College of Engineering and Computer Science

Faculty Expertise

Engineering Management & Technology Department

Dr. Ahad Nasab, P.E.

Department Head and Burkett Miller Chair of Excellence
Department of Engineering Management and Technology
The University of Tennessee at Chattanooga (UTC)

About

Dr. Nasab is the current Head of the Engineering Management and Technology department at UTC. The department houses Engineering Management, Construction Management and Mechatronics Engineering Technology programs. Dr. Nasab has a PhD in Mechanical Engineering from Georgia Institute of Technology and is currently teaching and developing courses in Mechatronics.

Research Interests

Dr. Nasab's current and past research experiences are in the areas of hydrogen fuel cells, space propulsion, arc plasma diagnostics, and electromagnetic launchers.

Experience

In addition to his teaching, research, and consulting service experiences, he has many years of experience in automotive industry as well as applied research experience at NASA-Marshall. He is also level-3 (highest level) Siemens Mechatronics certified.

Publications

Dr. Nasab has published scientific articles in areas of space propulsion and plasma diagnostic techniques. He also writes about improving engineering education.

Dr. Wolday D. Abrha

Visiting Assistant Professor
Department of Engineering Management and Technology
The University of Tennessee at Chattanooga (UTC)

Education
Dr. Abrha earned his Ph.D. in Industrial Engineering from The University of Tennessee.

Research Interests
His research interests include in the areas of Applying Lean, Six Sigma, and Quality Techniques to Improve Performance of Organizations; Modeling, Analyzing, and Designing Discrete Manufacturing and Supply Chains; Systems Modeling, Simulation, and Optimization; and Statistics and Data Analytics.

Experience
In addition to his teaching, research, and service experience in higher education, he has more than six years of industry experience, in the automotive manufacturing (supplier quality assurance) and cement manufacturing (supplier quality assurance and maintenance functions) sectors.

Certification
Dr. Abrha is a certified Lean Six Sigma Black Belt (LSSBB) and a Certified Professional in Engineering Management (CPEM).

Paul Baggett

Lecturer
Department of Engineering Management and Technology
The University of Tennessee at Chattanooga (UTC)

About

Paul is an instructor for Construction Management courses. He has 40 years of experience in major commercial construction, retail construction, industrial construction, and residential construction.

Expertise

His expertise is in the areas of corporate management, project management, estimating, safety, building codes, seminar speaker, expert witness, construction research, management, and leadership. He is a Certified Construction Contract Administrator, Level I Erosion Control, Construction Document Technologist.

Member Associations:

He is a member of Associated General Contractors (AGC) of America, member of Construction Specifications Institute (CSI), and LEED Green Associate.

Dr. Jennifer Goodrich

Lecturer: Engineering Management
Department of Engineering Management and Technology
The University of Tennessee at Chattanooga (UTC)

Education
Dr. Goodrich received her Ph.D. from Grand Canyon University.

Research Interests
Her research interests are how to motivate teams towards greater productivity and engagement based on their personality styles.

Dr. Goodrich teaches courses in Engineering Management, Facilities Planning, Materials Management, and Technical Entrepreneurship.

Experience
Dr. Goodrich worked in industry for over 35 years. She led Marketing and New Product Development departments mostly in Fortune-500 firms, and (most recently) served as Vice President of Marketing and New Product Development. She developed strategic alliances in Hungary, Mexico, Japan, and China.

For the last 20 years, Dr. Goodrich owned a leadership training firm where she designed and conducted leadership classes for licensed professionals.

Expertise
Her expertise is Business. Specifically, expertise is in organizational leadership (managing teams, leading organizations, strategic positioning, staff personalities, communication, project management, and leadership style). However, she has been pleased to teach entrepreneurialism, materials management, and facilities management.

Dr. Erkan Kaplanoglu

Associate Professor - Mechatronics
Department of Engineering Management and Technology
The University of Tennessee at Chattanooga (UTC)

Education

Postdoc., CIM lab, Mechanical Eng. Vanderbilt University Nashville, TN.
Ph.D., Computer-Control, Marmara University Istanbul, Turkey
M.S Electric Edu., Marmara University Istanbul, Turkey

Expertise

Biomechatronics

- Wearable rehabilitation devices, Upper Limb Prosthesis/Orthosis and Bio signal processing (EMG,EEG)

Industrial Automation:

- MPS, CIM and PLC systems (Siemens and IDEC, , Microcontrollers (dSPIC), Robotics (Kuka, ABB, Mitsubishi) and Industrial Networking (As-I, Profibus),

Modeling, identification and control of complex systems:

- Process Control, Model Predictive Control and Fuzzy Logic Control

Research Interests

Biomechatronics systems, Wearable rehabilitation devices, Model Predictive Control, Lower limb Prosthesis/Orthosis. Robotics

Bryan Strickland

Lecturer
Department of Engineering Management and Technology
The University of Tennessee at Chattanooga (UTC)

Education

Auburn University, BIND
University of Tennessee at Chattanooga, MID

About

Bryan is an instructor for Construction Management courses. He has a diverse background with nearly 30 years of experience in design, manufacturing, management, fabrication, structural steel and residential construction.

Experience

Prior to teaching in this department, he taught for 8 years in the Interior Architecture department at UTC. He taught courses in volumetric studies, concept development and 3D visualization, as well as CAD and Drafting courses. Professionally he has worked as a design engineer and project manager in manufacturing and structural steel. He has worked in the field on many ground-up residential projects. In addition, he ran his own business designing and fabricating custom architectural components.

Dr. Khalid Tantawi

Assistant Professor - Mechatronics
Department of Engineering Management and Technology
The University of Tennessee at Chattanooga (UTC)

Education

PhD in Electrical Engineering from University of Alabama in Huntsville, 2012
M.Sc. in Electrical Engineering from University of Alabama in Huntsville, 2011
Double M.Sc in Aerospace Engineering from Institut Supérieur de l'Aéronautique et de l'Espace (ISAE) and University of Pisa, 2007
Bachlor's degree in Mechatronics Engineering from the University of Jordan, 2005

Expertise

More than 10 years of teaching and research experience. Previousely, was a trainer for Siemens Technik Akademy for certifying Siemens Mechatronic Systems Certifications (level 1). Also was the elected chair of the Engineering section of the Tennessee Academy of Science, an active academic auditor, and a member of the Tennessee Textbook Advisory Panel, and the European Commission's Erasmus Mundus Association. With more than 30 journal and conference publications, Dr. Tantawi was also an invited speker at several conferences, and reviewed and judged many textbooks and scientific papers in engineering journals and international conferences.

Research Interests

My research interests are in Micro- Electro-Mechanical Systems (MEMS), fabrication of microstructures made in porous silicon for studying transmembrane proteins, microfluidics. Also in advanced manufacturing and Industry 4.0 technologies.

