Committee on Geological and Geotechnical Engineering

Committee

Youssef M. Hashash

Chair

YOUSSEF M. HASHASH is the Grainger Distinguished Chair in Engineering and Professor of Civil and Environmental Engineering at the University of Illinois Urbana-Champaign. Dr. Hashash’s expertise includes underground structures, deep excavations, numerical modeling, earthquake engineering, and static and dynamic soil-structure interaction analysis, visualization and application of information technology, deep learning and artificial intelligence to geotechnical engineering. Dr. Hashash’s experience encompasses geotechnical design for tunnels and excavations, seismic soil-structure interaction analysis, and construction monitoring, and the use of advanced computational tools for geotechnical practice. Dr. Hashash was elected to the National Academy of Engineering in 2022, is the recipient of the 2014 Peck Medal, and the 2000 Presidential Early Career Award for Scientists and Engineers amongst many honors and recognitions. Dr. Hashash received his Ph.D., M.S., and B.S., in Civil Engineering from the Massachusetts Institute of Technology.

Craig A. Davis

Member

CRAIG A. DAVIS is a professional consultant on geotechnical, earthquake, and lifeline infrastructure system resilience engineering. During his 31.5 year career at the Los Angeles Department of Water and Power (LADWP) he worked as the departmental chief resilience officer, resilience program manager, seismic manager, geotechnical engineering manager and trunk line design manager. Dr. Davis developed a comprehensive LA water system resilience program and is involved in creating policy for improving infrastructure systems to threats and hazards. He has investigated and evaluated numerous dams and tunnels, managed several multimillion dollar projects, and implemented unique and innovative designs while aiding the development of new technologies and their applications. Dr. Davis served on the National Earthquake Hazards Reduction Program (NEHRP) Advisory Committee on Earthquake Hazards Reduction (ACEHR) for 6 years. He is the founding executive committee chairperson for the ASCE Infrastructure Resilience Division. Dr. Davis was honored with the ASCE's 2016 Le Val Lund Practice Award for Lifeline Risk Reduction. Dr. Davis has published over 125 technical papers and also organized and coordinated numerous international workshops and symposiums on geotechnical engineering and lifeline system resilience. Dr. Davis is a California licensed civil and geotechnical engineer and received a B.S. in Civil Engineering from the California Polytechnic State University in San Louis Obispo, an M.S. in civil engineering with emphasis in structural earthquake engineering from the University of Southern California, and a Ph.D. in civil engineering with emphasis in geotechnical earthquake engineering from the University of Southern California.

Richard J. Fragaszy

Member

RICHARD FRAGSZY is a retired Program Director of the Division of Civil, Mechanical and Manufacturing Innovation within the Engineering Directorate at the National Science Foundation (NSF) where he managed programs in geotechnical engineering, civil infrastructure, earthquake engineering, and two Engineering Research Centers: the Mid-America Earthquake Center and the Center for Bio-mediated and Bio-Inspired Geotechnics. Prior to his work at NSF, Dr. Fragaszy was a Principal Engineer at Northwest Geotech, Inc. and Geoenvironmental, Inc., and he held faculty positions at Bucknell University, San Diego State University, and Washington State University. His primary research areas included experimental soil mechanics and dynamics, blast-induced liquefaction, geotechnical centrifuge modeling, and geotechnical earthquake engineering. In 2013, he was the U.S. Embassy Science Fellow in Wellington, New Zealand. Dr. Fragaszy received the Director's Awards for Equal Opportunity Achievement and Collaborative Integration from NSF and a Presidential Citation from the American Rock Mechanics Association. He received his B.S.E. and M.S. degrees in Civil Engineering from Duke University, and his Ph.D. from University of California Davis in Geotechnical Engineering.

