

# IEEE NUCLEAR AND PLASMA SCIENCES SOCIETY ELECTION

## Election of Members to the Administrative Committee

### FUSION TECHNOLOGY (Vote for One)

For a Three-Year Term 1 January 2017 – 31 December 2019

**LEO HOLLAND** (S'81-M'83) received his Bachelor's degree in Electrical Engineering from the University of Tennessee in 1976 and his Master's degree in E.E. from Case Western Reserve University researching pulsed power applications of superconductors. After a fellowship at the University of Wisconsin in magnetic fusion research, he completed his Ph.D. at the University of Texas at Austin developing plasma arc railguns. In 1984 he joined General Atomics (GA) leading the effort to develop electromagnetic launchers including the pulsed power systems. During the 90's he lead the efforts at GA to develop electromagnetic launchers for the Navy, which are now being installed on the new Aircraft Carriers, and a magnetically levitated rocket sled facility for the Air Force. He then led an office within the Energy Group at GA to generate new research and development programs including energy storage, fuel cell power systems, accelerator systems, radioisotope power systems and thermophotovoltaics. He is currently the senior technical advisor within the Magnetic Fusion Energy Division overseeing the internal research program and assisting with new start research programs.

**Statement:** I have been very fortunate to have enjoyed a long career in conducting and managing research in a wide variety of technologies including electromagnetic launchers, superconductors, magnetic fusion, lasers, accelerators, radioisotope power systems which covers a wide range of the focus areas of the IEEE's NPSS Society. The IEEE societies, their meetings, journals and networking have been an important part of my successes. I am currently in a position to help guide the future research of one of the largest industrial participants within the fusion research community. The goals of the NPSS should be to facilitate the research community, government, academia and industry to communicate including across technologies, record research accomplished, network and develop roadmaps for future work. I think that I can contribute to the committee in ensuring that the society stays focused on these goals and efficiently serves our members.

**DENNIS L. YOUCHISON** (M'06-SM'09) received the B.S., M.S., and Ph.D. degrees in nuclear engineering from the Pennsylvania State University, University Park, PA in 1982, 1984 and 1989, respectively. His dissertation research at the Westinghouse R&D Center involved measurements of sputtering yields for redeposited graphite and beryllium plasma facing surfaces. From 1990 to 1993, he was an Office of Naval Technology Post-doctoral Fellow with the Naval Research Laboratory (NRL), Washington D.C. At NRL, he developed diagnostics to characterize plasmas used in electron cyclotron resonance plasma-assisted chemical vapor deposition of superhard coatings. During 1993 to 2015, he was a staff member at the Sandia National Laboratories – New Mexico, and was appointed a Distinguished Member of the Technical Staff in 2003. At Sandia, he was responsible for high heat flux testing and electron beam thermal processing of materials at Sandia's High Heat Flux Facility. Currently, he is a Distinguished Scientist at Oak Ridge National Laboratory in the Fusion and Materials for Nuclear Systems Division. He is the author of over 70 papers involving experiments and engineering design activities. He currently holds five US patents and is a licensed professional engineer in the state of New Mexico. His research has focused on the development of materials for extreme environments and the design of plasma facing components and advanced high-temperature heat exchangers. In addition to being a senior member in IEEE, he is also a member of ASME and ANS and served on the ANS FED Executive Committee from 1999-2002.

**Statement:** Our elected AdCom member represents you and must effectively advocate the views of our small Fusion Technology community to the larger Nuclear and Plasma Sciences Society and bolster our role in IEEE. I have served as the general chair for the 22<sup>nd</sup> Symposium of Fusion Technology (SOFE, 2007) and served three years as the chair of the Fusion Technology Committee (FTC) on the NPSS AdCom (2010-2012), where I reported to the AdCom on FTC conference planning and served as the liaison to the Fusion Technology Steering Committee. I understand first-hand the commitments necessary to plan and support a SOFE conference. I also served on the NPSS awards committee and contributed as a Guest Editor to two SOFE Special Issues in *Transactions on Plasma Science* (2011 and 2013). I look forward to vigorously representing you, growing our membership, and improving the financial support for the SOFE conference series including our related technology workshops and publications.

**NUCLEAR AND MEDICAL IMAGING SCIENCES (Vote for One)**  
**For a Four-Year Term 1 January 2017 – 31 December 2020**

**VESNA SOSSI (M'04)** received the Laurea degree from the University of Trieste, Italy, in High Energy Physics in 1986 and the PhD degree from the University of British Columbia (UBC), Vancouver, B.C., Canada in Nuclear Physics in 1991. Since 2001 she is a Faculty member in the UBC Physics and Astronomy Department. She has first worked on detectors and data analysis as applied to measurements of nuclear reactions cross sections at the Canadian Nuclear Physics Laboratory TRIUMF and then transitioned to Nuclear Medicine based imaging. Since then, she has worked in many areas ranging from instrumentation related topics such as development of data reconstruction and quantification algorithms, motion correction for high resolution PET data, design and development of a preclinical MR-compatible PET insert, to more applied areas such as development of novel kinetic modeling approaches for PET tracers and performance and interpretation of pre-clinical and clinical studies. Her publication list includes more than 150 papers and 200 abstracts; she sits on several national and international review committees and is a reviewer for many journals and conferences. She has been attending the IEEE MIC meetings since 1993 and has served on Nuclear Medical and Imaging Sciences Council (NMISC), the Marie-Sklodowska-Curie Award Committee, was MIC Program chair in 2012 and NSS/MIC General Chair in 2015.

**Statement:** I have been involved in the IEEE NSS and MIC activities for 25 years as a conference attendee and later as a conference organizer. I have found those experiences extremely rewarding and have appreciated the collegial and enthusiastic atmosphere of the committees on which I served. I would very much appreciate the opportunity to work with the NPSS as a NMISC representative. In addition to acting as a liaison between NMISC and NPSS and ensuring strong communication between the two bodies, I am particularly interested in promoting the Society's international outreach activities and events geared towards attraction and professional development of young scientists such as Young Professionals and Women in Engineering.

**DIMITRIS VISVIKIS (M'97-SM'07)** is a Director of research with the National Institute of Health and Medical Research (INSERM) in France and co-director of the Medical Image Processing Lab in Brest (LaTIM), where he has been over the last ten years leading a group on quantitative multi-modality imaging for therapy applications. He has previously led the development of PET and PET/CT research and clinical units at the University of Cambridge and University College London, following his PhD in PET hardware development, working within the Institute of Cancer Research and the Royal Marsden Hospital in London. He has spent the majority of his scientific activity in the field of PET imaging, including developments in both hardware and software domains. He has published over 160 papers in different research areas covering the improvement of PET/CT image quantitation for specific oncology applications, such as response to therapy and radiotherapy treatment planning, through the development of methodologies for detection and correction of respiratory motion, 4D PET image reconstruction, partial volume correction, tumour volume segmentation and tumour activity distribution characterisation algorithms, as well as the development and validation of Monte Carlo simulations for emission tomography and radiotherapy treatment dosimetry applications. He is a member of numerous professional societies such as IPEM (Fellow, Vice-President International), IEEE (Senior Member), AAPM, SNM (CaIC board of directors 2007-2012), EANM. He is currently the most recent past chair of the NMISC (chair: 2013-2015), MIC program chair for the 2016 NSS/MIC conference in Strasbourg and the Editor-in-Chief of the new NPSS journal IEEE Transactions in Radiation and Plasma Medical Sciences.

**Statement:** From my first participation in the IEEE NSS/MIC meeting 20 years ago I have considered the Nuclear & Plasma Sciences Society (NPSS) as an integral part of my scientific activity, and have witnessed this becoming also true for my students. Having worked in both hardware and software I find the combination of the two domains within our meeting a formidable success. In order to take a more active role within our society I have served as a chair of the NMISC and as the MIC program chair of the upcoming 2016 NSS/MIC conference. I consider the role within the NPSS Administrative Committee (AdCom) as a further opportunity for me to serve our scientific community. Over the past few years we have all witnessed the development of conferences and activities proposed by other IEEE societies or other organisations which can be considered as a potential challenge particularly to the MIC. For this reason, I believe that the role of NPSS should be to enhance the image of our activities, including conferences, publications, awards and actively engage within the larger IEEE organisation. It is from the inside that we can act. I also believe that the newer members of our society should be particularly encouraged to participate with their expertise and ideas in enhancing the impact and growth of our educational and scientific activities. If elected within the NPSS AdCom I will use my experience and position to actively work towards the fulfilment of these ideas.

**PLASMA SCIENCE AND APPLICATIONS (Vote for One)**  
**For a Four-Year Term 1 January 2017 – 31 December 2020**

**JOHN L. GIULIANI** (M'92) received his Bachelor degree in physics and Master degree in Mathematics from Georgetown University. His Ph.D. in theoretical astrophysics was conferred by Yale University in 1980. After postgraduate work at the Institute for Advanced Study and Princeton University, he joined the Naval Research Laboratory in 1983. Since then he has worked and published in various areas of plasma physics including: high altitude nuclear effects; laser target interactions; arc torch remediation of shipboard waste; plasma processing; fluorescent and high intensity light sources; and KrF laser gas kinetics for laser fusion energy. Presently he is Head of the Radiation Hydrodynamics Branch in the Plasma Physics Division where he directs research activities on non-LTE ionization kinetics coupled to radiation transport and Z-pinch magneto-hydrodynamics, with particular emphasis on comparisons with experimental data. Dr. Giuliani was Chair of the Local Organizing Committee for the 7<sup>th</sup> International Conference on Dense Z Pinches (DZP 2008) and co-Chair of three International Workshops on Radiation from High Energy Density Plasmas (RHEDP 2011, 2013, and 2015). He has been on the Editorial Board of the Physics of Plasmas (PoP) journal since 2008, and was a Guest Editor of a PoP Special Topic Section on Radiation from High Energy Density Plasmas in 2014.

**Statement:** I have attended the IEEE Conference on Plasma Science (ICOPS) regularly since the late 1980's, as well as many other meetings on plasma physics. In addition to the above service, I have also supported activities sponsored by the IEEE Plasma Science and Applications Committee (PSAC): Technical Area Coordinator for the High Energy Density Plasmas and Applications sessions at the International Conference on Plasma Science (ICOPS) 2009; served as one of several Guest Editor for the fourth and sixth *Special Issue on Z-Pinch Plasmas* for the *IEEE Transactions on Plasma Science*; organized the mini-course on HED plasma physics at the 2013 ICOPS; and last year finished a three year term on the PSAC as chair of the mini-course subcommittee. I am running for the Administrative Committee (AdCom) of the Nuclear and Plasma Sciences Society (NPSS) to serve a broader community that includes seven other technical committees besides PSAC. AdCom is responsible for decisions that affect the comprising committees, such as sound conference finance, quality journal publications, and membership. This last item is of particular importance for the broader NPSS community as the number of renewing NPSS members has decreased during the last five years. The future of NPSS requires a reversal of this trend, particularly by encouraging students to continue as members as they transition to young professionals. As an AdCom member I will represent the interest of PSAC within the larger NPSS community, but also seek to develop outreach activities and other opportunities that justify the cost of membership for young professionals.

**BRENDAN B. GODFREY** (SM'83-F'00-LF'15) although retired, remains an active researcher, affiliated with Lawrence Berkeley National Laboratory and the University of Maryland. He also participates in studies for the National Research Council, serves on various IEEE committees, and was a consultant to the Deputy Assistant Secretary of Defense for Research. Previously, he held several research management positions in the U.S. Air Force, including Director of the Air Force Office of Scientific Research, Director of the Armstrong Laboratory, Deputy Director of Brooks City-Base, Director of the Air Force High Power Microwave Program, and Chief Scientist of the Weapons Laboratory. Earlier, he was vice-president of Mission Research Corporation and a Group Leader at Los Alamos National Laboratory. He has been responsible for as many as 1500 employees and budgets as large as \$500M. Known for his contributions to computational plasma theory and applications, he is author of more than 200 publications and reports. He also has served on numerous other professional and civic committees. Dr. Godfrey received his BS from the University of Minnesota and PhD from Princeton University. He is a fellow of the IEEE and of the American Physical Society.

**Statement:** I have benefitted greatly from many years in the IEEE and look upon continued participation in the Nuclear and Plasma Sciences (NPSS) Administrative Committee (AdCom) membership as a further opportunity to give back to the NPSS community. I have served five years on AdCom in various capacities, obtaining valuable experience on its roles and responsibilities. Additionally, I was a member of the Plasma Science and Applications Committee (PSAC) Executive Committee (ExCom) for many years, serving as its Chair and twice as its Vice-Chair. For the past six years, I have been an active member of the IEEE-USA R&D policy committee, drafting five subsequently adopted policies and letters, and contributing to several others. In this role I helped focus IEEE-USA efforts to reduce restrictions on federal engineer attendance at IEEE conferences. I became chair of the R&D policy committee at the beginning of 2016 and also am a member of the IEEE-USA Government Relations Committee. If reelected NPSS AdCom, I will work to represent the plasma science and applications community effectively. I also will seek opportunities for collaboration between NPSS AdCom and IEEE-USA. In this time of constrained budgets, it is important to assure sustained research support and healthy IEEE conferences.

**TRANSNATIONAL (Vote for One)**  
**For a Four-Year Term 1 January 2017 – 31 December 2020**

**CHRISTIAN BOHM** (M'84-SM'08) has been a professor in instrumentation physics at Stockholm University in Sweden since 1987. He is born, raised and educated in Stockholm. He received a Ph.D. in nuclear physics 1979 at Stockholm University where he has had most of his professional career apart from a short period at the Laboratory of Nuclear Medicine in UCLA and a two year period at the technical university (KTH) in Stockholm. His Ph.D. thesis was about applying Mössbauer Spectroscopy for studies of material properties, especially iron surfaces. His work at UCLA involved detector electronics and image reconstruction for PET. After returning to Stockholm he worked together with L. Eriksson developing the first Swedish positron camera. This work continued. The second camera was developed together with the Swedish company Scanditronix who for a while competed with CTI but later sold their PET activities to GE. The latter continued the development of the Scanditronics line of cameras. The commitment to nuclear medicine continued after the appointment as professor in instrumentation physics, but the major part of the activity of the research group concerned instrument development for particle physics. The group has participated in the initial R&D for LHC detectors at CERN and later in the development of the ATLAS detector. Here they worked with the original development of readout electronics for the hadron calorimeter and the first level calorimeter trigger. Later the work continued with their upgrades to adapt to the increased luminosity of LHC. The group has also been involved in instrumentation development for XFEL at DESY and IceCube at the South Pole. His interests are wide covering high speed electronics, software, statistical processes and algorithms as well as in fundamental physics.

Principal contributions: His work at UCLA involved developing a filtered back projection image reconstruction method together with Z.H. Cho. This was done at the same time but without knowledge of Shepp and Logans work. In PET he introduced the "wobbling" technique to improve the geometrical sampling in early PET cameras. He developed data acquisition and image reconstruction software for the early Swedish positron cameras. Together with T. Greitz from Karolinska hospital and others he developed a computerized brain atlas. He has been in charge of the Stockholm University instrumentation activities in ATLAS and contributed with many ideas in the area of triggering and data acquisition. He has organized conferences, as deputy program chair for MIC in Lyon 2000, local chair for IEEE RT2005 in Stockholm, been involved in the organization of the following Real Time conferences and been involved in the promotion of *IEEE Trans. Nuclear Science* as reviewer and associate editor. He was a member of RISC 2008-2010, elected member for CANPS in ADCOM 2010-2013, TNC interim chair 2015 and TNC chair during 2016. The short period was to synchronize with the standard term.