Organizations

- Institute for Electrical and Electronics Engineers (IEEE)
- Society of Manufacturing Engineers (SME)
- Tennessee Academy of Science
- Erasmus Mundus Association
- Tennessee Textbook Advisory Panel (2018, 2016, 2015)
- American Chemical Society

Certifications

Siemens Certified level 2 instructor

Dr. Serkan Varol

Assistant Professor – Engineering Management
Department of Engineering Management and Technology
The University of Tennessee at Chattanooga (UTC)

Education

PhD-Industrial and Systems Engineering from Lamar University in Beaumont, TX, 2016

MSc-Engineering Management from Wilkes University in Wilkes Barre, PA, 2012

BS-Industrial and Systems Engineering from West Virginia University, Morgantown, WV-2010

Research Interest

My research interest includes Data Mining, Business Analytics (Analyzing consumer-related data to identify behavioral patterns and traits), Statistical Decision Making, Health Informatics (Analyzing healthcare data to generate useful insights), and Student Retention & Graduation Analytics fields. However, over the last several years I have carried out more research in the areas of information quality and predictive-statistical analytics of manufacturing data.

Experience

Prior to my role at UTC, as a business analyst at Ford Motor Company (Detroit, Michigan), I was involved in building a “in house made“ Spark-based Data Profiling tool that identifies the concepts (including PII concepts), scans the landed data in Hadoop environment, and provide columnar analysis to assess the quality of information. Our teamwork was nominated by Chief Data and Analytics Offices for the “Henry Ford Technical Award”. I also served as an Assistant Professor at Engineering Management Department at Southeast Missouri State University, I was awarded a competitive DENSO grant. In this project, a framework for enhancing data quality and detecting the deceptive/duplicate records in the automotive sector was proposed. The proposed framework promised greater data processing and analysis capability, which improves the quality of the data linkage process

Electrical Engineering Department

Dr. Abdelrahman Karrar

Department Head and Professor
Department of Electrical Engineering
The University of Tennessee at Chattanooga (UTC)

Expertise

Dr. Karrar‘s expertise covers the areas of Electrical power systems stability, protection and operation. His general expertise covers working with real-time systems, smart grids, wide area applications, PMU and synchro-phasor technology.

Research Interests

His specific areas of research cover frequency and voltage-based load-shedding, static and dynamic voltage stability, PMU based topology estimation, power system stabilizer design, power system bifurcation and maximum loadability investigations, and power system steady-state, dynamic and transient modelling. In addition, Dr. Karrar has worked on nuclear power plant electrical system analysis, as well as distribution system analysis with particular reference to ferroresonance and associated phenomena.

Membership Associations

Dr. Karrar is a Senior Member at the Institute of Electrical and Electronics Engineers (IEEE).

Dr. Raga Ahmed

Professor
Department of Electrical Engineering
The University of Tennessee at Chattanooga (UTC)

Education

Dr. Ahmed received her Ph.D. (2013) in Electrical Engineering from the Georgia Institute of Technology, and her Masters of Electrical Engineering (1993) from Rice University.

Research Interests:

Her research interests include control systems and embedded controls, motion control and variable reluctance motor technology in addition to engineering education. She is also active in research experiences for teachers (NSF RET) and is engaged with local area schools on an ongoing basis.

Member Associations:

She is a member of the Institute of Electrical and Electronic Engineers, IEEE.
Dr. Ahmed is also the faculty advisor for the UTC chapter of the National Society of Black Engineers (NSBE).

Dr. Vahid Disfani

Assistant Professor
Department of Electrical Engineering
The University of Tennessee at Chattanooga (UTC)

Education

Dr. Disfani received his bachelor's degree from Amirkabir University of Technology, Iran in 2006 and a Master of Science degree from Sharif University of Technology, Iran in 2008, both in electrical engineering. After earning his Ph.D. in Electrical Engineering from University of South Florida in 2015, he joined UC San Diego as a postdoctoral scholar.

Research Interests

His current research projects include comprehensive feeder-wide optimal voltage control, effective grid integration and optimal market participation of distributed energy resources, distributed and multi-agent optimal power flow for microgrids with high penetrations of renewable energy, reliability assessment of microgrids, and distributed algorithms for distribution systems state estimation.

Experience

Vahid has contributed to several industry projects during his professional career at Iran Grid Management Company, his Ph.D. program and his two-year postdoctoral experience. He has developed numerous multi-agent algorithms for optimal power flow problems as well as several model predictive control techniques to control power electronic converters and to reduce the impacts of high penetrations of solar energy. His research fields of interest include power system optimization and control, grid integration of renewable energy resources, distribution system optimal voltage regulation, power markets and power system economics.

Dr. Ahmed H. Eltom

Distinguished Teaching Professor
Department of Electrical Engineering
The University of Tennessee at Chattanooga (UTC)

Research Interests

Dr. Eltom is an expert in the areas of energy efficient systems, energy conservation, power system protection, advanced motor modeling, and fault analysis. He has taught power system analysis and protection for over 20 years. He developed an industry-grade relay laboratory. The laboratory is an educational and research tool for undergraduate and graduate students as well as a training facility for industry engineers. He is the author of Energy Efficient Motors Reference Guide and he has published numerous articles in the areas of system protection, motor modeling, and energy conservation.

Experience:

Dr. Eltom was a Fulbright Scholar to State Qatar, a consultant for the African development bank, Tennessee Valley Authority, and the recipient of the Distinguished Teaching Professorship at the University of Tennessee at Chattanooga.

Member Associations:

He is a senior member of the IEEE, the former chair of the IEEE PES section in the greater Chattanooga area, and a registered Professional Engineer (P.E.) in the state of Tennessee.

Dr. T. Daniel Loveless

Guerry Professor, UC Foundation Associate Professor
Department of Electrical Engineering
The University of Tennessee at Chattanooga (UTC)

Education
Dr. Loveless received the B.S. degree in electrical engineering from the Georgia Institute of Technology in 2005 and the M.S. and Ph.D. degrees in electrical engineering from Vanderbilt University in 2007 and 2009, respectively.

Experience
Prior to joining UTC, Dr. Loveless was a senior engineer and Research Assistant Professor at the Institute for Space and Defense Electronics developing circuits for the evaluation of radiation effects in advanced CMOS technologies.

Research Interests
Their research interests include radiation effects and reliability in electronic and photonic integrated circuits; high-performance and radiation-hardened digital, mixed-signal, and analog integrated circuit design; embedded systems; field-programmable gate arrays (FPGAs); microprocessors and microcontrollers; systems-on-chip; and CubeSat design.

Publications
Dr. Loveless has published over 100 articles in peer-reviewed journals, is a Senior Member of IEEE, and serves as an Associate Editor of the IEEE Transactions on Nuclear Science. Their honors include the inaugural 2019 Nuclear and Plasma Sciences Society (NPSS) Radiation Effects Early Achievement Award, five best conference paper awards, and the IEEE NPSS Graduate Scholarship Award for recognition of contributions to the fields of nuclear and plasma sciences.

