2015 New College Leadership and Faculty

University of Idaho
College of Engineering
I am happy to introduce our University of Idaho College of Engineering 2015-16 new faculty cohort.

This fall is unique in that we welcome a completely new leadership team of six new departmental chairs. Each new chair brings with them a wealth of teaching, research and leadership experience, some have extensive global and industry experience and others know the University of Idaho intimately as alum and faculty. I am looking forward to working with our new chairs to create an innovative vision for our college.

In addition to our new Chairs, we are also happy to welcome eleven new faculty members. We have new additions to almost all of our departments in Moscow and two new members to our nuclear engineering program in Idaho Falls.

All of these new faculty bring talents and expertise to strengthen our teaching, research, and outreach missions to current and future students. Our college has a tradition of providing our students with strong fundamentals, hands-on learning, and exceptional design and research opportunities. I am confident our new department chairs and faculty will carry on this tradition.
Department Chairs

University of Idaho
Ching-AN PENG | Biological Engineering

Dr. Ching-An Peng received B.S. from National Taiwan University in 1985, M.S. from University of Notre Dame in 1990, and Ph.D. from University of Michigan in 1995 (all degrees in Chemical Engineering). From 1996-1997, he worked as a joint postdoctoral fellow at University of British Columbia and StemCell Technologies. In 1997, he started his assistant professorship at University of Southern California in Chemical Engineering Department. Since 2003, he has been promoted to associate professor of Chemical Engineering and Materials Science with tenure. In 2006, he joined the Department of Chemical Engineering at National Taiwan University with the rank of full professor. In 2008, he joined Department of Chemical Engineering at Michigan Technological University as the first holder of the James and Lorna Mack Endowed Chair in Bioengineering. His research interests include bio-based products, biomaterials, drug/gene delivery, nanobiotechnology, nanomedicine, and tissue engineering.

Patricia J. S. COLBERG | Civil Engineering

Dr. Patricia J. S. Colberg comes to the University of Idaho after 23 years at the University of Wyoming where she was the first female to achieve the rank of professor in the College of Engineering and Applied Science. She holds a B.S. degree (with Honors) in Mathematics from North Dakota State University, an M.S. degree in Bacteriology from the University of Idaho, and a Ph.D. in Civil Engineering from Stanford University. She is a licensed professional engineer. Her research interests include both basic and applied questions, but are largely focused on remediation of organic and metal contaminants in the subsurface. She was named an Education Fellow in the Life Sciences by the National Academy of Sciences in 2004. She is an ABET IDEAL Senior Scholar. In her free time, Colberg likes to hike, ski, cycle, kayak, hunt (mushrooms only), garden, cook (especially East Indian), and read biographies and murder mysteries.
D. Eric ASTON  |  Chemical and Materials Engineering

Dr. D. Eric Aston is Professor and Chair of the UI Chemical and Materials Engineering Department. Eric received his Ph.D. in Chemical Engineering from the University of Washington (2001), working concurrently on his M.S. in Physics (2000). He began teaching thermodynamics and separation processes at UI in 2001, including labs in distillation and electives in colloids, interfacial phenomena, surface instrumentation, bionanotechnology, polymers, and Honors seminars on nanoscience and creative writing. His research in polymeric, magnetic and photoactive materials, bionanomaterials, biosensors, and nanomechanics has been funded by the W. M. Keck Foundation, NSF, ONR, USDA, and others. His current interests wax and wane from (micro-)Raman techniques and synthesis of conducting polymer nanopowders to biology and biochemistry, creative writing, ancient history, home remodeling, and raising two children with his wife. Eric also received his B.S. in Chemical Engineering in 1995 from UI.

