

# IEEE NUCLEAR AND PLASMA SCIENCES SOCIETY ELECTION

## Election of Members to the Administrative Committee

### COMPUTER APPLICATIONS IN NUCLEAR AND PLASMA SCIENCE (Vote for One) For a Four-Year Term 1 January 2018 – 31 December 2021

**DAVID ABBOTT** (M'12) is a staff physicist at the Thomas Jefferson National Accelerator Facility (Jefferson Lab) and is responsible for online software development and hardware support as a member of the Data Acquisition (DAQ) Support Group. This group develops common software tools and custom hardware for all four experimental physics programs at the Lab and supports design, implementation and operation of DAQ systems.

David received his BS in Physics in 1983 from Rhodes College in Memphis Tennessee and completed his Ph. D. in Experimental Nuclear Physics from The University of North Carolina – Chapel Hill in 1990. His thesis work, carried out at the Triangle Universities Nuclear Lab (TUNL), involved the investigation of tensor interactions through measurements of polarization transfer observables in low energy polarized deuteron scattering from nuclei. David accepted a joint Post Doc with the College of William and Mary (W&M) and CEBAF (now Jefferson Lab), which was under construction. He worked with W&M on development of muonic atom experiments to study weak neutral current interactions at the Paul Scherrer Institute (PSI) in Switzerland while also implementing the CODA system (CEBAF Online Data Acquisition) for the very first production experiments at Jefferson Lab.

In 1994 David accepted a full time staff position at Jefferson Lab with the Physics Division DAQ Support Group where he continues today. Over the years he has been involved in the evolutionary development of software and hardware for DAQ systems for all the original Experimental Halls A, B and C as well as the newest collaboration GlueX (Hall D) associated with the recent 12GeV accelerator upgrade. He also works as liaison for groups bringing in specialized equipment for readout and DAQ and supports integration with existing CODA Systems.

**Statement:** I have been a member of the CANPS Technical Committee for IEEE-NPSS for the past 10 years and have been a regular participant with the Real Time Conferences since I first attended RT95 in East Lansing, Michigan. I am the General Chair for the upcoming conference, taking place in Williamsburg Virginia in June 2018 (and hosted by Jefferson Lab). If I am elected to the NPSS AdCom, I look forward to the opportunity for expanding my involvement in the Society as a whole. I hope to help keep NPSS a strong organization and on the best path as we move forward.

**ZHEN-AN LIU** (M'07-SM'12) is a physicist in the Experimental Physics Division (EPD) at the Institute of High Energy Physics (IHEP), Chinese Academy of Sciences (CAS), and a Professor at University of Chinese Academy of Sciences (UCAS), Beijing China. He received a B.S. in Experimental Physics from University of Science and Technology of China (USTC) in 1983 and M.S. in High Energy Physics from Graduate School of Chinese Academy of Sciences (GUCAS which transformed to UCAS later) in 1988 and a Ph. D in Particle Physics from GUCAS China in 1999. He visited GSI, Darmstadt Germany and CERN Geneva in 90's as a visiting scientist for years, and jointed again IHEP Beijing to design and construct the trigger system for Beijing Spectrometer (BES III) in year 2001 with a completion in 2008. He has been leading a group, which has an active research program in instrumentation development for particle physics, plays a leading role in TDAQ development in PANDA experiment (since 2007 to present), the overall readout for Belle II experiment (Belle2link) since 2008 to present, the readout and data reduction system for Belle II/PXD detector (ONSEN) since 2010 to present, and the Concentration, preprocessing and Fanout (CPPF) for CMS L1 trigger system Phase I upgrade since 2013.

**Statement:** I have carried out research on radiation instrumentation for much of my career. If elected to be a AdCom member representing CANPS, I would work to help the CANPS Chair to carry out the task CANPS from AdCom, and also be helping to maximize benefit to attendees of NSS/MIC/CANPS meetings, and advocating initiatives of value to the CANPS community. I would help to foster an environment that will attract more young scientists into our field. As a member of CANPS and TNC, I have contributed presentations to IEEE meetings over years, and actively participated in several NPSS meetings as key organizing committee member (Local Chair for Real Time Conference 2009 (RT09) in China, Scientific Committee Co-chair for RT2014 in Japan and RT2016 in Italy, Asia-Pacific Liason Co-Chair NSS-MIC2013 in Korea, General Chair of TIPP 2017, as Chair of Topical Seminar on Frontier of Particle Physics 2011:Detector and Electronics, as Chair of Belle II Trigger and DAQ Workshop 2011). I was in NPSS Membership Booth running in SOFE2017 in Shanghai and in other NSS/RTC conferences as assistant, all of which have given me insight to be an effective member of AdCom for CANPS in the future.

**ADRIANO LUCHETTA** (M'09) was born in Vallada Agordina, Belluno, Italy, in 1958. He received the degrees in electrical engineering (dottore in ingegneria elettrotecnica) in 1984 and in plasma and thermonuclear fusion engineering (corso di perfezionamento) in 1985 from the University of Padova, Italy. Since 1985 he has been with the Italian National Council for Research (CNR) where in 2010 he was promoted head of research (dirigente di ricerca). From 1997 to 2009, he was the head of control and data acquisition at the RFX fusion laboratory (Padova, Italy). Since 2009, he has been the project leader of control systems of the ITER neutral beam test facility (Padova, Italy), an international R&D project to develop the ITER neutral beam injectors. He is the author of more than 100 articles. His research interests include design and development of advanced control and data acquisition systems for fusion research. He is the developer of the

RFX magneto-hydrodynamic modes control system, a multiple-input-multiple-output feedback control system (500  $\mu$ s cycle time), processing in real time more than 600 analog input and 200 analog output signals. Since 2001 he has been visiting professor of computer science at the department of information engineering of the University of Padova. He was member of the review panels of the ITER CODAC conceptual design (2007) and final design (2014). He has been a member of the CANPS technical committee since 2012 and was the general chair of the 20th IEEE real-time conference, 6 to 10 June 2016, Padova, Italy. He is a Guest Editor of the journal *IEEE Transactions on Nuclear Science*.

He was the recipient in 2010 of the Computer Applications in Nuclear and Plasma Sciences (CANPS) award of the Nuclear & Plasma Sciences Society for remarkable contributions on the development of plasma control systems for nuclear fusion devices. The award is presented every other year at the IEEE real time conference to recognize individuals who have had an outstanding achievement in the application of data processing and computers in nuclear and plasma sciences.

**Statement:** Since 1989, starting with the 6th Real Time Conference, Williamsburg VA, I have been a faithful participant in the IEEE/NPSS RT conferences. This long-lasting enthusiasm for the RT conference brought me to serve as general chair in the 2016 RT conference that was held in my home town. It was a great honor for which I thank the CANPS committees. The conference was a great success of scientist participation, quality of the scientific debate, and also of the location and organization.

I have a 30-years long experience in control systems and operation of experimental fusion devices and I am confident to have the scientific maturity to contribute to the activities of the IEEE/NPSS society.

### **PULSED POWER SCIENCE AND TECHNOLOGY (Vote for One) For a Four-Year Term 1 January 2018 – 31 December 2021**

**FRANK HEGELER** (S'91-M'95-SM'01) received a Diploma in Electrical Engineering from the Fachhochschule Wilhelmshaven, Germany, in 1989, and his M.S.E.E. and Ph.D. from Texas Tech University, Lubbock, TX, in 1991 and 1995, respectively. From 1995-1997, he was a Visiting Associate Professor at Kumamoto University, Japan, and from 1997-2000, he joined the University of New Mexico, Albuquerque, NM, first as a Post-Doc and then as a Research Assistant Professor. Since 2000, he has worked in the Plasma Physics Division of the U.S. Naval Research Laboratory in Washington, DC, where he is currently heading the Pulsed Energy Technology Section and the NRL Railgun Program. He has authored/co-authored more than 100 publications and 4 patents. IEEE volunteer activities include: Member of the IEEE NPSS Pulsed Power Science and Technology (PPST) since 2017, IEEE DEIS Past-President (2016-2017), IEEE DEIS President (2014-2015), IEEE DEIS Vice-President (2012-2013), IEEE DEIS Membership Chair (2009-2013), IEEE DEIS AdCom Member-at-Large (2008-2011), Publication Chair of the 2012 Power Modulator on High Voltage Conference, General Chair of the 2010 Power Modulator on High Voltage Conference, Associate Editor of the *IEEE TDEI* (since 2009), and Guest Co-Editor of the *IEEE TPS* (April 2004 and April 2008).

**Statement:** I am honored to be an IEEE NPSS AdCom candidate for the technical area of Pulsed Power Science and Technology. I have been working in the field of pulsed power for the last 27 years, and have been a member of NPSS since 1991. NPSS is one of the most successful societies of IEEE: It has a strong conference portfolio, a very good volunteer base, several IEEE Transactions, and it is financially solvent. As a smaller IEEE society of only 3,000 members, which is less than 1% of all IEEE members, retention of its current members and recruitment of new NPSS members are important to keep the society relevant. Like many IEEE Transactions, the IEEE TPS has a low impact factor and it takes time to secure expert reviewers for the submitted manuscripts. If elected to the NPSS AdCom, I would use my experience to represent the PPST aspects of NPSS and serve the entire membership of NPSS to the best of my ability. I have lived in Europe, Asia, and the USA, which broadened my understanding of the services that members expect from IEEE, and I have extended experience in IEEE volunteer activities ranging from conference organization, membership recruitment, publication, to IEEE administrative tasks. I am aware of and accept the responsibilities and work commitment as a NPSS AdCom Member-at-Large, particularly actively attending the meetings.

**DAVID WETZ** (S'02-M'06-SM'13) David Wetz, Ph.D., is currently an Associate Professor in the Electrical Engineering Department of the University of Texas at Arlington. He earned his Ph.D. degree in Pulsed Power / Electrical Engineering from Texas Tech University in 2006. During his time at Texas Tech University he worked as a graduate Research Assistant in the Center for Pulsed Power and Power Electronics where his research focused on the areas of pulsed power system design, pulsed dielectric breakdown of liquids, and ion thrusters. He was recognized as the IEEE 2006 Pulsed Power Student of the Year. Following graduation from his Ph.D. program, he worked as Postdoctoral Fellow, and later as a Research Associate, at the Institute for Advanced Technology (IAT) at the University of Texas at Austin. Prof. Wetz joined the faculty of the Electrical Engineering Department at the University of Texas at Arlington in 2010 where his research currently focuses on the areas of pulsed power, MicroGrids, and understanding the limitations of using electrochemical energy storage devices in pulsed power systems. He became a voting member of the IEEE Pulsed Power Science and Technology Committee in 2011 and has held the roles of Social Media Chair and Secretary since 2015. He served as a guest editor of the August 2013 Special Issue of the IEEE Transactions on Dielectrics and Electrical Insulation (TDEI), the October 2014 Special Issue of the IEEE Transactions on Plasma Science (TPS) on Pulsed Power Science and Technology, and the October 2016 Special Issue of IEEE TPS on Pulsed Power Science and Technology, respectively. In 2008 he was recognized as an Outstanding Young Researcher at the 2nd Euro Asian Pulsed Power Conference. He received an Office of Naval Research Young Investigator Program (YIP) Award in 2011, and has been employed as a Summer Research

Fellow at the Naval Research Laboratories Ship Systems Engineering Station (NSWC-SSES) in Philadelphia, Pennsylvania during the summers of 2014 through 2017 respectively. He served as Technical Program chairs for both the 17th IEEE International Electromagnetic Launch (EML) Symposium and the 20th IEEE Pulsed Power Conference (PPC). He will be the General Program Chair of the 2021 IEEE Pulsed Power Conference (PPC) being held in Denver, Colorado.