Member Associations:
Dr. Loveless is a Senior Member of the Institute of Electrical and Electronic Engineers (IEEE), and a member of the American Society for Engineering Education (ASEE).

Dr. Abdul R. Ofoli

UC Foundation Associate Professor
Department of Electrical Engineering
The University of Tennessee at Chattanooga (UTC)

About
Dr. Ofoli is a registered Professional Engineer (P.E.) of Tennessee.

Research Interests
His research activities also extend to sustainable energy (PV and wind power system modeling with real-time simulation and control) and the smart grid (smart home modeling and control).

Experience
Prior to joining UTC in August 2010, Dr. Ofoli worked with Cummins, Inc., as a senior controls engineer for four years. He received four patents for his work at Cummins for developing virtual sensors and control algorithms for diesel automotive applications that meet the 2010 EPA emission standards.

Member Associations
He is a member of Tau Beta Pi, a senior member of IEEE and has served the IEEE-IAS Industrial Automation and Controls Committee (IACC) for nine years and was the technical committee chair of IACC for three years (2013-2015).

Publications
He is the lead author of the book chapter “Fuzzy Logic Applications in Electrical Drives and Power Electronics,” 4/e of the Power Electronics Handbook, by Elsevier Publications. His research activities are in the area of application of artificial intelligent (AI) controls (Fuzzy, Neural network, Neuro-Fuzzy) to motion drives, power electronics and robotics where he has published numerous articles.

Dr. Donald R. Reising

UC Foundation Associate Professor
Department of Electrical Engineering
The University of Tennessee at Chattanooga (UTC)

Education

Dr. Reising received a B.S. degree in electrical engineering from the University of Cincinnati, Cincinnati, Ohio in 2006 and M.S. and Ph.D. degrees in electrical engineering from the Air Force Institute of Technology (AFIT), Wright-Patterson Air Force Base (WPAFB), Ohio, in 2009 and 2012, respectively.

Research Interests

His research interests include digital communications and signal processing; Specific Emitter Identification (SEI) and Radio Frequency (RF) fingerprinting; next generations communications systems; automation of smart grid electrical disturbance categorization, identification, and learning; as well as the use of SEI, machine learning and signal processing in radiation effects characterization.

Member Associations

Dr. Reising is a member of Eta Kappa Nu, Tau Beta Pi, and a Senior Member of IEEE. His honors include UTC's Outstanding University Service Award (2018), the AFRL Sensors Directorate Dr. Samuel M. Burka Award (2013), the Association of Old Crows Research Excellence Award (2009), and the Measurement and Signature Intelligence (MASINT) Committee Academic Excellence Award (2009).

Dr. Nur Sisworahardjo

Associate Professor
Department of Electrical Engineering
The University of Tennessee at Chattanooga (UTC)

Research Interests

Dr. Nur Sisworahardjo conducts research in the areas of data analytics in power systems, generating unit asset valuation, load forecasting, distributed generation modeling and grid penetration, and post-disturbance network reconfiguration.

His general research interests including smart grid, distributed generation, renewable/alternative energy, power systems operation, optimization, simulation, and planning.

Experience

He has over 20 years of experience in power system-related areas, such as a study of the reliability of low-power direct methanol fuel cell system, model development of proton exchange membrane fuel cell, dynamic characteristics evaluation of PEMFC operation, and dynamic characteristics evaluation of low power portable fuel cell. He also involves in model development and simulation of the power, transmitter, and receiver modules for an inductive outlet. In the distribution system, he develops the algorithm to extract the context information from the smart meter readings and combines other contextual variables using correlation factors to better identify anomalous electrical energy consumption behavior in residential houses.

Civil and Chemical Engineering Department

Dr. Joseph Owino

Professor and Department Head
Department of Civil and Chemical Engineering
The University of Tennessee at Chattanooga (UTC)

Education

Dr. Owino received his Ph.D. from Georgia Institute of Technology and is a registered Professional Engineer (P.E.) in the state of Tennessee. He currently teaches courses in Engineering Mechanics and Structural Analysis.

Research Interests

Dr. Owino's research interests are in the areas of structural health monitoring, non-destructive evaluation of civil engineering materials and analysis and design of pavement structures and Finite Element Method (FEM).

Experience

Dr. Owino worked in industry for over six years both as a design engineer and a project engineer for Shell Oil Company. His duties included soil exploration for the purposes of the installation of offshore platforms in the Gulf of Mexico. Dr. Owino also worked in academia for over six years as a Lecturer at the University of Nairobi, Nairobi, Kenya.

Member Associations

He is affiliated with American Society of Civil Engineers (ASCE), American Society of Engineering Education (ASEE) and National Society of Black Engineers (NSBE).

Dr. Jejal Reddy Bathi

Professor of Practice
Environmental Engineering Program Coordinator
Department of Civil and Chemical Engineering
The University of Tennessee at Chattanooga (UTC)

Degrees

Dr. Bathi received his PhD in Civil Engineering with a major in Water Resources Engineering from the University of Alabama (UA) in 2008 and he received double MS degrees in Environmental Engineering (National University of Singapore, 2004 and UA, 2007).

About

Dr. Bathi is a Professional Engineer (P.E.) with experience executing engineering research projects worth nearly two million dollars including serving as project manager and principal investigator for several urban water resource engineering projects.

Research Interests

Dr. Bathi's expertise includes: (1) urban runoff characterization, (2) understanding the fate and transport of emerging contaminants in surface water environment, (3) application of distributed and lumped simulation programs to understand the sensitivity of water resources for changing land uses and weather patterns, and (4) application of green infrastructure for urban drainage and water quality management.

Experience

Dr. Bathi worked on research projects funded by both public and private agencies including the National Science Foundation (NSF), the U.S. Environmental Protection Agency (US EPA), the National Institute of Health (NIH), the United Geological Survey, the Tennessee Department of Transportation, and Institute of Scrap Recycling Industries Inc (ISRI). In addition to more than 12 years of professional experience, his past academic experiences include Post-Doctorial Fellowship at UA and as a Research Scientist at Jackson State University, MS. Recently Dr. Bathi developed and taught several courses in Environmental, Water Resources, and Chemical Engineering focus at UTC.

Dr. Michael Danquah

Professor and Associate Dean, CECS
Director of Chemical Engineering Program
Department of Civil and Chemical Engineering
The University of Tennessee at Chattanooga (UTC)

Degrees

Dr. Danquah obtained a PhD in Chemical Engineering (Bioengineering) from Monash university, Australia and BSc degree from KNUST, Ghana.

Research Interests

Dr. Danquah's research focuses on the utilization of bioprocess and biomolecular engineering principles and nanoscience to develop emerging biopharmaceuticals, biosensing and molecular separation systems; environmental bioremediation systems; and biofuels and bio-products.

