FESAC MEMBERS BIOGRAPHIES

Dereje Agonafer is a Presidential Distinguished Professor of Mechanical and Aerospace Engineering at the University of Texas at Arlington (UTA) where he heads two centers: Site Director of the National Science Foundation (NSF) Industry-University Cooperative Research Center in Energy Efficient Systems and Director of Electronic Packaging. After receiving his Ph.D. at Howard University, he worked for 15 years at IBM. In 1991, his work was recognized with the IBM Outstanding Technical Achievement Award in Appreciation for Computer Aided Thermal Modeling. Since joining UTA in 1999, Professor Agonafer has graduated 250 graduate students including 28 Ph.D.s and is currently advising 15 Ph.D. and eight MS students. He is funded by both government agencies and several industries, including Facebook, Intel, Microsoft, Nvidia, and Lockheed Martin. Professor Agonafer's new initiative is to start a center called Center for Reliability Assessment in Micro and Power Electronic Systems (RAMPES) focusing on thermo/mechanical challenges in heterogenous integrated systems. For this effort, the State of Texas and the University provided him with $1.325M equipment funding, 3000 sq. feet of new lab space, Assistant and Associate Professor faculty lines, and a research engineer. For his contributions, he has received numerous awards including the 2008 THERMI Award, the 2009 InterPACK Excellence Award, the 2014 ITHERM Achievement Award, and the 2019 ASME Heat Transfer Memorial Award. Professor Agonafer was a Martin Luther King Visiting Professor at Massachusetts Institute of Technology (MIT) during the 2007 academic year. He is a Life Fellow of the National Academy of Inventors (NAI), Fellow of the American Association for the Advancement of Science and Life Fellow of the American Society of Mechanical Engineers. In 2019, Professor Agonafer was elected to the National Academy of Engineering and, according to Dean Crouch, "the first current faculty member elected to the Academy." He also has expertise in fusion materials/materials research/design studies.

Emily Belli is a Research Scientist in the Theory and Computational Sciences Group of the Magnetic Fusion Energy Division at General Atomics (GA). Prior to joining GA in 2006, she received her Ph.D. in Astrophysical Sciences from Princeton University, where she specialized in theoretical plasma physics for magnetic fusion energy. Dr. Belli has expertise in fusion theory and computation, and her research interests include theoretical and computational studies of plasma turbulence and transport in magnetic fusion devices, plasma kinetic theory, numerical methods for plasma modeling, and high-performance computing. She is the Principal Investigator (PI) for 2021 and 2022, U.S. DOE Innovative and Novel Computational Impact on Theory and Experiment (INCITE) awards and Co-PI of 2019 and 2020, Advanced Scientific Computing Research (ASCR) Leadership Computing Challenge (ALCC) awards. Dr. Belli currently serves as a member of the U.S. Burning Plasma Organization Council, the U.S. Edge Coordinating Committee, and the U.S. DOE Oak Ridge Leadership Computing Facility (OLCF) User Group Executive Board and has previously served on the Executive Committee for the International Sherwood Fusion Theory Organization from 2012-2015. Her service to the American Physical Society (APS) includes being a member of the cross-division Committee on Membership chair from 2022-2023, an outreach volunteer and panelist for the Conference for Undergraduate Women in Physics from 2019-2022, and a member of the Division of Plasma Physics Program Committee for the annual conference in 2015, 2018, & 2021, including serving as Chair of the sub-committee for Magnetic Fusion Theory in 2021.

Luis Chacon is a Fellow of the American Physical Society and a Senior Scientist of International Stature (Scientist 5) in the Applied Mathematics and Plasma Physics group in the Theoretical Division at Los Alamos National Laboratory (LANL) since 2012. Dr. Chacon received his MS in Industrial Engineering from the Polytechnic University of Madrid, and his MS and Ph.D. in Nuclear Engineering from the University of Illinois at Urbana-Champaign. After graduation, he joined the Theoretical Division at LANL as a Director's funded Postdoctoral Fellow and became a staff member in 2002. Dr. Chacon has expertise in fusion theory and computation. He later joined the Fusion Energy Division at Oak Ridge National Laboratory (ORNL) from 2008 to 2012 and returned to LANL in 2012. Since 2013, Dr. Chacon has been an Associate Editor for the Journal of Computational Physics and an Executive Editor of this journal from 2015 to 2021. He is also a guest editor in the SIAM Journal of Scientific Computing. His research spans many aspects of plasma simulation and algorithm development, including transport, magnetohydrodynamics, and kinetic modeling (both Eulerian and Lagrangian), with applications to basic plasmas, inertial, and magnetic confinement fusion. His research has resulted in about 120 published studies, garnering about 3850 citations with an h-index of 36. Dr. Chacon has participated in the organization of numerous conferences and workshops, including the International Sherwood Fusion Theory Conference (Chair, 2011-2012), the Copper Mountain Meeting on Iterative Methods (Member of the Scientific Committee since 2016), the 2018 workshop on Kinetic Effects in Inertial Confinement Fusion (ICF) (Chair), the International Conference of Numerical Simulation of Plasmas (Chair 2019), the 2019 Joint Institute for Fusion Theory U.S.-Japan Workshop on Multiscale Simulation of Plasmas (U.S. co-lead), and the SIAM Meeting on Partial Differential Equations (Organizing Committee Member, 2019).