**Statement:** I have been actively engaged in the IEEE NPSS community since 2003 and on the IEEE PPS&T Committee since 2011. I have served as its Social Media Chair since 2013 and as its Secretary since 2015. From my experiences as a student, a researcher, a professor, and a PPS&T committee member, I feel I have gained valuable insight into the workings of the NPSS society. If elected to AdCom, I will do my best to represent the pulsed power community and strengthen the community both for us currently serving it but also for the next generation. I hope to encourage my own graduate students as well as more young professionals to become engaged in NPSS. In the years to come, we need to put forth a clear effort to strengthen the status of our NPSS journals, foremost the IEEE Transactions on Plasma Science. This will ensure that the technical content of our publications and the integrity of our technical community is pushed to the highest standard. As a representative of the pulsed power community, I hope to broaden our outreach to encourage more students to participate in our areas of research and strengthen our future. I have served as the Technical Program Chair of two NPSS sponsored/co-sponsored conferences and I am going to be the General Chair of the 2021 IEEE PPC. These personal experiences will enable me to represent you well as an AdCom member. I appreciate your vote!

**PLASMA SCIENCE AND APPLICATIONS (Vote for One)  
For a Four-Year Term 1 January 2018 – 31 December 2021**

**ARATI DASGUPTA** (M'09) received her BS in physics with Honors, MS, and PhD (1983) from the University of Maryland before joining the Naval Research Laboratory in 1986. Presently she works on non-local thermodynamic equilibrium atomic and plasma modeling and simulation of High Energy Density (HED) plasma experiments, such as Sandia National Laboratories multi-keV Z-pinch plasma radiation sources, various high atomic number (ZA) radiation sources at the National Ignition Facility, and radiation physics for high ZA elements on the NRL NIKE laser in support of ICF. Her interdisciplinary atomic and plasma physics research spans pulsed power radiation sources, inertial confinement fusion (ICF), laser-matter interaction, astrophysics and lighting. She has published reviews and numerous journal articles, given numerous national and international invited talks, tutorial talks, colloquiums, public lectures, have written DOE's HED Physics and OFES/DOE's Strategic Planning reports, chaired several national and international invited technical sessions at conferences, and reviewed a large number of proposals. She is a member of several science panels, reviewer of several award selection committees including DOE's E. O. Lawrence award and serve on several advisory committees including DOE's Fusion Energy Sciences Advisory Committee (FESAC). She is a Fellow of the American Physical Society, Fellow of the Washington Academy of Sciences, has served on several education and program committees of the APS Divisions of Atomic, Molecular and Optical Physics and Plasma Physics, chaired Women in Plasma Physics Committee of the APS/DPP (2013-2015), and chaired the Women in Science and Engineering Committee at NRL (2008-2012). She has provided an essay on invitation to the book "Blazing the Trail: Essays by Leading Women in Science" to inspire young women to pursue career in science. Recently she presented a public lecture at the University of Wisconsin – La Crosse as part of their yearly Public Lecture Series featuring prominent women in physics, astronomy, and engineering.

She has been very active in the IEEE community since the late 1990's by regularly attending IEEE International Conference on Plasma Science (ICOPS) conferences and serving in various activities supported by the IEEE Plasma Science Applications Committee (PSAC). She was the organizer of several HED sessions at IEEE ICOPS conferences, lecturer of mini-course on Atomic Physics of Z pinches in 2005, organizer and lecturer of mini-course on Atomic and Radiation Physics in 2014 ICOPS and organizer of mini-course on Charged Particle Beams and High Powered Pulsed Sources in 2017 ICOPS. She is serving as an executive member of PSAC and is the chair of mini-course subcommittee (2015-2017). She was also on the Women in Engineering Panel on invitation at this year's ICOPS conference.

**Statement:** As a member of the Administrative Committee (AdCom) of the Nuclear and Plasma Sciences Society (NPSS), I will serve a community that is broad and is responsible for making decisions on several important areas such as conference finance, journal publications, and membership. One of my major goals in this position will be to ensure that there is support for broad collaborative cross-fertilization of research in interdisciplinary sciences that often produces the most notable discoveries. As an advocate of STEM education, exemplified by my lectures at several magnet science high schools and four-year colleges, I will foster outreach to mentor, encourage and support student and postdoctoral participation in NPSS conferences and other plasma physics relevant meetings to continue the remarkable growth of plasma sciences in the future decades. I believe that in this difficult time of declining domestic budget, NPSS/IEEE should advocate strongly for expanded student involvement at National Laboratories, besides maintaining student research at universities to help maintain training opportunities for students. Leveraging my experience and opportunities as a FESAC member, I will make efforts to explore ways to reach out to seek support to continue cutting-edge research in many sub-fields of plasma physics that are developing innovative technologies in almost every area. Finally, as a member of AdCom, I will assist in any way in serving the community of plasma physicists, and I will also play active roles in NPSS meeting related activities to make it successful.

**CHRISTOPHER DEENEY** (M'90-SM'03-F'06) grew up Hamilton, Scotland. In June 1984, he graduated with a First Class Honours B.Sc. in Physics from the University of Strathclyde, Glasgow. From October 1984 to October 1987, he completed his Ph.D. research on the formation of hotspots and electron beams in gas puff Z pinches and plasma focii at Imperial College in London. Dr. Deeney was a postdoctoral researcher at the University of Stuttgart, Germany until May 1988 when he joined Physics International Company, California.

At Physics International, he became the program manager for Z-pinch-based plasma radiation source development, for x-ray laser research, and the application of pulsed corona technologies to pollution control. He was also the Department Manager of the Plasma Physics Group. In February 1995, Dr. Deeney joined Sandia National Laboratories where he has been one of the experimenters on the 8 MA Saturn and 20-MA Z pulsed-power generators. Dr. Deeney conducted many of the experiments that significantly increased the emitted X-ray power gain from Z-pinch by more than a factor of 4 so providing options for pulsed-power-based inertial confinement fusion. In addition, he led experiments that increased the available multi-kiloelectronvolt radiation, used for radiation effects, from Z-pinch by factors of 10. In 2005, he became a Senior Manager at Sandia responsible for three departments with approximately 80 scientific and technical staff in the Pulsed Power Technology Group. Dr. Deeney joined the Department of Energy/National Nuclear Security Administration (NNSA) in 2006 as a member of the Senior Executive Service. At NNSA, he had responsibilities for all the major defense programs R&D efforts including the science and inertial confinement fusion campaigns. In 2010, he became the NNSA Assistant Deputy Administrator for Stockpile Stewardship, managing the \$1.7b per year program. Most recently, he was the first Chief Technology Officer for National Security Technologies and the Vice President for Program Integration. During his career, Dr. Deeney has published 120 journal papers on Z-pinch physics, x-ray lasers, spectroscopy, plasma focus research, x-ray diagnostics, dynamic material properties, and high repetition rate pulsed power for pollution mitigation. An IEEE member since 1988, he has sat on the PSAC EXCOM (Site Selection/Awards) and NPSS ADCOM committees. He was the Chairperson for 1999 International Conference on Plasma Science, and was the co-chair for a Z-pinch Minicourse at ICOPS 2005 in Monterey. He was awarded an APS Fellowship in the Division of Plasma Physics in 1999, and an IEEE Fellowship in 2005 for his pioneering research and innovations in Z-pinch physics. In 2006, he was awarded the prestigious IEEE Plasma Science and Applications Committee award for his major accomplishments in the physics of Z-pinch plasmas and their application.

**RICKEY J. FAEHL** (M'94-SM'08) is a retiree from Los Alamos National Laboratory. Dr. Faehl received his BS from Capital University in 1968, a MS from AFIT in 1970 and his PhD from the University of California (Davis) in 1977. The dissertation was conducted at Lawrence Livermore Laboratory in the early days of the laser fusion program there, studying laser-plasma interactions. He spent almost nine years on active duty in the Air Force (1968-77) and twenty-eight years at Los Alamos. During this time his primary activities were in plasma physics theory and applications. Most of these were pulsed-power applications involving relativistic electron beams, high-powered microwaves, high-current accelerators and solid liner implosions. Since his retirement from Los Alamos he has been working with Research Applications Corporation on laser-plasma studies related to the Inertial Confinement Fusion program. He has well over 150 publications and reports. He has been active at many levels within the IEEE, including being an officer in local Chapter and Sections, and twice elected to the Plasma Science and Applications Committee (PSAC) within the NPSS. In the latter, he served as Chair.

**Statement:** After many years of association with the IEEE, and especially the NPSS, I am completely convinced of the value of continuing energetic and forward-looking leadership in the AdCom and its component Technical Committees. I have derived great benefit personally from attending ICOPS, Beams, Pulsed-Power and Accelerator conferences, from my publication in NPSS journals and my service at various levels within the IEEE. As well as numerous offices in both a local Chapter and Section, I have served many years on the Executive Committee of PSAC. In the last capacity I served as its Chair and twice as Vice-Chair. During my term as Chair, I was an ex officio representative of PSAC to AdCom for two years. I have seen the impact of changing budgetary priorities, increased international composition in our Society and constraint on conference attendance. If elected, I believe my experience in these positions gives me insight into the necessary role the NPSS must play to provide enhanced value to our membership in our ever changing world.

### **RADIATION EFFECTS (Vote for One) For a Four-Year Term 1 January 2018 – 31 December 2021**

**JEFFREY BLACK** (M'99) has been active in radiation effects for his entire career of 29 years. He has worked in private industry at Mission Research Corporation, academia at Vanderbilt University, and for the Government at Sandia National Laboratories. His technical interests include the effects on radiation on electronics and particularly radiation hardened by design techniques. He has published more than 30 technical papers in the IEEE, most in the Transactions on Nuclear Science. He has participated in the IEEE Nuclear and Space Radiation Effects Conference as the Local Arrangements Chair, Radiation Effects Data Workshop Chair, Short Course Speaker and Short Course Chair, Technical Program Chair, and General Chair for the 50th NSREC. He was also Secretary of the Radiation Effects Steering Group from 2003-2006 and is currently serving as webmaster. Jeff's experience in industry, academia, and Government, along with his technical knowledge and conference experience will allow him to be an effective AdCom member for the Nuclear and Plasma Sciences Society.

**Statement:** I would like to serve on AdCom to better understand the needs of all people supported by the NPSS and to mold initiatives that support our needs in the radiation effects community as well others in the society. My experience in proposing two successful NPSS initiatives during my time as the 2013 NSREC General chair will allow me to do this effectively.

**JEFFREY GEORGE** (M'15) has been active in radiation effects in microelectronics for over 14 years at The Aerospace Corporation, a federally-funded research and development center supporting national security in space. His technical interests include single event effects and total ionizing dose testing, radiation vulnerability assessments for space programs, monitoring the US radiation effects test infrastructure, and helping to develop new instrumentation to measure the space radiation environment. Prior to this position he analyzed the origin and composition of the galactic cosmic rays. Jeff authored or co-authored more than 25 technical papers on radiation effects and

serves as the 2017 NSREC Radiation Effects Data Workshop chair as well as finance chair and 2017 technical program chair for SEE Symposium workshop. He brings a broad background in testing, conference participation, and support to government and industry partners as well as a desire to encourage newer researchers to become more involved and invested in the radiation effects community.

**Statement:** My experience in the radiation effects field and participation in the NSREC will allow me to represent our interests in setting AdCom policy that will affect future conferences. I am particularly concerned about getting younger people involved in the conference, and providing better incentives for becoming IEEE members.