Experience

Dr. Danquah is a Chartered Engineer (CEng), Chartered Professional Engineer (CPEng), Chartered Scientist (CSci), a Fellow of the Institution of Chemical Engineers (IChemE), and a Fellow of the Royal Society of Chemistry (FRSC). He has worked on NSF and USDA projects relating biosensing and food science and innovation. His research has received funding of about $4.5 million in competitive governmental grants as well as industrial and institutional support. Dr. Danquah's research findings are well published and cited with over 300 peer-reviewed journal articles, books, book chapters and conference publications, and a current H-index of 46. He has consulted for various biotech, agricultural, and biomedical companies in the United States and Australia.

Dr. Ignatius Fomunung

Professor
Department of Civil and Chemical Engineering
The University of Tennessee at Chattanooga (UTC)

Degrees

Dr. Fomunung received his PhD in Civil & Environmental Engineering at Georgia Institute of Technology. He also holds a BS in Civil Engineering from the Southeast University, China, a MS in Atomic and Molecular Physics from Clark Atlanta University, and a MS in Transportation Engineering from GaTech

Student Engagement

He is the Faculty Advisor to the student chapters of the ASCE and ITE at UTC. He won the national ASCE faculty advisor award in 2015. He has supervised and supported the thesis work of many graduate students.

Expertise

His areas of expertise are Infrastructure Systems Analysis, Transportation Analysis, Transportation-energy-air quality analysis and modeling, Intelligent Transportation Systems, Human Factors and Safety in Transportation, transportation planning and land use development. He is the Director of UTC's Center for Energy, Transportation, and the Environment (CETE. Dr Fomunung is also interested in STEM education research, exploring strategies that promote recruitment and retention of underserved communities in STEM fields.

Publications

Dr. Fomunung has authored or co-authored numerous journal articles in atomic physics, transportation engineering, transportation/air quality and emissions modeling, and STEM education. He serves as reviewer for many scientific journals.

Dr. Bradley Harris

Associate Professor
Department of Civil and Chemical Engineering
The University of Tennessee at Chattanooga (UTC)

Education

Dr. Harris received his PhD (2014) in Chemical and Biomolecular Engineering at the University of Tennessee Knoxville. He is the Chemical Hygiene Officer for CECS and the Faculty Advisor for the UTC student chapter of the American Institute of Chemical Engineers (AIChE).

Research Interests

His research interests are in bioengineering: the application of chemical engineering principles to biological problems. He is also passionate about undergraduate research and seeks to maintain a laboratory offering opportunities for chemical engineering students interested in bio-related research.

Dr. Harris is also interested in engaging local high school and community college students and local industry professionals in chemical engineering through the development of a remote laboratory. He is actively working to bring online lab stations involving unit operations such as absorption, distillation, heat transfer, fluid flow, and reaction kinetics through the use of Internet of Things (IoT).

Expertise

His areas of expertise are biochemistry and cellular and molecular biology, with applications in disease pathogenesis, environmental remediation, and renewable energy. In his current research, Dr. Harris is studying how bacterial pathogens sense and respond to their environment in an effort to improve disease control strategies.

Dr. Mbakisya A. Onyango

UC Foundation Professor
Department of Civil and Chemical Engineering
The University of Tennessee at Chattanooga (UTC)

Degrees

Dr. Onyango joined UTC in January 2010, graduating from Kansas State University with a PhD in Civil Engineering majoring Transportation Engineering.

Experience

Dr. Onyango has worked on numerous research projects in transportation, materials and engineering education over the years. Currently she is working on three projects, two funded by TDOT and one by NSF, totaling $1,090,070. The projects are: The Effect of Extreme Climate Shifts to Pavement Infrastructure in Tennessee (PI), A Framework for Quantitative Assessment of the Environmental, Social, and Economic Benefits of TDOT Infrastructure Projects (Co-PI) and NSF RET Site: Engineering and Data Analytics in Smart Cities (Co-PI). Dr. Onyango teaches transportation and properties of materials classes.

Expertise

Her areas of expertise are Analytical and Mechanistic Pavement Design and Analysis, Civil Engineering Materials Testing and Evaluation, Pavement Preservation, Pavement Markings, Transportation Planning, Pavement Management and Evaluation.

Boards

She currently serves as the Transportation Research Board (TRB) University representative and Board member of the Journal of Institute of Engineers Tanzania.

Dr. Weidong Wu

Professor
Department of Civil and Chemical Engineering
The University of Tennessee at Chattanooga (UTC)

Degrees

Dr. Wu received his PhD (2008) in Civil Engineering at the University of Mississippi.

Research Interests

His research interests are computational mechanics; innovative construction materials; smart infrastructure; artificial intelligence applied to structural engineering.

Experience

He currently serves as the Graduate Program Coordinator for the Civil Engineering Department. Prior to joining UTC, he worked as an FEA Engineer at an industrial automation robotics company. After completing his PhD, he worked as a postdoctoral associate, where he was involved in Finite Element Modeling for a SERRI funded project that focused on the floodwall in New Orleans.

Dr. Sungwoo Yang
Assistant Professor
Department of Civil and Chemical Engineering
The University of Tennessee at Chattanooga (UTC)

Experience
Dr. Yang received his PhD (2011) at Duke University, then joined MIT as a postdoctoral fellow to conduct research within the Device Research Laboratory (with Prof. Evelyn Wang). Later, he became a research scientist at MIT in 2014.

Research interests
The focus of his research is on porous materials (including aerogel, metal organic framework, zeolite, graphene/CNT network) which intersect the multidisciplinary fields of solar energy harvesting and thermal energy storage. He aims to bring about transformational efficiency enhancements in energy conversion and storage, buildgs, water, and transportation by manipulating optical, thermal, and adsorptive properties of porous materials with device level considerations. The focus of his research efforts will be directed towards both: 1) fundamental research on developing new class of hybrid materials for efficient energy conversions and storages, and 2) applied research on devices and systems including for full spectrum solar energy conversion, thermal energy storage, water harvesting, and energy efficient buildings.

Dr. Rahul R. Bhosale

Assistant Professor
Department of Civil and Chemical Engineering
The University of Tennessee at Chattanooga (UTC)

Education

Dr. Bhosale received his Ph.D. (2012) in Chemical and Biological Engineering at the South Dakota School of Mines and Technology, Rapid City, SD, USA. Before his Ph.D., he completed his bachelor's (2006) and master's (2008) in chemical engineering in India at Mumbai University and the Institute of Chemical Technology, Mumbai, respectively.

Experience

Dr. Bhosale is currently serving as an Assistant Professor at the University of Tennessee, Chattanooga. Before joining UTC, he worked as an assistant professor and then associate professor for more than 9 years at Qatar University, Qatar. He also worked as a postdoctoral fellow at Paul Scherrer Institute, in Switzerland from 2012 to 2013. He is capable of teaching many chemical engineering, petroleum engineering, and general engineering courses.