Luis Delgado-Aparicio is a Principal Research Physicist at the Princeton Plasma Physics Laboratory (PPPL) where he is the Head of the Advanced Projects Department and a leader of the x-ray group collaborating with experiments in the U.S. and worldwide. He earned bachelors and licentiate degrees in Physics from the Pontificia Universidad Católica del Peru, and a master's degree in Astrophysics from Princeton University. Dr. Delgado-Aparicio obtained a second master's in physics from Johns Hopkins University (JHU) and received his Ph.D. in Physics also from JHU, working in electron-thermal and impurity-particle transport studies in NSTX. He joined PPPL in 2009 and spent four years as a visiting scientist at the Plasma Science and Fusion Center at the Massachusetts Institute of Technology. Since his return to PPPL, Dr. Delgado-Aparicio has won several awards including the Department of Energy Early Career Award in 2015, the General Atomics Torkil Jensen Award in 2016, the President's International Fellowship Initiative (PIFI) award from the Chinese Academy of Sciences in 2018 and a Measurement Innovation Award from DOE also in 2018. He is the PI and co-PI of several DOE projects. His main research interest includes MHD, confinement and transport studies in magnetically confined fusion plasmas, and recently the diagnosis of early signatures of the formation of runaway electron. Dr. Delgado-Aparicio has led experiments at the major fusion experiments in the U.S. (NSTX, C-Mod, DIII-D, NSTX-U, and MST), and designs and builds nuclear fusion diagnostics for universities and national laboratories in the U.S., China, France, Japan, and the international community at WEST, JT60SA and ITER.

Franklin Dollar is the Associate Dean of Graduate Studies for the School of Physical Sciences at the University of California, Irvine (UCI), as well as an associate professor in the Department of Physics & Astronomy. He received his Ph.D. in Applied Physics from the University of Michigan where he performed experiments and numerical modeling of laser-driven ion acceleration at the highest laser intensities thus far. Professor Dollar then became a Senior Research Associate in the Kapteyn/Murnane group at the Joint Institute of Laboratory Astrophysics (JILA) before joining the faculty at UCI. He is on the editorial board for the New Journal of Physics and is on the organizing committee for the Ecosystem for Collaborative Leadership and Inclusive Innovation in Plasma Science and Engineering (ECLIPSE) conference. Professor Dollar is a committee member for the National Academies of Sciences, Engineering, and Medicine's (NASEM) Assessment on High Energy Density Physics, a member of the Scientific Advisory Board for the DOE LaserNetUS, a steering committee member of the High Energy Density Science Association, and an executive steering committee member of the University of California Leadership & Excellence through Advanced Degrees program. He has expertise in basic plasma science/HEDLP, and his research interests are in the study of intense laser matter interactions and their applications as compact radiation sources. Professor Dollar has performed experiments at laser facilities worldwide investigating the production of electron and ion beams, and soft and hard ultrafast x-ray beams, as well as laser driven neutron and positron sources. This work has resulted in numerous honors, such as an NSF CAREER award and a Sloan Research Fellowship.

Brenda Garcia-Diaz is the Advisory Program Manager for Fusion Energy Research at the Savannah River National Laboratory (SRNL) and has been advancing clean energy technologies for over 16 years. She received her Ph.D. in Chemical Engineering from the University of South Carolina and her M.S. in Environmental Engineering and B.S. in Chemical Engineering from the University of Puerto Rico. She served as a committee member for the 2021 National Academies of Sciences, Engineering, and Medicine report entitled "Bringing Fusion to the US Grid." Dr. Garcia-Diaz is on the steering/organizing committees for the two 2023 community workshops on the fusion fuel cycle and the blanket. She serves as the Vice-Chair for the Clemson University Materials Science & Engineering Department External Advisory Board. Dr. Garcia-Diaz also serves as an advisory board member for the MIT LIBRA blanket project and the University of South Carolina Chemical Engineering Department. She is an adjunct professor at USC in the Chemical Engineering Department. Dr. Garcia-Diaz promoted research on modular chemical process intensification as a Board Member for the RAPID Institute through the DOE AMO Office. She also provided corrosion and corrosion mitigation expertise as a member of the Hanford Tank Integrity Expert Panel. Dr. Garcia-Diaz is a recipient of the ASM International Silver Award and the SC Governor's Award for Early Career Research. She has also received the SRNL Lab Directors Award for "Challenging the Status Quo." Her research has focused on developing novel electrochemical processes for a variety of clean energy applications including tritium extraction for fusion applications; molten salt corrosion mitigation for fusion, fission, and concentrating solar power; and nuclear materials processing. She has developed advanced materials system solutions such as MAX phase coatings for accident tolerant fuel for commercial nuclear reactors. Dr. Garcia-Diaz has also advanced hydrogen and fuel cell technologies through modeling and experimental research.

Lauren Garrison is a Senior Materials Scientist at Commonwealth Fusion Systems. She received her B.S. in Nuclear, Plasma, and Radiological Engineering from the University of Illinois Urbana-Champaign and her M.S. and PhD in Nuclear Engineering from the University of Wisconsin. Dr. Garrison was a Co-Chair of the 2019-2020 American Physical Society Division of Plasma Physics Community Planning Process for Fusion Energy and Discovery Plasma Sciences. She is the current Chair of the Fusion Energy Division Executive Committee of the American Nuclear Society. Dr. Garrison's research interests include thermal diffusivity of irradiated tungsten, mechanical properties of tungsten alloys, plasma-facing materials, and materials-engineering challenges for the fusion core. She was a Weinberg Fellow at Oak Ridge National Laboratory, is a member of the Alpha Sigma Nu Honor Society of the ANS and received the Outstanding Student Paper Award at the ANS 20th Technology of Fusion Energy Conference.

