YPC19

Young Professionals Congress 2019

Saturday, November 16
Marriott Wardman Park
Washington, D.C.

Division Luncheon Speaker Bios

American Nuclear Society
Young Members Group

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Education, Training & Workforce Development Division

Dr. James E. Baciak (PI) (Ph.D., Nuclear Engineering, University of Michigan, 2004) is currently a Florida Power and Light Professor for the Nuclear Engineering Program in UF's Materials Science and Engineering Department. Dr. Baciak was a faculty member in Nuclear and Radiological Engineering at the University Florida from 2004-2010. From 2010-2012, he was a Research Scientist within the National Security Directorate at Pacific Northwest National Laboratory (Richland, WA), before returning to the University of Florida and the Nuclear Engineering Program in 2012. He is the former Director of the Nuclear Engineering Program and Interim Chair for Materials Science and Engineering at the University of Florida. His expertise areas include detector development and radiation measurements, scintillation detectors, compound semiconductor materials, radiation imaging, background rejection techniques, national security - nuclear nonproliferation applications, and non-destructive examination (medical and industrial). In his nine years at the University of Florida, he has been a PI or Co-PI on over $22 million in project grant funding (including over $9 million as PI), from federal agencies, national laboratories, and industrial partners. He has received over funding from the Department of Energy, Department of Homeland Security, National Nuclear Security Administration, Nuclear Regulatory Commission, and Defense Threat Reduction Agency. He and his students have published over 60 papers and over 110 conference presentations. He is the current chair for the International Society for Optical Engineering's (SPIE's) Penetrating Radiation Technical Event, and is the past chair of the American Nuclear Society Scholarship Policy and Coordination Committee. He is also a co-developer of the Nuclear Security Summer School at Pacific Northwest National Laboratory. He is a member of many professional societies, including ANS, IEEE, SPIE, and ASNT.

Fuel Cycle & Waste Management Division

Maryanne E. Stasko is a Sr. Nuclear Engineer, Nuclear Design, at Duke Energy in Charlotte, NC. She has a B.S. in Mechanical Engineering from Cleveland State University (2004) and a M.S. in Nuclear Engineering from the University of Michigan (2005). In her present position, she performs core follow calculations, startup and operational reports, updates to core monitoring software, cause analyses, and nuclear oversight. Previous positions include spent fuel management (dry storage and spent fuel pool criticality), fuel mechanical (fuel fabrication surveillances, component fluence tracking), and a co-op with FENOC - Perry in NSSS system engineering. An ANS member since 2004, she has served on the FCWM Division Executive Committee (scholarship committee, awards committee, position statement revisions); ANS Standards Fuel, Waste, and Decommissioning Consensus Committee; ANS Standard 57.2 and 57.3 Working Group; and ANS Public Policy Committee. She is an ANS Piedmont Local Section member.

Fusion Energy Division

Leigh Winfrey, Ph.D., is an Associate Professor of Nuclear Engineering in the Department of Mechanical and Nuclear Engineering at Pennsylvania State University where she is director of the Magnetic and Electric Field Applied Research and Science Laboratory. Her research group focuses on plasma-materials interactions, plasma-fluid interactions, fusion reactor materials, fusion reactor safety, corrosion mitigation in reactor materials, high-level waste management, high velocity projectile launch, micro-thruster design, gas turbine engine flow control, and novel materials synthesis. In addition to her position at Penn State, Dr. Winfrey is the Editor of Fusion Science and Technology, the leading source of information on fusion plasma physics and plasma engineering, fusion plasma enabling science and technology, fusion nuclear technology

and material science, fusion applications, fusion design and system studies. Dr. Winfrey received her Ph.D. in Mechanical Engineering and M.S. in Physics from North Carolina State University both with minors in Nuclear Engineering. She received a B.A. in Chemistry and Mathematics and a B.S. in Physics from the University of North Carolina at Charlotte and is a member of Sigma Xi: The Scientific Research.

Materials Science & Technology Division

Luca Capriotti obtained his master degree, with honors, in Nuclear Engineering at the Politecnico di Milano, Italy with an experimental work on the high temperature behavior of actinides dioxide performed at ex-Institute for Transuranium elements (European Commission, JRC-Karlsruhe). From 2013 to early 2016 he worked as a grantholder at the JRC-Karlsruhe on the topic of post irradiation examination of fast reactor metallic fuel for transmutation. He is affiliated as Ph.D. student at TU-München. Since April 2016, he has been working as a nuclear fuel engineer at Idaho National Laboratory in the division of Advance Characterization & Post Irradiation Examination (PIE) with particular involvement in the Advance Fuel Campaign. In this role Luca has been involved in different projects on advance reactor fuel and from April 2019 is leading the Advance Reactor Fuel PIE.Capriotti is passionate about energy and policy, building a strong network and young professional organizations societies in which he fulfills different leadership roles such as Vice President at International Youth Nuclear Congress (IYNC) (2016-2018), IYNC President (2018-2020), and Local Chapter Leader at NAYGN (Idaho Chapter, 2017-2019). He received the FCR&D Excellence Award in 2017.