**RADIATION INSTRUMENTATION (Vote for One)**  
**For a Four-Year Term 1 January 2018 – 31 December 2021**

**SARA POZZI** (AM'03-M'04-SM'16) Professor Sara Pozzi earned her M.S. and Ph.D. in nuclear engineering at the Polytechnic of Milan, Italy in 1997 and 2001, respectively. She is a Professor and Graduate Program Chair in the Department of Nuclear and Radiological Sciences at the University of Michigan where she established and is the leader of the Detection for Nuclear Nonproliferation Group (DNNG). Her research interests include the development of new methods for nuclear materials detection, identification, and characterization for nuclear nonproliferation, safeguards, and national security programs.

Professor Pozzi is the Director of the Consortium for Verification Technology, a consortium of 12 universities and 9 national laboratories dedicated to the development of new technologies for nuclear treaty verification. She is the co-author of the Monte Carlo code MCNPX-PoliMi, which is being used at over 50 institutions world-wide. Her publication record includes over 350 papers in journals and international conference proceedings. She was invited to give over 70 seminars, both nationally and internationally. As the DNNG leader, she advises 15 doctoral students, many undergraduate students, and several research staff members. She is a senior member of the IEEE and the Institute for Nuclear Materials Management. Professor Pozzi served IEEE as member of Radiation Instrumentation Technical Committee (RITC) and RITC Awards Chairperson for many years. She is the IEEE Nuclear Science Symposium Co-chair for Atlanta, 2017, and an IEEE Distinguished Lecturer.

She is the recipient of many awards, including the 2006 Oak Ridge National Laboratory Early Career Award, 2006 Department of Energy, Office of Science, Outstanding Mentor Award, 2012 INMM Edway R. Johnson Meritorious Service Award, 2012 UM Nuclear Engineering and Radiological Sciences Department, Outstanding Achievement Award. In 2017, she was elected Fellow of the American Nuclear Society.

**Statement:** I am interested in serving the IEEE/NPSS Administrative Committee as an elected member. The NPSS is a premier society that counts between 2500 and 3000 members around the world. These individuals work at the forefront of research and development, teaching, and outreach activities in the nuclear sciences, including radiation instrumentation development, medical imaging, and plasma sciences. As a member of AdCom, I will work with the committee to help facilitate all of the activities of the society. The AdCom will ensure that we facilitate the membership's work in tackling the important technical challenges that we are addressing in the areas of nuclear and plasma sciences and medical imaging. These challenges include understanding fundamental nuclear processes in nature, protecting our society from nuclear and radiological events, and improving our ability to cure disease. These challenges require a coordinated, interdisciplinary approach. As a member of AdCom, I will work with elected members across disciplines to ensure that our society remains at the forefront of these activities.

I am especially excited to meaningfully include the new generation of students, postdoctoral fellows, and early career scientists in the organization. They are the future of our field and I am fully committed to their development as scientists and engineers.

**CRAIG L. WOODY** (M'97-SM'04-F'12) is a Senior Physicist at Brookhaven National Laboratory. He received his B.A., M.A. and Ph.D. from John Hopkins University in 1973, 1974 and 1978, respectively. He carried out his thesis research in high energy particle physics at the Stanford Linear Accelerator Center, and after one year as a postdoctoral Research Associate at Stanford University, he joined Brookhaven Lab in 1979 where he has remained ever since. In the early 1980's, he worked on building detectors and doing experiments at CERN and later returned to work on high energy and nuclear physics experiments at BNL. He was spokesperson for experiment E855 at the AGS and worked on the PHENIX experiment at RHIC starting in the early 1990's. He is currently the project leader for developing a new electromagnetic calorimeter for the sPHENIX upgrade experiment at RHIC. His interests are mainly in developing detectors for nuclear and particle physics, and he has also worked on several projects in medical imaging, including imaging awake animals. He was elected a Fellow of the American Physical Society and a Fellow of IEEE for his work on developing detectors for high energy and nuclear physics and medical imaging. He has served on AdCom in numerous capacities since 2004, including as NPSS President from 2009-2010, as an elected member from RITC from 2006-2008, as Nominations Chair from 2011-2012, and as Awards Chair from 2013-2016. He has also served on the IEEE Technical Activities Board Awards and Recognition Committee (TABARC) from 2011-2016, and served as TABARC Chair and a member of the IEEE Awards Board from 2014-2015. He has also served several times on RISC, from 2001-2003 and again from 2013-2015, and as RISC Chair from 2004-2005. He has been a regular attendee of the NSS/MIC for more than forty years. He was General Chair of the 1998 NSS/MIC in Toronto, Deputy NSS Chair in 1997 in Albuquerque, Treasurer in 2007 in Hawaii, Workshop Chair in 2016 in Strasbourg, and will be NSS Co-Chair for the 2018 NSS in Sydney. He also served on the RISC/NMISC Joint Oversight Committee from 2009-2014 and as the Joint Oversight Committee Chair from 2006-2008. He has also served on the NSS/MIC organizing committee many

times as a convener, session organizer, on the paper selection and review committees, as a Short Course Instructor and as a session chair numerous times.

**Statement:** IEEE, and in particular, the Radiation Instrumentation community, has been a part of my life for more than 40 years. I attended my first NSS conference as a graduate student in 1974 (there was no MIC at that time). Since then, I have grown to know a great many people who have become a part of my professional life, as well as my friends, and I can truly say that I feel a great debt of gratitude to this wonderful community. I have seen this community grow and expand to include more and more of our colleagues from around the world, and as a result, I've worked hard in the past to take the NSS/MIC conference to new international locations. I chaired the first conference outside the US in Toronto in 1998, and strongly supported our first meeting in Europe in Lyon in 2000. We've now seen enormous involvement in this meeting from our European colleagues, and I will work to see this grow even more. I was an early proponent to take the conference to Asia, starting with a first step to the Asia Pacific region in 2007 in Hawaii, then Korea in 2013, and again in 2018 in Sydney, where I will be serving as the NSS Co-Chair. We also need to look beyond these areas to new places where excellent research is being done, such as South America and the Middle East. IEEE is truly an international organization and we need to be as well. Another important goal will be to have a closer connection between AdCom and RISC, and bring issues to AdCom which are of great importance to our Radiation Instrumentation community, such as sponsoring new awards and grants, sponsoring more topical conferences, workshops and summer schools, promoting young people through our Young Professionals Organization, promoting women through Women in Engineering (WIE), and helping to promote the NSS/MIC conference to a broader community through our Conference Information and Promotion Committee (CIP). I feel that other Technical Committees within NPSS would also benefit from these types of efforts, which helps bring young people into key roles in running our Society and providing leadership for our future. Over the years, I've served the NPSS in a number of ways, but my heart and roots lie in the Radiation Instrumentation community, and I feel that with my experience, and a deep sense of commitment, I can serve it again as your representative on AdCom for the next 4 years.

**IEEE NUCLEAR AND PLASMA SCIENCES SOCIETY ELECTION  
NUCLEAR MEDICAL AND IMAGING SCIENCES COUNCIL ELECTION  
For the Three-Year Term 1 January 2018 – 31 December 2020  
(Vote for UP to FIVE)**

**SHIVA ABBASZADEH** (GSM'10-M'14) is an Assistant Professor in the Department of Nuclear, Plasma, and Radiological Engineering at the University of Illinois at Urbana-Champaign. She received her Ph.D. in 2014 from the University of Waterloo, Canada, designing a high gain, high spatial resolution X-ray detector for mammography that is currently being pursued for commercialization. Following her graduation, she was a postdoctoral fellow at Stanford University developing a preclinical PET scanner and served as a consultant on hardware design and system characterization of imaging systems for several startups. Her current research focuses on radiation detection and instrumentation for molecular imaging, computational problem solving, and quantitative characterization of biological processes. She authored and co-authored 21 peer-reviewed journal articles for her work on medical imaging technology.

**Statement:** I have been an IEEE member since 2011 and I have regularly participated and presented my research in the IEEE Nuclear Science Symposium and Medical Imaging Conference since 2012. As a student, NSS-MIC was a great opportunity to network with other researchers and get feedback. I also met my mentor for my postdoctoral fellowship during NSS-MIC. I am an active reviewer for *IEEE Transactions on Medical Imaging*, *IEEE Sensors*, and more recently *IEEE Transactions on Radiation and Plasma Medical Sciences*. I am very passionate to be part of the Nuclear Medical and Imaging Sciences Council (NMISC) to ensure the high quality of educational and networking activities for students proposed during the annual NSS/MIC. I will use my expertise in medical imaging to promote bridging technological advancements with clinical applications. As an active NMISC council member, I will be committed to promoting nuclear medical and imaging sciences activities.

**JUNWEI DU** (GSM'09-M'11-SM'15) is an associate specialist at the Department of Biomedical Engineering, University of California at Davis. He received his bachelor's degree in Applied Physics (2005) and his Ph.D. in Electronic Science and Technology (2010) from the University of Science and Technology of China. In 2011, he started to work at University of California at Davis as a Postdoctoral Scientist (2011-2015) and then an associate specialist (2015-present). His research is in the area of biomedical imaging with an emphasis on developing simultaneous high-resolution and high-sensitivity positron emission tomography (PET), including electronics design and detector module development. Junwei Du is the author of 18 journal articles.

**Statement:** As an IEEE member and research scientist, I have participated annually in the Nuclear Science Symposium and Medical Imaging Conference since 2010. I have been a reviewer of the NSS-MIC conference since 2014, both for the NSS abstracts and the MIC abstract. I am also a reviewer for the journal *IEEE transactions on nuclear science*, other journals and conferences. Given the active participation and strong commitment that I have demonstrated over the past years at MIC, I believe that I can make a unique and significant contribution to the Nuclear Medical and Imaging Sciences Council (NMISC). If elected to the NMISC, I will try to engage scientists of all ages and sexes to participate in IEEE medical imaging activities, especially scientists and students at China. I will also try to promote further scientific and educational activities, to ensure quality NSS-MIC joint sessions. I would be happy to help manage and promote Nuclear Medical and Imaging Sciences activities as a NMISC council member.

**KIRA GROGG** (M'14) is an Instructor/Assistant in Physics at the Gordon Center for Medical Imaging at Massachusetts General Hospital (MGH). She received her bachelor's degree in Physics from Carleton College, Northfield, MN in 2005. She completed her Ph.D. in high energy particle physics at the University of Wisconsin – Madison in 2011 after working at CERN on the Large Hadron Collider for four years. She then joined the El Fakhri lab in the Radiology Department of MGH as a Postdoctoral Fellow. She was promoted to Instructor in June 2015 and awarded a K07 Mentored Investigator award from the National Cancer Institute for "Precision Personalized Proton Therapy through Advanced Imaging Technology". Her work focuses on using positron emission tomography (PET) and dual-energy CT (DECT) imaging to verify proton therapy delivery. PET imaging after therapy can detect positron emitters generated by the treatment beam and thus localize the dose, depending on the elemental composition determined from DECT. She has authored multiple papers in high energy physics, and authored 6 imaging papers while at MGH.

**Statement:** As an IEEE member and research scientist, I have participated annually in the Nuclear Science Symposium and Medical Imaging Conference since 2012, including poster and oral presentations. As a young scientist, I believe I can bring new ideas for the NMISC and will be active in engaging others in IEEE MIC activities. I am interested in preserving the quality of the scientific and educational activities at the IEEE NSS-MIC conference and beyond. I would be happy to help manage and promote Nuclear Medical and Imaging Sciences activities as a NMISC council member. I am particularly interested in the development of the educational activities such as the short courses at the annual MIC.

**MATHIEU HATT** (GSM'06-M'07) After an initial formation in computer sciences with a focus in image analysis and processing, M. Hatt received his PhD 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 modeling for therapy optimization” group (2 post-docs, 4 PhD 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 60 original papers, 7 letters to the editor / editorials and 4 review papers in peer-reviewed journals. He received several awards, including the IEEE (French section) 2009 1st prize for best PhD 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, the AAPM annual meeting (best-in-physics) and the SNMMI annual meeting (best international abstract). 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 for about 30 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.