Rick SHELDON  |  Computer Science

Dr. Rick Sheldon has 29+ years in the fields of software engineering and computer science engaged as an engineer, principal investigator, research scientist, business developer and conference chair. He holds a visiting professorship at the International School of Software, WHU, China and his research interests are currently focused on cyber and information security. He’s held faculty appointments (University of Colorado, Colorado Springs, Washington State University, University of Memphis) and R&D positions at Oak Ridge National Laboratory and three fortune 100 companies (LMCO, GD and Raytheon/TI) including a National Academy NRC postdoc at NASA Langley, and Visiting Scholar at NASA Ames and Stanford University. He’s published more than 130 articles, held 12 editorships and 4 U.S. Patents. He’s chaired, facilitated and participated in National R&D venues including invited speaker, panelist and moderator. An IEEE Sr. Member, he received the Sigma Xi research and UT-Battelle key contributor and significant event awards. He obtained two undergraduate degrees for the University of Minnesota and his M.S. and Ph.D. from the University of Texas at Arlington. He enjoys teaching senior and graduate level topics.
Dr. Mohsen Guizani is a Fellow of IEEE and is currently a Professor and Chair of the Electrical and Computer Engineering Department at the University of Idaho. Previously, he served as the Vice President of Graduate Studies at Qatar University, Associate Dean at Kuwait University, Chair of Computer Science Department at Western Michigan University; Chair of Computer Science Department at the University of West Florida; and Director of graduate studies at the University of Missouri-Columbia. He also taught and held administration positions at Syracuse University and the University of Colorado-Boulder. He received his B.S. (with distinction), M.S. and Ph.D. degrees in Electrical Engineering; M.S. degree in Computer Engineering in 1984, 1986, 1987, and 1990, respectively, from Syracuse University, Syracuse, New York. His research interests include wireless communications and mobile computing, computer networks, smart grid, cloud computing and security. He currently serves on the editorial boards of six International technical journals and is the founder and editor in chief of “Wireless Communications and Mobile Computing” Journal published by John Wiley & Sons Ltd. He is the author of seven books and more than 400 publications in refereed journals and conferences.

Dr. Steve Beyerlein received his Ph.D. from Washington State University in 1987 and has been a member of the University of Idaho, Department of Mechanical Engineering faculty since then. During this time he has taught undergraduate and graduate courses in the areas of combustion systems, design methodology, computer aided design, and lean manufacturing. His doctoral dissertation focused on performance testing and modeling of a catalytic pre-chamber designed to support homogeneous charge combustion in a CFR engine. For the last fifteen years he has been an active participant in the National Center for Advanced Transportation Technology (NIATT) where he has been involved in multiple generations of student vehicle projects, including the Vandal SAE Formula Hybrid race car and the UI Clean Snowmobile. For the last ten years he has served as the coordinator for the Inter-disciplinary Capstone Design Course within the College of Engineering. Within the capstone program, he has advised over 150 design teams and has raised more than $1.5M in external funding for student projects. Since its inception, he has also served on the organizing committee for the annual Engineering Design EXPO. Dr. Beyerlein’s research interests revolve around teaching engineering design, combustion system modeling and engine testing.
Moscow Campus
University of Idaho
Chemical and Materials Engineering

SAMRAT CHOUDHURY
Assistant Professor

Dr. Samrat Choudhury is a new assistant professor in the Department of Chemical and Materials Engineering. Prior to joining the University of Idaho, Dr. Choudhury served as a scientist at the Los Alamos National Laboratory where he initially joined as a Director’s Postdoctoral Fellow in 2010. He graduated with a Ph.D. in Materials Science and Engineering from the Pennsylvania State University in 2008 having worked on phase-field simulations of ferroelectric materials. Dr. Choudhury’s research interest is in computational design of advanced materials with a primary focus on materials for various energy applications ranging from structural materials for nuclear reactors to novel materials for battery electrodes.

Biological Engineering

BRYN MARTIN
Assistant Professor

Dr. Bryn Martin joins the Department of Biological Engineering as an Assistant Professor and will form a Neurophysiological Imaging and Modeling Laboratory (www.NIML.org). Martin conducts clinical translational research that aims to improve human health and well-being for the millions of people affected by central nervous system (CNS) disorders. His research develops and applies advanced MR imaging and computational modeling techniques to investigate the pathophysiology of CNS disorders from a hydrodynamic and biomechanical perspective and develop related medical technologies. Prior to joining UI, Dr. Martin served as Director of the Conquer Chiari Research Center at the University of Akron (2012-15), completed post-doctoral training at the Swiss Federal Institute of Technology (2009-12) and earned a Ph.D. in Mechanical Engineering at the University of Illinois at Chicago (2008).