Research

Dr. Bhosale's research interest includes solar thermal processes, thermochemical H2O/CO2 splitting cycles, hydrogen production, CO2 capture and utilization, catalysis, desalination and water treatment, energy storage, batteries, complex oxide materials, and bioenergy/bioproducts. He has published 191 papers with an average impact factor close to 7, H-index equal to 40, and citations close to 4000. Dr. Bhosale presented at multiple national/international conferences via ~150 oral and poster contributions. Dr. Bhosale received ~2.6 million USD in competitive research funds via 13 research grants. He has proven skills in managing research grants effectively with impactful outcomes. He is/was actively involved in supervising multiple postdoctoral fellows, Ph.D. students, and graduate/undergraduate students. Dr. Bhosale is a recipient of several awards such as the excellence in research award, mines medal fellowship, best undergraduate student award, junior research fellowship, and multiple best oral and poster awards. He is currently serving as an Associate Editor of Frontiers in Energy Research and Frontiers in Fuels. Besides, he served as the Guest Editor of the International Journal of Hydrogen Energy, International Journal of Energy Research, Science of the Total Environment, Greenhouse Gases: Science and Technology, and the International Journal of Exergy, and Energies. He also served as a reviewer for more than 50 international journals and funding agencies such as the Swiss National Science Foundation and The Dutch Research Council. He has organized multiple conferences that include GCGW-2019 (Chair), ICAFEE-2019 (Co-Chair), ICAFEE-2018, GCGW-2018, and ICPPCT-2021 and 2022 (committee member).

Mechanical Engineering Department

Dr. James Newman

Professor and Department Head
Department of Mechanical Engineering
The University of Tennessee at Chattanooga (UTC)

About

Dr. Newman has been active in the areas of multidisciplinary analysis, sensitivity analysis, and computational design optimization since 1994. Prior to this, Dr. Newman's focus area was in the simulation of complex-steady and unsteady moving boundary configurations using both unstructured grid and structured grid domain-decomposition techniques.

Dr. Newman has developed software to perform computational fluid-structure, and fluid-thermal, interaction and analysis as well as pioneered new algorithms for evaluating multidisciplinary sensitivity derivatives and for uncertainty analysis. Additionally, he and fellow researchers have created a high-order finite-element based frame- work enabling multiphysics simulations encompassing fluid dynamics, structural dynamics, electromagnetics, and acoustics.

Dr. Newman has worked closely with government agencies to incorporate these techniques into software to provide multidisciplinary analysis and computational design capabilities, and has utilized them in industrially relevant applications.

Dr. Murat Barisik

Assistant Professor
Department of Mechanical Engineering
The University of Tennessee at Chattanooga (UTC)

Degrees

BS in Mechanical Engineering from the Middle East Technical University, Turkey
MS in Mechanical Engineering from the Middle East Technical University, Turkey
PhD in Aerospace Engineering from Old Dominion University, VA, USA

About

Dr. Barisik's academic and professional career have centered on integrating mechanical engineering and computational theories and techniques for molecular level investigation of the nano-scale transport phenomena. The span of his research shows a diverse level of expertise in the nano-technology related areas including nano-scale gas transport, nano-scale heat transfer and nano-scale electrokinetic phenomena.

Research Interests

Micro/nano-scale Transport
Rarefied Gas Dynamics
Heat Transfer
Electrokinetic Phenomena
Molecular Dynamics
Density Functional Theory

Dr. Prakash Dhamshala

Professor
Department of Mechanical Engineering
The University of Tennessee at Chattanooga (UTC)

Degrees
MS degree from the University of Miami, FL PhD from the Georgia Institute of Technology

Experience
Dr. Dhamshala served as a consultant with TVA for over 10 years.

Research Interest
He specializes in renewable energy resources, such as solar, wind and bioenergy, energy efficiency technologies, zero energy buildings, and technologies appropriate for smart grid applications, such as thermal energy storage and energy recovery, combined cooling, heating and power (CCHP). He also has experience in the use of biomass in gasifiers for CCHP applications. He developed dozens of comprehensive computer codes for validating energy efficiency technologies using hourly weather data and for estimation of carbon footprint of commercial buildings and industrial plants.

Publications
He has 58 publications, a combination of industrial reports, presentations, M.S thesis and graduate project advisements, and an ASHRAE handbook chapter.

Member Organizations
He serves as a handbook committee member of ASHRAE for Systems and Equipment, as a liaison for several chapters of the handbook, and as a Vice-Chair for ASHRAE's Technical Committee 5.5, Air-To-Air Energy Recovery.

Dr. Trevor S. Elliott

UC Foundation Associate Professor
Department of Mechanical Engineering
The University of Tennessee at Chattanooga (UTC)

Research Interests

Dr. Elliot's research interests include Additive Manufacturing, Alternative Energy, Automotive Design, Combustion Stability, Compressible Flow, Data Analytics, Engineering Design, Fluid Mechanics, Propulsion, Smart Control, Spectral Theory, and Turbomachinery.

He actively involves students with his research through design projects, funded research projects, and departmental honors projects. He has authored papers on the above areas in refereed journal and conference proceedings.

Publications

He is also a reviewer for the International Journal of Energetic Materials and Chemical Propulsion (IJEMCP) and AIAA manuscripts.

Experience

At UTC he serves as Faculty Advisor for the UTC Racing Mocs Baja SAE competition teams, Hardware Counselor for the Chattanooga Student Chapter of IEEE, and Faculty Advisor for the Students for the Exploration and Development of Space (SEDS) competition teams.

Member Associations

He is an active member of the American Institute of Aeronautics and Astronautics (AIAA) Hybrid Rocket Technical Committee (HRTC) and is currently serving as Co-Technical Area Organizer (TAO) for the International AIAA Joint Propulsion Conference (JPC).

He holds Lifetime membership with the AIAA, the American Society of Mechanical Engineers (ASME), and the Association for Computing Machinery (ACM).

Arash Ghasemi

Lecturer
Department of Mechanical Engineering
The University of Tennessee at Chattanooga (UTC)

About

Arash Ghasemi holds a PhD in Computational Engineering from UTC and a MS and BSc in Computational and Aerospace Engineering from UTC and Sharif University of Technology.

He has mentored 5 graduate students. He has contributed to several academic and non-academic grants. Some of the courses he is currently teaching include:

Data Fusion in Climate Modeling (ENCE 5997R)
Vector Statics (ENCE 1040)
Mechanics of Materials Lab (ENCE 2460L)
Finite Element Analysis (ENCE 5420)
Research (ENCE 4997)
Mechanics of Materials (ENCE 2460)
Special Topics in Engineering (ENCE 5910R)
Thesis (ENME 5999R)
Structural Analysis I (ENCE 3640)
Soil Mechanics Lab (ENCE 3610L)
Automotive Structures (ENME 5910R)
Geometric Modeling (ENCE 5997R)
Fluid Mechanics (ENME 3070)
Fluid Mechanics Lab (ENME 3070L)

Research Interests

His area of research is Computational Sciences with a concentration on selected topics in Mechanical Engineering.