**NICOLAS A. KARAKATSANIS (S'05-M'09-SM'17)** Dr. Nicolas A. Karakatsanis is currently a research scientist at the Translational and Molecular Imaging Institute at Icahn School of Medicine at Mount Sinai in New York, NY, USA. His current interests primarily involve quantitative PET/MR and PET/CT imaging utilizing advanced PET tracer kinetic modeling and MR-driven attenuation and motion compensation strategies for enhancing the theranostic value of molecular imaging in cardiology, oncology and neurology. Previously, Dr. Karakatsanis was appointed as a postdoctoral fellow in the Division of Nuclear Medicine at University Hospital of Geneva, Switzerland and the Division of Nuclear Medicine at Johns Hopkins University, Baltimore, MD, USA. Dr. Karakatsanis received his Bachelor and Masters Degree in 2005, as well as his PhD Diploma in 2010, in the field of Electrical and Computer Engineering from the National Technical University of Athens, Greece. His PhD thesis was on the optimization of preclinical and clinical PET imaging systems performance and data acquisition protocols using Monte Carlo simulations. He has authored and co-authored more than 20 peer-reviewed scientific journal articles and over 60 conference records in international conferences. Dr. Karakatsanis is a senior IEEE NPSS member and has been certified by the American Board of Science in Nuclear Medicine (ABSNM) in Nuclear Medical Physics and Instrumentation.

**Statement:** Since the beginning of my professional career as a nuclear medicine engineer and physicist in 2007, I have been honored to actively participate to the prestigious IEEE Nuclear Plasma Sciences and Medical Imaging Conferences (NSS-MIC) on an annual basis. Meanwhile, I had also been engaged in the organization of important local IEEE student branch events and international IEEE conferences in the area of biomedical engineering, thereby directly witnessing the benefits of active participation to NPSS activities. Currently, as a senior IEEE member with a demonstrated commitment to the NPSS mission, I am confident to pursue a responsible role in the Nuclear Medical and Imaging Sciences Council (NMISC) offering the unique opportunity to more substantially contribute, together with other highly motivated colleagues, to the growth of the NPSS educational, professional and editorial mission. My primary aim would involve the promotion of interactive and collaborative educational projects, such as the organization of hands-on training courses in open-source scientific software platforms useful for many important nuclear medicine data processing tasks, which would vividly demonstrate the importance of interactive participation to the society activities. Besides, I strongly believe that our professional development as nuclear medical scientists and engineers can be drastically facilitated by the growth of the professional societies in which we interactively participate and vice versa. Furthermore, I will work towards the promotion of specialized interdisciplinary workshops, in collaboration with other professional societies, presenting interactively the latest developments in multi-modality, multi-parametric and quantitative nuclear medical imaging methods, with focus in the clinical translation of the presented engineering concepts.

**ANDRE KYME (GSM'11-M'12)** Dr. Kyme is an Australian Research Council Early Career Research Award (DECRA) Fellow and Lecturer in Biomedical Engineering at the University of Sydney. He received a bachelor's degree in Physics from the University of New South Wales in 2000, a M.Sc. degree in physics from the University of Wollongong in 2004, and a Ph.D. in Physics from the University of Sydney in 2012. He worked as a Postdoctoral Scientist at the University of Sydney before taking up a Cassen Postdoctoral Fellowship at UC Davis from 2014-16 where he worked on the instrumentation development for a new PET system designed for awake animals. In 2016 he returned to Sydney to take up a competitive research fellowship and faculty position with

biomedical engineering at the University of Sydney. Dr. Kyme's research focuses on developing new applications for imaging in a diverse range of areas: human health, behavioral neuroscience, veterinary medicine and agriculture. Some key problems he is seeking to address include motion-compensated MRI for humans, especially in children and patients with disease affecting motor control; awake animal PET imaging to better understand the links between brain function and behavior; use of molecular imaging to study chemical transport in plants; and the integrated use of computational and clinical imaging methods to better characterize the regenerative bone response after injury. Dr Kyme is a co-author of 19 peer-reviewed journal papers, one book chapter and over 30 published conference papers.

**Statement:** Since 2006 I have participated annually in the Nuclear Science Symposium and Medical Imaging Conference as an IEEE member and research scientist. I am currently the Co-Chair of the Short Course component for the IEEE NSSMIC Conference being held in Sydney in 2018. This is an exciting opportunity to influence the educational component of such an important conference for imaging scientists by ensuring we provide high quality courses in the core areas of interest to delegates and in the new and burgeoning areas of our field such as PET-MRI. Two areas where I believe I can make a significant contribution to the Nuclear Medical and Imaging Sciences Council (NMISC) are in encouraging diversity of participants in IEEE medical imaging activities and in promoting scientific and educational activities. In particular, I will aim to maximize the benefit of NSS-MIC joint and educational sessions and also stimulate new interdisciplinary research among our members by selecting excellent plenary topics. I look forward to the opportunity to help manage and promote Nuclear Medical and Imaging Sciences activities as a NMISC council member.

**CHRISTOPH LERCHE** (M'17) is Head of the PET Physics Group at the Institute of Neuroscience and Medicine-4 (Medical Imaging Physics) of the Forschungszentrum Juelich GmbH, Germany. He received his Diploma degree in Physics from the Friedrich-Alexander-University Erlangen- Nürnberg, Germany in 2001. He completed his Ph.D. in Experimental Atomic, Molecular and Particle Physics at the University of Valencia, Spain in 2006, working in the field of nuclear medical imaging instrumentation. He then worked as a Postdoctoral scientist at the Polytechnic University of Valencia (Spain), University of Valencia (Spain), and as senior scientist at Philips Research Eindhoven (Netherlands). In 2014, he moved to the institute of highest excellence in medical imaging physics for neuroscience and began working in the field of multimodal Neuroimaging. Their work focuses on development of instrumentation, methodology, and applications for multimodality and multiparametric imaging of the healthy and diseased brain used modalities are Positron Emission Tomography, Magnetic Resonance Imaging at high and ultra high magnetic fields, Electroencephalography, Magnetoencephalography, and combinations of these modalities. Concurrent PET/MR and PET/MR/EEG imaging is the primary focus of their research. Christoph Lerche is the first/last author of 10 journal articles, co-author of 7 patents/patent applications and more than 80 other journal articles, book chapter, editions, and conference contributions.

**Statement:** As an IEEE member and research scientist, I have participated regularly in the Nuclear Science Symposium and Medical Imaging Conference since 2002. I have been a reviewer of the IEEE Transactions on Science since 2007 and organizer of the PSMR 2016 conference, which was co-sponsored by the IEEE and NPSS. Given the active participation over the last 15 years at MIC conferences and active involvement on several other international conferences on several topics, I believe that I can make a unique and significant contribution to the Nuclear Medical and Imaging Sciences Council (NMISC). If elected to the NMISC, I will bring in my expertise and multi cultural experience that I gained during my stays in several academic and private sector research groups in different European countries. I will strongly try to engage scientists of all ages and sexes to participate in IEEE medical imaging activities. I will especially try to promote scientific and educational activities, to ensure quality NSS-MIC joint sessions, and to help select plenary speakers working on groundbreaking scientific topics. I would be very keen to provide input to the editorial boards of TNS, TMI and the new Transactions on Radiation and Plasma Medical Sciences helping them to speed up the review process wherever possible. Further, I would be happy to help manage and promote Nuclear Medical and Imaging Sciences activities as a NMISC council member.

**GUILLEM PRATX** (S'06-GSM'10-M'11) Guillem Pratz, PhD is an assistant professor of Radiation Oncology, division of Medical Physics, at Stanford University. After training at Ecole Centrale Paris with a BS in Engineering, he moved on to Stanford University to complete a PhD in Electrical Engineering, with a focus on PET reconstruction and small-field-of-view gamma cameras. After a short postdoc in Radiation Oncology, he is now leading the Physical Oncology Lab, which focuses is on developing physical tools for cancer research and cancer care. Using a blend of instrumentation, chemistry and computer algorithms, new methods have been developed to interrogate the functional behavior of single cancer cells, track cell trafficking in vivo, and verify the delivery radiation treatments. His lab is particularly interested in phenomena that combine ionizing and optical radiation for biomedical use. Prof. Pratz received significant distinctions such as the Damon Runyon Innovator Award and the Young Investigator Award from the Society of Nuclear Medicine—Computer and Instrumentation Council.

**Statement:** I attended my first NSS-MIC meeting in 2006 in San Diego. I have since participated and presented at the MIC conference every other year or so. I have been an MIC abstract reviewer since 2011 and a member of the MIC conference program committee, focusing on the Imaging in Radiotherapy category (2013, 2014 & 2015). I routinely review journal articles for IEEE TNS, TMI and TRPMS. If elected to the NMISC, I will focus my efforts on encouraging greater participation of the radiation therapy community in the MIC conference. These efforts are especially important as hadron therapy facilities are being planned in the United States. Another of my goals would be to facilitate greater communication between developers and the end-users of imaging

technology. In closing, it will be my pleasure to help the NMISC perform its important function of promoting the development of nuclear imaging sciences through educational and scholarly activities.

**JEFFREY SCHMALL** (S'11-GSM'13-M'17) I am currently a Research Associate in the Department of Radiology at The Hospital of the University of Pennsylvania, working in Joel Karp's Physics and Instrumentation group. I received my PhD in 2013 from The University of California at Davis in Biomedical Engineering, with a focus on molecular imaging instrumentation, where I worked in Simon Cherry's lab. I have worked on a wide range of PET imaging research projects, from high-resolution small-animal imaging to whole-body clinical applications. My work has primarily focused on detector designs for PET and signal readout/signal processing techniques. I also have experience in image-based simulations of novel scanner geometries. My main contributions to the field include studies of high-resolution position-sensitive SiPM designs, fast timing detectors using SiPMs and LaBr3/CeBr3 scintillators, and detector designs that enable measurement of TOF and DOI. I have been an author on 14 peer-reviewed publications in instrumentation and imaging science, including 3 publications in IEEE TNS; I have been first author on 6 of the 14 publications.

**Statement:** I have been an IEEE member/student member for 6 years. I have participated annually in the Nuclear Science Symposium and Medical Imaging Conference since 2010. As a relatively new member to the NSS-MIC community, I believe that I can make a unique and significant contribution to the Nuclear Medical and Imaging Sciences Council (NMISC). If elected, I will work diligently to support all IEEE medical imaging activities, including NSS-MIC conference preparation and assist the editorial boards of TNS, TMI, and TRPMS. I will try to engage all members of our field, and work to broaden opportunities and expand the participation of groups and institutions that are underrepresented. It would be a great honor to participate in the management and the promotion of NMISC activities.

**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 2018 – 31 December 2021  
(Vote for ONE)**

**ILAN BEN-ZVI** (M'03-SM'03-F'09) is a BNL Professor of Physics at Stony Brook University and Senior Scientist with tenure, Associate Chair for Accelerator R&D at BNL's Collider-Accelerator Department and Scientific Program Director of the Brookhaven Accelerator Test Facility (ATF). He has been at Stony Brook and Brookhaven since 1988. Ben-Zvi served as the Director of the ATF for 15 years, where he worked on advanced accelerator concepts, free-electron lasers and high-brightness laser-photocathode RF guns. He is active in R&D on superconducting RF, photocathode injectors, electron-hadron colliders and advanced accelerator concepts.