**Statement:** The charge of the NPSS Transnational Committee is to help promote the internationalization of the NPSS' conferences. Most of them circulate between North America, Europe and Asia and the international participation is steadily increasing. The NPSS membership in the first two is nearly the same but Asia still needs encouragement. However the participation from South America and Africa is very low. International promotion is still needed. The international composition of TNC helps to follow how membership and participation varies on national levels. TNC is also involved in promoting national workshops in the shape of instrumentation schools, visits of distinguished lecturer and the formation of local chapters around the world. We think that the promotion of instrumentation schools in combination with forming local student chapters is a useful tool to establish NPSS in new areas. During the last year we have also strengthened the TNC committee with members from South America and South Africa. My hope is, after a one-year appointment as interim chair followed by a one year appointment as an elected chair of the NPSS Transnational Committee, to be able to continue the interesting work for a full term.

**MAXIM TITOV** (AM'03-M'04-SM'11) is a Senior Scientist at the CEA Saclay, the French Atomic Energy Commission, and a Senior IEEE Member since 2011. He was born in Kyiv, Ukraine, received his PhD from the Institute of Theoretical and Experimental Physics (ITEP), Moscow in 2001, having carried out his thesis research in high energy particle physics at the Deutsche Electron Synchrotron (DESY), Hamburg. He was working in several major international laboratories world-wide - DESY, Germany (1996-2003), Fermilab, USA (2004-2010), CERN, Switzerland (since 2003) and CEA Saclay, France (since 2007).

This year, Dr. Titov is the General Chair of the 2016 IEEE NSS/MIC/RTSD Symposium in Strasbourg, France. Since 2002, Maxim is actively involved in the NPSS through participation and organization of the annual IEEE NSS/MIC Conference series. Dr. Titov has served twice as a Deputy NSS Program Chair (2003 and 2008) and NSS Program Chair (2012). He was twice elected member of RISC (2007-2009 and 2012-2014) and TNC Deputy Chair (2005-2012).

During more than 20 years of working in High Energy Physics, Maxim has been involved both in the development of novel detector technologies and analysis of physics data from collider experiments, within large collaborations in the international research centers. Since the beginning of his carrier, he contributed to the HERA-B Experiment at DESY (Hamburg), D0 Experiment at Fermilab (Chicago), ATLAS, CMS Experiments and RD51 Collaboration at CERN (Geneva), and International Linear Collider Project. Dr. Titov followed a large variety of projects from conceptual design through construction, assembly, system integration to commissioning and maintenance of complex instrumentation systems. He is an author of more than 800 publications, including review papers and monographs on modern gaseous detector technologies. An important component of his experience includes management of large scientific collaborations. Since 2008, Dr. Titov was elected for the four consecutive terms as the spokesperson of the RD51 collaboration at CERN "Development of Micro-Pattern Gaseous Detectors", which consists of 500 scientists from 90 Universities and Research Laboratories world-wide.

**Statement:** The IEEE NPSS has been a very important part of my research and career development. If elected to the AdCom, I will exert my best efforts to strengthen the global importance of the NPSS community with a special attention towards NSS/MIC meetings to be held outside of the USA. I'll strongly encourage interdisciplinary communications between radiation detection instrumentation and medical

imaging fields, and strive to enhance international cooperation and participation in the NSS/MIC. I would strongly attract and support young scientists to contribute more actively into the life of the IEEE NPSS society. I believe that my background in detector instrumentation and large international collaborations, my organizational skills, and interest to multidisciplinary research could be very useful to the NPSS community, if I elected.

**IEEE NUCLEAR AND PLASMA SCIENCES SOCIETY  
PARTICLE ACCELERATOR SCIENCE AND TECHNOLOGY EXECUTIVE COMMITTEE ELECTION**

**Members-at-Large to the PAST ExCom  
For the Four-Year Term 1 January 2017 – 31 December 2020  
(Vote for TWO)**

**PAOLO CRAIEVICH** (M'11-SM'12) is a research engineer at Paul Scherrer Institute (PSI) in Switzerland where he is working in the radiofrequency group for the Swiss FEL project and for the Swiss Light Source synchrotron storage ring. His research interests include microwave applications to accelerators, such as cavities and travelling wave accelerating structures, rf photo and thermionic guns, wakefield, instability and coupling impedance. He is currently involved in the design of the deflecting structures, dielectric-loaded waveguide and serves as a physics liaison support for the rf systems. During his career he was also a staff member at Sincrotrone-Trieste in Italy where he served as S-band structures lead engineer in the FERMI@Elettra FEL project and as a member of the FERMI commissioning team. He has also collaborated in research activities with the Department of Electrical Engineering at University of Trieste, Italy, and has served as tutor and supervisor of PhD and master degree students. He studied electronic engineering at the University of Trieste, Italy, and received his PhD. degree in applied physics from University of Technology in Eindhoven, Netherlands. He is a senior member of the IEEE and a member of NPSS and is author of more than hundred publications on peer-reviewed international journals and on international conference proceedings. Actually I am also serving as an associate guest editor for the special issue of the *IEEE Transactions on Nuclear Science* (TNS) that commemorate the 50th anniversary of the original particle accelerator conference (PAC).

**Statement:** I have research experience in electromagnetics and technology applied to particle accelerators and, if elected, I would like to serve our society as a member of the PAST Technical Committee (TC), to encourage and promote the exchange of ideas and to spread the knowledge in the applications of particle accelerator science, engineering and technology. Specifically, as your Member-at-Large, I will continue to expand the European and student member base of NPSS PAST and encourage our colleagues to publish technical updates in the NPSS newsletter. I have personally benefitted from many contacts in NPSS PAST that have led to useful collaborations and joint effort. I will also strive to convey the importance of PAST in building these personal bridges that have led to career growth. Further, I have benefitted immensely from attending and presenting at IEEE sponsored or IEEE co-sponsored conferences for many years and will work with the PAST-TC to insure the quality and continuation of the conferences. Finally, I will be working with the TC members and PAST members to help identify and both promote members to the Senior and Fellow levels as well as for awards. Lastly, I am really honored to be nominated as a candidate for the PAST-TC.

**NATHAN A. MOODY** (S'02-M'06-SM'12) is a technical staff member in the Accelerators and Electrodynamics group within Accelerator Operations and Technology Division of Los Alamos National Laboratory where he has worked for 10 years. He is the lead scientist of the Advanced Cathode Enhancement and Robustness Technologies (ACERT) project, a multi-disciplinary effort to control and enhance the properties (brightness and lifetime) of photoemission electron sources using novel application of nanotechnology and surface science. His previous work has involved high power free electron laser technologies (photoinjection, thermionic cathodes, klystron systems, etc.) as well as miniature solid state THz sources and components. He has served in the local IEEE section as the NPSS chapter chair for 3 years and has been involved in STEM outreach as a staff scientist mentor in the local community. He holds four patents and is a reviewer of DOE SBIR-STTR proposals as well as IEEE Transactions, Journal of Applied Physics, Applied Physics Letters, etc. He obtained his M.S. and Ph.D. in electrical and computer engineering from the University of Maryland at College Park, in 2004 and 2006, respectively, and he has received numerous awards including LANL's 2008 Distinguished Performance Award, the 2010 DOE Tri-Lab LDRD award.

**Statement:** I have been involved with IEEE for the past 15 years, including graduate school and post-doctoral work where I witnessed firsthand the strategic value of IEEE to entry-level engineering professionals and the institutions they eventually join. As an early-to-mid career engineer, I now recognize the need to recruit and attract young minds to our exciting fields and in my present position at LANL I have seen how the interaction of non-adjacent disciplines can yield new research opportunities and new solutions to persistent problems. In my case, I have observed how the emerging capabilities in nanoscience can enhance accelerator design and engineering. In my three years of service to NPSS as our local chapter chair, I have also been a vocal supporter of cross-disciplinary events and the opportunities that such interactions often initiate. I wish to serve as M-a-L on the IEEE-NPSS PAST TC ExCom to help facilitate cross-discipline interaction of NPSS members at IEEE conferences and encourage my own institution (LANL) and other government laboratories and funding agencies to more effectively recruit young professionals into the disciplines of nuclear and particle physics, which includes sustained participation in IEEE conferences and the ability to communicate the value of IEEE and NPSS to young professionals.

**MARION WHITE** (M'03-SM'05) received a PhD in elementary particle physics from MIT, and is a Senior Physicist at Argonne National Laboratory in Lemont, Illinois, USA. As a high energy detector specialist, Marion worked on physics experiments at DESY and CERN before coming to Argonne. She has held leadership roles in construction of the Advanced Photon Source and Spallation Neutron Source linear accelerators and the Linac Coherent Light Source undulators. She is a Senior Member of IEEE, and Chair of the 2016 North American Particle Accelerator Conference.

**Statement:** Many of the critical problems facing our society today can be mitigated or eliminated by application of creative, innovative technology - technology envisioned and developed by a dedicated, educated, and diverse workforce. IEEE is a global voice for engineering excellence, and through its publications and conferences, a worldwide promoter of education and problem solving. Accelerators are some of the most widely-used tools for ground-breaking research, both basic and applied, and I would work to bring more visibility to the role accelerators play in our society while striving to find new ways to attract more minorities and women to NPSS.

**ROBERT ZWASKA** (S'05-M'06-SM'14) is a physicist in the Accelerator Division at Fermilab. He chairs the Target Systems Department which operates and builds the devices for production of high-power exotic particle beams, primarily neutrinos and muons. He received his Ph.D. from the University of Texas at Austin on the production of neutrino beams. He has also performed research on beam instabilities, the electron cloud, longitudinal dynamics, and beam stacking. He has been the deputy project manager for the Proton Improvement Plan, beam physics manager for the NOvA beam upgrades, and targetry manager for LBNF. He directs the Joint University - Fermilab Doctoral Program in Accelerator Physics and Technology, and has supervised students for their Ph.D. from Indiana University and the Illinois Institute of Technology. He has previously served as the PAST elected member to the NPSS AdCom; and was Guest Editor of *IEEE Transactions on Nuclear Science* in 2015-2016 for a special issue commemorating the 50th anniversary of the Particle Accelerator Conference series.

**Statement:** The central benefit of PAST to the community is the sponsorship of the NA-PAC and IPAC conferences in the Americas. My primary concern with PAST is preserving and strengthening those conferences. The conferences have been threatened by financial and travel-related attendance issues. IEEE NPSS has been very useful in ameliorating those issues, and will be a resource for the future. NPSS also sponsors *IEEE Transactions on Nuclear Science*, which can become a welcome home for refereed articles on accelerator systems, devices, technology, etc. The 50th anniversary special issue was a step in that direction. Furthermore, NPSS has the capacity to become the umbrella for a broader range of workshops and conferences in the community; there has been some motion in this direction already. I am interested in developing NPSS as an option for workshop organizers, and clearly delineate the advantages and requirements of affiliation (technical co-sponsorship, or financial sponsorship).

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### YOUNG PROFESSIONAL (Vote for One)

For a Two-Year Term 1 January 2017 – 31 December 2018

**JOSH COLEMAN** (M'13) is a plasma and accelerator physicist and engineer at LANL. He received his Ph.D. in Nuclear Engineering from the University of California, Berkeley in 2008. He began his research career by increasing the intensity of ion beams to perform Warm Dense Matter (WDM) experiments on the NDCX facility at LBL from 2005-2008. From 2008-2012 he was the lead experimental physicist on a small plasma physics team at Lockheed Martin which was developing a magnetic fusion confinement scheme and atmospheric plasma sources. He developed electron cyclotron resonant heating and ion cyclotron resonant heating systems which heated electrons with Whistler waves and ions with Alfvén waves; both of which have been patented. More recently his research at LANL addressed topics required to improve the next generation of intense relativistic electron beams used for radiography, advanced photon sources, development of non-invasive beam and plasma diagnostics, and the production of WDM for studying the Equation of State. He has presented his research at several IEEE conferences including, International Conferences on Plasma Science and Particle Accelerator Conferences. He is currently a referee for Physical Review and *IEEE Transactions on Plasma Science* and is a member of the American Physical Society.

**Statement:** I have benefitted greatly from my years in the IEEE and over a decade of research in the plasma and accelerator physics community. Being a Young Person Member at Large to the IEEE-NPSS PAST TC ExCom would allow me the opportunity to give back to the NPSS community and learn how the organization functions. If elected as a Y-P M-a-L to the IEEE-NPSS PAST TC ExCom, I would work to engage and represent the community of young scientists and engineers interested in accelerator, plasma, and nuclear sciences. The particle accelerator community is a niche field and space charge dominated particle beams and induction accelerator technology is an even smaller community. In this established community it is important to continue to develop young people's interests in these fields.

**JONATHAN EDELEN** (GSM'11-M'16) is a Bardeen Fellow at Fermilab working with the Low Level RF group as a theory and simulation expert. He has provided extensive support to the commissioning of the PXIE RFQ, develops adaptive control systems for beam loading compensation, and is a member of the resonance control team. Jonathan is also studying cathode physics in thermionic RF guns in collaboration with ANL, LANL, and AFRL. Recently Jonathan was appointed to the Engineering Advisory Council responsible for advising the director on engineering issues at Fermilab. He earned his M.S. and Ph.D. degrees in accelerator physics from Colorado State University. There, he worked on beam dynamics in thermionic cathode RF guns and start-to-end simulation and beam-line optimization of the CSU free electron laser. He earned his B.Sc. in EE at Rensselaer Polytechnic Institute. Prior to his time at CSU, Jonathan worked in the Underwater Electromagnetic Signatures and Technology Division at the Naval Surface Warfare Center, Carderock Division. There he served as principal investigator for a large-scale vessel model test, participated in small-scale vessel model tests in collaboration with the UK government, and served as an electromagnetic signatures analyst in support of technology development and fleet support.

**Statement:** As a new member to the particle accelerator community, I am excited at the prospect of being involved with the technical committee, and I hope to provide a broad perspective to the committee business. I have a diverse background in accelerator physics and engineering and a wide variety of interests across science and technology. In the short time that I have been engaged in the accelerator community, I have enjoyed the benefits of publishing in IEEE, and attending IEEE sponsored conferences. These opportunities are crucial to the development of young professionals such as myself, and, if selected, I hope to continue to offer my support to this program for years to come.

**IEEE NUCLEAR AND PLASMA SCIENCES SOCIETY ELECTION  
NUCLEAR MEDICAL AND IMAGING SCIENCES COUNCIL ELECTION  
For the Three-Year Term 1 January 2017 – 31 December 2019  
(Vote for UP to FIVE)**

**FRÉDÉRIC BOISSON** (M'15) is a Research Scientist at the Molecular imaging Division of Institut Pluridisciplinaire Hubert Curien. He received his master's degree in Physics from the University of Strasbourg in 2007. He completed his Ph.D. in Physics at the University of Strasbourg in 2010, working in the field of Biomedical Imaging and Instrumentation. This thesis focused on the study and development of a single photon-imaging instrument for measuring the kinetics of new radiopharmaceutical at the preclinical level. The innovative aspect of the chosen instrument was the use of a 1D-segmented crystal, associated with a parallel slat collimator. He then worked as a Postdoctoral Scientist at the Australian Nuclear Science and Technology Organisation in Sydney. His main research focused on the study and optimization of PET quantification with two mice imaged simultaneously in the field of view of the scanner. He also has been an active participant in numerous animal studies, which helped him to improve his knowledge on different imaging aspects, such as the characterization of new radiopharmaceuticals "in vivo", the determination of the tracer biodistribution in the whole body of the animal or the compartmental analysis of tracer in specific organs. In 2014, he became a Research Scientist of IPHC/CNRS in Nuclear Science and kept working in the field of nuclear medicine instrumentation. His work focuses on the development of novel detectors for imaging positron emitting or single-photon emitting tracers, as well as data analysis and image quantification for both preclinical and medical applications. He is now the Head of the Molecular-imaging group since January 2016.

