CECS New Faculty Bios 2015-2016

Applied Mathematics & Statistics

Mike Mikucki is a Teaching Associate Professor who joined the Applied Mathematics & Statistics department in 2015 after receiving his PhD from Colorado State University. Mike's research interests are in computational modeling for biophysics problems, but what he finds most rewarding is teaching mathematics. A long-time Colorado resident, Mike loves to spend time in the mountains with his family when he gets the chance.

Civil & Environmental Engineering

The Department of Civil and Environmental Engineering at the Colorado School of Mines is pleased to announce that **Dr. Christopher Bellona** will join the faculty as an Assistant Professor in Fall 2015. Dr. Bellona has been serving as an Assistant Professor in the Department of Civil and Environmental Engineering at Clarkson University for the past four years. He will be returning to his alma mater having graduated with and M.S. and Ph.D. in Environmental Science and Engineering from the Colorado School of Mines in 2003 and 2007, respectively.

Dr. Bellona's research interests are focused on the application of treatment technologies for the practice of water and wastewater treatment, and potable water reuse. His research has largely focused on various aspects of membrane-based technologies including modeling contaminant removal, understanding membrane fouling and conducting pilot-scale feasibility studies. Recent and current research projects include mitigating disinfection byproduct formation using various pretreatment methods, non-thermal plasma for the degradation of organic contaminants, and the extraction of valuable commodities from waste streams.

Dr. Reza Hedayat will join the faculty as an Assistant Professor of Civil and Environmental Engineering in fall 2015. Prior to joining Mines, Dr. Hedayat was on the faculty at Purdue University. Reza received his B.S. degree in Civil Engineering from Shiraz University, M.S. degree in Geotechnical Engineering from Tehran Polytechnic, and Ph.D. in Civil Engineering from Purdue University. Dr. Hedayat's research interests are in rock and fracture mechanics, tunnels and underground structures, and applied geophysics. His current research has focused on the mechanical and geophysical characterization of damage in rocks. Dr. Hedayat is the recipient of the Cook Ph.D. Dissertation award from the American Rock Mechanics Association (ARMA) in 2014 and the Manuel Rocha Medal Runner-Up Award from the International Society of Rock Mechanics (ISRM) in 2015. Dr. Hedayat is a member of the ARMA Future Leaders Program. Dr. Hedayat's future research initiatives will focus on the ground-support interaction in tunnels, multi-scale experiments in rock physics, and hydraulic fracturing.

Mines President and Professor **Paul C. Johnson** comes to us from the Arizona State University where he was formerly Dean of Engineering and was a tenured Professor in the College of Engineering. He holds a BS degree from UC Davis, and a PhD from Princeton, both in Chemical Engineering. He joined the faculty at ASU in 1994, was tenured in 1997, and was promoted to Professor in 2003. He has held numerous leadership positions while at ASU and has maintained both a strong research and teaching activity while he held these positions. His tenure application was strongly supported by all levels at the school and we are pleased to have him join the faculty.

Dr. Hongyan Liu obtained her Ph. D degree in Civil and Environmental Engineering at Colorado State University with a focus in structural engineering in August 2010. Her graduate education was focused on the performance based engineering for structural systems under hazard loading, and application of innovative construction materials (fiber reinforced concrete) for underground construction. Her Ph.D. dissertation was focused on developing generalized performance-based seismic design procedures for residential buildings with a simplified format to be implemented by practice engineers. Her M.S. research was focused on performance of underground tunnel lining made from steel fiber reinforced shotcrete material. Dr. Liu is experienced in teaching structural engineering related courses and has held multiple positions as instructor at a number of engineering programs, including an adjunct appointment at Colorado School of Mines. In the past classes she taught, most of the students rate her as a great teacher.

Dr. Timothy Strathmann Timothy Strathmann joined the Colorado School of Mines as a Professor in the Department Civil and Environmental Engineering in January 2015, and also holds a collaborative research appointment at the National Renewable Energy Laboratory. From 2003 to 2014 he was on the faculty at the University of Illinois at Urbana-Champaign. His research focuses on the development sustainable catalytic technologies for water treatment and waste valorization, and the study of redox transformation mechanisms for contaminants of emerging concern (CEC). Dr. Strathmann is the recipient of a National Science Foundation CAREER Award, and his research has been sponsored by NSF, USEPA, USDA, DOD, DOE, and the Water Research Foundation. His teaching interests include chemical principles of environmental engineering, water quality control processes, and quantitative environmental sustainability. Dr. Strathmann was also recently appointed Associate Editor of the journal Environmental Science and Technology, widely considered to be the top journal in the field environmental engineering and science. Dr. Strathmann's formal training includes a PhD in environmental engineering from Johns Hopkins, BS and MS degrees from Purdue, and postdoctoral training at Princeton. He lives in Golden, CO with his wife, Stefanie, and two children, Nicholas and Katherine.

Electrical Engineering & Computer Science

Payam Nayeri is an Assistant Professor of Electrical Engineering with the EECS Department at Colorado School of Mines. He received the B.Sc. in applied physics from Shahid Beheshti University, Tehran, Iran, in 2004, M.Sc. in electrical engineering from Iran University of Science and Technology, Tehran, Iran, in 2007, and Ph.D. in electrical engineering from The University of Mississippi, University, MS, USA, in 2012. Prior to joining Colorado School of Mines in January of 2014, he was a Postdoctoral Research Associate and Instructor with the Electrical Engineering Department at The University of Mississippi. His research is in the area of antenna arrays and RF/microwave devices and systems with applications in deep space communications, microwave imaging, and remote sensing. He is a member of IEEE, ACES, Sigma Xi, and Phi Kappa Phi, and has authored two books and over sixty journal articles and conference papers. Dr. Nayeri was the recipient of the 2010 IEEE Antennas and Propagation Society Doctoral Research Award.