Beth Guiton is an Associate Professor of Chemistry and Frank J. Derbyshire Professor of Materials Science at the University of Kentucky. She received a B.A. in Physical and Natural Sciences and an M.Sci. in Chemistry from the University of Cambridge, an A.M. in Chemistry from Harvard University, and a Ph.D. in Materials Science and Engineering from the University of Pennsylvania. Prior to joining the UK faculty, Dr. Guiton was a Eugene P. Wigner Fellow at Oak Ridge National Laboratory. While at UK, she received a College of Arts & Sciences Undergraduate Research Mentoring award, two Teacher who Made a Difference awards, was named an Emerging Investigator in Materials Science by Materials Research Express, was highlighted as an emerging young scientist by Chemistry of Materials, and by the Journal of Physical Chemistry, was named a Research Corporation for Science Advancement Scialog Fellow, and received a National Science Foundation CAREER Award. Dr. Guiton has served as both co-organizer (2019) and participant (2022) for National Science Foundation PI workshops, and for the American Chemical Society on the Physical Chemistry Division executive committee (2017-2019), and the Journal of Physical Chemistry Editorial Advisory Board (2018-2020). Her research at UK employs local probe techniques such as in situ heating in the transmission electron microscope to address questions regarding chemical mechanisms during the creation and corrosion of nanomaterials, the characteristics of phase transformations on the nanoscale, chemistry at the liquid-solid interface, and the precise positions of atoms and interfaces as they relate to material properties.

Stephanie Hansen is a Distinguished Member of the Technical Staff in the Inertial Confinement Fusion target design group at Sandia National Laboratories (SNL), where she studies the atomic-scale behavior of atoms in extreme environments and develops atomic, spectroscopic, equation-of-state, and transport models to help predict and diagnose the behavior of high energy-density plasmas. She is the author and developer of the SCRAM non-equilibrium spectroscopic modeling code and MUZE, a self-consistent field code used for equation-of-state, scattering, and transport calculations. She received an Early Career Award from the DOE Office of Fusion Energy Sciences in 2014, was awarded the Presidential Early Career Award for Scientists and Engineers (PECASE) in 2016 and was elected a Fellow of the American Physical Society's Division of Plasma Physics (APS DPP) in 2019. She serves on the Editorial Boards of Physical Review Research and Physics of Plasmas and chaired the APS DPP Women in Plasma Physics Committee from 2018 to 2020. She holds BS and BA degrees in Physics and Philosophy, respectively, and a Ph.D. in Physics from the University of Nevada, Reno and has been a Visiting Associate Professor at Cornell University since 2012.

Paul Humrickhouse is a Distinguished Scientist in the Blanket and Fuel Cycle Program at Oak Ridge National Laboratory (ORNL). He received his Ph.D. in Nuclear Engineering and Engineering Physics from the University of Wisconsin, where he specialized in the analysis of activated dust transport following an MS focused on neutronics. Dr. Humrickhouse joined the Fusion Safety Program at Idaho National Laboratory (INL) in 2009, where his research focused primarily on the development and application of the MELCOR and TMAP codes for safety analysis and tritium transport, the application of these in design studies including ARIES and FNSF as well as to ITER and its Test Blanket Modules, and on the design, execution, or analysis of tritium or aerosol transport experiments that inform these. He has also frequently engaged in synergistic analyses of tritium and radionuclide transport in fission reactors, including high-temperature gas-cooled and molten salt reactors. In 2021, Dr. Humrickhouse joined the Fusion Energy Division at ORNL, where he works primarily on the design and analysis of tritium breeding blankets. He is a member of the American Nuclear Society (ANS) and the Institute of Electrical and Electronics Engineers (IEEE) and has served in the ANS FED as both an executive committee member (2010-2013) and secretary (2014-2016) on the IEEE Fusion Technology Standing Committee (2015-2020), and on the International Standing Committee for the International Symposium on Fusion Nuclear Technology (2017-present). In 2019-2020, Dr. Humrickhouse was a member of both the program committee for the APS Division of Plasma Physics Community Planning Process and the FESAC Long Range Planning Subcommittee. He received a 2020 DOE FES Early Career Award, which supports his ongoing research and development of multi-physics modeling tools for application to fusion reactor blankets.

Ralph Izzo serves on the Board of Directors of TerraPower and several other Boards. He was the chairman, president, and chief executive officer of Public Service Enterprise Group Inc. (PSEG) from 1992 to 2022. Previously, Dr. Izzo was president and chief operating officer of Public Service Electric and Gas Company (PSE&G). Since joining PSEG in 1992, Dr. Izzo was elected to several executive positions within PSEG's family of companies. He is a well-known leader within the utility industry, as well as the public policy arena. He is frequently asked to testify before Congress and speak to organizations on matters pertaining to national energy policy. Dr. Izzo's career began as a research scientist at the Princeton Plasma Physics Laboratory, performing numerical simulations of fusion energy experiments, and he has expertise in fusion theory and computation. He has published or presented more than 35 papers on magnetohydrodynamic modeling. Dr. Izzo received a BS and MS in mechanical engineering and a Ph.D. in applied physics from Columbia University. He also received an MBA, with a concentration in finance, from the Rutgers Graduate School of Management. He is listed in numerous editions of Who's Who and has been the recipient of national fellowships and awards. Dr. Izzo has received honorary degrees from the New Jersey Institute of Technology (Doctor of Science), Thomas Edison State University (Doctor of Humane Letters), Bloomfield College (Doctor of Humane Letters), Rutgers University (Doctor of Humane Letters), and Raritan Valley Community College (Associate of Science). Dr. Izzo is on the board of directors for the New Jersey Chamber of Commerce, the Edison Electric Institute, the Nuclear Energy Institute, and the New Jersey Performing Arts Center. He also is on the advisory board for the University of Pennsylvania's School of Engineering and Applied Sciences Mechanical Engineering and Applied Mechanics Department, a member of the Board of Trustees of the Peddie School and Princeton University's Andlinger Center for Energy and the Environment Advisory Council, as well as a member of the Visiting Committee for the Department of Nuclear Engineering at Massachusetts Institute of Technology. Dr. Izzo is a former member

of the Columbia University School of Engineering Board of Visitors. In addition, he is a former chair of the Rutgers University Board of Governors and the New Jersey Chamber of Commerce.