Civil Engineering

EMAD KASSEM
Assistant Professor

Dr. Emad Kassem joins the Department of Civil Engineering as an Assistant Professor. He received his M.S. and Ph.D. from Texas A&M University. Prior to joining the University of Idaho, he was an Associate Research Scientist at the Texas A&M Transportation Institute. His research focuses on characterization of pavement materials, tire-pavement interaction, microstructure analysis of asphalt mixes and granular materials, non-destructive evaluation of pavements, multifunctional materials, and analytical and computational modeling of infrastructure materials. He received the Texas A&M Transportation Institute/Trinity New Researcher Award in 2011.
AHMED IBRAHIM
Assistant Professor

Dr. Ahmed Ibrahim joins the Civil Engineering Department as an Assistant Professor. He received his Ph.D. degree in Civil/Structural Engineering from the University of Missouri–Columbia in 2010. His research involves blast resistant design, experimental testing and numerical analysis of structural elements, and the performance and strengthening of reinforced and prestressed concrete bridges. His research has been funded from the US Department of Transportation and presented in several articles published in journals and conference proceedings. Dr. Ibrahim is registered as a professional engineer and his experience includes more than ten years in the industry and academia.

MOSCOW CAMPUS | 2015 New Engineering Faculty

KAMAL KUMAR
Associate Professor

Dr. Kamal Kumar received his B.Tech in Energy Engineering from the Indian Institute of Technology, Kharagpur (1998). He obtained his M.S. (2004) and Ph.D. (2007) degrees in mechanical engineering from Case Western Reserve University. His research interests are in the field of alternative fuel combustion chemistry, and energy conversion systems. Prior to joining the University of Idaho, he worked as an associate professor-in-residence in the mechanical engineering department at the University of Connecticut. He has also worked in the electric power industry as a plant performance and electrical maintenance engineer (1998-2002).

Michael Maughan attended the University of Idaho where he earned B.S. and M.S. degrees in mechanical engineering. He spent five years in industry, working for both Fortune-50 and startup companies as a mechanical design engineer and engineering manager. Michael then attended Purdue University where he received a Ph.D. in materials engineering. He has published seven papers in holds five patents. His research spans the fields of mechanical and materials engineering, studying the microscale properties, behavior, and failure of materials and mechanical systems.

MECHANICAL ENGINEERING

KAMAL KUMAR
Associate Professor

Dr. Kamal Kumar received his B.Tech in Energy Engineering from the Indian Institute of Technology, Kharagpur (1998). He obtained his M.S. (2004) and Ph.D. (2007) degrees in mechanical engineering from Case Western Reserve University. His research interests are in the field of alternative fuel combustion chemistry, and energy conversion systems. Prior to joining the University of Idaho, he worked as an associate professor-in-residence in the mechanical engineering department at the University of Connecticut. He has also worked in the electric power industry as a plant performance and electrical maintenance engineer (1998-2002).

BEHNAZ REZAIE
Assistant Professor

Dr. Behnaz Rezaie joins the Mechanical Engineering Department as an assistant professor at the University of Idaho. She received mechanical engineering degrees from Iran University of Science and Technology (B.S.) and University of Ontario Institute of Technology (M.S.) in Canada. She also obtained another degree in industrial management from Luleå University of Technology (M.S.) in Sweden. Dr. Rezaie received her Ph.D. in mechanical engineering from Clean Energy Research Lab at University of Ontario Institute of Technology in Canada. Dr. Rezaie has extensive industrial experience in automotive industry; she has managed/developed/accredited 6 industrial quality laboratories. She also launched several automotive projects for automakers like Toyota, Mazda, and Chrysler. Prior to joining the University of Idaho, she was Director in Professional Engineers of Ontario Chapter Executive (Lake Ontario Chapter) while she was a lecturer and researcher in University of Ontario Institute of Technology in Canada. Her research interests are on energy, renewable energy, district energy, thermal energy storage, environmental impact assessment, integrated energy systems, modeling and simulation of energy systems, thermodynamics, and heat transfer.