Jared Green

Member

JARED GREEN is the Mid-Atlantic Geotechnical Practice leader at Langan, an international engineering and environmental consulting firm. He has over twenty years of extensive geotechnical engineering experience, ranging from initial subsurface investigations and schematic designs to construction phase oversight for complex projects throughout the New York Metropolitan Area, New Jersey, Pennsylvania, Delaware and the Mid-Atlantic Region. In 2019, Mr. Green was inducted into the Academy of Geo-Professionals as a Board-Certified Geotechnical Engineer. He was also selected for New York On Tech's 2019 Innovator & Disruptor Award in Engineering and was named one of GlobeSt Real Estate Forum's 50 Under 40. Mr. Green earned a B.S. in Civil Engineering from Syracuse University and his M.S in Civil Engineering with geotechnical focus from the University of Illinois, Urbana-Campaign.

Oladoyin Kolawole

Member

OLADOYIN KOLAWOLE is an Assistant Professor in the Department of Civil and Environmental Engineering at the New Jersey Institute of Technology (NJIT). He is the director of the Geomechanics for Geo-Engineering and Sustainability (GGES) Lab. Prior to joining NJIT, Dr. Kolawole was a Postdoctoral Research Associate at Texas Tech University, before later working as a Visiting Assistant Professor (Faculty Fellow) at Hope College, Michigan. He pioneered the "biogeomechanics" concept, which studies the mechanical response of rocks due to biological-induced processes. He is a geomechanics and geotechnical engineer who studies the multiscale deformation behavior and physical attributes of geomaterials (rocks and soils) to address problems related to natural and built infrastructure, earth systems, energy, and hazard mitigation and remediation. Additionally, He studies how earth materials respond mechanically to biologically induced processes, applying our findings to mitigating rock failure and collapse, post-hazard remediation, and energy resources. Dr. Kolawole is a recipient of the Future Leader Award and the Distinguished Service Award from the American Rock Mechanics Association (ARMA). He has authored and co-authored several peer-reviewed journal and conference papers on geomechanics and geotechnical engineering. He is an Editorial Board Member of Springer Nature's Discover Civil Engineering journal, and volunteers as a peer reviewer for reputable rock mechanics and geotechnical engineering journals, in addition to mentoring undergraduate and graduate students.

Krishna Kumar

Member

KRISHNA KUMAR is an Assistant Professor and J. Neils Thompson Centennial Teaching Fellow in the Fariborz Maseeh Department of Civil, Architectural, and Environmental Engineering and the Oden Institute of Computational Sciences at the University of Texas at Austin. His research explores the intersection of artificial intelligence (AI) and machine learning (ML), Civil Engineering, simulations, and robotics. He is mainly known for his contributions to differential programming, graph neural networks, and the development of novel computational methods for simulating complex geotechnical problems. His work bridges the gap between traditional physics-based modeling and modern machine-learning approaches, advancing the field of computational geomechanics. He is the principal investigator and director of an NSF-funded national ecosystem for integrating AI in civil engineering. Dr. Kumar's honors include an NSF CAREER Award in 2024 and the Dean's Award for Outstanding Teaching by an Assistant Professor at UT Austin. He is an Associate Editor for the ASCE Journal of Computing in Civil Engineering and the International Journal of Rock Mechanics and Geotechnical Engineering. Dr. Kumar obtained his Ph D. in Engineering from the University of Cambridge.

