil Engineering
B.S., M.S., Civil Engineering, Yonsei University / M.S., Civil Engineering, University of Texas, Austin / Ph.D., Civil Engineering, Purdue University

Previous Experience:
- Postdoctoral research assistant, Purdue University Center for Earthquake Engineering and Disaster Data

Research:
- Modeling and testing of structural concrete, structural members under extreme loads, advanced instrumentation and testing of structures, disaster reconnaissance and data management, infrastructure health monitoring (Big Data)

CHUNG SONG
Associate Professor, Department of Civil Engineering
B.S., Civil Engineering, Yonsei University / M.S., Civil Engineering, University of Texas at Austin / Ph.D., Civil Engineering, Louisiana State University

Previous Experience:
- Professional in residence/postdoctoral research associate in Civil Engineering, Louisiana State University
- Associate professor of Civil Engineering, University of Mississippi

Research:
- Evaluation of physical and mechanical behavior of soils
- Combining noble theories to solve real field problems such as bridging nano-particle continuum mechanics, implementation of acoustic techniques in subsurface exploration, soil improvement, constitutive relations of geo-materials, simulation of saturated/unsaturated soils using coupled theory of mixtures, calibration chamber testing, soil dynamics, soil-structure interaction, pavement-related geotechnical engineering

ELI SUTTER
Professor, Department of Mechanical and Materials Engineering
M.S., Ph.D., Condensed Matter Physics, Sofia University in Bulgaria

Previous Experience:
- Scientist, Center for Functional Nanomaterials, Brookhaven National Laboratory

Research:
- In-situ, variable temperature transmission electron microscopy (TEM) studies of properties of nanoscale objects – alloy phase diagrams, solute solubility, phase transformations: melting and crystallization, oxidation, solid state reactions such as silicidation
- Real-time TEM observations of processes in liquid environments: assembly of nanoparticles in colloids and solutions, growth processes - formation of core-shell nanoparticles & complex nanostructures, galvanic replacement reactions, protein self-assemblies, etc.
QIN ZHOU
Assistant Professor, Department of Mechanical and Materials Engineering
B.S., M.S., Precision Instruments, Tsinghua University / Ph.D., Mechanical Engineering, University of California, Berkeley

Previous Experience:
- Staff scientist, research group leader and facility leader, Center for Functional Nanomaterials, Brookhaven National Laboratory
- Associate and assistant professor in physics, Colorado School of Mines

Research:
- 2D Materials: Graphene, hexagonal boron nitride, metal dichalcogenides, heterostructures: fundamental growth mechanisms, scalable synthesis; physical and chemical properties, defect chemistry & functionalization; electronic structure, optoelectronic properties, charge transport; devices for electronics, energy applications, sensing
- Nanomaterials: Semiconductor nanowires and nanowire heterostructures, nanoscale heterostructures (in-plane structures & vertical stacks) of 2D materials, hierarchical metamaterials architectures
- Energy conversion and energy efficiency

QIBEN YAN
Assistant Professor, Department of Computer Science and Engineering
B.S., M.S., Electrical Engineering, Fudan University / Ph.D., Computer Science, Virginia Polytechnic and State University

Previous Experience:
- Shape Security: a cyber-security startup company in Silicon Valley

Research:
- Wireless communications, mobile security and privacy, botnet and malware detection
- Building a data-driven secure network infrastructure - such as anomaly detection system, traffic monitoring and analysis system, attack resilient communication system - to provide security add-ons for modern networks under cyber threat

JINGLIN ZHENG
Research Assistant Professor, Department of Mechanical and Materials Engineering
B.S., Mechanical Engineering, Tsinghua University, China / M.S., Ph.D., Mechanical Engineering, University of California, Berkeley

Previous Experience:
- Senior hardware engineer, HGST, A Western Digital Company
- Tribology engineer, SAE Magnetics, TDK Corporation

Research:
- Data storage systems, tribology, mechanics, numerical methods

SHENG WEI
Assistant Professor, Department of Computer Science and Engineering
B.S., Computer Science, Yanshan University / M.S., Ph.D., Computer Science, University of California

Previous Experience:
- Researcher, Adobe Systems Inc.

Research:
- Hardware security and trust, multimedia security and streaming, mobile computing, low power system design and large-scale networked systems

PETER SUTTER
Professor, Department of Electrical and Computer Engineering
M.S., Physics, Swiss Federal Institute of Technology (ETH), Zurich, Switzerland / Ph.D., Solid State Physics, Swiss Federal Institute of Technology (ETH), Zurich, Switzerland

Previous Experience:
- Staff scientist, research group leader and facility leader, Center for Functional Nanomaterials, Brookhaven National Laboratory
- Associate and assistant professor in physics, Colorado School of Mines

Research:
- 2D Materials: Graphene, hexagonal boron nitride, metal dichalcogenides, heterostructures: fundamental growth mechanisms, scalable synthesis; physical and chemical properties, defect chemistry & functionalization; electronic structure, optoelectronic properties, charge transport; devices for electronics, energy applications, sensing
- Nanomaterials: Semiconductor nanowires and nanowire heterostructures, nanoscale heterostructures (in-plane structures & vertical stacks) of 2D materials, hierarchical metamaterials architectures
- Energy conversion and energy efficiency

JIAN WANG
Associate Professor, Department of Mechanical and Materials Engineering
B.S., Engineering Mechanics, Jiaotong University / M.S., Solid Mechanics, Jiaotong University / Ph.D., Mechanical Engineering, Rensselaer Polytechnic Institute

Previous Experience:
- Scientist/Postdoctoral researcher, Los Alamos National Laboratory