Ben-Zvi earned B.Sc. in mathematics and Physics, 1965, from the Hebrew University of Jerusalem, Ph.D. in Nuclear Physics, 1970, from the Weizmann Institute of science. Research Associate, Stanford University 1970-1975, Senior Scientist Weizmann Institute 1975-1980, Visiting Associate Professor Stony Brook University 1980-1982, Senior Research Fellow, Weizmann Institute 1983-1988, Visiting Professor Stony Brook University 1988-1990.

Ben-Zvi was honored by his peers: Elected in 1994 as a Fellow of the American Physical Society, elected in 2007 as Fellow of the American Association for the Advancement of Science and in 2009 as a Fellow of the IEEE. He received the 1999 IEEE/NPSS Particle Accelerator Science and Technology Award, the 2001 BNL Science and Technology Award, the 2007 Free-Electron Laser Prize and the 2008 IEEE/NPSS Merit Award.

**Statement:** I've been active on AdCom as PAST Technical Committee chair as well as the APS DPB Executive Committee. The issues and prestige of accelerator science and technology are important to me. If elected, I will continue to pursue the interests of NPSS and of accelerator science and technology within the IEEE as well as advancement of members.

**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. Robert's specialties are high-power proton synchrotrons and neutrino beams. 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, which have been challenged 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).

**IEEE NUCLEAR AND PLASMA SCIENCES SOCIETY**  
**PULSED POWER SCIENCE AND TECHNOLOGY TECHNICAL COMMITTEE ELECTION**  
**For the Four-Year Term 1 January 2018 – 31 December 2021**  
**(Vote for UP to FOUR)**

**STEPHEN B. BAYNE** (S'91-M'98-SM'03) received his PhD, MS and BS degrees in Electrical Engineering from Texas Tech University. After completing his Doctoral studies, he joined the Naval Research Lab (NRL) where he was an Electronics Engineer designing advanced power electronics systems for space power applications. After two and a half years at NRL, Dr. Bayne transferred to the Army Research Lab (ARL) where he was instrumental in developing a high temperature power electronic program. Dr. Bayne was promoted to Team Lead at ARL where he led the power components team which consisted of five Engineers. As the Team Leader, Dr. Bayne was responsible for advanced research in high temperature and advance power devices for Army applications. After one and a half years as Team Lead, Dr. Bayne was promoted to Branch Chief of the Directed Energy Branch where he managed 16 Engineers, Technicians and support Staff. Dr. Bayne managed a multi-million-dollar budget, and was responsible for recruiting, development, and performance evaluation of members in the branch. After eight years at the ARL, Dr. Bayne transitioned over to academia where he is currently a Professor at Texas Tech University (TTU). His research interests at Texas Tech are Power Electronics, Pulse Power, Power Semiconductor Devices and Renewable Energy. Dr. Bayne has over 148 publications and has given three short courses in the area of power semiconductors for pulsed applications. He also co-authored a chapter in the book *Advances in Silicon Carbide Processing and Applications*.

**Statement:** I have a long history of service in IEEE. Currently, I am a guest editor for the *IEEE Transactions on Plasma Science*. I also served as a reviewer for *IEEE Transactions on Plasma Science*. I was a previous committee member on the IEEE NPSS PPST committee where I served as the awards chair, and membership chair. I have also served in other roles such as session chair, technical area chair, and session organizer. I have several years of leadership experiences in the DoD and I will bring these leadership skills and vision to the committee. Also, one of my long term goals is to be the chair of the Pulsed Power Conference.

**STERLING BEESON** (GSM'10-M'15) Research Electronic Engineer, Air Force Research Laboratory, has been employed at AFRL for 2 years where he has been working in the high power microwave division of the directed energy directorate. There, he works on rf source and system level design for final packaging into applicable systems. His specialties include rf engineering, EM theory, high voltage/pulse power design, and experimentation. Outside of the lab, he is also serving on the 2017 Pulsed Power Conference committee as the mobile app chair along with the 2018 Power Modulator and High Voltage Conference committee where he is serving as the publicity and promotions chair. He has also served as session chairs in previous DEPS conferences. Dr. Beeson received his BS in Applied Physics from Angelo State University in 2009 and his MS and PhD in Electrical Engineering from Texas Tech University in 2011 and 2015, respectively. While in graduate school, his focus was on high power microwave driven plasmas, with an emphasis in pulsed power, rf engineering, and plasma discharge physics.

**Statement:** My goal to serving on the Pulsed Power Science and Technology Committee is to advance the science of the field, promote research and development and overall collaboration between the many entities associated. Partnerships between industry, government and universities (foreign and domestic) benefit all parties by inspiring innovation and broadening our perspectives. My overall goal is to encourage professional development (especially in young upcoming individuals) and advance the knowledge base in the fields of pulsed sciences – serving on the Pulsed Power Science and Technology Committee and the Pulsed Power Conference Committee are great ways to accomplish this goal.

**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. From 2008 to 2017, he supported the US Navy in various Pulsed power related programs. He is currently an RF Engineer at Lockheed Martin Missiles and Fire Control where he is actively designing directed energy platforms to support the US DoD. He spent four years at the Patuxent River Naval Air Station working with Electromagnetic Environmental Effects (E<sup>3</sup>) 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.

**CHUNQI JIANG** (S'01-AM'02-M'03-SM'09) received the Ph.D. degree from Old Dominion University (ODU), Norfolk, VA, in 2002. She worked in the pulsed power research group at the Department of Electrical Engineering – Electrophysics, University of Southern California (USC) first as a postdoctoral research associate (2002–2005) then a Research Assistant Professor (2008–2012). She became a Research Associate Professor at USC before she joined the Center for Bioelectronics and the Department of Electrical and Computer Engineering at ODU in the summer of 2013. She is currently an Associate Professor in the ECE department at ODU, and adjunct faculty under the biomedical engineering program of the department. In addition to her academic experience, she worked as a Research and Development Engineer in a startup company near Princeton, NJ, for two years (2005–2007). Her research interests include plasma switches for compact pulse power generation, atmospheric-pressure nanosecond pulsed plasma sources and their applications in environmental and biomedical fields. She has been an IEEE NPSS member for more than 15 years. She was elected to IEEE senior membership in 2009. Over the course of her IEEE membership tenure, she has served as a technical program committee member, General Overseas Conference Attendance Chair (2010), Short Course Chair (2012) for IEEE International High Voltage and Power Modulator Conferences, a Technical Area Coordinator and Session Chair (2014 & 2018) for IEEE International Conferences of Plasma Science, and a guest editor for the 2009 special issue of *IEEE Transactions on Dielectrics and Electrical Insulation*, as well as the 2015 special issue of *IEEE Transactions on Plasma Science*.

**Statement:** As an applied plasma physicist and electrical engineer, I have engaged in pulse power – related research over 15 years ranging from design and development of nanosecond high voltage pulsed power sources to their applications in plasma science, as well as biomedical and environmental fields. I grow to appreciate the essence of pulse power – efficiency and economics. By compressing the power to a shorter release, the energy can be directed to achieve goals with efficiency better than any other power schemes. Although efficiency may imply better economics, compact and low cost pulse power generation has been one of primary interests in the development of pulse power technology for a variety of applications. Importantly, my research and the interactions with electrical and biomedical engineering students have showed me that how important pulse power technology is whereas how little it is recognized as an important subject in science and engineering for students to consider seriously and learn. By serving in the PPST Committee, I hope to learn and actively participate in efforts of improvement of the pulsed power technology dissemination in the broader community.

**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.

**HEATHER K. O'BRIEN** (M'04) received the B.S. degree in engineering from Harvey Mudd College, Claremont, CA, in 2003 and the M.S. degree in electrical engineering from Johns Hopkins University, Baltimore, MD, in 2009. Ms. O'Brien began her engineering career with Berkeley Research Associates on-site at the U.S. Army Research Laboratory (ARL), Adelphi, MD. Since 2006, she has been an Electronics Engineer with the Sensors and Electron Devices Directorate (SEDD) of ARL. Her expertise is in evaluation of high-voltage semiconductor devices for pulsed power applications. Her research supports demonstrations of compact, mobile pulsed power systems for the Army, and advances the development of high-voltage silicon carbide power switches. In 2012, Ms. O'Brien received the ARL Commander's Award for Civilian Service for dedication and technical accomplishments while serving as ARL-SEDD's lead pulse power component engineer. She has authored more than 20 conference proceedings and journal papers. She served on the Technical Program Committee for the 2015 IEEE Pulsed Power Conference, and has been a reviewer for the *IEEE Transactions on Plasma Science* and for the PowerAmerica Project Call. She will be a guest editor for the October 2018 *IEEE Transactions on Plasma Science* Special Issue on Pulsed Power Science and Technology.

**Statement:** I am at a point in my career where I am clinging to the role of hands-on researcher, which I enjoy, but I am required to expand into a position identifying new and necessary areas of research. I expect committee involvement will allow me to become more familiar with individuals of the community and gain understanding of where the future of pulsed power is leaning. I believe that

the best strength I bring to the committee is my capability to assess what needs to be done and follow through with appropriate action items to bring a project or task to successful completion. The variety of “hats” that I wear enables me to tackle many challenges. I have managed successful cooperative research agreements with both industry and university. I supported the development and implementation of ARL’s electrical safety program. I recently completed a developmental assignment outside my normal research area that required establishing procedures and coordinating personnel. In 2015, I received an ARL Customer Service Award for leadership of the Women’s History Month Committee. Outside of the laboratory, I spent three years as IEEE PELS-Baltimore secretary and web manager. Each year I organize local alumni events for my undergraduate alma mater.

**LAURENT PECASTAING** (M’09-SM’16) received the M.Sc and Ph.D. degrees from the Université de Pau et des Pays de l’Adour (UPPA), France, in 1998 and 2001, respectively. He worked as Lecturer from 2002. Dr. Pecastaing received the “Habilitation à Diriger des Recherches” in electrical engineering in 2010 and is currently a Professor in Pulsed Power with the UPPA. He is Director of a joint research laboratory (SAGE) between the CEA (French Alternative Energies and Atomic Energy Commission) and the UPPA since 2016 (20 researchers) and is the Head of the Electrical Engineering team (13 staff members and 10 PhD students) since January 2015. His current research interests include compact and repetitive high pulsed power systems, high power microwaves, high voltage electrical discharges (in liquids, solids and gases) and ultrafast electro-optic sensors. He authored and co-authored more than 100 research papers including 2 book chapters, 33 journal papers from which 15 are published in IEEE journals and 80 articles in international conferences. During his work at the UPPA I was scientific coordinator of 25 industrial contracts and 5 academic projects (with a research income in excess of 1,300,000€. He served on many national and international committees and as expert for the European Commission in the field of FP7 and H2020 projects.

**Statement:** During my career I have accumulated extensive knowledge and expertise in the pulsed power physics and technology. I am now a Senior Member of the IEEE. I was the Overseas Attendance Chair for the IEEE UK Pulsed Power Symposium, Loughborough, 2014 and I will be the General Chair of the next EAPPC (Euro-Asian Pulsed Power Conference) which be held from 13 to 17 September 2020 in Biarritz, France. I participate in the scientific animation of IEEE conference as chairman (e.g. IEEE Pulsed Power Conference (PPC) 2017 in Brighthelm, UK). I am a member of the International Scientific Committee of 6 international conferences among which EAPPC 2016 or IEEE PPC 2017 and a member of the reviewing committee of 18 international conferences among which IEEE Energy Conversion Congress, IEEE PPC or IEEE International Symposium on Power Electronics for Distributed Generation Systems. I support IEEE journals by acting as a reviewer (i.e. *IEEE Transactions on Electronic Devices*, *IEEE Transactions on Power Electronics*, *IEEE Transactions on Plasma Science*, *IEEE Antennas and Wireless Propagation Letters* and *IEEE Transactions on Dielectrics and Electrical Insulation*). I trained young researchers in the field of high pulsed power. Today, they have important positions in the largest French companies. I believe that all these factors have prepared me to serve effectively as a member of the Pulsed Power Science and Technology Committee. If I will be elected, I hope to help in connecting European people and organizations in the field of pulsed power technology to the IEEE institution, to attend and organize IEEE pulsed power related events, to organize exchange and experience sharing seminars under the IEEE NPSS banner between companies, scientific centers and institutions working in the field of pulsed power technologies. I will also work for attracting more students from Europe to apply for an IEEE membership, by organising regular meetings at various Universities across Europe.