Eva Kostadinova is an Assistant Professor of Physics at Auburn University. She received a B.S. in Physics and a B.A. in Political Science from Furman University and a Ph.D. in Physics from Baylor University. She has authored a Springer Nature book on employing new mathematical techniques in the study of energy transport in two-dimensional disordered systems. Dr. Kostadinova's primary research interests lie at the intersection of plasma science with other fields, including applied mathematics, materials science, fusion energy, astrophysics, astrobiology, and space exploration. Specific topics include gravity and microgravity dusty plasmas, transport problems in magnetically confined fusion devices, heat shield ablation for spacecraft atmospheric entries, energetic particles in the Earth's magnetosphere, and origins of life in the Early Earth. She is also a member of the advisory board for Heliyon Physics. Dr. Kostadinova is currently the chair of the Coalition of Plasma Science and the Vice-President for Plasma Science for Fusion Power Associates. She is a member of the Science Advisory Board of LaserNetUS. For the APS, Dr. Kostadinova has been an executive committee member for the Forum for Early Career Scientists, chair of the APS/DPP Executive Nominating Committee, chair of the DPP Public Information Committee, and the DPP Program Committee Chair for Fundamental Plasma Physics. She is a member of the local organizing committee for the 2023 MagNetUS meeting and of the executive committee for the Sherwood Fusion Theory Conference. At APS DPP, Dr. Kostadinova also frequently contributes to the Plasma Science Expo and Teachers Day. She was a member of APS DPP Community Planning Process group on workforce development. For the 2022 APS/DPP conference, Dr. Kostadinova co-organized a mini-conference on plasma-focused workforce development.

Carolyn Kuranz is an Associate Professor of Nuclear Engineering and Radiological Sciences at the University of Michigan where she directs the Center for Laboratory Astrophysics. She received her AB in Physics from Bryn Mawr College and her Ph.D. in Applied Physics from the University of Michigan, where she specialized in experimental high-energy-density plasmas. Associate Professor Kuranz was an ex-officio member of the Executive Committee, American Physics Society, Division of Plasma Physics (DPP) (2014-2017) and served as the Chair of the Subcommittee for High Energy Density Physics for the DPP Program Committee (2016). She was the Founding Chair of the Jupiter Laser User Group Committee (2012-2016) and is a member of the Steering Committees for the International Conference on High Energy Density and High Energy Density Laboratory Astrophysics. She also serves on the Executive Committee for the Michigan Institute of Plasma Science and Engineering. She was a Co-Chair and the High Energy Density Lead for the Long-Range Strategic Planning for FES. In 2019, Associate Professor Kuranz became a Fellow of the APS and has also been awarded the American Astronomical Society Laboratory Astrophysics Division Early Career Award (2017), the National Ignition Facility and Photon Science Award (2016), and the Ted Kennedy Family Faculty Team Excellence Award (2014). Her current research includes hydrodynamic instabilities, radiation hydrodynamics, and magnetized plasmas in the high-energy-density regime. She performs her research on high-energy lasers and pulsed-power machines around the world and has more than 100 publications.

Edward Lahoda is a Consulting Engineer at the Westinghouse Electric Company, LLC in the Digital and Innovation Department. He is currently the Principal Investigator for the Westinghouse Accident Tolerant Fuel program and consults and advises on development, testing and manufacture of current and new nuclear fuel products. He received his Ph.D. in Chemical Engineering from the University of Pittsburgh, where he specialized in electrochemical engineering, followed by an MBA. Dr. Lahoda regularly serves as a reviewer for multiple journals in the area of nuclear fuel. He is a member of the American Nuclear Society and holds a Professional Engineers Certificate in Chemical Engineering in the state of Pennsylvania. Dr. Lahoda reviews new technology/business areas for Westinghouse, including a review and evaluation of fusion technology and the needs and issues involved in implementing any given fusion technology as a utility-sized power plant. He has expertise in fusion materials/materials research/design studies. He also served as the Technical Director for the Westinghouse Environmental Services Division, and as a technology consultant to the Westinghouse Chemical Demilitarization and isotope separation programs. Dr. Lahoda has served on numerous technology readiness and operations reviews of waste handling at DOE reprocessing facilities, including those at West Valley, Savannah River, Hanford, and Idaho. These reviews included two for the National Academies of Sciences, Engineering and Medicine evaluating the research needs for high-level waste treatment and disposal and DOE research needs for site remediation.

Ane Lasa Esquisabel is a Research Scientist in the Department of Nuclear Engineering at the University of Tennessee where she specializes in integrated modeling of plasma-surface interactions in fusion reactor and has expertise in fusion theory and computation. Dr. Lasa Esquisabel received her Ph.D. in Computational Material Science from the University of Helsinki where she focused on atomistic modeling of plasma-exposed surfaces in fusion environments. She is currently the Deputy Leader of the Pedestal and Divertor/SOL topical group in the U.S. Burning Plasma Organization and serves as an Expert in the International Tokamak Physics Activity (ITPA) Divertor and Scrape-Off Layer (SOL) topical group. Dr. Lasa Esquisabel is a member of the Board of Editors for the journal Nuclear Fusion and has consulted for the International Atomic Energy Agency (IAEA) A+M Data Unit. Her service to the American Physical Society's Division of Plasma Physics (APS-DPP) includes organizing the 2018 Mini-Conference on Plasma-Material Interactions and serving on the Program Committee of the 2021 APS DPP Annual Meeting. Dr. Lasa Esquisabel's work has directly contributed to meeting FES programmatic goals through leading the 2018 Theory and Simulation Performance Target and serving on the Program Committee (in Phase I) and the FESAC subcommittee (in Phase II) of the 2018-2020 Long-Range Planning Process. Her current research is most active in the development and integration of high-performance computer models to predict the lifetime and performance of plasma-facing materials, the correlated slag-management, and the retention of plasma fuel and impurities.