**Statement:** As an IEEE member and research scientist, I have participated in the Nuclear Science Symposium and Medical Imaging Conference in 2008 and annually since 2012. Given the active participation and strong commitment that I have demonstrated over the last years at MIC conferences (both poster and oral presentations), I believe that I can make a significant contribution to the Nuclear Medical and Imaging Sciences Council (NMISC). If elected to the NMISC, I will try to engage scientists to participate in IEEE medical imaging activities. 2016 is a key year for me with the organization of the NSS/MIC conference to be held in Strasbourg, France. I fully invest myself in organizing this major event and am happy to help manage and promote Nuclear Medical and Imaging Sciences activities as a NMISC council member.

**DIMITRA G. DARAMBARA** (M'97) is a Senior Team Leader at the Joint Department of Physics, Division of Radiotherapy and Imaging of the Institute of Cancer Research and the Royal Marsden NHS Foundation Trust, London, UK (2006-present), where she established the team and lab of Multimodality Molecular Imaging Instrumentation. She received her BSc in Physics & Maths from the University of Athens, Greece. She then successfully pursued her postgraduate studies at Yale University and received her Ph.D. in Experimental Physics from the University of Surrey, UK fully funded by NATO. Afterwards she held positions at CERN as a Research Fellow, at the University of Surrey as a NATO Research Fellow and at UCL and back at University of Surrey as a Senior Research Fellow sponsored by the Wellcome Trust with a research career development fellowship. Her research interests focus on the development of emerging medical imaging techniques and innovative photon-counting and multi-spectral semiconductor detectors for quantitative multimodal molecular imaging as well as the performance optimisation of integrated imaging systems by combining Monte Carlo and Finite Element Analysis codes.

She is a member of several professional societies, i.e. Institute of Physics (IOP), IPEM, ESMI and IEEE. She has had several advisory roles in industry, governmental bodies, EC and NHS. She has also served on several committees of the IOP Professional and Science Policy Advisory Groups. She is currently Chair, IOP Medical Physics Group; Chair, Board of Trustees of Mayneord-Philips Trust; Member, Biomedical Engineering Board, Royal Academy of Engineering and Member, "Science in Health" Strategy Group, UK Science Council.

**Statement:** I have been an active and enthusiastic member of the IEEE for more than 20 years and I have been attending the NSS/MIC conference every single year starting as Ph.D. student. I, along with all my team members, have greatly benefited from participating into this conference, due to its cross boundary nature, collaborations and impact, which help to maintain strong ties and promote stimulating scientific advances between radiation detector instrumentation and medical imaging communities. During the last 2 years I have been instrumental, as a member of the local organizing committee, in preparing and running the bid to bring the NSS/MIC to the UK as the next European one.

My experience of senior leadership and my understanding of the operational ethos, which governs the international professional societies have given me the insight and broad experience necessary to be an effective member of NMISC Council, if elected, as well as the enthusiasm, drive and commitment to matters and challenges directly related to core NMISC priority activities for the benefit of NSS/MIC participants, and in particular, for the benefit of dynamic early career scientists.

**MINI DAS (M'12)** Dr. Mini Das is an Assistant Professor of Physics at the University of Houston (UH), Houston, TX. She holds a joint appointment with the Biomedical Engineering Department at UH. Dr. Das received her Master's degree in Optoelectronics and Laser Technology from Cochin University of Science and Technology, India in 1998 and a Ph.D. in Physics (2003) from the Indian Institute of Technology, Delhi. Her Ph.D. thesis involved developing inverse scattering methods for novel optical fiber grating devices. During her Ph.D., she was invited to work in the Fiber Optics Division of Bell Laboratories (Murray Hill, NJ) to develop fiber grating based devices. Following her Ph.D., she focused her efforts on optical and radiological methods for early cancer detection. Her postdoctoral work (2004-2006) in the Electrical Engineering Department at the University of Connecticut involved developing light propagation models and efficient algorithms and devices for optical breast imaging. She worked on digital breast tomosynthesis and breast CT image acquisition and reconstruction methods at the University of Massachusetts Medical School in Worcester, MA starting 2006. Her contributions to optical and radiological imaging were recognized by a 2009 NIH Career Development Award. She was appointed Assistant Professor of Radiology at UMass in 2010. In 2011, she moved to UH. Her group's current focus is on developing novel imaging techniques with the aim of early cancer detection. Her work on spectral x-ray phase contrast imaging has been recently (2016) funded via a Breakthrough Award from Department of Defense Breast Cancer Research Program. She has authored and coauthored more than 25 publications and holds two patents.

**Statement:** As a member of IEEE, I have participated in many conferences and been an active part of development in the areas of medical imaging and optical devices. Other contributions to the field include being reviewer for many journals, conference presentations, organizing workshops (such as in the last IEEE EMBS conference in Milan, Italy) to engage scientists from other areas to contribute to developing areas in imaging. If elected to the NMISC, I will try to engage researchers both from within UH and in greater Houston area as well as in TX to increase participation in IEEE MIC meetings. I have been very active in SPIE Medical Imaging meetings and will encourage participation in MIC meetings by other SPIE participants. Besides these, I will make efforts to attend required committee meetings and also increase my own group's participation at IEEE MIC meetings.

**JOYONI DEY (S'96-M'99)** is an Assistant Professor at the Medical Physics Program of the Department of Physics and Astronomy, Louisiana State University. She received her Ph.D. in Electrical and Computer Engineering from Carnegie Mellon University in 1999 where she worked on simulating ultrasound waves through tissue inhomogeneity for purpose of eventual co-registration of ultrasound and CT. Since then she worked on industry and academic postdoctoral positions (including a postdoctoral training at Stanford University on 2D/3D image registration). She joined UMass Medical School, Worcester, MA from 2005-2013. She was research instructor from 2005-2008 and became an Assistant Professor from 2009-2013. At UMass Medical School she worked on SPECT imaging and motion correction within statistical iterative reconstruction. At UMass Medical School she also invented a new Cardiac SPECT Gamma Camera (patented August 2013) which promises to improve sensitivity by over a factor of 3 above second generation Cardiac Cameras and more than an order of magnitude over standard clinical SPECT. She was a PI on an NIH R21 2011-2012 for the project. After a brief stint 2013-2014 at an MIT-based start-up, Passport Systems Inc., where she worked (as the lead scientist on a federal SBIR) on fast Bayesian inference methods (particle-filters) for nuclear security application, she joined LSU for a tenure-track position in 2014 and currently continuing to develop the Cardiac SPECT Gamma Camera. She is also working on other projects such as Bayesian-inference based iterative image reconstruction (which promises to yield significant SNR improvements over MLEM) and Phase-Contrast X-ray. Another area of interest is mathematical modeling of tumor growth, apoptosis, cell-motility (diffusion), necrosis formation, for quantification of tumors for potentially more accurate growth-rate and metastatic predictions. She has also recently developed a pde-based mathematical modeling of over-feeding and applied to clinical data. Dr. Dey has 18 peer-reviewed journal publications and over 45 conference papers and abstracts. Dr. Dey teaches two graduate-level courses a year (Radiobiology and Advanced Medical Imaging) for the Medical Physics Program at LSU. She has mentored three postdocs (one at UMass Medical School and two at LSU) and currently has two Ph.D. students in her group at LSU. Dr. Dey was a NIH Study Section BMIT-A reviewer for June 2016. She has also reviewed several peer-review journals such as *Medical Physics*, *IEEE Trans on Medical Imaging* etc.

**Statement:** As an IEEE member, a research scientist, and now a member of the faculty and a graduate educator at a large R1-rated state-university, I have participated annually in the Nuclear Science Symposium and Medical Imaging Conference (Medical Imaging Conference sessions) since 2005. I believe that I can make a unique and significant contribution to the Nuclear Medical and Imaging Sciences Council (NMISC) in the following ways.

**(1) Women/Minority Scientific Participation:** In my many years of attendance of IEEE NSS-MIC, I have been disappointed by the low representation of female and minority scientists at the conference. If elected to the NMISC, I will actively try to engage scientists of all genders and ethnicities to participate in the conference with the help of wider outreach with the conference call for papers for women and minority principal investigators, faculty, scientists, postdocs and students.

**(2) Graduate Student Participation:** From personal experience starting as an instructor from a somewhat different field, the MIC conference was a prime place for learning several research topics in nuclear medicine and CT. It has been one of the strongest contributors to my path to independence as a researcher. I strongly believe the conference can be an invaluable exposure for a graduate student, providing yearly snapshots of the breadth and depth of research crucial to the graduate student's learning. However timing of the conference (middle of the academic semester) makes it hard for graduate students taking courses to attend the conference. As a council-member I wish to bring to the table for consideration how to potentially remedy that. Student participation in the Medical Imaging Conference will improve if for example a full weekend can be accommodated for MIC or if the conference can be moved to include early days (Mon-Wed) of the Thanksgiving week.

**(3) Plenary speakers** for IEEE NSS-MIC are, and always will be, outstanding. One area I can potentially help is identify and select plenary speakers from multi-disciplinary groups to solve the imaging problems for key but curiously inadequately considered diseases facing the nation -- such as the near-epidemic-proportion obesity, Alzheimer's etc, in addition to the commonly considered cancer and heart-disease.

**(4) Electronic Copyright:** Finally, I will be happy to monitor the electronic copyright problem issues which can sometimes result in an investigators' work not making it to the final conference record publication. Based on experiences of fellow scientists, this can sometimes even take an investigator by surprise, potentially to the detriment of pending peer-reviewed publications or grant-applications where the conference presentation was cited (but the conference record was not eventually published).

**MATHEU HATT** (GSM'06-M'07) After an initial formation in computer sciences with a focus in image analysis and processing, M. Hatt received his Ph.D. in medical imaging in 2008, and his HDR degree (habilitation to supervise research) in 2012. After being a visiting fellow in the MAASTRO research center in Maastricht, the Netherlands, he was recruited in 2012 by INSERM (the French National Institute for Health and Medical Research) as a researcher in the Laboratory of Medical Information Processing (LaTIM) in Brest, France. M. Hatt is in charge of supervising the activities of the "multiparametric modelling for therapy optimization" group (1 post-doc, 4 Ph.D. students). His research focuses on image processing and automated segmentation and characterization, radiomics and machine learning for oncology applications (radiotherapy, treatment follow-up, predictive models).

He has published more than 50 original papers, 6 letters to the editor / editorials and 4 review papers in peer-reviewed journals. He received several awards, including the IEEE (French section) 2009 1<sup>st</sup> prize for best Ph.D. thesis defended in 2008, and several young investigator awards and travel grants from recognized international conferences such as IEEE NSS-MIC, New trends in molecular imaging and nuclear medicine, and the AAPM annual meeting. In November 2014 at the NSS-MIC meeting in Seattle, he received the «Bruce H. Hasegawa Young Investigator Medical Imaging Science Award» presented by IEEE NPSS and NMISC for « contributions to the field of medical image analysis and processing for oncology imaging and radiotherapy applications ».

M. Hatt is a member of IEEE, AAPM and SNMMI. He also acts as a reviewer in about 20 journals of the field, as well as editorial board member of the *Journal of Nuclear Medicine* and associate editor of the *Medical Physics* journal.

**Statement:** I have been an IEEE member since 2007 and I have regularly participated as a presenting scientist in the Nuclear Science Symposium and Medical Imaging Conference. I am now willing to commit myself and contribute to the various activities of the Nuclear Medical and Imaging Sciences Council (NMISC). If elected to the NMISC, I will encourage colleagues, students, collaborators, and all scientists I can reach to participate in activities related to IEEE medical imaging. I will promote further scientific activities and help develop educational activities such as workshops, educational sessions and challenges. I will help in selecting recognized experts for plenary sessions. I will be committed to help in managing and promoting Nuclear Medical and Imaging Sciences activities as an active NMISC council member.

**QUANZHENG LI** (S'03-M'05) is an Associate Professor of Radiology at Massachusetts General Hospital, Harvard Medical School. He received his M.S. degree from Tsinghua University in 2000, and his Ph.D. degree in Electrical Engineering from the University of Southern California (USC) in 2005. He did his post-doctoral training at USC from 2006 to 2007, and was a Research Assistant Professor from 2008 to 2010. In 2011, he joined the Gordon Center for Medical Imaging Sciences, Radiology Department at Massachusetts General Hospital in Boston where he is currently the director of image reconstruction and artificial intelligent program in Gordon Center. Dr. Li is the recipient of 2015 IEEE Nuclear and Plasma Sciences Society (NPSS) early achievement award. He is an associate editor of IEEE Transaction on Image Processing and editorial board member of Theronostics. His research interests include image reconstruction methods in PET, SPECT, CT and MRI as well as applications combining image formation, analysis and statistical inference together to optimize task-based performance.

**Statement:** It is a great honor to have been nominated to run for election as member of the IEEE Nuclear Medical and Imaging Sciences Council (NMISC). I have been attending the Nuclear Science Symposium and Medical Imaging Conference (NSS-MIC) for 16 years and thoroughly enjoy the scientific discussions and novel work presented every year. NSS-MIC is a unique venue that is ideal for imaging scientists to meet their peers and develop a network of collaborations that can serve them a lifetime. Having benefitted from this environment, I am committed, if elected, to further attract investigators from different imaging disciplines, different ages and sexes to the IEEE medical imaging activities to strengthen its vibrant and creative character. I strongly support the mission and goals of NMISC, and would be happy to help manage and promote Nuclear Medical and Imaging Sciences activities. In particular, I would like to play a role in bridging the gap between technology development and clinical dissemination. I would also work with the council to strengthen the ties between IEEE NPSS, SNMMI-CaIC, WMIC and other like minded associations.

**CHI LIU** (M'10) is an Assistant Professor in the Departments of Diagnostic Radiology and Biomedical Engineering of Yale University. He received his Ph.D. in 2008 from Johns Hopkins University with emphasis on quantitative SPECT/CT imaging. Following his graduate work, he was a postdoctoral fellow at University of Washington, specializing in oncological PET/CT studies with emphasis on compensation algorithms for respiratory motion. In 2010, he joined Yale University as a faculty member. He is board certified in Nuclear Medicine physics and instrumentation by the American Board of Science in Nuclear Medicine. His current research focuses on quantitative cardiac and oncological PET/CT, SPECT/CT, and cone-beam CT imaging, including reconstruction algorithms, motion correction, dynamic imaging, and translational imaging. In 2012, he was awarded with the Bruce Hasegawa Young Investigator Medical Imaging Science Award from the IEEE Nuclear Medical and Imaging Sciences Council for "contributions to the imaging physics of SPECT/CT and PET/CT, with emphasis in quantitative imaging and motion correction". Currently, he is the PI of multiple ongoing grants from NIH, American Heart Association, and industry. He is a member in Board of Directors of the Computer and Instrumentation Council (CaIC) of the Society of Nuclear Medicine and Molecular Imaging (SNMMI).