Research:
- Interface Engineering: improve mechanical properties and irradiation tolerance of materials by tailoring interfaces in solids. This is a multiscale effort involving synthesis, characterization, measurement, theory and modeling at different scales to design materials with desired properties

CRAIG ZUHLKE
Research Assistant Professor, Department of Electrical and Computer Engineering
B.S., Electrical Engineering, University of Nebraska-Lincoln / M.S., Ph.D., Electrical Engineering, University of Nebraska

Previous Experience:
- Postdoctoral research associate, University of Nebraska-Lincoln

Research:
- Applications of femtosecond pulse interaction with materials including, functionalizing surfaces, producing self-organized micro/nanoscale surface structures, modifying surface chemistry and crystal structure, and pump-probe/spectroscopic analysis of surfaces

SHENG WEI
Assistant Professor, Department of Computer Science and Engineering
B.S., Computer Science, Yanshan University / M.S., Ph.D., Computer Science, University of California

Previous Experience:
- Researcher, Adobe Systems Inc.

Research:
- Hardware security and trust, multimedia security and streaming, mobile computing, low power system design and large-scale networked systems

PETER SUTTER
Professor, Department of Electrical and Computer Engineering
M.S., Physics, Swiss Federal Institute of Technology (ETH), Zurich, Switzerland / Ph.D., Solid State Physics, Swiss Federal Institute of Technology (ETH), Zurich, Switzerland

Previous Experience:
- Staff scientist, research group leader and facility leader, Center for Functional Nanomaterials, Brookhaven National Laboratory
- Associate and assistant professor in physics, Colorado School of Mines

Research:
- 2D Materials: Graphene, hexagonal boron nitride, metal dichalcogenides, heterostructures: fundamental growth mechanisms, scalable synthesis; physical and chemical properties, defect chemistry & functionalization; electronic structure, optoelectronic properties, charge transport; devices for electronics, energy applications, sensing
- Nanomaterials: Semiconductor nanowires and nanowire heterostructures, nanoscale heterostructures (in-plane structures & vertical stacks) of 2D materials, hierarchical metamaterials architectures
- Energy conversion and energy efficiency

JIAN WANG
Associate Professor, Department of Mechanical and Materials Engineering
B.S., Engineering Mechanics, Jiaotong University / M.S., Solid Mechanics, Jiaotong University / Ph.D., Mechanical Engineering, Rensselaer Polytechnic Institute

Previous Experience:
- Scientist/Postdoctoral researcher, Los Alamos National Laboratory

Research:
- Interface Engineering: improve mechanical properties and irradiation tolerance of materials by tailoring interfaces in solids. This is a multiscale effort involving synthesis, characterization, measurement, theory and modeling at different scales to design materials with desired properties

CRAIG ZUHLKE
Research Assistant Professor, Department of Electrical and Computer Engineering
B.S., Electrical Engineering, University of Nebraska-Lincoln / M.S., Ph.D., Electrical Engineering, University of Nebraska

Previous Experience:
- Postdoctoral research associate, University of Nebraska-Lincoln

Research:
- Applications of femtosecond pulse interaction with materials including, functionalizing surfaces, producing self-organized micro/nanoscale surface structures, modifying surface chemistry and crystal structure, and pump-probe/spectroscopic analysis of surfaces
CHRISTOS ARGYROPOULOS
Assistant Professor, Department of Electrical and Computer Engineering
B.S., Aristotle University of Thessaloniki / M.Sc., University of Manchester / Ph.D., Queen Mary-University of London

Research:
- Linear and nonlinear plasmonics and nanophotonics, metamaterials and their applications, antenna design, transformation electromagnetics, photonics, active, tunable and reconfigurable metadevices, acoustic/thermal metamaterials, microwave/mm-wave/THz engineering, novel optical interconnects, thermal emission from plasmonic structures, graphene nanophotonics, novel energy harvesting devices and computational electromagnetics

BAI CUI
Assistant Professor, Department of Mechanical and Materials Engineering
B.Eng., M.Eng., Materials, Tsinghua University, China / Ph.D., Materials, Imperial College, London, UK

Research:
- Materials for extreme environments: oxide-dispersion-strengthened (ODS) alloys, MAX phases, metal/ceramic composites
- Corrosion: stress corrosion cracking, high-temperature corrosion; Irradiation damage: irradiation defects, irradiation-assisted stress corrosion cracking

YUGUO LEI
Assistant Professor, Department of Chemical and Biomolecular Engineering
B.S., Chemistry, Peking University / M.S., Molecular and Medical Pharmacology, UCLA School of Medicine / MPhil, Polymer Science, Hong Kong University of Science and Technology

Previous Experience:
- Postdoctoral study, California Institute for Quantitative Biosciences, UC Berkeley

Research:
- Use engineering expertise and human pluripotent stem cell (hPSC) biology to resolve unsolved human health problems
- Develop new concepts and technologies for addressing the significant challenges in the process from benchtop to bedside for hPSC-derived cells.
DAVID YUILL
Assistant Professor, The Durham School of Architectural Engineering and Construction
B.S., University of Nebraska Omaha / M.A., University of Nebraska / Ph.D., Purdue University
Research:
- High performance buildings, energy conservation through smart buildings
- Fault Detection and Diagnostics (FDD) in HVAC systems, performance of FDD, HVAC controls, ventilation and indoor air quality
- Building energy modeling

JINYING ZHU
Assistant Professor, Department of Civil Engineering
B.Eng., Zhejiang University / Ph.D., University of Illinois, Urbana-Champaign
Research:
- Nondestructive Testing and Evaluation (NDT/NDE), wave propagation, sensor development and sensing technologies, material and damage characterization using ultrasonic waves

Department Websites
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durhamschool.unl.edu
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ece.unl.edu
civil.unl.edu
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cse.unl.edu