Dr. J. Rory Kennedy is the Director of the US Nuclear Science User Facilities, appointed in January 2014. Previous to this appointment he was the National Technical Lead for Metallic Fuel Development in the Advanced Fuel Campaign of the Fuel Cycle Research and Development Program and Head of the Fundamental Fuel Properties Department at Idaho National Laboratory (INL). He has worked at INL since 1996. He received his Ph.D. in Inorganic Chemistry from Northwestern University and subsequently worked for seven years at the Max Planck Institute for Solid State Research in Stuttgart, Germany, initially on an Alexander von Humboldt Fellowship. His research interests include both fundamental and applied science of materials, focusing the last 20-plus years on nuclear fuels and materials.

Mathematics & Computation Division

Dr. Tara M. Pandya is an R&D staff scientist in the Radiation Transport group at Oak Ridge National Laboratory (ORNL). She received her B.S., M.S., and Ph.D. degrees in Nuclear Engineering from Texas A&M University in 2006, 2009, and 2012, respectively. She joined ORNL in 2012 as a Postdoctoral Researcher and transitioned to R&D Associate Staff in 2014 in the Radiation Transport Group. She is currently a R&D staff member in the High Performance Computing Methods and Applications Team. She also serves as the CASL Deputy Lead for the Radiation Transport Methods Focus Area and the ORNL LDRD Transformational Nuclear Science and Technology Initiative Lead. Tara began her career at ORNL by working on Monte Carlo, deterministic, and hybrid radiation transport methods and code development aimed toward nuclear applications. She was integral in starting the integration of the Monte Carlo code Shift into the SCALE code. She is currently the lead of Shift Monte Carlo code development and hybrid methods development for the Department of Energy (DOE) Energy Innovation Hub Consortium for Advanced Simulation of

Light Water Reactors (CASL). In this role, Tara has implemented and integrated new capabilities into the Virtual Environment for Reactor Applications (VERA) for performing verification and validation and high-fidelity radiation transport simulation of nuclear reactors. She has been instrumental in implementing the capability to calculate ex-core quantities of interest including reactor vessel fluence, detector response, and concrete fluence in VERA.

Nuclear Criticality Safety Division

James Bunsen has been a Criticality Safety Analyst with the Nuclear Criticality Safety Division at Los Alamos National Laboratory (LANL) since May 2017. He assists the division in ensuring operations with fissile material are performed at subcritical levels at all times. Other responsibilities include assisting in the expansion of a nuclear criticality safety pipeline course at supporting universities as well as recruitment at university career fairs and conference booths. Prior to coming to LANL, he was a student at Texas A&M University, obtaining a degree in Nuclear Engineering. While at Texas A&M, he did research in Radiochemistry and Thermal Hydraulics and attended multiple American Nuclear Society conferences as a representative of the local Student Section executive committee. In his spare time, he helps out at local scout troop 22 as an assistant scout master and takes them on hiking, backpacking, and rock climbing trips. He loves to travel and experience other cultures as much as possible.

John Miller has a B.S. and M.S. in Nuclear Engineering from the University of New Mexico (UNM) and over 20 years of experience providing support for nuclear criticality safety (NCS), radiation dose and shielding, and the lifecycle planning and management of nuclear materials. He has supported activities at multiple Department of Energy (DOE) facilities in the USA, as well as at the Sellafield Nuclear Facility in the UK. John is the NCS program lead at Sandia National Laboratories and serves as the DOE Nuclear Criticality Safety Program (NCSP) CEDT Manager. John has been involved in training criticality safety professionals through DOE hands-on NCS classes, UNM NCS Short Courses, UNM NCS Manager's Workshops, UNM/UK NCS Workshops, etc. He is active in the ANS Nuclear Criticality and Safety Division and has served in leadership roles and on various committees. He is also active in the development of NCS Standards (i.e., NCSCC, Chair of ANSI/ANS-8.19, and member of ANSI/ANS-8.1 and -8.6).