**Statement:** It is an honor to be nominated for board membership of NMISC. I strongly support the mission and goals of NMISC. If elected, I will volunteer my time to serve the council and promote its growth. I would like to work with the board to bridge imaging technology developments and clinical sciences, and support early stage investigators, postdocs, and students through educational and scientific activities. I will also actively participate in the planning of IEEE NSS-MIC conference to promote rigorous and dynamic scientific and educational programs.

**CRISTINA LOIS** (M'14) obtained her Ph.D. in Particle Physics from the University of Santiago de Compostela, Spain, in 2006 for her work on instrumentation for the LHCb experiment at CERN. In 2007, she moved to Knoxville, TN (US) to work on PET/CT imaging at the UT Graduate School of Medicine within Dr. David Townsend's group. There, in collaboration with Siemens, she demonstrated for the first time in a large patient population the benefits of incorporating Time-of-Flight (TOF) information into clinical PET/CT imaging.

Cristina has since gained extensive experience in PET/CT, PET/MR, and SPECT imaging, acquiring technical expertise in detector development, image processing and PET quantification. She has developed her career in several institutions in the US and Europe, including the University of Zurich and CERN in Switzerland, the University Hospital of Tübingen in Germany, or the Clinic Hospital of Barcelona in Spain. She has authored 60+ publications, 10+ as first or last author, and with a total of 3300+ citations.

Cristina is presently working at the Athinoula A. Martinos Center for Biomedical Imaging appointed as a Research Fellow at the Massachusetts General Hospital, the Harvard Medical School, and the Massachusetts Institute of Technology. Her work focuses on the application of PET/MR to study human brain function. Specific applications include a study on the role of neuroinflammation in Huntington's disease or the investigation of the neurobiological bases of the placebo effect in depression.

**Statement:** I have attended the Nuclear Science Symposium and Medical Imaging Conference (NSS-MIC) since 2008, participating actively as scientific presenter, session chair, and taking part in some workshops. Through the years, the NSS-MIC has become a tremendous source of ideas and inspiration, and it has provided me with a unique opportunity for professional and personal growth. I believe I have now the necessary knowledge and experience to serve as a member of the Nuclear Medical and Imaging Sciences Council (NMISC). If elected, I will pursue the following goals. 1) I will work towards maintaining the excellent quality of the NSS-MIC, will help identify exceptional plenary speakers, and will propose additional scientific and educational activities. For example, I will promote the incorporation of educational activities related to career advancement and to clinical applications. 2) I will represent and promote diversity (including but not limited to gender, age, race, and culture) within the NSS-MIC and will strive to optimize its integration within the NMISC. 3) I will try to encourage scientific presenters to defend the motivation and real-world impact of their research, and will propose educational activities to help them communicate their impact effectively.

I am honored for being nominated for the NMISC. I appreciate your support and look forward to being part of this effort.

**LING-JIAN MENG** (AM'01-M'01) Dr. Ling-Jian Meng is an Associate Professor at the Department of Nuclear, Plasma, and Radiological Engineering, and affiliated faculty of the Department of Bioengineering, and the Beckman Institute for Advanced Science and Technology, at the University of Illinois at Urbana-Champaign (UIUC). He is also a Visiting Associate Physicist with the Department of Radiology of the Massachusetts General Hospital (MGH), and an Associate Editor for the *IEEE Transactions on Medical Imaging* (TMI). Dr. Meng obtained his bachelor's degree in Physics from the University of Science and Technology of China in 1995, and Ph.D. in Detector Physics from the University of Southampton in 2001. He has been subsequently working in the Department of Nuclear Engineering and Radiological Sciences and the Department of Radiology at the University of Michigan, Ann Arbor. From 2006, Dr. Meng has been an Assistant Professor at the University of Illinois and was promoted to Associate Professor in 2012. Dr. Meng's research interests are centered on gamma ray detector technology and novel nuclear imaging instrumentations for SPECT, PET and X-ray imaging applications.

He has recently lead several major research projects on developing of a sub-100um single photon emission microscope system, developing of the MRC-SPECT-I and MRC-SPECT-II systems for simultaneous SPECT-MR imaging of small lab animals, exploring sub-500 um resolution PET detectors based on advanced CZT and CdTe imaging detectors, and using emission tomography apertures for X-ray fluorescence computed tomography (XFCT) and X-ray luminescence CT (XLCT) imaging.

**Statement:** As an IEEE member, I have attended every single Nuclear Science Symposium and Medical Imaging Conferences since 1998, previously as paper contributor, and then as reviewers, session chairs and program conveners for emission tomography instrumentations. Given my long-term involvement with the MIC conferences and my background in engineering technologies, I believe that I could contribute to the Nuclear Medical and Imaging Sciences Council (NMISC), in the areas of promoting emerging detector technologies and image formation techniques for emission tomography and X-ray imaging, and bridging the gap between basic nuclear imaging sciences and other engineering disciplines, such as physical, chemical and material sciences.

If elected to the NMISC, I will try to engage scientists of all ages and sexes to participate in IEEE medical imaging activities. I will try to promote further scientific and educational activities, to ensure quality NSS-MIC joint sessions, and to help select dynamic plenary speakers. I could also provide input to the editorial boards of *TNS* and *TMI*, encouraging them to speed up the review process wherever possible. I would be happy to help manage and promote Nuclear Medical and Imaging Sciences activities as a NMISC council member.

**BRUCE D. SMITH (S'82-M'87)** received his BS degree in electrical engineering and his MS degree in computers, information, and control engineering from the University of Michigan, Ann Arbor, and his Ph.D. degree in electrical engineering from the University of Rhode Island, Kingston. Presently, he is a faculty member of the Department of Electrical and Computer Engineering at the University of Texas at San Antonio. He has been a member of IEEE Nuclear and Plasma Sciences Society for 27 years. A publication of his has been recognized for its "exceptional originality and enduring impact" by *TMI* in 2001. In 2015 and 2016 he was a reviewer for *TMI* and *IEEE Trans. Image Processing*, respectively. He regularly attends the NSS/MIC annual conferences.

**Statement:** My motivation for becoming a member of NMIC is to promote the use of computer simulations in nuclear medicine research. The most effective means of achieving this, I believe, is the use of positive motivation. Producing an editorial in *TMI* to communicate to the membership the benefits of the use of computer simulations maybe a good first step. Giving priority for the use of computer simulation in the Edward J Hoffman and Bruce Hasegawa Awards, and the NPSS Student Paper Awards would encourage its use. A special issue in *TMI* dedicated to the use of computer simulations in nuclear medicine research would also encourage its use and illustrate its benefits. Providing workshops and/or refresher courses at the annual conferences on various software simulation packages such as Geant4 and MCNP/MCNPX will help the membership to reap its benefits.

Wider acceptance of computer simulations in nuclear medicine research, I believe, will enhance the contribution that nuclear medicine will make to humanity in the future.

**CHARALAMPOS (HARRY) TSOUMPAS (GSM'05-M'08-SM'13)** Dr. Charalampos (Harry) Tsoumpas is a tenured academic appointed as Lecturer in Medical Imaging and Lead for Enterprise and Innovation at the Division of Biomedical Imaging at the University of Leeds since 2013. He received his bachelor's degree in Physics (Nuclear & Particle Physics) from the National Kapodistrian University of Athens in 2002 and his postgraduate degree in Biomedical Engineering from the University of Patras in 2004. He completed his Ph.D. research at Imperial College London in 2007 working in the field of Image Reconstruction for Positron Emission Tomography (PET) at Hammersmith Hospital. He then worked as a postdoctoral research fellow at St. Thomas' Hospital, King's College London. In 2014, he became Visiting Assistant Professor at the Translational and Molecular Imaging Institute, Mount Sinai New York where he is involved on combined PET and nuclear magnetic resonance (MR) imaging projects. He has contributions in more than 50 peer-reviewed papers, 25 IEEE conference records and two patents with GE Healthcare. He is a passionate advocate of PET imaging and PET image reconstruction having delivered more than 30 invited lectures around the world. His research interests include statistical image reconstruction and acquisition process modeling for more accurate and precise PET and PET-MR imaging. He is active developer and co-maintainer of the open access software library for tomographic image reconstruction (STIR) and he has trained more than a hundred early stage researchers on it.

**Statement:** As an IEEE senior member and Fellow of Higher Education Academy, I have attended annually the Nuclear Science Symposium and Medical Imaging Conference (NSS-MIC) since 2004. I have been a reviewer of both the Transactions on Nuclear Science and the Transactions on Medical Imaging. During the NSS-MIC I co-organize the annual STIR users' & developers' meeting and the last two years the Short Course on Image Reconstruction.

In one recent IEEE spectrum article, open access software was identified as one of the top ten areas that will prove to be vital for accelerating scientific and technological developments this century. Therefore, if elected to the Nuclear Medical and Imaging Sciences Council (NMISC), I will be promoting and supporting the idea of more formal representation of open software and datasets at the NSS-MIC. For example, we could introduce workshops or additional sessions on open access software, associated datasets and corresponding platforms for different imaging modalities where appropriate emphasis will be given on technical aspects. Furthermore, I will seek approaches on how to establish a vibe network within NMISC for defining an evolutionary strategy on utilizing these platforms for fair comparison of existing and new software developments.

**R. GLENN WELLS** (M'97) is a medical physicist in cardiac imaging at the University of Ottawa Heart Institute and an Associate Professor (Cardiology) at the University of Ottawa. He received his Ph.D. in Medical Physics in 1997 from the University of British Columbia, Canada on the topic of SPECT scatter estimation and correction. He then worked as a post-doctoral research fellow at the University of Massachusetts Medical Center (Worcester, MA, USA) until he returned to Canada in 2000 to take a position at the Nuclear Medicine department of St. Joseph's Hospital (London, ON, Canada). In 2006, he joined the cardiac imaging program at the University of Ottawa Heart Institute. His research is in cardiac image reconstruction and correction methods for attenuation, scatter, camera resolution losses, and motion with application to both pre-clinical and clinical nuclear medicine. Most recently, his research has focused on dedicated cardiac SPECT cameras and the quantification of myocardial blood flow with dynamic imaging. He has published 59 peer-reviewed papers, 6 book chapters and over 150 conference abstracts.

**Statement:** I have been an IEEE member for the last 19 years and have been an annual participant at the Nuclear Science Symposium and Medical Imaging Conference since 1995. I have been an abstract reviewer for the NSS-MIC conference program since 2001 and have reviewed for the *IEEE Transactions on Nuclear Science* since 2001. I was a member of the Nuclear Medical and Imaging Sciences Council (NMISC) from 2012-2014 and chaired the NMISC Awards sub-committee in 2014 and 2015. The NSS/MIC is the premier meeting in our field and I would like to join the NMISC to contribute to maintaining the excellence of its program. The NSS/MIC provides a superb forum and opportunity, particularly for graduate students, to interact with international research leaders in medical imaging. As a NMISC member, I would strive to encourage and grow student participation in the meeting. If elected, I would be honored to serve the medical physics community as a member of the NMISC.

**LARRY ZENG** (M'88-SM'04-F'11) is an Associate Professor at the Weber State University and an Adjunct Professor at the University of Utah. He received his bachelor's degree in Applied Mathematics from Xidian University, China, in 1982. He completed his MS and Ph.D. in Electrical Engineering at the University of New Mexico, USA, in 1986 and 1988, respectively. He then worked as a Postdoctoral Fellow at the University of Utah, working in the field of SPECT (single photon emission computed tomography). Later he was promoted to Instructor, Assistant Professor, Associated Professor, and Full Professor at the same institution. His work focuses on the development of novel image reconstruction algorithms. Larry Zeng has published 144 papers in the peer-reviewed medical imaging journals. He also wrote a textbook on medical image reconstruction algorithms.

**Statement:** As an IEEE Fellow and active researcher in medical imaging, Larry Zeng has participated almost annually, in the Nuclear Science Symposium and Medical Imaging Conference since 1990. He is an active reviewer of the NSS-MIC conference program committee. He was the deputy Chair of the 1999 MIC conference held in Seattle, WA. He helped organizing the abstract review, scientific program, Boeing tours, MIC dinner, and meeting room AV/lighting systems. During the MIC dinner in Seattle, he successfully organized the first MIC talent show, in which Brian Hudson played guitar, Andrew Reader recited his own poems, Anna Cellar participated in story telling, and much more. Larry has many experiences in IEEE MIC: IEEE MIC Awards Committee: 2003-2004; IEEE NMISC Awards committee: 2010; IEEE Nuclear and Plasma Sciences Society Nuclear Medical and Imaging Sciences Council: 2001- 2003; 2012-2014; IEEE Nuclear and Plasma Sciences Society Nuclear Medical and Imaging Sciences Council, Chair of NMISC Communications (Web) Sub-Committee, 2004; IEEE Nuclear Sciences Symposium and Medical and Imaging Conference Site Selection Committee: 2001; Webmaster: IEEE Nuclear Medical and Imaging Sciences Council (1998, 1999), IEEE Medical Imaging Conference (1999).

Larry has tons of energy and enthusiasm. If elected to the NMISC, he will make the MIC conference fun.

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**FARHAT N. BEG** (M'98-SM'09-F'12) received his Ph.D. in Plasma Physics from Imperial College London, U.K. He was a Research Associate and then a Research Fellow with Imperial College London. In 2003, he joined the faculty in the Department of Mechanical and Aerospace Engineering, University of California at San Diego, La Jolla, where he is currently a Professor of Engineering Physics and the Director of the Center for Energy Research. His research focus is High Energy Density Science, which includes relativistic laser matter interaction, intense particle generation, inertial confinement fusion, pulsed power driven Z-pinchs, X-ray and neutron sources. He has published over 200 articles in high quality journals including Nature, Nature Communications, Nature Physics, and Physical Review Letters—and has been cited more than 6000 times with an H index of 40 according to Web of Sciences.

Professor Beg has been a fellow of the American Physical Society (APS) since 2009 and a fellow of the Institute of Electronics and Electrical Engineers (IEEE) since 2011. He received the Department of Energy Early Career Award in 2005 and IEEE Early Achievement Award in 2008. He also served as the Chair of the High Energy Density Science Association (HEDSA) in 2011.

He has served the IEEE in various capacities. He was the Chair of the International Conference on Plasma Science (ICOPS) held in San Diego in June 2009. He has been a part of the technical program committee (technical area coordinator for High Energy Density Physics) for several ICOPS for the last ten years. He has served on the Executive Committee of the Plasma Science and Applications Committee (PSAC), where he served as a Chair of the budget committee and Chair of the student travel grants. He has been the Guest Editor of *IEEE Transactions on Plasma Science* several times.