**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 he 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. Dr. Timoshkin joined the Department of Electronic and Electrical Engineering, University of Strathclyde (UK) in 2001 where he became a Reader in 2016. He is a coordinator of the High Voltage Technologies Research Group which includes 10 members of staff and 30 PhD researchers. He authored and co-authored 50 research papers published in peer reviewed journals (19 of them are published in the *IEEE Transactions on Plasma Science*). During his work at the University of Strathclyde Dr. Timoshkin generated a research income in excess of £1,600,000. He 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. His research interests include pulsed power, dielectric materials, bio-dielectrics, gas discharges, non-thermal plasma for environmental and bio-medical applications.

**Statement:** During my 25 year career I have accumulated extensive knowledge and expertise in the pulsed power and plasma fields, 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 to the pulsed power field, 6 PhD students supervised by me successfully completed their theses, currently I supervise 9 PhD researchers. I attend the IEEE Pulsed Power Conferences, publish research papers in the IEEE TPS and support this journal by acting as a reviewer. I am a member of the Organising Committee of PPC-2017. I believe that all these factors have prepared me to serve effectively as a member of the Pulsed Power and Technology Committee. If I will be elected, I will use all my enthusiasm, expertise and experience to advance pulsed power, to attract young researcher and to promote 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 pulsed power/plasma projects and to become IEEE/NPSS members.

**IEEE NUCLEAR AND PLASMA SCIENCES SOCIETY**  
**PLASMA SCIENCE AND APPLICATIONS EXECUTIVE COMMITTEE ELECTION**  
**For the Three-Year Term 1 January 2018 – 31 December 2020**  
**(Vote for UP to SIX)**

**DAVID K. ABE** (S'89-M'92-SM'12-F'15) received a BS in engineering from Harvey Mudd College (1981), an MS in electrical engineering from the University of California, Davis (1988), and a PhD in electrophysics from the University of Maryland (1992). He joined the U.S. Naval Research Laboratory in 1996 and is currently the head of the Electromagnetics Technology Branch, a multi-disciplinary group pursuing basic and applied research in both vacuum electronic and solid-state devices with applications in radar, communications, electronic warfare, and RF directed energy. Dr. Abe's research interests include linear beam, slow-wave devices and components operating in the microwave to sub-millimeter-wave frequency regimes, multiple-beam devices, and the electromagnetic properties of materials. Prior to NRL, he worked on interdisciplinary projects in pulsed power, high power microwave generation, and electromagnetic effects at the Lawrence Livermore National Laboratory, Berkeley Research Associates, and the U.S. Army Research Laboratory.

He has been an active member of the IEEE community for the past 29 years, serving in various capacities as a session organizer and on the technical program committees of numerous conferences; as General Chair and Technical Program Chair of the 2014 and 2012 IEEE International Vacuum Electronics Conference, respectively; as a member of IEEE Electron Devices Society Technical Committee on Vacuum Electronics; as a guest editor of the *IEEE Transactions on Plasma Science Tenth Special Issue on High Power Microwave Generation*; and on the editorial board of the *IEEE Journal of the Electron Devices Society*. He has previously served as an elected member of the IEEE Nuclear and Plasma Science Society (NPSS) Administrative Committee and the NPSS Plasma Science and Applications Executive Committee. Dr. Abe is a Fellow of the IEEE and a member of the American Physical Society and the Association of Old Crows.

**KRIS BECKWITH** (M'14) is a Senior Research Scientist at Tech-X Corporation in Boulder, CO USA. He received his Master in Science in 2002 at the University of Durham, UK and completed his PhD at the Dept. of Physics, University of Durham, UK in 2005. His dissertation focused on connecting energetics in magnetohydrodynamic turbulence in curved space-time to X-ray observations of accreting black holes. He worked as a postdoctoral scientist at the Department of Astronomy, University of Virginia from 2005 to 2008, where he studied the influence of magnetic field topology on magnetohydrodynamic turbulence for black hole accretion and relativistic jet launching. From 2008 – 2009, he worked at the Institute of Astronomy, University of Cambridge, where he developed numerical methods for relativistic magnetohydrodynamics, before joining JILA at University of Colorado, Boulder in late 2009. While at JILA, he studied spectral properties of magnetohydrodynamic turbulence in a range of astrophysical plasmas. In 2012, he joined Tech-X Corporation, first as an Associate Research Scientist, before promotion to Research Scientist followed by Senior Research Scientist. At Tech-X Corporation, he leads the development of the USim fluid-plasma modeling tool and has research interests in advanced mathematical methods for problems in fluids, electromagnetics and plasmas and spectral energy transfer in magnetohydrodynamic turbulence.

**DAVID L. BRUHWILER** (M'99) received his Ph.D. in Astrophysical Planetary and Atmospheric Sciences from the University of Colorado, Boulder in 1990, applying Hamiltonian perturbation theory to plasma and beam applications, followed by a postdoctoral appointment to develop analytic models of magnetic field evolution and particle acceleration in solar flares. From 1992 to 1997, Dr. Bruhwiler developed beam dynamics codes and designed a wide range of electron and hadron accelerators for Grumman Aerospace Corp. and Northrop Grumman Corp. From 1997 to 2012, Dr. Bruhwiler worked for Tech-X Corp., becoming Vice President of Accelerator Technology. He played a key role in developing the concept of a self-ionizing plasma wakefield accelerator in 2003; contributed to one of the three LWFA "dream beam" Nature papers of 2004; developed new algorithms for correct simulation of dynamic friction in 2008; became a Fellow of the APS in 2010; and co-invented the Trojan horse concept in 2012. Dr. Bruhwiler co-founded RadiaSoft LLC in 2013, where he serves as President and CEO. Dr. Bruhwiler continues to develop new mathematical algorithms and to simulate a wide range of particle beam, plasma and radiation applications. His research interests include plasma-based accelerators and other high-gradient concepts, the nonlinear dynamics of high-intensity hadron beams, electron cooling, synchrotron and FEL light sources, X-ray optics, computational reproducibility, and high performance cloud computing.

**ANDREW CHRISTLIEB** (S'94-M'04-SM'08) received his BS of Electrical and Computer Engineering, BS of Mathematics and BS of Engineering Mathematics from the University of Michigan-Dearborn in 1996. He received his MS and PhD from the University of Wisconsin-Madison in Mathematics in 2001, with a focus on developing methods for modeling low-pressure plasma processing discharges. He did a Post Doc in the Aerospace department at the University of Michigan-Ann Arbor from 2001–2002, followed by a visiting Assistant Professor in the department of Mathematics at the University of Michigan-Ann Arbor from 2002–2006. His work focused on the development of Grid-Free particle methods for plasmas with geometry and lead to an invited talk at ICOPs in 2005. In 2006, he joined Michigan State University as an Assistant Professor, was promoted to Associate Professor in 2010 and again to full professor in 2014. In 2007, he was awarded the Air Force Young Investigator award. From 2008–2012, he was an IPA with AFRL RDHE group at Kirtland Air Force Base, focusing on improved particle methods for high power Magnetrons. In 2014 he was named

MSU Foundation Professor of Mathematics and in 2015 he was inaugural chair of the Department of Computational Mathematics, Science and Engineering (cmse.msu.edu). He leads a multi-disciplinary research group with a current research focus on high order defect correction methods, new implicit particle methods for electromagnetic plasma simulations, mesh-based Vlasov and Boltzmann solvers, as well as new high order AMR solvers for Magneto Hydrodynamics. Applications of focus include modeling of Z-Pinches, high power Magnetrons, strongly correlated plasmas, and a range of astrophysical applications. (<http://www.the-christlieb-group.org>). He has regularly participated in ICOPS. He served as the Session Organizers for Computational Physics and Techniques IEEE ICOPS for both 2012 and 2013, and the Technical Area Chair (TAC1) for Basic Plasma Physics in 2014. He feels service to the community is critical, and is very happy to serve in any capacity in IEEE. Other community service includes organizing several workshops at MSU, including one at MSU on the development of test problems for kinetic plasma simulations ([www.egr.msu.edu/amvv2012/](http://www.egr.msu.edu/amvv2012/)), and a follow-up meeting in 2014 at GEC on the same topic.

**MATTHEW A. FRANZI** (M'13) received the B.S. degree in Nuclear Engineering from the University of Michigan, Ann Arbor, MI in 2008 and his MS and Ph.D. degrees in Nuclear Engineering from the University of Michigan in 2010 and 2014 respectfully. His doctoral thesis focused primarily on the development of novel high power microwave sources for which he received the best student paper award at IVEC 14'. Upon receiving his degree, he took a position as an Engineering Physicist within the Technology and Innovation Directorate of SLAC National Accelerator Laboratory, Menlo Park, CA where he has worked from 14' to present. Dr. Franzi currently has 14 published peer review journal articles, one granted patent, and two pending. His area of expertise includes the development and implantation of efficient, cost effective, RF sources and high power, over-moded, microwave networks for normal conducting high gradient accelerator applications. Additional research areas encompass the study of cryogenic thin film materials, applications of high voltage piezoelectrics, very high power handling non-reciprocal media, and characterization of breakdown and conditioning in accelerating structures.

**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 and his doctoral research was supported by the *Stewardship Science Graduate Fellowship*. Following graduation, Matthew was hired as a staff member at Sandia National Laboratories in 2011, where he studies inertial confinement fusion and high energy density science on the Z machine. In 2016, Matthew temporarily took on the role of acting manager of the Radiation and Fusion Experiments Department, and has since returned to his research staff position. Matthew's work on Magnetized Liner Inertial Fusion has been featured in Discover Magazine, Physics Viewpoint, Physics World, and Nature. Matthew received a 2014 *Department of Energy's National Nuclear Security Administration's Defense Programs Award of Excellence*, and has been nominated for the 2015 *Presidential Early Career Award for Scientists and Engineers*. Matthew has co-authored 25 peer-reviewed publications, including 7 as first author, and has given 13 invited presentations.

**SANDRA HERNÁNDEZ HANGARTER** (M'17) is a research scientist in the Plasma Physics Division. She received her Ph.D. in Chemical Engineering from the University of California Riverside in 2011. She joined the U.S. Naval Research Laboratory as an National Research Council Post-Doctoral Fellow that same year as part of the Plasma Applications Section, then served as a Jerome and Isabella Karle Distinguished Scholar in 2014, and has been a research staff scientist since. Her research efforts encompass numerous aspects of material science, synthesis, surface modification, characterization, micro-fabrication and electronic devices. While in the Plasma Physics Division, Dr. Hernández research has focused on the interfacial surface engineering of graphene and other 2D materials by electron beam generated plasmas to manipulate wetting behavior, tribological properties, and chemical reactivity. She developed new approaches to create smart surfaces using electron beam generated plasmas, and discrete chemical patterning to introduce novel chemical designs into monolayer materials for molecular sensor platforms and surface mediated programmable material growth. Her work demonstrates the ability to tailor surface properties through modification of select attributes and the adequate understanding of these relationships to accelerate development of novel materials and devices. She has authored or co-authored over 40 journal articles.