Member Associations

ACM

Dr. Ron Goulet

Associate Professor
Department of Mechanical Engineering
The University of Tennessee at Chattanooga (UTC)

Degrees

BSCE from Northwestern University in 1976
Engineering PhD from the University of New Hampshire in 1997 defending a thesis in the field of experimental fracture mechanics.

About

Dr. Goulet joined the CECS faculty in 1998, taught undergrad and graduate courses in engineering mechanics and materials science and directed the UTC Orthopedic Biomechanics Research Laboratory, a collaboration with the UT College of Medicine, Dept. of Orthopedic Surgery.

Research Interests

His research interests include improving the effectiveness of engineering education, experimental orthopedic biomechanics and applied experimental mechanics.

Experience

He worked in the Chicago area as a project engineer for a consulting firm and as an applications engineer for a manufacturer of ash handling systems then in Pittsburgh as manager of utility sales and marketing for a competitor serving the power industry. In 1986, Goulet earned Professional Registration in the state of Maine, started Consultech, a sole proprietorship, and delivered expert engineering consulting services to legal and insurance clients in matters involving injury, event reconstruction and property loss.

Ricky Horn

Instructor
Department of Mechanical Engineering
The University of Tennessee at Chattanooga (UTC)

Degrees
M.S (1997) in Engineering from UTC

Experience
10 years of industry experience focused on the area of project engineering and mold design.

Research Interests
His current focus is in Computer Aided Design (CAD).

Dr. Hamdy Ibrahim

Assistant Professor
Department of Mechanical Engineering
The University of Tennessee at Chattanooga (UTC)

Degrees

Dr. Ibrahim completed his Ph.D. in Mechanical Engineering from the University of Toledo in August 2017. He also completed his M.Sc. in May 2012 after obtaining a B.Sc. Hons Degree, both in Mechanical Engineering, in May 2008 from Cairo University (Egypt).

Experience

Dr. Ibrahim is an Assistant Professor in the Mechanical Engineering Department at the University of Tennessee at Chattanooga. Before joining UTC, he worked as a postdoctoral fellow in the dynamics and smart systems lab (DSSL) at the University of Toledo, Ohio. He also worked as a Chief Research Officer for the start-up company Thermomorph, LLC aims to develop and commercialize a clot removal device "QuickFLow PE". In this capacity, he participated in several NSF funded programs, such as the National I-Corps and the Small Business Innovation Research (SBIR). He also worked as an adjunct faculty in the Department of Mechanical, Industrial and Manufacturing Engineering at the University of Toledo where he taught several fundamental engineering courses.

Research Interests

Dr. Ibrahim research is in materials science and engineering with a major focus on manufacturing and characterizations of biomaterials for a wide range of applications including biomedical devices. His research areas include biodegradable composites, biodegradable metals (e.g. magnesium), shape memory alloys (e.g. nitinol), additive manufacturing, surface treatments, and corrosion behavior of biomaterials. Dr. Ibrahim's research findings have resulted in 2 patent applications and over 20 peer-reviewed journal and conference publications.

Dr. Charles (Chuck) H. Margraves

UC Foundation Assistant Professor
Graduate Coordinator
Department of Mechanical Engineering
The University of Tennessee at Chattanooga (UTC)

Research Interests

Dr. Margraves' research focuses on STEM education and sustainable systems, specifically Zero+ Energy buildings. Dr. Margraves has been very active in providing undergraduate students an opportunity to help in his research as well as co-authoring several papers and presentations.

Member Associations

Currently Dr. Margraves serves as the head of the Student Section of the American Society of Mechanical Engineering (ASME) and is an officer of the Southeast Section of the American Society of Engineering Education (ASEE).

Dr. Mohammad Mahtabi

Assistant Professor
Department of Mechanical Engineering
The University of Tennessee at Chattanooga (UTC)

Degrees

Mohammad Mahtabi received his PhD in Mechanical Engineering from Mississippi State University and was a post-doctoral researcher for about a year at The University of Toledo, before joining the Mechanical Engineering Department at UTC. Mahtabi holds a bachelor's degree from The University of Tehran and a master's degree from Iran University of Science and Technology, ranked as an honor student in both institutions.

Experience

He has also worked for about seven years in the industry as a structural engineer.

Research Interests

Mahtabi will be conducting research on additive manufacturing (a.k.a. 3D printing), fatigue and fracture mechanics, mechanical behavior of materials and shape memory alloys. He enjoys reading poems, listening to traditional/classical music, learning new languages, and is a soccer fan.

Dr. Gary McDonald

UC Foundation Associate Professor
Department of Mechanical Engineering
The University of Tennessee at Chattanooga (UTC)

Degrees

Dr. McDonald received his BSME (1977), MSME (1979) and Ph.D. in Engineering (1984) all from Tennessee Technological University.

Research Interests

His research interest included rocket propulsion instabilities, magneto-hydrodynamics (MHD), and mechanical systems experimentation with data acquisition applications.

Member Associations

Dr. McDonald is a member of American Society of Mechanical Engineers (ASME), National (Tennessee) Society of Professional Engineers (NSPE/TSPE), American Society of Engineering Education (ASEE) and the Chattanooga Engineers Club. Dr. McDonald is licensed in Tennessee as a Professional Engineer (P.E.) in mechanical engineering.

Reetesh Ranjan

Assistant Professor
Department of Mechanical Engineering
The University of Tennessee at Chattanooga (UTC)

Degrees

PhD, Theoretical and Applied Mechanics, 2012, University of Illinois at Urbana-Champaign, IL, USA.
MS, Theoretical and Applied Mechanics, 2009, University of Illinois at Urbana-Champaign, IL, USA.
BS, Mechanical Engineering, 2004, Indian Institute of Technology, Kanpur, India.

Expertise

Design, development and application of high-fidelity numerical methods and models for investigation of fundamental and applied problems from the area of fluid mechanics, heat transfer, and combustion using high-performance computing platforms.

Research Interests

- Direct and Large-Eddy Simulations Turbulence Modeling
- Turbulent Combustion Modeling Reduced-Order Modeling Uncertainty Quantification
- High-Performance Computing

Organizations

American Physical Society
American Institute of Aeronautics and Astronautics

Dr. Yunye Shi
Assistant Professor
Department of Mechanical Engineering
The University of Tennessee at Chattanooga (UTC)

Degrees
PhD, Mechanical Engineering, 2016, University of Iowa, IA, USA.
MS, Power and Energy Engineering, 2010, Huazhong University of Science and Technology, Wuhan, China.
BS, Power and Energy Engineering, 2008, Huazhong University of Science and Technology, Wuhan, China.