**JIM BROWNING** (M'90-SM'08) is an associate professor of Electrical and Computer Engineering at Boise State University, Boise, ID, USA. He received his Bachelor of Science and his Master of Science in Nuclear Engineering from the Missouri University of Science and Technology in Rolla, MO in 1983 and 1985, respectively. He completed his PhD in Nuclear Engineering and Engineering Physics at the University of Wisconsin-Madison in 1988 working in the field of electromagnetic wave interactions with mirror confined plasmas. His dissertation focused on the phase control of electromagnetic waves to stabilize a mirror confined plasma using the ponderomotive force. He worked as a post-doctoral scientist in the Center for Electromagnetics Research at Northeastern University in Boston, MA from 1988 to 1992 where he studied beam-wave interactions in crossed-field amplifiers and the failure mechanisms of gated field emission arrays. He joined Micron Technology from 1992 to 1999 and then PixTech, Inc from 1999-2001 where he developed, tested, and fabricated Field Emission Displays. This work included reliability and lifetime testing of field emission arrays and displays, study of electron-dielectric interactions, and the study of high voltage breakdown. The work included both active matrix and passive matrix displays. From 2001-2006 he was a consultant on Field Emission Displays and performed testing and evaluation on Organic Light Emitting Diode displays. He joined Boise State University in 2006 where he has been studying Crossed-Field Amplifiers, magnetrons, micro-plasmas, field emission arrays, and cold atmospheric pressure plasmas.

**BRUCE CARLSTEN** (M'97-SM'13-F'16) Dr. Carlsten is an RF engineer and accelerator physicist at the Los Alamos National Laboratory (LANL). He received a BS in Physics and a BA in Mathematics from UCLA in 1979, and an MS, Degree of Engineer, and PhD in Electrical Engineering from Stanford University in 1980, 1982, and 1985, respectively. He joined LANL in 1982 and since then has worked on a variety of high-power RF source and accelerator projects. He led early research in annular relativistic klystron amplifier physics, in the generation and transport of high-aspect ratio elliptical beams, and in planar slow-wave structures for high-power, high-bandwidth RF amplification at W-band. He was a pioneer in the development of RF photoinjectors and is credited with the discovery of the emittance compensation technique which has allowed photoinjectors to generate exceptionally bright electron beams. He was also a pioneer in the development of bunch compressors, including early research in the effects of coherent synchrotron radiation. He built and commissioned two beam-physics research accelerators at Los Alamos (SPA and THOR). He led LANL's High-Power Electrodynamics Group from 2005 to 2012 and is now an R&D Engineer focusing on novel Free-Electron Laser and W-band RF source technologies as well as novel synthetic aperture radar (SAR) imaging schemes.

Dr. Carlsten is a Fellow of the IEEE, the American Physical Society, and the Los Alamos National Laboratory. He is a member on the High Energy Physics Advisory Panel (HEPAP) and of the Advisory Board for the Air Force Office of Scientific Research MURI on Transformational Electromagnetics. He is a Member-at-Large of both the Executive Committee of the Division of Physics of Beams of the American Physical Society and of the IEEE Particle Accelerator Science and Technology Technical Committee, and is on the Editorial Board of *Physical Review Accelerators and Beams*.

**JOHN FOSTER** (M'07) received the B.S. degree in physics from Jackson State University in 1991 and the Ph.D. degree in applied physics from the University of Michigan in 1996. From 1996 to 1998, he was a Postdoctoral Researcher at the NSF Center for Plasma Aided Manufacturing based at the University of Wisconsin-Madison. From 1998 to 2006, he served as a senior research scientist at the NASA Glenn Research Center where he conducted research on electric propulsion devices such as ion thrusters. He is presently a professor in the Department of Nuclear Engineering and Radiological Sciences at the University of Michigan. His specialty area is low temperature plasmas. His research areas of interest include plasma propulsion, space plasmas, plasma medicine, and plasma-based environmental remediation solutions including plasma based water purification. Altogether, this research spans the pressure range from high vacuum at the low end to above one atmosphere at the high end.

**DAVID B. GO** (M'10) is the Rooney Family Associate Professor of Engineering in the Department of Aerospace and Mechanical Engineering with a concurrent appointment in the Department of Chemical and Biomolecular Engineering at the University of Notre Dame. He has published widely in the areas of plasma science and gas discharges, heat transfer and fluid dynamics, and chemical analysis. He has authored or co-authored over 40 journal articles, over 75 conference papers and presentations, and one book chapter and holds two patents. Prof. Go has also been recognized with the Air Force Office of Scientific Research Young Investigator Research Award in 2010, the National Science Foundation CAREER award in 2013, and as an inaugural winner of the Electrochemistry Society Toyota Young Investigator Fellowship in 2015. Prior to joining Notre Dame in 2008, Prof. Go received his B.S. in mechanical engineering from the University of Notre Dame, his M.S. in aerospace engineering from the University of Cincinnati, and his Ph.D. degree in mechanical engineering from Purdue University. He is also a graduate of the Edison Engineering Development Program at G.E. Aviation (formerly G.E. Aircraft Engines), where he worked from 2001-2004.

**MARK GOLKOWSKI** (AM'10-M'13) received his B.S. degree in electrical engineering from Cornell University, Ithaca, NY in 2002 and his M.S. and Ph.D. degrees in electrical engineering from Stanford University, Stanford, CA in 2004 and 2009, respectively. He served as a Postdoctoral Research Fellow with the Space, Telecommunications, and Radio Science Laboratory, Department of Electrical Engineering, Stanford University from 2009-2010. Dr. Golkowski is currently Associate Professor at University of Colorado Denver in the Department of Electrical Engineering and with a courtesy appointment in the Department of Bioengineering. He actively conducts research on electromagnetic waves in plasmas, ionospheric physics, near-Earth space physics, and biomedical applications of gas discharge plasmas. Dr. Golkowski has served as associate editor of the journal *Earth, Moon, Planets*. Dr. Golkowski was recipient of International Association of Geomagnetism and Aeronomy (IAGA) Young Scientist Award for Excellence in 2008, IEEE Electromagnetic Compatibility Society Best Symposium Paper Award in 2011 and National Science Foundation CAREER Award in 2013. Dr. Golkowski is a member of the American Geophysical Union and IEEE. He is currently secretary of Commission H (Waves in Plasmas) for the U.S. National Committee for the International Union for Radio Science (URSI).

**BRAD W. HOFF** (S'04-GSM'05-M'10) Dr. Hoff received the B.S. degree in physics from the U.S. Naval Academy, Annapolis, MD, USA, in 1999. After graduation from the U. S. Naval Academy Dr. Hoff served in the U. S. Navy for five years as a nuclear-trained surface warfare officer after completing the Navy's nuclear power training program. Following the completion of his military service, Dr. Hoff began graduate school at the University of Michigan, Ann Arbor, in the Nuclear Engineering and Radiological Sciences Department. While at the University of Michigan, Dr. Hoff earned the M.S.E. degree in nuclear engineering, the M.S.E. degree in electrical engineering, and the Ph.D. degree in nuclear engineering in 2006, 2007, and 2009, respectively. He is presently a Senior Research Physicist at the Air Force Research Laboratory. Dr. Hoff has 26 published peer-reviewed journal articles, four granted patents, and four pending patents. His current research interests include microwave-plasma interactions, high-power microwave sources and amplifiers, compact pulsed power technology, and applications of additive manufacturing techniques to high voltage systems.

**FELIPE IZA** (S'03-M'04-SM'11) Dr. Felipe Iza received the B.S. degree in engineering from the University of Navarra, San Sebastian (Spain), in 1997, and the M.S. and Ph.D. degrees from the Northeastern University, Boston MA (USA), in 2001 and 2004, respectively. From 2004 to 2006, he was a Postdoctoral Fellow in Pohang University of Science and Technology, Pohang (Korea), where he became a Research Professor in 2006. Since 2007, he is with the School of Electronic, Electrical and Systems Engineering, Loughborough University, Leicestershire, U.K, where he is the Director of Research Programmes and a senior lecturer in Bioelectrics and Healthcare. His research interest is focused on experimental and computational low-temperature plasma physics and engineering, with special attention to microplasmas and atmospheric discharges for biomedical and environmental applications.

Dr. Iza is a Fulbright alumnus, a member of Coalition for Plasma Science, the American Vacuum Society (AVS), the Institute of Physics (IoP) and a Senior Member of the Institute of Electrical and Electronics Engineers (IEEE). He has served as program committee member (Division of Plasma Science and Technology) of AVS'09 and the UK Technological Plasma Workshops TPW'08-'16, as treasurer and local organizing committee chair of ICOPS 2012 and as local organizing committee member of the UK Pulsed Power Symposium 2014. He is a program committee member of the 27th Symposium on Plasma Physics and Technology (Prague 2016) and a management committee member of the European COST action TD1208.

**JULIE E. LAWRENCE** (M'16) Dr. Lawrence is Principal Investigator for the HPEM Effect Program at the Air Force Research Laboratory (AFRL) Directed Energy Directorate. She joined in 1999 and has conducted extensive effects testing as well as novel antenna design for HPEM applications.

Prior to joining AFRL Julie worked for 14 years in industry primarily in the area of effects testing. Julie holds a B.S. Degree in Physics from Occidental College, a M.S. Degree in Electrical Engineering in the area of Applied Electromagnetics from the University of New Mexico, and a Ph.D. in Engineering from the University of New Mexico.

**SARITA PRASAD** (S'04-M'08) received the B.S. and M.S. degrees in electric and electronic control engineering from Nagaoka University of Technology, Niigata, Japan, in 2001 and 2003, respectively and the Ph.D. degree in Engineering from the University of New Mexico, Albuquerque, NM, in 2010. She received the NPSS Graduate Student's Award in 2009 and the Art Gunther Award for Outstanding Student in Pulsed Power in 2010. She has been an IEEE member for 13 years. She is currently a Research Assistant Professor at UNM, Albuquerque. Her responsibilities include being in charge of all laboratory experiments in the Pulsed Power, Beams and Microwaves Laboratory. Supervise graduate students and undergraduate employees. Coordinate and plan upcoming experimental campaigns at UNM and perform particle-in-cell computer simulations to guide experimental work.

Her research areas include High Power Microwave (HPM) sources like the relativistic magnetrons, backward wave oscillators, metamaterial slow wave structures for HPM generation and pulsed power systems that drive HPM sources. At UNM she is also the instructor for High Power Microwave Sources and Charged Particle Beams (ECE 558) and Pulsed Power and Charged Particle Acceleration (ECE 557). To date she has published 7 refereed journal papers, 18 reviewed conference papers and 47 conference presentations. She was the Session Organizer for the 2013 IEEE Pulsed Power Conference (PPC), 2014 IEEE International Conference on Plasma Science (ICOPS), and 2015 IEEE PPC. She will be serving as the Technical Area Chair on Microwave and Plasma Interactions at the 2017 ICOPS. Currently, she is also serving as the TPS Guest Editor for a special topic on Atmospheric Plasmas and Applications.

**TAO SHAO** (M'10-SM'12) was born in Hubei, China, in 1977. He received the B.Sc. degree from Wuhan University of Hydraulic and Electrical Engineering, Wuhan, China, in 2000, the M.Sc. degree in electrical engineering from Wuhan University in 2003, and the Ph.D. degree in electrical engineering from the Graduate University, Chinese Academy of Sciences (CAS), Beijing, China, in 2006. Following graduation, he joined the Institute of Electrical Engineering, CAS, and was elevated to Professor of the Institute in 2013. He was also a Visiting Scholar with the ECE Department of the University of New Mexico, Albuquerque, NM, from 2011 to 2012. His current research interests include high-voltage insulation, gas discharge physics, and plasma applications.

Dr. Shao is a Fellow of the Institution of Engineering and Technology (IET). He is a Senior Member of the IEEE and of the Chinese Society of Electrical Engineering. He was the Member of the Youth Innovation Promotion Association of the Chinese Academy of Sciences in 2011–2014, and received the 2012 Lu Jiaxi Young Talent Award of the CAS K. C. Wong Education Foundation. He worked as a Principal Investigator supported by the Excellent Science Foundation of the National Natural Science Foundation of China, and was awarded a Royal Society-Newton Advanced Fellowship (NA140303) in the UK in 2015.

Dr. Shao served as a Session Co-chair at the 2013 IEEE Conference on Electrical Insulation and Dielectric Phenomena, a Session Chair and Technical Program Committee Member at the 2014 IEEE International Power Modulator and High Voltage Conference, Session Organizer of the Plasma Chemistry session at the 42nd IEEE International Conference on Plasma Science (ICOPS 2015), member of the Program Committee for the 12th International Conference "Gas Discharge Plasmas and Their Applications", and served on the International Committee for ICOPS 2016. He will be VISA Chair, Technical Program Committee Member, and Session Organizer for IEEE IPMHVC-2016, and the Technical Area Coordinator for the sessions on Pulsed Power and Other Plasma Applications for ICOPS 2017.

Dr. Shao is a member of the Editorial Board of two international journals, *Laser and Particle Beams* and *High Voltage*, and a number of Chinese domestic journals, including *Transaction of China Electrotechnical Technology*, *High Voltage Engineering*, *High Voltage Apparatus*, and *Insulating Materials*. He served as Co-Guest Editor of the *IEEE Trans. Dielectr. Electr. Insul.* Special Issue on Power Modulators and Repetitive Pulsed Power in 2015, as Co-Guest Editor of the *IEEE Trans. Plasma Sci.* Special Issue on Invited and Plenary Speakers of ICOPS 2015, and currently serves as the Chief Guest Editor of the *IEEE Trans. Plasma Sci.* Special Issue on Atmospheric Pressure Plasmas and Their Applications in 2016.

## IEEE NUCLEAR AND PLASMA SCIENCES SOCIETY ELECTION

### RADIATION INSTRUMENTATION STEERING COMMITTEE ELECTION

For the Three-Year Term 1 January 2017 – 31 December 2019

(Vote for UP to FIVE)

**GIAN-FRANCO DALLA BETTA** (S'94-AM'97-M'99-SM'06) was born in Venice, Italy, in 1967. He received a M.Sc. Degree in Electronic Engineering from the University of Bologna, Italy, in 1992, and a Ph.D in Microelectronics from the University of Trento, Italy, in 1997. After working for 6 years as a researcher at the Centre for Scientific and Technological Research (now Fondazione Bruno Kessler) of Trento, in 2002 he joined the University of Trento, where he is currently a full professor of electronics. Since 1994, he has been mainly involved in the development of silicon radiation detectors for High Energy Physics experiments. He is a member of the ATLAS Collaboration and he is currently leading the INFN-FBK joint R&D program for the development of a new generation of 3D sensors for Phase 2 upgrades at LHC. He is the author or coauthor of more than 350 papers published in international journals and conference proceedings. In 2005, he was a Visiting Scientist with the Santa Cruz Institute for Particle Physics, University of California Santa Cruz, USA. He has been a Senior Member of IEEE since 2006. He has been serving as an Associate Editor of the IEEE TRANSACTIONS ON NUCLEAR SCIENCE since 2008. He received the "Certificate for Outstanding Contributions in the Field of Nuclear Radiation Measurements" from the Radiation Instrumentation Steering Committee of the IEEE Nuclear & Plasma Science Society in 2004.

**Statement:** I have carried out research in the field of radiation instrumentation for more than 20 years, starting with my Ph.D. My education and professional growth has drawn a significant enhancement from being a member of IEEE NPSS and from regularly attending, since 1999, the NSS/MIC/RTSD conference, contributing with several oral and poster presentations. In the past few years, I have gradually increased my direct involvement in various activities of the IEEE NPSS, serving as a reviewer and session chair for the NSS since 2005, as an associate editor of the *IEEE Transactions on Nuclear Science* since 2008, and very recently as the president of the NPS Italy Chapter.