**MAX LIGHT** (M'17) is a plasma physicist at the Los Alamos National Laboratory (LANL). He received the BS degree in Electrical Engineering from the University of New Mexico in 1989, and the MS and PhD degrees in Electrical Engineering from UCLA in 1994 and 2000, respectively. He joined LANL in 1994, where his research focused on anomalous transport in radio frequency helicon plasmas. His research then shifted to plasma cathode electron beam generation and radio frequency plasma thruster development through a collaborative effort with NASA. In 2010, he joined LANL's electromagnetic pulse sensor development group in support of the United States Nuclear Detonation Detection (USNDS) mission. His research focus is on trans-ionospheric electromagnetic wave propagation, and ionospheric scintillation.

Dr. Light has an extensive background in plasma diagnostic theory and implementation, plasma wave theory, and electromagnetic wave propagation through magnetized plasmas. He lectures plasma physics at the New Mexico Institute of Mining and Technology.

**JASON A. MARSHALL** (M'14) is a Principal Scientist with the Air Force Office of Scientific Research responsible for management and execution of the Air Force basic research investments in Plasma and Electro-energetic Physics. Dr. Marshall leads the Air Force strategy for fundamental inquiry in these fields through a combination of long-term portfolio objectives and special topic development such as the Multi-disciplinary University Research Initiatives (MURI). He received B.S. degrees in Anthropology and Chemistry from Eastern New Mexico University in 1994 and 1995 respectively, a M.S. degree in Chemistry from Washington State University in 1998, and a Ph.D. in Chemical Physics from Washington State University in 2002. His Ph.D. dissertation focused on temperature dependent laser spectroscopy of organometallic transition metal complexes to measure the charge transfer characteristics of their electronic transitions. He received a NIH postdoctoral fellowship working on single molecule fluorescence microscopy, where he developed a kinetic model to explain the stepping statistics of DNA replication in HIV reverse-transcriptase. He began his career with the Air Force in 2003 with the Air Force Research Laboratory, Directed Energy Directorate working on gas and chemical laser systems, becoming a branch chief in 2006 before taking an assignment with the Office of the Assistant Secretary of Defense for Research and Engineering (ASDRE) in 2010. While at OSD, he assisted in the strategic planning, assessment, and defense of the DoD Directed Energy Weapons technology area including High Power Microwave and High Power Laser Systems. Dr. Marshall has been a program officer with AFOSR since 2012, where he has focused on funding theoretical, computational and experimental research in strongly coupled plasma physics, plasma chemistry, beam wave interactions in relativistic beam devices, and pulsed power. Most recently he has developed successful MURI topics on "Beam/Wave Dynamics in Geometrically Complex Systems with Emitting Boundaries," with a focus on multipactor in space-based systems, and "Nanoscale Vacuum Field Effect Transistors," with a focus on the physics of nano-scale vacuum electronics as an option for radiation and EMP hard electronics and logic circuits.

**DAVID PHIPPS** (M'17) received a B.S. degree in physics from St Mary's College of Maryland in 1999 and a M.S. degree in applied physics from Johns Hopkins University in 2007. From 1999 to 2015, he was a Research Scientist working for the plasma physics division at the Naval Research Laboratory in Washington, DC. From 2015 to the present, he continues to serve as a Senior Research Scientist for L3 Applied Technologies in San Leandro, CA. At L3, he facilitated the transition of the Short Pulse Gamma machine from the prototype phase into a full test facility for testing of strategic/space systems. His research areas of interest include optics, electron/ion beams, plasma opening switches, bremsstrahlung sources, plasma and radiation diagnostics, and innovative ideas for pulse power simulators.

**BRIAN POOLE** (S'74-M'83-SM'14) is an electrical engineer and accelerator physicist at the Lawrence Livermore National Laboratory (LLNL). He received the B.S. degree in electrical engineering and the M.S. and Ph.D. degrees in 1977, 1979, and 1984 respectively, all from the Polytechnic Institute of New York (now the New York University School of Engineering) and was recipient of the Ernst Weber Scholarship while a graduate student. While a student his research focused on linear and nonlinear wave propagation and wave-plasma interaction and plasma heating. He joined LLNL in 1983 and has worked in plasma physics, accelerator physics, and electromagnetics. He was responsible for the ECRH microwave heating system design for the MFTF-B magnetic fusion experiment and then worked on high power microwave sources including BWOs, beam-plasma interaction, and super-radiant Cerenkov sources. He then joined the Beam Research program where he was responsible for the design of the fast kicker system, development of a slice code for beam transport, and downstream transport simulations for the DARHT-II accelerator at Los Alamos National Laboratory. After that he continued to work on compact high gradient proton accelerator for proton therapy. Recently he has worked on high power sources based on photoconductive switch technology, high power microwave sources based on photonic crystals and metamaterials, beam transport with transverse-longitudinal correlation, microwave propagation in dusty plasmas, RF design for ion traps for quantum state manipulation, and effects of electromagnetic pulse (EMP) and geomagnetic disturbance (GMD) on the U.S. power grid.

He is author or coauthor of over 50 journal and conference articles and has two U.S. patents and two pending. He was recipient of the LLNL Silver Global Security Award in 2013, and of two LLNL external publication awards in 2009 and 2013. Dr. Poole is a Senior Member of the IEEE and a member of the American Physical Society.

**RICK SPIELMAN** (M'07) received his Ph.D. in Plasma Physics from the University of California, Davis, CA in 1978. Moving to Sandia National Laboratories in 1979, he was first a Member of the Technical Staff, then a Principal Member of the Technical Staff, and finally a Distinguished Member of the Technical Staff. In 1999 he was promoted to be the Manager of the Pulsed Power Research Department in the Pulsed Power Center at Sandia. He left Sandia to go into private industry in 2001. From 2005–2012, he was the Vice President of Ktech Corporation. In 2013 he joined Idaho State University where he is presently a Professor of Physics, Associate Chair of Physics and Associate Director of the Idaho Accelerator Center. His research focus is pulsed-power engineering and pulsed power physics as it relates to high energy density physics. This includes the fields of electron beam radiography, pulsed-power-driven z-pinch radiation sources, x-pinch radiation sources, intense particle beam generation, and inertial confinement fusion. He was the Chief Scientist and Project Manager at Sandia for the successful Z Machine – the most powerful pulsed-power driver in the world. He has published over 200 articles in refereed journals—and has been cited more than 5700 times with an H index of 40 according to Google Scholar.

Professor Spielman has been a member of the American Physical Society (APS) since 1974 and a member of the Institute of Electronics and Electrical Engineers (IEEE) since 2006. He was University of California Chancellors Fellow and Regents Fellow.

**COLIN G. WHYTE** (M'10) is a senior research fellow at the University of Strathclyde in Glasgow, UK. He received his Bachelor of Science degree from Glasgow University in 1991 and his Masters from The University of St Andrews in 1992. He completed his PhD, also at the University of St. Andrews, in 1995 working in the field of copper gas discharge lasers. His thesis focused on time resolved Hook spectroscopy measurements of excited state population densities in the copper vapour system with time correlated electron density measurement. After a period working on artificial guide star generation at the Université Josef Fourier de Grenoble, in 1996 he joined the Atoms Beams and Plasmas group at the University of Strathclyde to work on free electron devices in the 1–300GHz frequency range. He has worked on wideband free electron maser amplifiers in the reverse guide field regime, novel helically corrugated waveguide gyro-amplifiers as well as linear beam devices including folded waveguide and ring loop travelling wave tubes. He is currently second to the Rutherford Appleton Laboratory working as International Project manager for the Muon Ionisation Cooling Experiment. He continues his research interests at the University of Strathclyde with projects from the British Council Newton fund looking at novel low cost electron accelerators for X-ray production. Dr. Whyte has a strong track record in industrially linked projects with numerous industrially linked and funded projects on electron beam devices.

## IEEE NUCLEAR AND PLASMA SCIENCES SOCIETY ELECTION

### RADIATION INSTRUMENTATION STEERING COMMITTEE ELECTION

For the Three-Year Term 1 January 2018 – 31 December 2020

(Vote for UP to FIVE)

**REYNOLD J. COOPER** (S'94-AM'97-M'99-SM'06) is a Staff Applied Physicist in the Nuclear Science Division at Lawrence Berkeley National Laboratory (LBNL) where he leads the Instrumentation and Data Integration Group in the Applied Nuclear Physics Program. He received B.Sc., M.Sc. and Ph.D. degrees from The University of Liverpool, UK and joined LBNL in 2011 following three years of postdoctoral research at Oak Ridge National Laboratory. Reynold has a background in the development of novel semiconductor detectors and currently leads a broad research program in the development of radiation detection and imaging systems, algorithms, and modeling tools for fundamental physics and nuclear security.

**Statement:** My research career has focused on the development of instrumentation and algorithms for radiation detection and imaging across a range of application spaces. My interests range from the development of novel semiconductor detectors to, more recently, the application of graph theory and machine learning to the analysis of radiation data. I am also interested in the communication of science and am active in outreach activities at LBNL and beyond.

I wish to become a member of the RISC in order to promote the science and application of radiation detection technology and to support and advocate for the scientific community at large. If elected, I will serve the core functions of the RISC in planning the IEEE NSS/MIC conferences. In doing so, I will seek to engage early career scientists and allow their perspectives to inform the long range planning of these meetings. I will also promote opportunities for graduate students and young scientists to become more involved in the radiation instrumentation community.

I have regularly contributed oral and poster presentations to the IEEE NSS/MIC, and RTSD meetings as well as SORMA conferences. I serve as a reviewer for IEEE TNS and have acted as a reviewer for IEEE NSS/MIC and RTSD for several years. I served on the organizing committee of the 2016 SORMA West conference where I also served as the topic chair for *Passive Detection in a Wide Area Search and Cluttered Environments*.

**GRZEGORZ W. DEPTUCH** (S'94-AM'97-M'99-SM'06) received a M.Sc. in electronics from the AGH University of Science and Technology, Krakow, Poland, in 1996 and a Ph.D. in physics-electronics jointly from Université Louis Pasteur, Strasbourg, France and from the AGH University of Science and Technology, Krakow, Poland in 2002. He was as a research assistant at the AGH University of Science and Technology, Krakow, Poland since 1996, then a postdoctoral researcher with Laboratoire d'Electronique et Physique des Systèmes Instrumentaux, Strasbourg from 2002 to 2004, and in 2005, he joined the Instrumentation Division at Brookhaven National Laboratory, Upton, NY, as an assistant physicist. For the last decade, he has been with Fermi National Accelerator Laboratory, Batavia, IL where since 2011 he has led the ASIC Development Group. He received IEEE NPSS Radiation Instrumentation Early Career Award in 2008. He is senior member of IEEE since 2007. He is an author or co-author of about 120 publications and holds three US patents. His interests lie in mixed-mode integrated circuits for reading out signals from radiation detectors with emphasis on pixel detectors, where he seeks for innovative technologies allowing bringing new generations of devices with more in-situ processing to life.

**Statement:** I have carried out research on radiation detectors and integrated electronics, processing signals from these detectors, for much of my career. My first design of an integrated circuits was in a 1.2 um CMOS process, now I work in 65 and 40 nm nodes. I have been looking comprehensively into the development of new detector systems to understand well optimization of individual components, like a sensor, readout integrated circuit, data acquisition, but also their interplay to build instruments allowing collecting good sets of data. If elected to RISC, I would work in a similar manner seeking for cohesion, helping to maximize benefit to the radiation instrumentation community through carrying about the detailed exposure of core components and justifying their specifications by good understanding of applications and instrumentation systems. I would be advocating for such a balanced content for the benefits of NSS/MIC/RTSD meetings programs. I think that this is important for attraction of more young scientists into the field and for keeping the high quality of the NSS/MIC/RTSD meetings. I have contributed presentations to IEEE meetings over many years, while my first meeting was in 2001 in Lyon, France. Since 2009, I have been regularly involved in shaping of the meetings through serving as topic convener for sessions on novel semiconductor detectors. I hope that my experience and my intrinsic curiosity would make me an effective member of RISC.