KAMAL KUMAR
Associate Professor

Dr. Kamal Kumar received his B.Tech in Energy Engineering from the Indian Institute of Technology, Kharagpur (1998). He obtained his M.S. (2004) and Ph.D. (2007) degrees in mechanical engineering from Case Western Reserve University. His research interests are in the field of alternative fuel combustion chemistry, and energy conversion systems. Prior to joining the University of Idaho, he worked as an associate professor-in-residence in the mechanical engineering department at the University of Connecticut. He has also worked in the electric power industry as a plant performance and electrical maintenance engineer (1998-2002).
Idaho Falls Campus

University of Idaho
Computer Science

MICHAEL HANEY
Assistant Professor

Dr. Michael Haney joins the Idaho Falls campus in the Department of Computer Science as an Assistant Professor. He recently earned his Ph.D. in Computer Science from the University of Tulsa in 2015 but has over 15 years industry experience. His experience includes designing, implementing, and managing information assurance programs for SMB and Fortune 500 consulting clients in many industries, including financial services, energy, retail, healthcare, telecom, software, manufacturing, and education, as well as city, state, and federal government agencies. Dr. Haney’s research interests are in data visualization, specifically visualizing available network and log data to improve intrusion detection and response for large-scale networks. He studies cyber-security issues of energy assurance supporting a more resilient “smart” infrastructure. With a focus on honeypot research - creating systems that mimic real power generation systems, oil refineries, or water treatment plants, and record and study the cyber-attacks against these systems. He also studies cryptography, specifically novel applications of advanced cryptographic techniques to support privacy on the Internet.

Nuclear Engineering

BOB BORRELLI
Assistant Professor

Dr. Bob Borrelli joins the Idaho Falls campus as an Assistant Professor in the Nuclear Engineering program. He will be teaching a course in the Principles of Nuclear Engineering this fall. Dr. Borrelli earned his Ph.D. from the University of California, Berkeley in 2006. He spent time as a post-doctoral researcher at UC Berkeley working to develop a safeguards methodology for remotely-handled nuclear materials facilities that proposed functional design components and a risk-informed framework in an effort to integrate safeguards with safety and security into facility design. While a post-doc at Berkeley he also worked to develop mathematical modeling of mass transport in the engineered barrier system of a high-level nuclear waste repository and continued his dissertation research assessing the potential of extruding bentonite to confine radionuclides. His current research efforts are focused on scientific computing applications to safeguardability of the advanced fuel cycle.

RICHARD CHRISTENSEN
Professor

Dr. Richard Christensen is Professor Emeritus of Nuclear Engineering in the Department of Mechanical Engineering at The Ohio State University Columbus, Ohio where he served on the faculty since 1978. He joins the University of Idaho Nuclear Engineering program at the Idaho Falls campus. Dr. Christensen is an internationally recognized scholar and leader in a wide range of nuclear and thermal sciences research areas. His research spans diverse areas such as nuclear thermal-hydraulics, nuclear waste isolation, advanced reactor concepts with a focus on inherently safe nuclear reactors, thermally activated heat pumps, waste heat recovery, and a variety of fundamental convective and radiative heat transfer investigations. The unique aspect of his research is that it has invariably resulted not only in contributions to the archival literature but has also always resulted in practical implementations and commercialization of energy efficient and safer technologies. He has pioneered the establishment of multi-disciplinary teams for large externally funded research programs with participants and support from universities and their consortia, large corporations such a nuclear vendors, utility companies, small businesses, regulatory agencies, and state and federal agencies. He received his Ph.D. in Nuclear Engineering from Stanford University in 1974.
Welcome
2015 New College Leadership and Faculty

For more than 100 years, the College of Engineering at the University of Idaho has been providing exceptional learning and research opportunities for students from Idaho and around the world and our faculty are the key to our success.

Department Chairs

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