These experiences and my scientific background have given me insight to be an effective member of RISC. If elected, I will do my best in pursuing the aims and supporting the activities of the Radiation Instrumentation Technical Committee. In particular, I will try to make the NSS/MIC/RTSD conference more attractive and fruitful to all attendees, fostering the participation of young scientists at various levels of the conference, and paying attention to those small details that can further increase the success of such a major event.

**MARTIN GROSSMANN** (M'09) works as a physicist in the Center for Proton Therapy (CPT) at the Paul Scherrer Institute (PSI), Switzerland. He studied in Münster (Germany), Lausanne (Switzerland) and at CERN and obtained a PhD from Zurich University for experimental work on rare muon decays. In 1996 he joined the PSI proton therapy team and developed the control system for the world's first treatment facility using a magnetic scanning proton beam. Since then he has been responsible for the control and safety systems of the proton therapy installations which include three treatment rooms built by PSI. Currently a fourth room, with an industry built Gantry, is being installed. The integration of this new machine into the existing controls concept is an interesting and challenging task. Martin leads the IT & Electronics group of CPT.

**Statement:** Having started out as a physicist in fundamental research (high energy physics) I have now been working for 20 years on the application of HEP technology in life sciences. If elected as RISC member I want to strengthen the link between research and engineering further – which is precisely one of the goals of the NSS/MIC/RTSD conference. I have been active in IEEE meetings since 2001, both giving presentations and taking part in the conference organization. I am a member of IEEE CANPS and currently program co-chair for the IEEE Real Time Conference.

**SRILALAN KRISHNAMOORTHY** (S'04-GSM'05-M'10) is a staff scientist working with the Physics and Instrumentation group at the University of Pennsylvania. He received his Bachelor's degree (biomedical engineering) from Mumbai University (India) and later received his Masters and Doctoral degrees in Medical Physics/Biomedical Engineering from Stony Brook University in 2011. His research focuses on developing improved radiation instrumentation with applications in clinical nuclear medical imaging.

**Statement:** The IEEE Nuclear Science Symposium and Medical Imaging conference (NSS/MIC) not only showcases some of the latest advances in radiation detection technology, but also provides an excellent platform to promote its numerous real-world applications. It continues to be amongst the most important conferences for radiation instrumentation and I continue to attend it every year since my first conference in 2004. In addition to being a conference attendee I have been involved with the conference in various other capacities. I have presented a number of papers; refereed journal articles presented at the conference, and continue to be an active member of the conference information and promotion (CIP) committee. If elected, I look forward to bringing my insights and experience as a scientist and co-chair of the conference promotion committee to the Radiation Instrumentation Technical committee (RITC). I would continue to improve geographical outreach and participation from young professionals at various levels of the conference. I would also like to increase educational activities and promote greater interaction between the NSS and MIC communities.

**MICHAEL LERCH** (M'99) graduated with a PhD in solid state physics in 1998. He was a Founding Member of the Centre for Medical Radiation Physics at the University of Wollongong in 2000 and in 2004 he accepted a permanent academic position at UOW. He is currently an Associate Professor and Head of the School of Physics at UOW. Michael is also Leader of the Radiation Detection and Instrumentation Theme within the CMRP, a University research area ranked as being "well above world standard" (Australian Research Council Excellence in Research (ERA) initiative in 2015).

Michael applies his expertise of electronic properties of semiconductors to the design and development of novel, solid state based sensors and instrumentation for application in radiation medicine. His contribution to the CMRP is through his significant experience and expertise in radiation interactions and semiconducting properties of matter. He has played a major role in the development of a real-time, solid state radiation dosimetry system with micron-scale spatial resolution for the Australian Synchrotron and the European Synchrotron Radiation Facility.

Michael is also interested in the optimization of radiation medicine created by the physical and semiconducting properties of engineered nano-ceramics and semiconductor devices in different radiation field environments (e.g. photons or charged particles). He is interested in the real-world implementation and application of real-time devices designed to operate in vivo from a targeted diagnostic imaging and radiotherapy point of view. He draws in his extensive experience in cutting-edge instrumentation for radiation medicine (imaging and therapy) gained through many years of undergraduate and postgraduate teaching and research at the University of Wollongong. He has published over 100 journal articles and has supervised over 20 higher degree research students to completion since 2005.

**Statement:** My background, experience and research area of interest aligns particularly well with that of RISC. As such, I am seeking to contribute in a meaningful way, to the related activities and initiatives of RISC in association with the IEEE NSS, MIC and RTSD conferences. I am passionate about increasing the awareness, educational benefit and integration of STEM related R&D activities at all levels from junior school students to university postgraduates to ensure the next generation of researchers. My contribution to the IEEE community has been significant over many years through active participation at conferences (e.g. delegate, session Chair, reviewer etc) conference organization (e.g. MMND-ITRO 2016), so I will be similarly active through my membership of RISC to bring benefit back to the IEEE.

**ZHEN-AN LIU** (M'07-SM'12) Dr. Zhen-An Liu is a senior scientist and head of the trigger group in the Experimental Physics Division of the Institute of High Energy Physics(IHEP), Chinese Academy of Sciences(CAS). He is also a Professor at the University of Chinese Academy of Sciences (UCAS) and has been given a course on "Modern Nuclear Electronics" to graduate students since 2002, and has supervised a number of Ph.D. students at IHEP. He received his B.S. degree (Design of FPLA Programmer) from the University of Science and Technology of China (USTC) in 1983, a M.S. degree (Readout electronics for Shower Counter using optical fiber transmission line) from IHEP in 1987, and Ph.D. degree (Measurement of Tau Polarization Using Tau- to Pi- Pi0 Pi0 Neutrino Decay) from GUCAS (Graduate University of CAS, now renamed as UCAS) in 1999. He participated in the construction of the BES (Beijing Spectrometer) readout electronics after graduation from USTC, and in the ALLADIN experiment at GSI in Darmstadt Germany from 1989-1991. During the period from 1991-1994, he participated in the software development and data analysis of BES. He then moved to the L3 experiment for data analysis, on which he defended his PhD in 1997. He then participated in the L3Cosmic experiment at CERN for the T0 detector and worked on the data analysis. Since 2001, as the head of trigger group, he concentrated on the design and construction of the BESIII trigger system until its operation in 2008, and has been a data taking coordinator since that time. Since 2006, he participated in the PANDA collaboration working on computer node design and feature extraction implementation for the PANDA TDAQ system in close collaboration with Prof. Wolfgang Kuehn of Giessen University. He took responsibility for the design and construction of overall detector fast data readout and transmission for the Belle II experiment (Belle2link) in close collaboration with Prof. Ryosuke Itoh. He also officially joined the DEPFET collaboration on hardware design and data reduction for the PXD detector for Belle II experiment. Now he is working also on the upgrade of CMS L1 trigger system. He is a standing committee member and International Liaison of the China Nuclear Electronics and Detection Society (NEDS), and is a referee of three scientific journals of China. He has been a member of the NPSS Transnational Committee (TNC) since 2009, a member of the CANPS committee of NPSS since 2008, a member and officer of the PICMG/xTCA Coordination Technical Committee since 2009. As the Chairperson of the Local Organization Committee (LOC), he organized the Real Time Conference RT09 sponsored by IEEE/NPSS, served as Co-Chair of Scientific Advisory Committee of RT2014 and RT2016, Co-chair of the xTCA workshop 2009, and session chair of xTCA Workshop 2012, and as Chairperson of the "Topical Seminar on Frontier of Particle Physics 2011: Detector and Electronics" in China with support from NPSS. He has also been active in organizing Real Time conferences and served the NSS/MIC 2013 in Korea as Asia-Pacific Liaison Co-Chair.

**Statement:** The IEEE/NPSS has been a very important part of my research life since the 1990's, and I have taken an active part in many Real time and NSS/MIC conferences since 2006 to exchange ideas on instrumentation development. Especially since I became a CANPS committee member in 2008 and a TNC committee member in 2009, I have tried with our colleagues in these committees to foster intercontinental working relationships by organizing conferences and member recruitment. These activities, together with my activities in the Chinese NEDS society, and in other international collaborations, have given me the opportunity to meet and work with people from many countries which provide me with invaluable experience in fostering Chinese and world-wide working relationships. I would be very enthusiastic to serve NPSS in the privileged position of RISC Member and to serve its international community. If elected to the NPSS RISC Member, I will do my best to promote the development and application of radiation detectors and to serve the interests of the attendees of the Nuclear Sciences Symposium & Medical Imaging Conference (NSS/MIC).

**SATOSHI MIHARA** (M'15) is a physicist in Institute of Particle and Nuclear Studies (IPNS) of High Energy Accelerator Research Organization (KEK) in Japan. He received a Ph.D in Physics from the University of Tokyo, Japan in 1998, while working as a research associate of the University of Tokyo. Then he started to work on liquid xenon gamma-ray detector development for the MEG experiment at Paul Scherrer Institute in Switzerland. In 2008 he joined IPNS-KEK as an associate professor to initiate a new experiment using muons at J-PARC in Japan. Later he became a professor of IPNS-KEK in 2014 to lead the muon-group which is at the moment contributing muon rare-decay search experiments and measurements of muon anomalous magnetic dipole moment and electric dipole moment. He received Minister of Education award for Science and Technology Japan in 2005 and Koshiba prize in 2007 for valuable contributions in liquid rare-gas detector development. He leads a muon-to-electron conversion experiment at J-PARC, the COMET experiment, as a project manager and in parallel is contributing to development of liquid-xenon detectors for various applications and diamond detectors for high-radiation environment use.

**Statement:** I have carried out research on radiation instrumentation especially for gamma-ray detection at energy below 100MeV including photo-sensor and related electronics development. I also contributed much on development of low-temperature liquid rare-gas detectors that are at the moment thought to be a future gigantic neutrino detector. Just recently I started to work also on development of diamond detectors for the use under high-radiation environment. If elected to RISC, I would work to enhance its core functions, helping to maximize benefit to attendees of NSS/MIC/RTSD meetings, and helping intercommunication between different fields to initiate possible new collaborations. I would help to develop an environment that will attract more young scientists into our field especially in Asian countries. I have contributed reviewing abstracts of IEEE NSS/MIC/RTSD meetings over many years. I would be more active also as an IEEE member when I elected to RISC.

**YOSHINOBU UNNO** (M'16) is a physicist in the Institute of Particle and Nuclear Study at the laboratory, KEK (High Energy Accelerator Research Organization), in Japan. He received a Ph.D in Physics from Tohoku University, Japan in 1975, followed by postdoctoral work in the Mark-III experiment at SLAC. In 1981 he joined KEK as a staff member to construct and operate the liquid Argon calorimeter of the VENUS experiment at TRISTAN  $e+e-$  collider. Since 1991 he has worked on silicon tracking devices for highly radiation environment; development of strips for SSC (1991-1993), development, construction and operation of the strip tracker, SCT, of the ATLAS experiment (1993-present), and development of strip as well as pixel sensors of the ATLAS tracker upgrade for the high-luminosity LHC (2004-present). He led the construction of the SCT as a barrel module co-convenor. He served for the convenors of the strip and pixel sensor R&D's of the HL-LHC. Meantime, he led the silicon group of the ATLAS experiment in Japan (1993-2016). He has published a number of papers on the radiation-tolerant silicon tracking sensors in the *IEEE Trans. Nuclear Science* and in other journals. He has been organizing international conferences: a series of the International "Hiroshima" Conference on Development and Application of Silicon Tracking Detectors and of the "Trento" Workshop on Advanced Silicon Radiation Detectors (3D and p-type) as a regular organizer, the 2012 International Workshop of Semiconductor Pixel Detectors for Particles and Imaging as a local organizer and an IAC member and the 2005 International Workshop on Vertex Detectors as a local organizer.

**Statement:** I have carried out research and development on radiation-tolerant silicon tracking devices at the forefront of high-energy physics experiments over 25 years. I have contributed presentations to IEEE conferences and other international conferences of radiation detectors and also organization of conferences as a regular or local organizing member, all of which have given me insight to be an effective member of RISC. If elected to RISC, I would work to enhance its functions, helping communication between experienced and young scientists to attract young scientists into our field and to maximize benefit to the attendees of NSS/MIC/RTSD meetings, and helping initiatives and diversities to add value to the radiation instrumentation community.

**JOHN D. VALENTINE** (S'90-M'92-SM'03) Dr. John D. Valentine is the National and Homeland Security Program Manager at Lawrence Berkeley National Laboratory (June 2013 to present). In this role Dr. Valentine is LBNL's primary interface between the US government agencies responsible for nuclear security and the lab's researchers. Prior to his current role, Dr. Valentine was Chief Scientist at Science Applications International Corporation (SAIC) from August 2008 to May 2013, Associate Program Leader and Engineer at Lawrence Livermore National Laboratory from December 2001 to August 2008, Associate Professor of Nuclear and Radiological Engineering at the Georgia Institute of Technology from December 1998 to December 2001, and Assistant/Associate Professor of Nuclear and Radiological Engineering at the University of Cincinnati from June 1993 to December 1998. Dr. Valentine earned degrees in Nuclear Engineering from Texas A&M University (BS in 1988) and the University of Michigan (MSE in 1990 and PhD in 1993). Dr. Valentine's research has spanned a broad range of radiation detector types and applications. Works by his research group in the 1990s is largely responsible the focus on light yield nonproportionality has the key scintillator characteristic that dictates energy resolution. In addition, he has developed Compton imaging cameras based on semiconductor detectors, personnel contamination monitors based on gas detectors, as well as state-of-the-art silicon drift photodiode technology and He-3 replacement neutron detectors. Application spaces of this research have ranged from medical imaging to environmental remediation to health physics to homeland security to nuclear nonproliferation. In addition, Dr. Valentine has been very active professionally with the IEEE Nuclear and Plasma Sciences Society serving as Editor for Nuclear Science Symposium issues of *IEEE Transactions on Nuclear Science* from 2000 to 2004, Nuclear Science Symposium Program Chair in 2010 (Knoxville, TN) and 2015 (San Diego, CA), and as an elected member of the Radiation Instrumentation Steering Committee (RISC) from 1998-2000 and 2006-2008. Most recently, Dr. Valentine was General Chair for the Symposium on Radiation Measurements and Applications (SORMA West 2016) - an IEEE NPSS sponsored conference - at the University of California at Berkeley, May 22-26, 2016.

**Statement:** The RISC maintains a critical role of ensuring the on-going health and success of the Nuclear Science Symposium (NSS), as well as the community of scientists and engineers who contribute to the NSS. Key elements of this role include maintaining high scientific and ethical standards and nurturing the future generations. As NSS Program Chair in 2010 and 2015, I tried to bring an experimental approach to organizing the conference - seeking out means for improving the experience of attendees. In 2010, we experimented with how poster sessions were integrated with the oral sessions. In 2015, we experimented with 20-minute oral presentation, as opposed to the traditional 15 minutes. We also added a Closing Plenary and Happy Hour at the end of the 2015 NSS. In both cases, I worked diligently with my Deputy Program Chairs to eliminate any conflicts of interest and even the potential for perceived conflicts of interest in the abstract/summary review process, as well as in putting together the programs. In addition, I tried to include young professionals and under-represented members in as many roles as possible. If elected RISC, I will use my experiences as NSS Program Chair and my previous terms on RISC to identify means of continuing to improve the NSS and its outreach to broader society. For example, I believe RISC could do a much better job of providing continuity from year-to-year by developing and maintaining a "Handbook for Chairing the NSS". Finally, I believe that in promoting IEEE's core values, RISC needs to seek out ways to maintain a pipeline of students and young professionals, cultivate global communities of technical professionals, and promote public awareness of radiation instrumentation in society.