Tammy Ma is an experimental plasma physicist in Inertial Confinement Fusion (ICF) and High Energy Density Physics at the National Ignition Facility (NIF) at the Lawrence Livermore National Laboratory (LLNL). She graduated from Caltech with a BS in Aeronautics, then received her MS and Ph.D. from the University of California, San Diego, where she studied Fast Ignition and electron acceleration with high-intensity short-pulse lasers. Dr. Ma subsequently completed a postdoc at LLNL before transitioning to a staff scientist, where she now leads a number of the ignition experiments at the NIF and currently heads the X-Ray Analysis Group for the ICF program. Additionally, she is currently serving as the Chair for the Lab-Wide Laboratory Directed Research and Development (LDRD) Program. Dr. Ma previously served on

the High Energy Density Science Association (HEDSA) as a student council member and represented young researchers on both the Omega Laser User Group and National Ignition Facility User Group Executive Committees and has served on numerous National Science Foundation (NSF) and SC reviews and panels. She is currently a Member-at-Large on the American Physical Society Division of Plasma Physics (APS-DPP) Executive Committee. Dr. Ma has authored or co-authored over 140 refereed journal publications and is strongly committed to education and scientific outreach. Dr. Ma was recently awarded the PECASE Award, the highest honor bestowed by the United States Government on science and engineering professionals in the early stages of their independent research careers, as well as the 2016 Stix Award for Outstanding Early Career Contributions to Plasma Research from the DPP for her work in quantifying hydrodynamic instability mix in ICF implosions and for contributions to experiments demonstrating fusion fuel gains exceeding unity. She is also one of 40 early career scientists around the world appointed to a two-year term as a Young Scientist of the World Economic Forum.

Richard Magee is a Lead Scientist at Tri Alpha Energy, heading the Fast Ion and Campaign Planning groups. He did his Ph.D. research studying impulsive ion heating and acceleration from tearing mode reconnection on the Madison Symmetric Torus reversed-field pinch at the University of Wisconsin. He then completed a postdoc at West Virginia University where he developed a two-photon absorption laser induced fluorescence (TALIF) diagnostic for measuring neutral densities in the edge of fusion plasmas. He joined Tri Alpha in 2013 as a Research Scientist in the Neutral Beams group. He was promoted to Senior Scientist in 2016 and to Lead Scientist in 2019 where he continues to pursue his research interests in energetic particles and alternative magnetic confinement concepts for fusion energy. In addition to being the author or co-author of over 35 peer reviewed publications, Dr. Magee has served the plasma physics community in a variety of capacities. He was the Chair of the American Physical Society Division of Plasma Physics (APS DPP) Committee on the Concerns of Junior Scientists from 2014 to 2016. He also served on the Program Committee for the APS DPP annual meeting in 2016. More recently, he was a Program Committee Member for the Fusion Energy Sciences Community Planning Process and co-Chair of the Energetic Particles Topical Group in 2019.

Lorin Matthews is a Professor of Physics at Baylor University where she is the Associate Director of the Center for Astrophysics, Space Physics, and Engineering Research. She received her Ph.D. in Physics from Baylor University. She worked for Raytheon Aircraft Integration Systems from 1998 to 2000, as a multi-disciplined engineer in the Flight Sciences Department, where she was the lead vibroacoustics analyst on projects such as National Aeronautics and Space Administration's (NASA) Stratospheric Observatory for Infrared Astronomy (SOFIA) aircraft. In 2000, she joined the faculty at Baylor University. Professor Matthews received an NSF CAREER Award in 2009 and is a Kavli Fellow. Her service to the American Physical Society Division of Plasma Physics (APS DPP) includes serving on the Executive Committee (2015-2018), as Chair of the Committee on Women in Plasma Physics (2015-2017), and as Chair of the Subcommittee for Low Temperature and Dusty Plasmas (2019). She has expertise in basic plasma science/HEDLP, and her areas of research include numerical modeling and experimental investigations of the charging and dynamics of dust in astrophysical and laboratory plasma environments, including processes which influence the early stages of planet formation in protoplanetary disks; the evolution of dusty structures in planetary rings; and dynamics, stability, and phase transitions in self-assembling systems, such as dust crystals and dust strings.

Carlos Paz-Soldan is an Associate Professor in the Applied Physics and Applied Mathematics Department at Columbia University, a position he began in 2021. Previously, Associate Professor Paz-Soldan held a Scientist position at General Atomics and worked primarily with the DIII-D National Fusion Program. He joined the DIII-D group, after completing his Ph.D. degree at the University of Wisconsin-Madison. Associate Professor Paz-Soldan's undergraduate degree was in Engineering Physics and was awarded from Queen's University at Kingston, Canada. Since completing his doctoral degree, he has contributed to a broad range of topics in tokamak stability and off-normal event control, executing research with both domestic and international tokamak research groups. These topics include understanding the interaction of tokamak plasmas with non-axisymmetric fields used to control core and edge instabilities; the measurement and control of relativistic electron populations; and the conceptualization and advancement of novel actuators for both core and edge transient control. He has expertise in experimental plasma research. Associate Professor Paz-Soldan also actively contributes to the International Tokamak Physics Activity as a topical expert in the Magneto-hydrodynamics, Disruptions, and Control group, as well as the Pedestal and Edge Physics group. He has authored or co-authored over 100 refereed journal publications, mentored several junior scientists in the research program, and piloted the DIII-D tokamak for countless experiments. Associate Professor Paz-Soldan was the recipient of the American Physical Society's Marshall N. Rosenbluth Outstanding Doctoral Thesis Prize in 2013, and the Thomas H. Stix Award for Outstanding Early Career Contributions to Plasma Physics Research in 2021. He is a member of the APS.