Dr. Jeff Paone received the B.S. degree in Computer Science from the University of Notre Dame in 2007, M.Eng. degree in Computer Science from the University of Colorado in 2010, and returned to the University of Notre Dame to complete his Ph.D. in Computer Science in 2013. He spent several years in industry developing software for state municipalities. Most recently, he has completed a post-doctoral appointment at Oak Ridge National Laboratory. Dr. Paone's research involves computer vision with a focus on face and iris detection and recognition. In addition, his interests include computer graphics and augmented reality.

Dr. Chuan Yue has a B.E. in Computer Science and M.E. in Computer Science from the Xidian University, Xi'an, Shaanxi, China , and a Ph.D. in Computer Science from the College of William and Mary, Williamsburg, Virginia, USA . His research interest is in Cyber Security and Privacy, Web/Cloud/Mobile Systems Security, Usable Security and Privacy, Human-Computer Interaction, Collaborative Computing, Cloud Computing, Mobile Computing.

Mechanical Engineering

Mark Deinert was born in New York and grew up in both the United States and Germany. He received a Ph.D. in Nuclear Science and Engineering from Cornell University and did his postdoctoral training there in the Department of Theoretical and Applied Mechanics. Dr. Deinert's research centers on systems modeling to understand the environmental, economic and geopolitical impacts of different energy technologies. His research group uses tools from engineering analysis, thermodynamics, statistical physics and computation to understand problems how dynamics, non-equilibria and systems structure affect energy technologies . By relating performance to design and manufacturing decisions, his research informs development in the laboratory and policy.

EPICS

Yosef Allam is a Teaching Associate Professor in the EPICS first-year engineering program at the Colorado School of Mines. Prior to joining Mines, he was an Assistant Professor in the Engineering Fundamentals Department at Embry-Riddle Aeronautical University and an Affiliate Director for Project Lead The Way in Florida. He graduated from The Ohio State University with B.S. and M.S. degrees in Industrial and Systems Engineering and a Ph.D. in Engineering Education. Dr. Allam's interests are in spatial visualization, diffusion of evidence-based teaching practices, the use of learning management systems for large-sample educational research studies, student applications of the design process, curriculum development, and fulfilling the needs of an integrated, multi-disciplinary first-year engineering educational environment through the use of active and collaborative learning, real-world application and examples, problem-based and project-based learning, classroom interaction, and multiple representations of concepts.

Robin Bullock is an Associate EPICS Professor at the Colorado School of Mines. Ms. Bullock has worked as a decommissioning, remediation and restoration manager/engineer for the past 31 years, developing and directing environmental options on land, in rivers & lakes, nearshore and in open ocean environments under extreme cold conditions and under temperate and tropical conditions. Her work has taken her to numerous countries, managing environmental remediation, restoration, oil spill and projects organizations, conducting research on new and innovative remediation options, and studying the impacts of spilled oil and mine wastes on human and ecological communities. Academically, Ms. Bullock received her Bachelors and Masters Degrees in Engineering at Montana Tech. She was also selected to participate in the BP Projects Academy, an educational collaboration between BP and MIT. Ms. Bullock is admitted to graduate school at the University of Alaska-Fairbanks to pursue her Ph.D. in Engineering. Her research focuses on oil response tactics in the Arctic. She most recently taught in the Civil Engineering Programs at the University of Alaska and Montana State University.

Alina Monica Handorean was trained in Biochemistry and Molecular Biology at the University of Bucharest, Romania, where she received both her BS and MS degrees. Prior to coming to the US for her graduate training, she was a junior faculty at Bucharest's Technical University of Civil Engineering, where she taught water biology and chemistry. In 2002, she entered Washington University in St. Louis completing a MA and PhD in Chemistry. She later moved to the University of Colorado's Health Sciences campus for a post-doctoral fellowship in cancer biology. Trained to characterize DNA damage and metastasis mechanisms, Dr. Handorean successfully translated her biochemistry skills for use in environmental applications, where her most recent research has focused on the distribution, abundance and reactivity of biopolymers suspended in the atmosphere – both indoors and out. Dr. Handorean is now a Teaching Associate Professor in the EPICS Program at the Colorado School of Mines; she has more than 15 years teaching experience, from middle school through graduate levels, and has taught a wide range of fundamental environmental engineering classes in a portfolio which includes Engineering Design, Environmental Microbiology and Thermodynamics. During her tenure at the University of Colorado, Boulder, Dr. Handorean was also a part time administrator: she was appointed to serve as a member of the Institutional Biosafety Committee, and was the Co-President of the Post-Doctoral Association.

Mirna Mattjik is a Teaching Associate Professor in the EPICS first-year engineering program at the Colorado School of Mines. She has taught with EPICS for eight years and CECS Senior Design for two years as an adjunct faculty, bringing to the programs user-centered design methodologies. She received a BS in Industrial Technology from Bogor Agriculture University in Indonesia, a Master's degree in International Political Economy of Resources from Mines, and a Master of Science in Management from Regis University. Her experience includes work in oil and gas and in the telecommunications industry, in the Humanitarian Engineering and Hennebach programs at Mines. She has also been involved in bringing ethics into the Mines curriculum in a way that shows its relevancy and importance to technical problem solving. Her interests are in interdisciplinary studies in engineering education, project-based learning, user-centered design, and community-driven development.