**IEEE NUCLEAR AND PLASMA SCIENCES SOCIETY**  
**PULSED POWER SCIENCE AND TECHNOLOGY TECHNICAL COMMITTEE ELECTION**  
**For the Four-Year Term 1 January 2017 – 31 December 2020**  
**(Vote for UP to FOUR)**

**JEFF ALEXANDER** (M'16) has been working in Pulsed Power with Sandia National Laboratories for >31 years. His early career was focused on Pulsed Power technology development in support of DOE missions and in Nuclear Weapon components. He was part of the design team for several Sandia accelerator systems such as HERMES III. For the past 18 years, Jeff has used his Pulsed Power expertise on the development of compact High Power Electromagnetic (HPEM) weapon technologies primarily for the DOD. He has an Associate's degree in Electrical Engineering from Oklahoma State University, a Bachelor's degree in Electrical Engineering from the University of New Mexico, and a Master's degree in Systems Engineering from the Air force Institute of Technology. Jeff was the technical lead for Sandia for the CHAMP HPEM program and led the design of the flight qualified Pulsed Power driver. Jeff is currently managing the HPEM group at Sandia with a strong focus on pushing state of the art in compact Pulsed Power drivers.

**Statement:** I have devoted my entire career to the advancement of Pulsed Power technology. I have worked as a designer and experimenter on large accelerator based Pulsed Power systems. I have also spent many years pushing energy and power densities of both unique topologies as well as custom components to make rugged field portable compact systems. As such I would bring a diverse perspective to the Pulsed Power S&T committee. It would be my pleasure to serve on this committee if selected.

**DAVID WAYNE BELT** (S'04-GSM'05-M'08) received BS (2005), MS (2006) and Ph.D. (2008) degrees in Electrical Engineering from Texas Tech University. Since graduation in 2008, he has been directly supporting the Navy in various Pulsed power related programs. He spent four years at the Patuxent River Naval Air Station working with Electromagnetic Environmental Effects (E3) Test and Evaluation (T&E) by improving and developing various pulsed electromagnetic sources. In January of 2013, he transitioned over to the Naval Surface Warfare Center Dahlgren Division (NSWCDD) to support development of various directed energy systems. In all, Dr. Belt has worked in pulsed power, high power microwaves, electromagnetic compatibility, electromagnetic propulsion, high voltage/ high current switching, and electromagnetic/high voltage data acquisition. He has been a member or student member of the IEEE for ten years and is an active member of NPSS. His previous volunteer experience includes peer reviewer for numerous journals among which is the Transactions on Plasma Science.

**Statement:** I have always felt it is very important to give back to the technical community that has given so much to me. Taking a more active role in the NPSS is something I would like to do now that my career is established and I have a breadth of experiences I can share. I have enjoyed the technical challenges presented in the pulsed power and related technical fields that I have been involved with since beginning my graduate studies in the Texas Tech University's Center for Pulsed Power and Power Electronics (P3E) in 2005. Since then, I have had the opportunity to work in multiple technical areas including pulsed power systems, high power microwaves, electromagnetic pulse generation, data acquisition and processing, and electromagnetic launch. By serving on the PPST committee, I would be in better position to provide further contributions from not only my work, but from the many peers I have worked with over the years. As an artifact of my career, many other technical communities cross into the field of pulsed power and power systems. I strive to spur collaborations and grow the technical communities as a whole.

**RANDY CURRY** (S'79-M'82-SM'02) is a Logan Distinguished Professor and Director of the Center for Physical and Power Electronics at the University of Missouri-Columbia. He received his B.S. and Master's degrees in electrical engineering in 1982 and 1985 respectively from Texas Tech University in Lubbock, Texas. He received his Ph.D. in physics in 1992 from the University of St. Andrews, St. Andrews, Scotland. He joined the University of Missouri in 1995 after 11 years in private industry. The Center actively develops new Pulsed Power applications, components and new materials for HPRF applications. He currently directs an interdisciplinary team of engineers, physicists and chemists, for advanced development of nanodielectrics and metamaterials that are intended to reduce the size of HPRF antennas, compact pulsed power and energy storage components. The applications also include long lifetime toroidal atmospheric plasma applications, directed energy applications, counter IED applications, soil coupling models, UV sterilization using photosensitizers and a new generation of laser triggered switches. His team is presently involved in new applications of nanotechnology for pulsed power systems, as well as new applications of these technologies to the biomedical field. This experience includes 135 journal and conference articles as well as 12 patents.

**Statement:** He has previously served on the IEEE PPST Committee and after a 4 year hiatus would like to return to the Committee to bring his experience with new advanced applications of materials to the Pulsed Power Field and interdisciplinary technology advancement to the community. If elected to the committee he will actively solicit the opinions of the community members and bring them to the attention of the PPST committee. As a service to the High Voltage and Pulsed Power Community he would be pleased to be actively involved in organization of one of the most influential conferences in the Pulsed Power field. Dr. Curry is honored to have served as the Chair of the International 2011 IEEE Pulsed Power Conference in Chicago, Illinois and as the technical Chair of the 2009 IEEE Pulsed Power Conference in Washington DC. He has also been honored to have been the Publications Chair of the 27th 2006, IEEE International Power Modulator Conference. As a Co-Guest editor he was actively involved with the 2010 International Special Issue on Pulsed Power Science and Technology, the 2008 International Special Issue on Pulsed Power Science and Technology, and the *IEEE Transactions on Plasma Science*, Pulsed Power Special Editions.

**DAVID GIORGI** (M'13) received his PhD in Electrical Engineering (Applied Physics) from the University of California San Diego. Since 2012 he has been the Director of Advanced Programs at General Atomics responsible for the development of custom pulsed power systems for HPEM applications and high power solid state switching using silicon and SiC devices. From 1999 to 2012 he was the founder and president of two startups. One was focused on high power solid-state switching using silicon photoconductive switches and the other developed a range of high speed (ps-us) and high current (2kA) laser diode drivers and ultra-compact high voltage Pockels Cell drivers for handheld and airborne military lasers system. During this period he developed processing techniques to fabricate 16kV thyristors and to efficiently couple laser light into these devices using specially tailored fiber optics. He developed a line of large area breakover diodes that demonstrated over 250kA switching at 16kV. He developed high temperature (300degC) photodetectors with integrated amplifiers for all-optical-control of power semiconductor devices. Prior to this he worked on inductive energy storage systems, advanced capacitors, and actively Q-switched microlasers. He is the author of 8 patents and numerous papers.

**Statement:** I have been active in pulsed power science and technology since 1984. During this time I was involved with basic to applied research, product development, sales and running a company. This exposure taught me that to continue to be relevant requires innovation. In this community, innovation is best fostered from a close working relationship between industry, academia, DOD/DOE laboratories and the end customers. As a community we must encourage these partnerships to ensure success of our end products. Success will ultimately encourage people, especially recent college graduates, to get involved, which will foster innovation and ensure the continued growth of our community. If I am elected to the PPS&T committee I will do what it takes to foster these relationships, to encourage participation from all members, and encourage others to join. This is how we, as a community, can innovate and stay relevant.

**MATTHEW GOMEZ** (GSM'06-M'09) earned Bachelor's, Master's, and Doctorate degrees from the Nuclear Engineering and Radiological Sciences Department at the University of Michigan in 2005, 2007, and 2011, respectively. Matthew was awarded the University of Michigan Distinguished Achievement Award, Nuclear Engineering and Radiological Sciences Graduate Program in 2010. Matthew's doctoral research was conducted in the Plasma, Pulsed Power, and Microwave Laboratory under Professor Ronald Gilgenbach's guidance, and his thesis was entitled Experimental Examination of Plasma Formation and Current Loss in Post-Hole Convoluters. This research was supported by the Stewardship Science Graduate Fellowship and a portion of the research was conducted at Sandia National Laboratories on the Z Machine. During his graduate career he gained experience with Marx banks, linear transformer drivers, magnetically-insulated transmission lines, high voltage and high current diagnostics, laser imaging, and visible spectroscopy. Following graduation, Matthew was hired as a staff member at Sandia National Laboratories in 2011, where he continues to study post-hole convoluters, in addition to other high energy density science applications. Largely Matthew's research has focused on magnetized inertial confinement fusion. He is involved in understanding and improving driver-target coupling, as well as diagnosing stagnation conditions in ICF experiments through x-ray and neutron diagnostics.

**Statement:** I believe that the Pulsed Power Conference can play a critical role in encouraging new students to enter the field. I have been a regular attendee of the Pulsed Power Conference since I first attended towards the end of my undergraduate career in 2005. A combination of what I saw at the conference and the research that I was conducting as a summer intern at Sandia helped solidify my interest in the field of pulsed power. As a graduate student I was supported by the conference travel grant on several occasions, which helped ensure that I could continue to attend the conference regularly. After finishing graduate school, I have served as a session chair at a number of Pulsed Power Conferences, and I would like to continue to give back to the organization that helped me find my career. As an active member, I have a vested interest in ensuring that the conference continues to thrive, and I would like to help new students get the support that I received during my graduate work. I believe that I can accomplish these goals as a member of the PPS&T committee.

**MONTGOMERY 'MONTY' GRIMES** (M'11) is an electrical engineer with nearly 30 years of experience in high-voltage and high-power pulsed systems including very-high-power microwave transmitters for scientific and radar applications. Mr. Grimes started his career as an electronics technician which after four years, he went back to school to get his BSEE at the University of South Alabama (1983-1987). He then worked for two years at Continental Electronics in Dallas Texas as a design engineer on high-power microwave transmitters. Mr. Grimes then left Continental to pursue his Master's degree in electrical engineering at the Pulsed Power Laboratory at Texas Tech University in Lubbock Texas (1989-1990). After earning his Master's degree Mr. Grimes has owned his own private consulting company and worked for a variety of companies and institutions such as the MIT Plasma Science and Fusion Center, MIT Lincoln Laboratory, and his current work as Vice President of Behlke Power Electronics LLC in Billerica Massachusetts. Mr. Grimes' experience is heavy in the design and realization of high-voltage pulsed systems and has seen management duties for companies and projects worth several millions of dollars.

**Statement:** My educational and work experience has covered both large plasma systems and large high-voltage pulsed systems. I have worked to the realization of large projects such as the XTR-1 ship-based radar and the Lower Hybrid current drive system for the Alcator C-Mod tokamak. I therefore have seen not only the pure science side of projects but also electrical design and practical aspects such as scheduling and cost management. I feel that with my educational and work experience, I can contribute as a Technical Committee member for Pulsed Power Science and Technology to further the advancement of pulsed power science, technology and its application.

**FRANK HEGELER** (S'91-M'95-SM'01) is an Electrical Engineer, Head of the Pulsed Energy Technology Section in the Charged Particle Physics Branch of the Plasma Physics Division at the Naval Research Laboratory (NRL), in Washington, DC, and Program Manager of the NRL Railgun Project. He received a Diploma in Electrical Engineering from the Fachhochschule Wilhelmshaven, Germany, in 1989, and a M.S. and Ph.D. in Electrical Engineering from Texas Tech University in 1991 and 1995, respectively. His areas of expertise are in directed energy systems, repetitive pulsed power systems, electron beam pumped lasers, electron beam generation and propagation, high power microwave sources, plasma diagnostics, non-thermal atmospheric-pressure plasma reactors, and high voltage dielectric breakdown. He has authored/co-authored more than 100 publications, and he is a Senior Member of IEEE and a Member of APS. He served as the IEEE DEIS President in 2014-2015, and he has been active in various IEEE conference organizing positions, including as the general chair of the 2010 IEEE International Power Modulator and High Voltage Conference. Since 2007, he has served as an Associate Editor of *IEEE T-DEI*, and he was a Co-Guest Editor of the *IEEE T-PS* (April 2004 and April 2008 special issues).

**Statement:** I started working in the pulsed power field in 1990, and I am proud to be a member of the pulsed power community. The pulsed power conference had a strong impact in my career by recognizing me early on with the outstanding graduate student award in 1993. Volunteering for NPSS and PPS&T is one way for me to give back to this community. In addition to my pulsed power technical knowledge, I will bring with me extensive experience in conference organization, publication, and IEEE administration. I served as the conference chair of the closely related Power Modulator and High Voltage Conference in 2010, edited two conference proceedings, worked with conference exhibitors, and was a local chair for social activities. I served on the local organizing committee in 2003 and 2009 for the Pulsed Power Conference. If elected to the NPSS PPS&T, I will work hard to maintain the unique atmosphere of the Pulsed Power Conference for the current generation of attendees, and help introduce this field to the future generation of students and young professionals.

**CAMERON HETTLER** (S'04-GSM'09-M'12) Ph.D. is currently the Director of Pulsed Power at SARA, Inc. in Colorado Springs, CO. Dr. Hettler earned his B.S., M.S., and Ph.D. degrees in electrical engineering from Texas Tech University (TTU) in 2008, 2009, and 2012, respectively. At TTU, his research was primarily in the areas of laser-triggered switching, high power RF generation, and solid state pulse generators. He was awarded a TTU Provost Doctoral Fellowship in 2010 and a National Defense Science and Engineering Graduate (NDSEG) doctoral fellowship in 2011-2012 through AFOSR. After graduation, he worked at Compact Particle Acceleration Corporation (CPAC) in Livermore, CA where he led the development of a compact high gradient proton accelerator for cancer treatment. Dr. Hettler has been with SARA since 2013 where he leads a growing group of engineers and scientists in several pulsed power R&D programs including: compact pulsed power, solid state switching, high energy density capacitors, lasers, and HPM/HPRF systems. He has most recently served on the 2014 Power Modulator Conference Technical Committee and the NDSEG Evaluation Panel. He has three patents and has authored or co-authored over 25 journal/conference papers related to pulsed power.

**Statement:** The Pulsed Power community has played a major role in shaping my career, education, and friendships since 2008. One critical role of the PPST committee is to provide engaging and high-quality platforms (conferences, publications, etc.) to recruit and encourage new and diverse people and ideas to pulsed power. As a mark of a healthy community, these platforms must provide an opportunity for established and new people to exchange and develop new ideas. The continued growth of these platforms is necessary for sustained long term growth. As a member of this community and potential committee member, I will work to improve the quality and participation in the conference and the PPS&T publications. Another critical role for the PPST committee in the next several years is to expand pulsed power science and technology into non-traditional technology areas. While there has been a steady history of pulsed power science R&D in the defense and energy sectors, the growth of pulsed power has lagged behind major economic growth in the commercial, medical, and industrial sectors. If elected to this committee, I will do my best to increase non-traditional industry involvement and sustained student participation in this community. I appreciate your contribution to this community with your vote.

**BRAD HOFF** (S'04-GSM'05-M'10) received the B.S. degree in physics from the U.S. Naval Academy, Annapolis, MD, USA, in 1999. After graduation from the U. S. Naval Academy Dr. Hoff served in the U. S. Navy for five years as a nuclear-trained surface warfare officer after completing the Navy's nuclear power training program. Following the completion of his military service, Dr. Hoff began graduate school at the University of Michigan, Ann Arbor, in the Nuclear Engineering and Radiological Sciences Department. While at the University of Michigan, Dr. Hoff earned the M.S.E. degree in nuclear engineering, the M.S.E. degree in electrical engineering, and the Ph.D. degree in nuclear engineering in 2006, 2007, and 2009, respectively. He is presently a Senior Research Physicist at the Air Force Research Laboratory. Dr. Hoff has 26 published peer-reviewed journal articles, four granted patents, and four pending patents.