Susana Reyes is the Vice President for Chamber and Plant Design at Excimer Energy. Previously, she was the Assistant Project Director at U.S. ITER at ORNL. Dr. Reyes has over 20 years of experience as a nuclear engineer and project manager in fusion and particle accelerator facilities. She earned an MS in Power Engineering from the Polytechnic University of Madrid, and a Ph.D. in Nuclear Engineering from the National University of Distance Education (UNED) University in Madrid. Dr. Reyes joined the Lawrence Livermore National Laboratory's (LLNL) Fusion Energy Program in 1999, to work on the safety analysis of inertial fusion energy power plant designs. Since then, she has participated in the design, construction, and operation of a variety of fusion research projects, including the National Ignition Facility at LLNL, and the ITER Organization in Cadarache (France), where she supported the project through the coordination of safety analyses and associated documentation in preparation for ITER licensing. She has expertise in fusion materials/materials research/design studies. Dr. Reyes joined the SLAC National Accelerator Laboratory in 2018 as the LCLS-II High Energy Project Manager and supported the MEC-U Project as Deputy Director. She was the recipient of the 2012 American Nuclear Society (ANS) Mary Jane Oestmann Professional Women's Achievement Award, and the 2015 Fusion Power Associates Excellence in Fusion Engineering Award, for her contributions to the safety and environmental aspects of both magnetic fusion energy and inertial fusion energy facilities. Dr. Reyes recently graduated from the Stanford Project Leadership Institute (PLI) where she was the recipient of the 2020 PLI Capstone Project Award. She has also been recognized for her roles on various National Academies' panels on fusion energy and as past Chair of the ANS's Fusion Energy Division.

Erica Salazar has developed innovative superconducting magnet technologies for fusion energy applications. As the Magnet Systems Lead at Commonwealth Fusion Systems, she works on developing research and development programs for superconducting magnet technology for fusion. One of her primary programs includes the development of novel quench detection

systems for superconductors in challenging tokamak environments. Dr. Salazar also serves as a Technical Activities Young Professional Representative for the Institute of Electrical and Electronics Engineers (IEEE) and the Young Professional Chair on the Council of Superconductivity within IEEE. She received her B.S. and M.S. in Mechanical Engineering from Stanford University and her Ph.D in Nuclear Science and Engineering from the Massachusetts Institute of Technology and performed research at the MIT Plasma Science and Fusion Center. Her research has focused on the quench dynamics and quench detection of high temperature superconducting (HTS) cables, and the design, development, and testing of HTS cable architecture for the SPARC project (an experimental fusion device designed to produce net fusion energy). Prior to MIT, she worked at General Atomics as a mechanical engineer and technical lead on the Central Solenoid superconducting magnet manufacturing project for ITER. She commissioned and managed the reaction heat treatment process for the 120 ton, Nb3Sn superconducting modules. Additionally, she supported the design, commissioning, and operation of the final test station. Dr. Salazar's primary research interests are quench dynamics of high temperature superconducting cables, development of novel quench detection technology for superconducting cables, and the design and manufacturing of superconducting magnets for fusion applications.

David Senor is a Laboratory Fellow at the Pacific Northwest National Laboratory (PNNL). Since joining the laboratory after completing his Ph.D. in Nuclear Engineering at Texas A&M University (TAMU), he has worked in a variety of nuclear-related materials science and technology areas. He has expertise in fusion materials/materials research/design studies. His work has focused on irradiation performance, material properties measurement, and manufacturing development of conventional and advanced nuclear materials. Examples include tritium-producing burnable absorber rods for commercial PWRs, lithium ceramics for fusion solid breeder blankets, SiC for fission and fusion reactor structural applications, U-Mo fuels for high-performance research reactors, and materials for high-power proton accelerator beam-intercepting devices. He has participated in various aspects of irradiation testing and post-irradiation characterization of materials and fuels irradiated in ATR, EBR-II, JOYO, FFTF, HFIR, HFR Petten and BLIP, as well as numerous ion irradiation facilities. Dr. Senor is presently the national technical lead for science and technology supporting the NNSA Tritium Modernization Program, the Principal Investigator (PI) for fusion solid breeder and vacuum permeator research at PNNL, and the PI for post-irradiation characterization of a variety of accelerator beam-intercepting device materials as part of PNNL's involvement in the RaDIATE Collaboration. He has served on several advisory boards, including the NSUF Science Review Board, the MIT-led Fluoride Salt-cooled High-temperature Reactor Consortium Tritium Advisory Board, the TAMU Nuclear Engineering Department Advisory Council, the DOE Tritium Focus Group and the NNSA Tritium Enterprise Strategy Group. In 2021, Dr. Senor was appointed Adjunct Professor of Nuclear Engineering at TAMU. He is a past chair of the ANS Materials Science and Technology Division, the TMS Nuclear Materials Committee and the NSUF User Organization. Dr. Senor has authored or co-authored over 300 journal articles, presentations, and technical reports in the open literature, holds two U.S. patents, and has been the lead organizer for six international workshops and symposia.