**MAREK FLASKA** (M'06-AF'08-M'11-AF'13-M'17) is an assistant professor of Nuclear Engineering of the Mechanical and Nuclear Engineering Department (MNE) at the Pennsylvania State University (PSU). He received his Ph.D. in Applied Physics from the Delft University of Technology in 2006. Since then, he had been actively working in the fields of nuclear nonproliferation, nuclear safeguards, and nuclear forensics. He is the founder and director of the Radiation Detection, Characterization, and Imaging Laboratory at MNE PSU. His interests include novel detection methods and algorithms for identification and characterization of nuclear materials for nuclear nonproliferation, homeland security, and nuclear-forensics applications, particle imaging, neutron activation analysis, neutron and gamma-ray spectroscopy, time-of-flight experiments, low- and high-energy nuclear data-acquisition systems with real-time processing capabilities (FPGAs, ASICs) for various radiation detectors. During his professional career he has supervised a large number of graduate and undergraduate students and published approximately 180 papers in peer-reviewed scientific journals and international conference

proceedings. His current teaching activities at PSU include undergraduate- and graduate-level courses for radiation detection for nuclear nonproliferation and safeguards, radiation detection instrumentation, radiation transport, and health physics.

**Statement:** I would like to utilize my radiation detection expertise and communication skills to help promoting the NSS/MIS/RTSD meetings throughout the scientific community. Specifically, I perceive these meetings as the most relevant events in their fields, and it would be my mission, if elected as a member of the Radiation Instrumentation Steering Committee, to further strengthen this perception throughout the research communities by promoting the main missions and topics of the meetings. These meeting should be greatly beneficial to the attendees in a long-term manner, and the meeting programs and topics must be chosen accordingly to meet this objective. Another important objective I would be pursuing is to attract more young scientists (young professionals, undergraduate and graduate students) to attend meetings, to reinforce the importance of the meetings and their long-term quality. I have been contributing to the IEEE meetings for more than 12 years and I am looking forward to, if given the opportunity, to serve the IEEE to the best of my capabilities by effectively promoting the IEEE meetings and making them the ultimate technical meetings for the entire nuclear science community.

**JASON HAYWARD** (S'94-AM'97-M'99-SM'06) UCOR Fellow, is an Associate Professor of Nuclear Engineering at the University of Tennessee. Hayward holds joint faculty appointments with Oak Ridge National Laboratory and the joint UTK-ORNL Bredesen Center for Interdisciplinary Research. He also serves as the Nuclear Engineering Graduate Program Chair and as a Deputy Executive Director for the Nuclear Science and Security Consortium. Hayward is the recipient of a DOE Science CAREER award. ASEE has also recognized him with a New Faculty Research Award and as a 'faculty under forty' highlight. At UTK, he's the recipient of a University Citation for Professional Promise in Research and Creative Achievement and a four time recipient of research awards in the College of Engineering. Hayward is an IEEE Senior Member and an Associate Editor for IEEE Transactions on Nuclear Science. He holds a PhD in Nuclear Engineering and Radiological Sciences from the University of Michigan. Prior to his time in academia, Hayward served as a U.S. Naval Officer for eight years. More information on his research is available at <http://ne.utk.edu/people/jason-p-hayward/>.

**Statement:** I have been involved in IEEE-NPSS activities for over a decade now. In recent years, I have served as an IEEE TNS reviewer and editor and occasionally also as a session chair for NSS or SORMA. I also recently became a Senior Member of IEEE. I enjoy the NSS-MIC the most out of all scientific conferences that I have attended due to the high quality of the work presented, the breadth of the work presented, the diversity of scientific and engineering expertise represented, the high level of international participation, the effort put into making these conferences excellent, and the opportunity to spend time with my colleagues. I am particularly intrigued by the diverse backgrounds represented, including high energy physics, astrophysics, radiation detection, medicine, and more. This is the perfect environment for professional growth, both for my students and personally. The NSS-MIC format has been very successful, and I believe it deserves to be preserved; even so, improvements can always be made. At the same time, it is important to recognize and celebrate members of our society for their professional accomplishments. I am seeking to determine what is most needed in our community and plug myself in there to make a contribution.

**HARTMUT HILLEMANN** (S'94-AM'97-M'99-SM'06) is an experimental physicist working for the ALICE Experiment in the EP division at CERN. During his thesis, he worked on the development and characterization of detector prototypes for the electromagnetic calorimeter of the CMS experiment and received a PhD from RWTH Aachen, Germany, in 1995. He continued to work on particle physics detectors during his postdoctoral research at RWTH Aachen and LPNHE in Paris. From 1999 to 2005 he held various managerial positions in Swiss IT companies, before joining the Technology Transfer Group of CERN in 2005, where he was in charge of the assessment and dissemination of the radiation detection technology portfolio, as well as for fostering R&D projects on detection technologies of potential use for applications outside high energy physics. In 2012 he joined the ALICE experiment, where he currently works on the development and production of monolithic active pixel sensors for the upgrade of the Inner Tracking System.

**Statement:** I have been working for most of my career in the field of instrumentation for radiation detection, covering a wide range of different detection technologies. Over the last years, I have also been contributing to the IEEE meetings with talks and the organization of technology transfer events. If being elected to RISC, I will make available my technology expertise together with my professional experience in industry and in the dissemination of high energy physics detection technologies in order to provide support and advice for the strategic alignment of the NSS/MIC/RTSD community in the coming years. More particularly I would like to contribute to keep instrumentation for radiation detection an attractive field for the career of young members of our community, as well as to identify and assess opportunities and synergies to disseminate the technologies, expertise and knowhow of our field to a wide range of applications in order to enhance the recognition and acceptance of our field by society at large.

**SRILALAN KRISHNAMOORTHY** (S'94-AM'97-M'99-SM'06) 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.

**ZHEN-AN LIU** (S'94-AM'97-M'99-SM'06) is a physicist in the Experimental Physics Division (EPD) at the Institute of High Energy Physics (IHEP), Chinese Academy of Sciences (CAS), and a Professor at University of Chinese Academy of Sciences (UCAS), Beijing China. He received a B.S. in Experimental Physics from University of Science and Technology of China (USTC) in 1983 and M.S. in High Energy Physics from Graduate School of Chinese Academy of Sciences (GUCAS which transformed to UCAS later) in 1988 and a Ph. D in Particle Physics from GUCAS China in 1999. He visited GSI, Darmstadt Germany and CERN Geneva in 90's as a visiting scientist for years, and jointed again IHEP Beijing to design and construct the trigger system for Beijing Spectrometer (BES III) in year 2001 with a completion in 2008. He has been leading a group, which has an active research program in instrumentation development for particle physics, plays a leading role in TDAQ development in PANDA experiment (since 2007 to present), the overall readout for Belle II experiment (Belle2link) since 2008 to present, the readout and data reduction system for Belle II/PXD detector(ONSEN) since 2010 to present, and the Concentration, preprocessing and Fanout (CPPF) for CMS L1 trigger system Phase I upgrade since 2013.

**Statement:** I have carried out research on radiation instrumentation for much of my career. If elected to RISC, I would work to enhance its core functions, helping to maximize benefit to attendees of NSS/MIC/RTSD meetings, and advocating initiatives of value to the radiation instrumentation community. I would help to foster an environment that will attract more young scientists into our field. I have contributed presentations to IEEE meetings over years, and participated in several meetings as an organizing committee member (Local Chair for Real Time Conference 2009 in China, Scientific Committee Co-chair for RT2014 in Japan and RT2016 in Italy, Asia-Pacific Liason Co-Chair NSS-MIC2013 in Korea, Membership Booth running in SOFE2017 in Shanghai, and TIPP2017 as General Chair in Beijing), all of which have given me insight to be an effective member of RISC.

**FRANCISCO JAVIER RAMIREZ-JIMENEZ** (S'94-AM'97-M'99-SM'06) is a researcher on Nuclear Electronics in the National Institute for Nuclear Research, ININ, MEXICO, since 1980. He is engineer in Electronics from the National Polytechnic Institute, Mexico and received a Ph.D in Electronic Engineering from the Toluca Technological Institute, Mexico in 2005. He leads the Laboratory of Radiation Detectors at ININ in which the main interest is the research on new radiation detectors and applications. He also has a continuous participation in scientific/technical events with the International Atomic Energy Agency, IAEA, and is considered an expert in semiconductor radiation detectors in the IAEA Physics Section, is a member of the consultant team: Technical Working Group on Nuclear Power Plant Instrumentation and Control, TWG NPPIC of the IAEA Nuclear Power Engineering Section.

**Statement:** The main activities in my career are related with research on radiation instrumentation and nuclear electronics for applications in Medical Physics, industry and medicine. If elected to RISC, I would continue serving in the promotion of the application of radiation detectors in the different fields of science and trying to get more benefits to the IEEE NPSS community for its professional development. Since 2004, I have been serving in the CIP committee, promoting the NSS/MIC/RTSD meetings and attracting new young scientists to IEEE NPSS. I contribute to TNS and to the NSS/MIC/RTSD meetings as reviewer in the fields of front end electronics, homeland security, scintillator and semiconductor radiation detectors. I consider that I could be an effective member of RISC according with my experience serving to IEEE NPSS key activities.

**YOSHINOBU UNNO** (S'94-AM'97-M'99-SM'06) is a physicist in the Institute of Particle and Nuclear Study at the laboratory, KEK (High Energy Accelerator Research Organization), in Japan. He received Ph.D in Physics in 1975 from Tohoku University, Japan, followed by postdoctoral work in the Mark-III experiment at SLAC. In 1981 he joined KEK as a staff member; first to the VENUS experiment at TRISTAN e+e- collider. Since 1991 he has been working on silicon tracking devices for highly radiation environment; silicon strips for SSC (1991-1993), silicon strip tracker, SCT, of the ATLAS experiment (1993-present), and strip as well as pixel sensors for the ATLAS tracker upgrade for HL-LHC (2004-present). He contributed to the SCT as a barrel module co-convenor, and has contributed HL-LHC as co-convenors of the strip and/or pixel sensors R&D's. He has published a number of papers on the radiation-tolerant silicon tracking sensors in IEEE Trans. Nucl. Scie. and other journals. He has been organizing international conferences: a series of International "Hiroshima" Conference on Development and Application of Silicon Tracking Detectors, "Trento" Workshop on Advanced Silicon Radiation Detectors (3D and p-type), as a regular organizer, 2012 International Workshop of Semiconductor Pixel Detectors for Particles and Imaging as a local and IAC organizer, and 2005 International Workshop on Vertex Detectors as a local organizer.

**Statement:** I have carried out research and development on radiation-tolerant silicon tracking devices for high-energy physics experiments over 25 years, and contributed to organizing silicon-related conferences as a member of regular or local organizing committees. All of these contributions have given me insight of the role of Radiation Instrumentation Technical Committee (RISC). If elected, I would work to enhance its function: to promote the development and application of radiation detectors, to provide the long range planning and to serve for the interests of the attendees of the Nuclear Science Symposium & Medical Imaging Conference (NSS/MIC). I have already contributing to 2019 NSS/MIC in Manchester as a deputy chairperson. I would also work to help communication between experienced and young scientists, to attract young scientists into our field, and to help initiatives and diversities to add value to the radiation instrumentation community.