**Statement:** Pulsed power technology is a critical foundation for a myriad of research and technology application fields, including those related to defense, manufacturing, medicine, and the environment. Dr. Brad Hoff wishes to join the IEEE NPSS PPS&T Committee to help lead the IEEE's efforts to further research and development in the vital field of pulsed power. This includes promoting outreach efforts to encourage promising graduate students to pursue careers in the field of pulsed power; fostering technical interchanges between government, academic, and industry researchers; and communicating the importance of publishing and archiving advances in peer-reviewed journals such as *IEEE Transactions on Plasma Science*. Dr. Hoff's current research interests include compact pulsed power technology, high-power microwave sources, and applications of additive manufacturing techniques to high voltage insulators.

**NICHOLAS M. JORDAN** (GSM'05-M'07) received the B.S.E., M.S.E., and Ph.D. (plasma physics option) degrees in Nuclear Engineering and Radiological Science from the University of Michigan (UM), Ann Arbor, MI, USA, in 2002, 2004, and 2008, respectively. Following graduation, he was with Cybernet Systems, Ann Arbor, for five years. While at Cybernet, he was involved in the development of microwave vehicle stopping technology and simulation workflow software, before returning to UM as an Assistant Research Scientist. He is currently manager of the UM Plasma Physics, Pulsed Power and Microwave Lab, which houses two large pulsed power machines (1 MV, 10 kA and 100 kV, 1 MA) for high power microwave generation and high energy density plasma studies. His current research interests include additive manufacturing, cathode physics, high-power microwave source development, pulsed power, laser ablation, Z-pinch physics, and plasma discharges.

**Statement:** Dr. Jordan wishes to join the PPS&T committee to help direct national efforts in pulsed power technology, particularly as it pertains to encouraging existing students to enter this critical technical area. He is currently serving on the technical committee for the International Power Modulator and High Voltage Conference, and has experience with the organization of events on that scale. In terms of his value to a committee, he is known to be able to weigh on different sides of an issue and to seek acceptable compromises to all. This skill was derived from his crucial role in a large software project at Cybernet which involved many software engineers, each with a distinct idea of how the project should proceed. Despite these conflicting paths, the software was successfully delivered to the customer. Known to many at several national labs, he will also provide excellent representation of the young generation in PPST.

**JOHN KRILE** (S'03-M'06) received his PhD in electrical engineering from Texas Tech University (TTU) in 2006. He then served as a Senior Research Associate for the Center for Pulsed Power and Power Electronics at TTU until 2012. During his time at TTU he received the Tom R. Burkes Outstanding Graduate Student Award and the EAPPC Young Scientist Award. Dr. Krile began working in the Directed Energy Integration Branch at the Naval Surface Warfare Center (NSWC) in 2012. He leveraged his extensive experience in the pulsed power, plasma science, and High Power Microwave (HPM) fields while leading the Orion HPM system refurbishment program and directing multiple electromagnetic vulnerability assessment efforts. Dr. Krile is currently serving as the program manager for both a joint effort with TTU to advance state-of-the-art, NLTL base HPRF systems for counter IED applications and a second effort to advance the state-of-the-art in prime power systems for directed energy applications. He is also the technical director for the RF vehicle stopping program at NSWCDD. He has published 23 peer-reviewed journal papers and given 25 domestic and international presentations with 4 invited talks.

**Statement:** I am very fortunate to have spent the last 10+ years working research and development in the pulsed power, plasma physics, and High Power Microwave fields. During this time I have had the privilege of working with, and learning from, leaders in the pulsed power community. My current efforts to support R&D in pulsed power include participating in ONR Science and Technology panels and facilitating government collaboration with university partners. Additionally, I have helped enable cutting edge development of pulsed power and HPM technology in the private sector through the Navy's SBIR program by writing solicitations, reviewing submissions, and serving as a technical advisor for awarded programs. Within my own organization I have been active in the peer mentoring program and supported several cross-branch collaborations. I would be honored to serve as a member of the Pulse Power Science and Technology committee and help ensure that our field continues to grow and provide young scientists with the opportunities I have been given.

**JAMES ROSS MACDONALD** (M'12) was born in Ottawa, Canada in 1986. In 2009 he received the BAsC in Honors Electrical Engineering from the University of Waterloo, Canada. Ross has worked at General Atomics in the Capacitor Research, Development, and Engineering group since 2005, first as an intern, and subsequently as an R&D engineer. As a principal investigator and a project manager, Ross has led multiple DoD-funded capacitor R&D efforts and capacitor manufacturing projects for large scale pulsed power systems like railguns. He has authored articles in IEEE publications and Physical Review E, and has received a patent for a charged capacitor safety system. His career goal is to contribute to the field of pulsed power by making the energy storage components and systems smaller, lighter, and more efficient. Ross' interest in pulsed power started in high school when he built a model electromagnetic railgun with capacitors and support provided by General Atomics. He hopes to attract additional contributors to the field by continuing this outreach with high school and undergraduate students. In his spare time Ross plays the violin in a bluegrass band.

**Statement:** Frequently the capacitive energy storage technology is an obstacle to maintaining mobile pulsed power systems, or pulsed power systems with significant requirements for lifetime and repetition rate. A large quantity of research has focused on improving capacitor technology as a result. I have spent the last 10 years at General Atomics participating in and leading development efforts to advance these components, which are ubiquitous in pulsed power technologies. I would like to serve on the committee to lend a industry voice to researchers in capacitor and dielectric technology as to what is practical, attainable, and useful for pulsed power applications. The second reason for my candidacy is outreach to young students in order to interest them in pulsed power. This type of assistance during my high school years was instrumental to me pursuing an engineering degree and entering this particular field. Attracting future young women and men this way would be a great way to ensure additional contributors to the field of pulsed power and STEM in general.

**CLAUDIO COSTA MOTTA** (M'96) received the B.Eng. degree in electronics engineering from the College of Engineering of S. Jose dos Campos, SP, Brazil, in 1982, the M. Sc. degree in plasma physics from the Technology Institute of Aeronautics (ITA), S. Jose do Campos, Brazil, in 1986, and the Ph. D. degree in laser-plasma physics from the University of Sao Paulo, (USP), in 1996. He undertook a Post-doctoral research in klystron modulators at SLAC, National Accelerator Laboratory, Menlo Park, CA, USA, in 2010 and another in linear proton accelerators at Institut de Physique Nucléaire d'Orsay – IPNO, France (2013).

At ITA he worked as a plasma technology development engineer and a graduating lecturer of Quantum Mechanics and Classical Electrodynamics courses. Since 2002, he became an Associate Professor at the University of São Paulo, (USP). At USP, Dr. Motta is an employed microwave engineering researcher and a graduating lecturer of Fundamentals of Microwave Engineering course. His research interests include microwave vacuum electronics, laser-plasma technology, klystrons, and klystron modulators, pulsed power, and microwave charged particle accelerating structures. He has been the author or co-author of over 100 published journal articles and conference proceedings.

Dr. Motta is a member of the Microwave and Optoelectronics Brazilian Society and the IEEE Electron Devices Society in the United States of America.

**Statement:** As a member of the IEEE NPSS PPST committee, I will have the chance of promoting the pulsed power science among the people in general, undergraduate and graduate students and young researchers, especially in our region. Also, I will have the opportunity to acquire experience abroad on management and interchange of technology and science information as well as conference and meeting organization. Besides that, this position can contribute significantly to be awarded with grants and scholarships in this field or related areas for new projects and graduate students, respectively.

**A.J.M. (GUUS) PEMEN** (S'98-M'99) received the B.Sc. degree in Electrical Engineering from the College of Advanced Technology, Breda, The Netherlands, in 1986, and the Ph.D. degree in Electrical Engineering from the Eindhoven University of Technology, The Netherlands, in 2000. From 1991-1998 he was with KEMA, Arnhem, The Netherlands as specialist on high-voltage technology, diagnostics and asset management. Since 1998 he works at the Electrical Energy Systems group of Eindhoven University of Technology, The Netherlands, as an Associate Professor on Pulsed Power and Transient Plasma Technology. His research interest includes high-voltage engineering, pulsed power, plasmas, and renewable energy systems. Among his achievements are the development of an online monitoring system for partial discharges in high-voltage equipment, a pulsed-corona system for industrial applications, a pulsed corona tar cracker and a system for the contactless delivery of pulsed-electric-fields to biological cells. He is the Founder of the Dutch Generator Expertise-Center.

**Statement:** As a long time researcher in the field of pulsed power technology and transient plasmas, I regular attend the IEEE Pulsed Power Conference and frequently publish in the *IEEE Transactions on Plasma Science*. I have strong and continuing interest in the activities of the IEEE Nuclear and Plasma Society, and in particular the Pulsed Power Science and Technology committee (PPS&T). This community is a active stimulator of important developments in the field of pulsed power technology, such breakthroughs in the field of repetitive nanosecond pulsed power circuits, solid-state switches, compact pulsed power, and extreme high peak power generation. This is an important stimulus for my research, and the PPS&T committee allows us to actively share our results with the pulsed power community. Therefore I very much welcome the opportunity to actively contribute to NPPS as member of the PPS&T committee, making sure that the interests of pulsed power science and technology are well represented within IEEE.

**KENNETH W. STRUVE** (M'93-SM'13) Pulsed Power Engineer/Applied Physicist, Sandia National Laboratories, has been employed at Sandia for the past 17 years, and previously at Mission Research Corporation (10 years) and Lawrence Livermore National Laboratory (8 years). At Sandia he is currently working on pulsed power for directed energy applications, and supporting pulsed-power upgrades for the Saturn Accelerator. He also managed electrical design and vacuum-section design of the Z Accelerator upgrade. Dr. Struve has also worked with Russian colleagues on LTD pulsed power development, managed pulsed power and high-energy-density science collaborations with various Russian laboratories, and managed pulsed power collaborations with the University of Missouri-Columbia, Texas Tech, the University of Nevada-Reno, and the University of Texas-Austin. At Mission Research he supported directed energy work at Sandia, Livermore, NSWC, and AFRL. At Livermore he worked on the ETA and ATA accelerators doing electron beam directed energy research.

Dr. Struve has a PhD in Applied Science from the University of California at Davis. He also has a BS and an MS degree in Physics from Brigham Young University. He is an adjunct professor at the University of Nevada-Reno, a member of the Board of Directors of the Megagauss Institute, and a Senior Editor of the *IEEE Transactions on Plasma Science*.

**Statement:** My interest in serving on the Pulsed Power Science and Technology Committee is the opportunity to help promote excitement about pulsed power research and development, to promote and help facilitate increased collaborations between the national laboratories, the universities, and foreign laboratories, and to help develop increased interest for students to pursue careers in high-energy pulsed power and related sciences. As pulsed power engineers and scientists we are motivated by working on projects that we feel are important for our societies. We need to amplify these feelings by advertising the benefits of our work in broader venues. We have learned that collaboration between the laboratories, schools, and other entities inspires innovation, new perspectives, and better science. We should continue to find ways to facilitate these connections. Finally, with the aging of the pulsed power workforce we need to emphasize motivating and encouraging our best students to adopt careers in pulsed power.

**IGOR TIMOSHKIN** (M'07-SM'14) received the Degree in physics (MPhys equivalent) from the Moscow State University in 1992 and the PhD degree from the Imperial College of Science, Technology and Medicine (UK) in 2001. After graduation from MSU I worked as a Researcher at Moscow State Agro-Engineering University, and then at the Institute for High Temperatures (Russian Academy of Sciences) before moving to ICSTM in 1997. I joined the Department of Electronic and Electrical Engineering, University of Strathclyde (UK) in 2001 where I became a Reader in 2016. I am a coordinator of the High Voltage Technologies Research Group which includes 9 members of staff and 30 PhD researchers. I authored and co-authored 43 research papers published in peer reviewed journals (14 of them are published in the *IEEE Transactions on Plasma Science*). During my work at the University of Strathclyde I generated a research income in excess of £1,600,000. I served as an Investigator and Principle Investigator in more than 30 research projects supported by EPSRC, The European Union, The Royal Academy of Engineering, The Royal Society, Sandia National Laboratories and industrial partners. My research interests include pulsed power, dielectric materials, bio-dielectrics, gas discharges, non-thermal plasma for environmental and bio-medical applications.

**Statement:** During my 24 year career I have accumulated extensive knowledge and expertise in the pulsed power and plasma fields at the Universities and research institutes. Several research programmes in which I served as a researcher, co-investigator and principle investigator have been aimed at developing practical pulsed power applications to address industrial and environmental challenges. I actively attract young researchers in the pulsed power field which is reflected by a number of PhD students (ten) supervised by me. I attend the IEEE Pulsed Power Conferences, publish research papers in the IEEE TPS and support this journal by acting as a reviewer. I believe that all these factors have prepared me to serve effectively as a member of the Pulsed Power and Technology Committee. In the case if I will be elected as a member of the PPTC, I will use all my enthusiasm, expertise and experience to advance pulsed power and to promote further knowledge exchange and cooperation amongst researchers, academics and industrialists working in the field of pulsed power and plasma technologies. I will support the IEEE Pulsed Power Conferences and will continue to encourage students undertake projects in the pulsed power field and to become IEEE/NPSS members.

**WILLIAM M. WHITE** (S'96-M'05-SM'16) received BSEE (1998) and MSEE (2000) degrees from the University of New Mexico, and a Ph.D. (2006) in Nuclear Engineering from the University of Michigan. He was enlisted for six years in the New Mexico Air National Guard (NMANG); has worked as a contractor and civilian at the Air Force Research Laboratories (AFRL); and had previously been a contractor at Sandia National Laboratories (SNL). In August of 2015 he moved back to SNL to work as a pulsed power engineer on the Z machine. Over the course of his career, Dr. White has worked in high power microwaves, pulsed power, radiation sources, and ultra-short pulse lasers. He has been a member or student member of the IEEE for 21 years, and a member of NPSS for 18 years. His previous volunteer experience includes: as an elected member of the Plasma Science and Applications Committee (PSAC) ExCom (and chaired the Employment and Careers sub-committee for that group); as a guest editor for the 7th Triennial Special Issue of the IEEE TPS, Images in Plasma Science; and as a Technical Area Coordinator for ICOPS (2014/2016). He is a registered Engineer Intern in the state of New Mexico.

**Statement:** I have been pleased to help out with various NPSS activities in the past, and would like to continue to do so going forward with the renewed focus on pulsed power in my career. I have enjoyed the technical challenges of working in pulsed power and related fields since 2000 when I started in diagnostics and data acquisition as a contractor on the SHIVA Star facility at AFRL, Kirtland AFB, NM. The challenges of this work are a large part of what makes this a fun field to be in, and I am fortunate to be back working on the Z machine. This is a critical time for our community, with fewer students entering the field and research funding being reduced across a variety of institutions. By serving on PPST I would be in a better position to help the pulsed power community of the US and the world at large. Many critical technologies (fusion research, experimental high energy physics, directed energy, public health) are dependent upon or can be improved in the future by advances in pulsed power. The NPSS in general, and PPST in particular, are in a good position to strengthen support for this vital technical activity.