Research Interests
Her research interest includes biomass conversion technologies, biorenewable energy utilization, techno-economic analysis of energy systems, and droplet combustion.

Member Associations
Dr. Shi is an active member of American Society of Mechanical Engineers (ASME) and American Society for Engineering Education (ASEE). Currently, Dr. Shi serves as the faculty advisor for Society of Women Engineers (SWE) at UTC Chapter.

Dr. Kidambi Sreenivas

Professor
Department of Mechanical Engineering
The University of Tennessee at Chattanooga (UTC)

Degrees

PhD, General Engineering, 1996, Mississippi State University, Mississippi State, MS, USA.
MS, Aerospace Engineering, 1993, Mississippi State University, Mississippi State, MS, USA.
BTech, Aerospace Engineering, 1991, Indian Institute of Technology, Madras, India.

About

Dr. Kidambi Sreenivas has been active in the area of unstructured, multi-physics flow solvers since 1996. Prior to this, his focus was in the area of structured flow solver development with applications to acoustics and stability of turbomachinery.

Dr. Sreenivas pioneered the capability to enable rotating machinery simulations using unstructured meshes. Additionally, he has developed pre-conditioners that enable simulations of fluids with non-ideal equations of state. He has applied these advanced capabilities to solve real-world problems involving complex geometry and complex physics. The range of applications include maneuvering submarines and surface ships, simulations of wind farms, multi-stage turbomachinery, improvement in aerodynamic efficiency of Class 8 trucks, particle deposition within the human respiratory system, contaminant dispersal through urban environments, and embedded propulsion systems.

Dr. Sreenivas has worked closely with researchers from NASA, Navy, Department of Energy and various private companies and has transitioned the latest developments to provide them with advanced flow simulation capabilities.

Dr. Sreenivas serves as the faculty advisor for the AIAA Student Chapter (AeroMocs) and is the graduate coordinator for the Computational Science PhD program.

Research Interests

Unstructured Flow Solver Development High-order methods
Applications to real problems High performance computing

Member Associations

American Institute of Aeronautics and Astronautics (Lifetime member)
American Society of Mechanical Engineers

Dr. Cecelia M. Wigal

Professor
Department of Mechanical Engineering
The University of Tennessee at Chattanooga (UTC)
(She, Her, Y'all)

Degrees

Ph.D. from Northwestern University (1998) in Industrial Engineering with focus in Systems Analysis and Production and Operations Management, MS in Electrical Engineering from Illinois Institute of Technology (1991) with focus in Controls and Communications, and BS in Electrical Engineering from Ohio Northern University (1985).

About

Dr. Wigal comes from an industry background where she helped design electric power systems for aircraft. Her academic focus is on teaching and applying systems thinking. Dr. Wigal teaches engineering design, controls systems, information systems, and systems modeling courses. She emphasizes project-based and experiential learning instruction. Dr. Wigal's primary engagement activity is improving the lives of those with physical and mental disabilities so they can be independent and personally engaged members of society. The students in Dr. Wigal's freshman design course have been recognized for built solutions that address individual and group needs of the local community.

Dr. Wigal is constantly moving, experiencing life, enjoying the environment, and trying new experiences. She is known as an endurance athlete, especially as a marathon swimmer. Her goal is to complete one new personal and challenging experience every year. Dr. Wigal believes there is nothing we cannot do if we have the desire. She also believes there is no stopping our learning – the world should be available to all. Thus, all should have the opportunity to learn from it and experience it to its fullest!

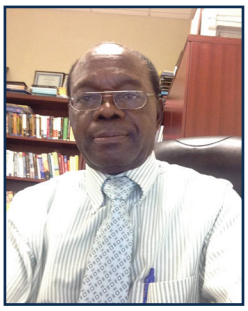
Research Interests

Dr. Wigal's primary areas of research include complex system analysis and quality process analysis with respect to nontraditional applications such as service systems. Dr. Wigal is also interested in engineering education reform to address present and future student and national and international needs.

Member Associations

Dr. Wigal is a member of ASEE (American Society for Engineering Education) where she has served in various officer positions for the Southeast Section including president, secretary, and conference technical program chair. INFORMS (Institute for Operations Research and the Management Sciences), and AAUW (American Association of University Women). Dr. Wigal is an ABET Program Evaluator for General Engineering.

Computer Science & Engineering Department



Dr. Joseph M. Kizza
Professor and Department Head
Department of Computer Science and Engineering
The University of Tennessee at Chattanooga (UTC)

About

Dr. Kizza is on editorial boards of half a dozen scholarly journals and Editor-in-Chief of the International Journal of Computing and ICT Research (IJCIR). He is an internationally known speaker on social computing and information security and assurance. He has published extensively in journals and conference proceedings including more than ten books on computer ethics, network security and cyber ethics. Some of these books have been translated into several languages including Japanese and Chinese. He is a member of ACM.

Dr. Joe Dumas

UC Foundation Professor
Department of Computer Science and Engineering
The University of Tennessee at Chattanooga (UTC)

About

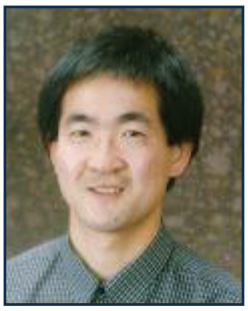
Dr. Joe Dumas serves as Associate Department Head and coordinator of the B.S.Cp.E. Computer Engineering program.

Research Interests

His areas of interest include computer architecture, embedded systems, virtual reality, real-time human-in-the-loop simulation, and computer science pedagogy.

Publications

His most recent publications include “Accuracy of Garmin GPS Running Watches over Repetitive Trials on the Same Route,” in the International Journal of Computer Science and Information Technology, Vol. 14, No. 1, February, 2022, and “Mutually Exclusive: A Survey of Ethical Decision Making in Technology,” in the Journal of Computing Sciences in Colleges, Vol. 36, No. 5, January, 2021.



Dr. Yu Liang

Associate Professor
Department of Computer Science and Engineering
The University of Tennessee at Chattanooga (UTC)

Research Interests

Dr. Liang's funded research projects cover the following areas: big-data and cloud computing, multiscale modeling and simulation, high-performance scientific and engineering computing, numerical linear algebra, sensor-oriented machine learning, computational mechanics (with focus on structural mechanics and biomechanics), and fault-tolerance techniques.

Associations

His research work has appeared in various prestigious journals, book or book chapters, and refereed conference, workshop, and symposium proceedings. He owns one technical pattern that is registered at the University of Tennessee Research Foundation (UTRF). Dr. Liang is serving in the International Journal of Security Technology for Smart Device (IJSTSD), Journal of Mathematical Research and Applications (JMRA), and Current Advances in Mathematics (CAM) as an editorial board member.