Andrew Sowder is a Senior Technical Executive at the Electric Power Research Institute (EPRI) in the Nuclear Sector's Future Fleet directorate where he provides strategic and technical support for research staff and senior management. In 2022, he developed and launched a new internally funded strategic focus area on fusion energy. In 2015, Dr. Sowder developed and launched

EPRI's strategic program on advanced nuclear fission energy systems; by 2022, this focus area had been formally incorporated into EPRI's base R&D portfolio within the Advanced Nuclear Technology program with twelve full-time technical staff. Other technical leadership roles at EPRI have included international coordination on light water reactor accident tolerant fuel R&D, commercial potential for advanced nuclear fuel cycles, performance assessment of geologic disposal for high level radioactive waste, and technical support for storage of spent used nuclear fuel. Prior to joining EPRI, Dr. Sowder was a physical scientist and foreign affairs officer at the U.S. Department of State from 2003 to 2007, where he provided technical oversight and policy leadership on international nuclear safety and radiological security issues. In 2001–2002, he served as an American Association for the Advancement of Science and technology policy fellow at the U.S. Environmental Protection Agency Office of Radiation and Indoor Air. Dr. Sowder received a B.S. in Optics from the University of Rochester in 1990 and a Ph.D. in environmental nuclear engineering from Clemson University in 1998. He is a Certified Health Physicist, an adjunct faculty member of the Environment Engineering and Earth Sciences Department at Clemson University, serves on the American Nuclear Society Standards Board as the Vice-Chair (and rising Chair), and is a U.S. representative on the Generation IV International Forum Senior Industry Advisory Panel.

Bhuvana Srinivasan is an Associate Professor in the Kevin T. Crofton Department of Aerospace and Ocean Engineering at Virginia Tech where she has developed a program in computational plasma physics. Prior to joining Virginia Tech, she was a postdoc and a scientist at the Los Alamos National Laboratory. Associate Professor Srinivasan received her Ph.D. from the University of Washington where she specialized in computational plasma physics applicable to nuclear fusion. She is the founder and director of the Plasma Dynamics Computational Laboratory at Virginia Tech which comprises a team with a research scientist, postdoctoral researchers, and a number of Ph.D., MS, and undergraduate students. The research areas in her group include plasma-material interactions in thrusters and magnetic fusion devices, instabilities in high-energy-density fusion and astrophysical plasmas, ionospheric plasma instabilities, and numerical algorithm development for fluid and kinetic models. She has expertise in basic plasma science/HEDLP. Associate Professor Srinivasan is a recipient of the NSF CAREER award, the 2017 Outstanding Assistant Professor award and the 2019 Faculty Fellow honored by the Dean of the College of Engineering at Virginia Tech. She has recently been appointed to the Endowed Crofton Faculty Fellowship in Engineering from 2021 to 2026. Associate Professor Srinivasan is also active in Diversity, Equity, and Inclusion (DEI) efforts as the Chair of the DEI committee in the aerospace and ocean engineering department at Virginia Tech and through her involvement with the Center for the Enhancement of Engineering Diversity at Virginia Tech. She serves as a Member-at-Large of the Executive Committee of the APS DPP and has been a member of the Executive Committee of the Institute of Electrical and Electronics Engineers Plasma Science and Applications Committee.

Derek Sutherland is a Senior Research Scientist at Zap Energy. Previously, he was the co-founder and CEO of CTFusion, Inc., a company focused on the development of a sustained spheromak for magnetic fusion energy applications. He received his Ph.D. in Aeronautics and Astronautics from the University of Washington, where he specialized in the development of a sustained spheromak configuration. He has experience in both experimental, computational, and theoretical plasma physics and nuclear system design and engineering of fusion power plant concepts. Dr. Sutherland received his B.S. in Nuclear Science and Engineering and in Physics from the Massachusetts Institute of Technology and has worked on fusion concepts at MIT,

General Atomics, General Fusion, Inc., and Los Alamos National Laboratory. He has contributed to the development of tokamaks, spheromaks, field-reversed configurations, and Z-pinches. Dr. Sutherland recently served as an executive committee member for an EPRI-sponsored workshop on Fusion Prototypic Neutron Sources and presented at NRC public forums on behalf of the Fusion Industry Association on developing regulatory frameworks for fusion energy. He has also participated in multiple community planning workshops and the White House Summit on Developing a Bold Decadal Vision for Commercial Fusion Energy. His primary research interests are experimental, computational, and theoretical studies of advanced magnetic confinement fusion concepts for both terrestrial power generation and space propulsion. Areas of interest include plasma-neutral interactions, edge/boundary physics, core-edge integration, extended-magnetohydrodynamic (MHD) plasma simulations, MHD stability analysis, nuclear materials and blanket neutronics, tritium breeding, fusion energy system conceptual design and integration, fusion commercialization, and global energy markets.

Edward Thomas, Jr. is the Dean of the College of Sciences and Mathematics and a professor of physics at Auburn University. He received a B.S. in Physics from the Florida Institute of Technology, an M.S. in Physics from the Massachusetts Institute of Technology, and a Ph.D. in Physics from Auburn University. Professor Thomas was a faculty member at Fisk University in the Department of Physics before joining the faculty at Auburn. His research began studying edge particle transport in fusion plasmas. Over the years, Professor Thomas's work has become centered in basic plasma physics, including experimental plasma physics research on dusty (complex) plasmas, magnetized plasmas and plasma diagnostic development, with an emphasis on the particle, wave, and energy transport in low temperature plasmas. Most recently, he led the development of the Magnetized Dusty Plasma Experiment (MDPX) device, a superconducting, 4-Tesla, multi-configuration, collaborative user research platform for studying strongly magnetized plasmas. Professor Thomas is an Associate Editor of the Journal of Plasma Physics, an elected member of the International Union of Radio Science (URSI) – Commission H and is a Fellow of the American Physical Society and the National Society of Black Physicists. He has served as a member of numerous advisory committees for the American Physical Society, National Science Foundation, National Academy of Sciences, Department of Energy, European Space Agency, and several research centers in the US, Europe, and India.