Nuclear Installations Safety Division

Matthew Denman, Ph.D., is the Probabilistic Safety Analysis Lead for Kairos Power. His work scope includes both integrating the radiological source term analysis into the probabilistic risk assessment and supporting risk-informed design activities. Prior to joining Kairos, Matthew worked for Sandia National Laboratories conducting research on PRA and source term uncertainty quantification. Matthew is the outgoing Chair of the ANS Nuclear Installations Safety Division and is the current chair of the Sub-Committee of Standards Development for the Joint Committee of Nuclear Risk Management. Matthew received his Ph.D. from MIT and his B.S. from the University of Florida, both in Nuclear Engineering.

Nuclear Nonproliferation Policy Division

Rian Bahran, Ph.D. is on a multi-year assignment from Los Alamos National Laboratory (LANL) serving as a Senior Science & Policy Adviser at the Pentagon in the Office of the Secretary of Defense for Policy. He started his career at LANL as a postdoc in the Weapons Physics Division. He went on to lead R&D/training efforts in the Advanced Nuclear Technology Group within the Los Alamos Global Security programs tackling challenges related to the nuclear deterrent, safety and security,

nonproliferation, and countering weapons of mass destruction. Dr. Bahran received a Ph.D. in Nuclear Engineering and Science from Rensselaer Polytechnic Institute (RPI) based on research in collaboration with the U.S. Naval Reactors program. He also has a Dual B.S. in Nuclear Engineering & Engineering Physics from the same university. He has published 75-plus peer-reviewed journal and conference technical publications and is the recipient of various national awards. He is currently an adjunct professor at the University of New Mexico; adjunct faculty at RPI; and a Fellow of the MIT Seminar XXI national security program. He also serves as an Editor for the Journal of Nuclear Materials Management.

Thermal Hydraulics Division

Chul-Hwa Song, Ph.D., is a Distinguished Tenured Researcher at Korea Atomic Energy Research Institute (KAERI), where he has worked since 1985. He also is a professor of Advanced Nuclear System Engineering at the Korean University of Science and Technology. His previous roles at KAERI include serving as V.P. for Nuclear Safety Research Department (dealing with nuclear safety R&D for nuclear installation), and Director and General PM (leading the Thermal-Hydraulic Safety Research division). Song currently serves as the Editor of Nuclear Engineering & Design [NED] Journal and as Associate Editor of the International Journal of Advanced Nuclear Reactor Design & Technology. He also is the Chair of the ANS Thermal Hydraulics Division Executive Committee and Program Committee, and is a member of the ANS International Committee.

Diversity and Inclusion in ANS Committee

Dr. Lane Carasik is an Assistant Professor within the Department of Mechanical and Nuclear Engineering at Virginia Commonwealth University. Dr. Carasik is the Director of the Fluids in Advanced Systems and Technology (FAST) research group that focuses on thermal hydraulics research in advanced energy systems. He was a CFD and Thermal Fluids Engineer at Kairos Power working on the FHR concept. Dr. Carasik has a Ph.D. in Nuclear Engineering from Texas A&M University and a B.S. from the University of Tennessee, Knoxville. His research interests include advanced reactor design, HPC applications of computational fluid dynamics, and verification and validation.

Professional Engineering Exam Committee

Paul G. Edelmann, Ph.D., P.E., has been an active national ANS member since 1992, when he completed a B.S. degree in Nuclear Engineering from the Rensselaer Polytechnic Institute. He also holds a Ph.D. in Nuclear Engineering from the University of New Mexico, and obtained his P.E. license from the Commonwealth of Pennsylvania in 1999. Dr. Edelmann has been an active member of the Professional Engineering Exam Committee (PEEC) since at least 2007. In the first half of his career, he worked in the commercial nuclear power industry, predominantly in reactor reload fuel and core design. In 2004, he joined a team of engineers at Los Alamos National Laboratory to design a space power and propulsion reactor for the Jupiter Icy Moons Orbiter (JIMO) mission. Paul retired from LANL in April 2019, and continues to support the DOE weapons complex as a contract consultant in nuclear safety analysis and development.

Alexandra (Alex) Siwy, P.E., has been involved in ANS since 2010 and has been an active member of the Professional Engineering Exam Committee (PEEC) since 2018. She attained her P.E. license from the Commonwealth of Pennsylvania in 2017. Alex is currently a Reactor Systems Engineer in the U.S. Nuclear Regulatory Commission's Office of Nuclear Reactor Regulation. She has worked for the NRC since graduating from the University of Michigan with B.S. and M.S. degrees in Nuclear Engineering and Radiological Sciences in 2013 and 2014, respectively.