Mr. Chang Phuong

Lecturer and Graduate Researcher
Department of Computer Science and Engineering
The University of Tennessee at Chattanooga (UTC)

About

Mr. Phuong is a full-time Lecturer in the CSE department at UTC and currently teaches Software Engineering and Cyber Security courses. He has a B.S. and an M.S. in Computer Science from UTC and is a Ph.D. Candidate in Computational Science with a concentration in Computer Science at UTC. He has 5 years of teaching experience at the Community College and University levels. He served as the Department Head for the Computer Information Technology (CIT) Department at Chattanooga State Community College and developed new Associate of Applied Science (AAS) degrees in Programming, Networking, and Cyber Defense and a Tennessee Transfer Pathway (TTP) under the Tennessee Board of Regents (TBR) guidelines.

Research Interests and Publications

Mr. Phuong has scientific publications in the areas of Cyber Security and High Performance Computing (HPC) and is actively researching in Computer Science Education, Cyber Security and Social Engineering, Smart Cities, and Blockchain.

Experience

Before joining Higher Ed., Mr. Phuong worked in private industry for over 20 years as a Manager in Cyber Security and Disaster Recovery; as an Architect and Lead Programmer; and as a Project Manager. He has successfully led multi-year/multi-million dollar enterprise strategic initiatives that spanned across offices in the USA and abroad for Fortune 500 companies. He holds professional certifications in PMP, ITIL, and a Black Belt in Lean Six Sigma. His expertise is in the areas of software development, cyber security, project management, records management, application portfolio management, business resilience and continuous improvement. He has also served on the Board of various professional organizations and actively volunteers for the Hamilton County Emergency Preparedness Team and as a translator for La Paz in Chattanooga, TN.

Dr. Hong Qin

Associate Professor
Department of Computer Science and Engineering
The University of Tennessee at Chattanooga (UTC)

Research Interests

Dr. Qin uses computational and mathematical approaches to investigate biomedical and biological questions. His research focuses include developing probabilistic gene network models to infer network changes during cellular aging; building gene network models from heterogenous genomics data sets, including protein interactions, gene expression data sets, RNAseq data sets, protein mass-spec data sets, high-throuput phenotypic screens, and gene annotations; developing machine-learning methods to automatically estimate cellular lifespan from time-lapsed images; applying engineering principles to study molecular, biological, and ecological networks; and developing deep-learning methods for better classification and prediction using heterogeneous biomedical and biological large data sets.

Experience

His expertise is in Graph reliability modeling; Bioinformatics; Computational genomics; Mathematical modeling; Systems Biology; Cellular aging; Gene network analysis and modeling.

Awards

Dr. Hong Qin is a recipient of a NSF CAREER award 2015-2020.

Dr. Mina Sartipi
UC Foundation Professor
Department of Computer Science and Engineering
The University of Tennessee at Chattanooga (UTC)

About

Dr. Sartipi is a Program Leader for Urban Science & Technology at UTC.

She also leads the Smart Communications and Analysis Lab (SCAL), leveraging expertise on data science (data analytics and data management) and wireless communications in smart city applications such as transportation, health, and energy.

More specifically, SCAL focuses on research in Urban Science and Urban Analytics, Data Acquisition and Compressive Sensing, Data Integration, Data Interoperability, Big Data Analytics, Smart Health, Smart Grid, Intelligent Transportation, Information Processing for Wireless Sensor Networks, Cyber-Physical Systems (CPS), Modern Error Control Coding and Information Theory, and Signal Processing and Wavelet Transform.

Dr. Anthony Skjellum

Professor and Director, SimCenter
Department of Computer Science and Engineering
The University of Tennessee at Chattanooga (UTC)

About

Anthony (Tony) Skjellum studied at Caltech (BS, MS, PhD). His PhD work emphasized portable, parallel software for large-scale dynamic simulation, with a specific emphasis on message-passing systems, parallel nonlinear and linear solvers, and massive parallelism.

Experience

1990-93, he was a computer scientist at LLNL focusing on performance-portable message passing and portable parallel math libraries.

1993-2003, he was on the faculty in Computer Science at Mississippi State University, where his group co-invented the MPICH implementation of the Message Passing Interface (MPI) together with colleagues at Argonne National Laboratory.

2003-2013, he was professor and chair at the University of Alabama at Birmingham, Dept. of Computer and Information Sciences.

2014, he joined Auburn University as Lead Cyber Scientist and led R&D in cyber and High-Performance Computing for over three years.

2017, he joined the University of Tennessee at Chattanooga as Professor of Computer Science, Chair of Excellence, and Director, SimCenter, where he continues work in HPC (emphasizing MPI, scalable libraries, and heterogeneous computing) and Cybersecurity (with strong emphases on IoT and blockchain technologies).

Associations

He is a senior member of ACM, IEEE, ASEE, and AIChE, and an Associate Member of the American Academy of Forensic Science (AAFS), Digital & Multimedia Sciences Division.

Dr. Dalei Wu
Assistant Professor
Department of Computer Science and Engineering
The University of Tennessee at Chattanooga (UTC)

Experience
Before joining UTC, he worked as a Postdoctoral Researcher with the Mechatronics Research Laboratory at Massachusetts Institute of Technology (MIT).

Expertise
Dr. Wu's areas of expertise include intelligent systems, data analytics, sensor networks, and mobile computing. His is particularly interested in using methods of modeling, optimization, and machine learning to solve real-world problems.

Publications
He has published research papers in the following journals:
ACM Transactions on Modeling and Computer Simulation, IEEE Transactions on Industrial Informatics, IEEE Transactions on Automatic Control, IEEE Transactions on Circuits and Systems for Video Technology, IEEE Transactions on Wireless Communications, IEEE Journal on Selected Areas in Communications (JSAC), IEEE Transactions on Multimedia, and IEEE Transactions on Communications.

He is the PI of NSF US Ignite project (CNS #1647175) on Focus Area 1: Fiber Network for Mapping, Monitoring and Managing Underground Urban Infrastructure (01/2017 – 12/2019).

He is editor-in-chief of the International Journal of Information Security and Privacy, and associate editor of Wiley Security and Communication Networks Journal.

Dr. Li Yang

Guerry Professor and Assistant Dean
College of Engineering and Computer Science
The University of Tennessee at Chattanooga (UTC)

Positions Held
Director of UTC Information Security (InfoSec) Center, a National Center of Academic Excellence in Information Assurance/Cyber Defense (CAE-IA/CD).

Research Interests
Network and information security, big data analytics, massive data mining, bioinformatics, and engineering techniques for complex software system design.

Work
Dr. Yang actively involves students in her research and has authored papers in refereed journals, conferences and symposiums. She is editor-in-chief of the International Journal of Information Security and Privacy.

Grants/Fundng:
She has secured over four million dollars in external funding from National Science Foundation (NSF), National Institute of Health (NIH), Department of Defense (DoD), and Oak Ridge National Laboratory (ORNL).