John Verboncoeur is the Associate Dean for Research and Graduate Studies and a Professor of Electrical and Computer Engineering at Michigan State University. He received a B.S. in Engineering Science from the University of Florida and an M.S. and PhD in Nuclear Engineering from the University of California-Berkeley. Professor Verboncoeur's teaching includes electromagnetics, plasma physics, neutronics, engineering analysis, and computation. His research interests are in theoretical and computational plasma physics, with a broad range of applications spanning low temperature plasmas for lighting, thrusters and materials processing to hot plasmas for fusion, from ultra-cold plasmas to particle accelerators, from beams to pulsed power, from intense kinetic nonequilibrium plasmas to high power microwaves. Professor Verboncoeur is the author/coauthor of the MSU suite of particle-in-cell Monte Carlo codes, including XPDP1 and XOOPIC, used by over 1000 researchers worldwide with over 350 journal publications in the last decade. He has authored/coauthored over 350 journal articles and conference papers, with over 3500 citations. Dr. Verboncoeur is currently an Associate Editor for Physics of Plasmas. Professor Verboncoeur is Past President of the IEEE Nuclear and Plasma Sciences Society a fellow of the IEEE.

Mitchell Walker is a Professor of Aerospace Engineering at the Georgia Institute of Technology where he directs the High-Power Electric Propulsion Laboratory. He received his Ph.D. in Aerospace Engineering from the University of Michigan, where he specialized in experimental plasma physics and advanced space propulsion. His training includes rotations at Lockheed Martin and NASA Glenn Research Center. In 2005, he founded the electric propulsion program at the Georgia Institute of Technology. Professor Walker has served as an Associate Editor of the American Institute of Aeronautics and Astronautics (AIAA) and on the Editorial Board of Frontiers in Physics and Astronomy and Space Sciences – Plasma Physics since 2015. He was a participant in the 2014 U.S. National Academy of Engineering U.S. Frontiers of Engineering Symposium, and in 2015, was the co-organizer for a focus session at the symposium. Professor Walker is also a recipient of the AIAA Lawrence Sperry Award (2010) and the Air Force Office of Scientific Research Young Investigator Program Award (2006). He is an Associate Fellow of the AIAA and serves as Vice Chair of the AIAA Electric Propulsion Technical Committee. Professor Walker's service to the American Physical Society's Division of Plasma Physics includes Local Coordinator of the Conference (2015) and Chair of the Subcommittee for Low Temperature and Dusty Plasmas (2016). He also served on the National Research Council Aeronautics and Space Engineering Board for the Air Force Reusable Booster System Study (2011-2012). Professor Walker's primary research interests include both experimental and theoretical studies of advanced plasma propulsion concepts for spacecraft and fundamental plasma physics. His research activities include plasma-material interactions, diagnostics for plasma interrogation and thruster characterization, vacuum facility effects, helicon plasma sources, electron emission from carbon nanotubes, Hall effect thrusters, gridded ion engines, and magnetoplasmadynamic thrusters.

Anne White is a Professor and Head of the Nuclear Science and Engineering Department at the Massachusetts Institute of Technology (MIT). She received her Ph.D. in experimental plasma physics from UCLA and performed research at the Electric Tokamak UCLA, NSTX PPPL and DIII-D GA before becoming an assistant professor at MIT. Within NSE Professor White has served as Graduate Registration Officer and on the Graduate Committee (2010-2016), the Strategic Planning Committee (2015-2016), the Curriculum Development Committee (2014), and is currently project leader for development of online courses in Nuclear Engineering. Institute-wide at MIT, Professor White has served on the Radiation Protection Committee (2011-2015), the Innovation Deficit Committee (2014), the Faculty Policy Committee (2015-present), and the Faculty Task Force on International Engagements (2016-present). At MIT, Professor White performs fusion energy research at the Plasma Science and Fusion Center (PSFC). At the PSFC, she ran the Gyrokinetic Simulation Working Group (2010-2015) and the Alcator C-Mod Transport Group (2015-2016), before becoming Assistant Division Head for MFE Collaborations in 2017. Professor White performs research in diagnostic development, turbulence and transport, and model validation at ASDEX Upgrade, DIII-D and NSTX-U. She is involved with projects for diagnostic development at WEST and W7-X and advises or co-advises undergraduate and graduate students and postdocs on a variety of experimental and simulation-based modeling projects. She has expertise in experimental plasma research. Professor White is active in the fusion community, is a member of APS and ANS, and has served on the executive and program committees of the APS DPP, Sherwood Fusion Theory (former chair), U.S. BPO, and U.S.-EU Transport Task Force. She is an editorial board member for the journal "*Plasma Physics and Controlled Fusion,"* is a member of the University Fusion Associates, helped moderate the December 2015 Community Forum, and has participated in and presented at

FESAC meetings since 2012. She has won numerous awards for her research, teaching, and service to MIT and to the fusion community.

Howard Wilson is the Fusion Pilot Plant R&D Lead at Oak Ridge National Laboratory. He received his Ph.D. in theoretical particle physics from the University of Cambridge, before establishing a career in fusion energy as a theoretical plasma physicist at the UK Atomic Energy Authority. In 2005, Dr. Wilson moved to the University of York, appointed as a full Professor to establish a fusion research and training program in the UK serving as its first Director (until 2019) to bring together research and education across fusion energy, low temperature plasmas and laser plasma interactions. In 2017, Dr. Wilson was appointed (via secondment) to the UK Atomic Energy Authority as the Research Director for the national fusion program, and then served as (interim) Director for the newly formed £222m national fusion reactor program called STEP from 2019 to 2020, when he returned full time to York. He has served on many international program reviews, and several international committees, including the International Union of Pure and Applied Physics (IUPAP), and chaired the International Tokamak Physics Activity (ITPA) in Pedestal and Edge Physics in support of ITER (2008-11). Dr. Wilson is a Fellow of the UK Institute of Physics; his honors include a Royal Society Wolfson Research Merit Award in 2011, and the APS John the research papers, with an h-factor of 62. Dr. Wilson's research interests include theory of pedestal and edge localized mode (ELM) physics, turbulence and transport, and core plasma stability. He has expertise in fusion theory and computation, including the design of fusion devices, either as volume neutron sources or for power, especially those based on the spherical tokamak concept.