Zenon Medina-Cetina

Member

DR. ZENON MEDINA-CETINA is an Associate Professor in the Zachry Department of Civil & Environmental Engineering, and a Mosbacher Research Fellow in the Mosbacher Institute for Trade, Economics, and Public Policy at Texas A&M University (TAMU). Previously he held dual positions in the Computational Geomechanics Division and the International Centre for Geohazards at the Norwegian Geotechnical Institute (NGI). Dr. Medina-Cetina is expert at probabilistic risk assessment and management of geo-systems with components that vary across multiple spatial and temporal scales. His approaches have led to the integration of efforts of international transdisciplinary teams to formulate and implement risk models aimed at improving the stability of regional interdependent social, economic, and environmental systems. Dr. Medina-Cetina is a Fellow of the Society for Underwater Technology (SUT), former Fulbright Scholar, and recently received TAMU's College of Engineering Excellence Award, and twice held the Zachry Career Professorship Endowment. Dr. Medina-Cetina served as the Chair and President of SUT in the U.S., as Vice-Chair and now Chair of the Risk Assessment and Management Technical Committee of the American Society of Civil Engineers' Geo-Institute (ASCE-GI), and as member of the executive board of the international Geotechnical Safety Network (GEOSNet). He served as member of the Editorial Board of the journal of the SUT, and currently serves as member of the Editorial Board of the GeoRisk journal, and as Associate Editor of the journal 'Machine Learning and Data Science in Geotechnics'. Dr. Medina-Cetina obtained his PhD and MSc degrees in Civil Engineering both from Johns Hopkins University, a ME degree in Civil Engineering from the Universidad Autónoma de Mexico, and his BSc in Civil Engineering from the Universidad Autónoma de Yucatán.

Seth L. Pearlman

Member

SETH PEARLMAN (NAE) is the Chairman of Menard, North America, a design-build specialty ground improvement contractor. He previously served as Board Member and North American zone director of Menard, France, and President and CEO of Menard USA. Prior to his work at Menard, Pearlman progressed from lead design engineer to Vice President of Engineering and Business Development at Nicholson Construction Company and also worked in engineering consulting and concrete fabrication. Mr. Pearlman helped to re-write Chapter 5.9 of the American Association of State Highway and Transportation Officials code, advised the Federal Highway Administration on soil nailing and micropile manuals, researched the behavior of reticulated micropile earth retention systems, and published and early design methodology at the Berkeley Conference on Slope Stabilization. Pearlman's honors include the American Society of Civil Engineers (ASCE) Henry Michel Award for Innovation in Construction and the ASCE Geo-Institute Wallace Hayward Baker Award for Innovation. Mr. Pearlman is a member of the Moles, the National Academy of Construction, and the National Academy of Engineering. Mr. Pearlman received his B.S. and M.S. in civil engineering from Carnegie Mellon University.

Jessica Smith

Member

JESSICA SMITH is Dean's Fellow of Earth and Society Programs, and Professor in the Department of Engineering, Design, and Society, at the Colorado School of Mines. She publishes widely on corporate-community relationships in the mining and energy industries and authored the book "Extracting Accountability: Engineers and Corporate Social Responsibility." Professor Smith is Editor-In-Chief of the journal Engineering Studies and is currently leading social science research for a large carbon capture and storage project funded by the Department of Energy. In 2022, Smith was named a Kavli Fellow by the National Academy of Sciences, and in 2016 her Corporate Social Responsibility course was named an Exemplar in Engineering Ethics by the National Academy of Engineering. She holds a PhD in anthropology from the University of Michigan and a BA from Macalester College.

Nina Stark

Member

NINA STARK is an associate professor in the Engineering School of Sustainable Infrastructure and Environment (ESSIE) at the University of Florida. Previously, she was an associate professor at Virginia Tech's Charles E. Via Jr. Department of Civil and Environmental Engineering. Her research is focused on geotechnical aspects of coastal processes and engineering, seabed site investigation, natural hazards, and naval applications and she is expert in the geomechanics of coastal and riverine sediment dynamics. She is a leading expert in seabed site investigation using in-situ testing as well as remote sensing and geophysical methods. Dr. Stark received the CAREER award from the National Science Foundation, the Young Investigator award from the Office of Naval Research (both in 2018) and was the lead primary investigator of the DoD Strategic Environmental Research and Development Program munition response project of the year in 2022. She co-led rapid reconnaissance efforts for the Geotechnical Extreme Events Reconnaissance Association and the Nearshore Extreme Events Reconnaissance Association in response to Hurricanes Harvey and Irma (2017), Western European floods (2021), and Hurricanes Helene and Milton (2023). Dr. Stark received a MS in Geophysics from the University of Muenster, Germany and a PhD in Marine Geotechnics from the University of Bremen.

Sammantha L. Magsino

Staff Officer