

# IEEE NUCLEAR AND PLASMA SCIENCES SOCIETY ELECTION

## Election of Members to the Administrative Committee

### NUCLEAR MEDICAL AND IMAGING SCIENCES (Vote for One) For a Four-Year Term 1 January 2023 – 31 December 2026



**JAE SUNG LEE** (S'96-AM'01-M'06-SM'15) received his bachelor's degree of electrical engineering and PhD of biomedical engineering from Seoul National University (SNU), Seoul, Korea in 1996 and 2001, respectively. He then worked as a postdoctoral fellow of radiology at John Hopkins University. In 2005, he joined SNU College of Medicine where he is currently a professor of nuclear medicine, biomedical engineering, and biomedical sciences. He was also a visiting professor at Stanford University (2015-6).

His early academic achievements are mainly related with the PET/SPECT imaging studies for understanding the energetics and hemodynamics in brain and heart. These studies include his pioneering works to solve the blind source separation problems in dynamic PET data using unsupervised machine learning techniques, such as independent component analysis (ICA) and non-negative matrix factorization (NMF). The most notable achievement of Dr. Lee's group since the foundation of his own lab in SNU is the development of very early PET systems based on a novel photo-sensor, silicon photomultiplier (SiPM) that is now widely used in clinical and preclinical PET systems. He is now focusing on the machine learning techniques again for answering challenging questions in various medical imaging modalities.

He has published 14 book chapters and over 300 papers in peer-reviewed journals and received multiple research awards from various scientific societies. He is the editor-in-chief of Biomedical Engineering Letters (BMEL) and serves as editorial and advisory board members for many other international scientific journals. In IEEE Nuclear Science Symposium and Medical Imaging Conference (NSS/MIC), he was the MIC chair in 2013 and 2021. He served as the chair of the Nuclear and Medical Imaging Sciences Council (NMISC) and the member of AdCom of the IEEE Nuclear and Plasma Sciences Society (IEEE NPSS). In 2016, he founded Brightonix Imaging Inc. that provides PET imaging instrumentations and AI software solutions to the medical and molecular imaging society.

**Statement:** I was previously a voting AdCom member in my role as NPSS NMISC chair. I have been active in the field of medical imaging research involving both hardware and software for over 25 years. In particular, I have contributed to our society by playing various roles in the NMISC activity and NSS/MIC/RTSD conferences (MIC Chair, Guest Editor, and MIC Co-Chair in 2013, 2018, and 2021 NSS/MIC/RTSD; NMISC Chair in 2018-2019; NPSS Seoul Chapter Chair in 2019-2020; JES Chair in 2021).

If I am elected, I will do my best to represent the rights and interests of NMISC members based on my diverse experiences at NMISC and NPSS, and pursue harmonious development of NMISC with other technical committees under NPSS. In addition, I will actively support the activities of women and young scientists and encourage more active participation of researchers in the under-represented regions around the world.

During the covid-19 pandemic, we have missed out on the days of building our friendships through in-depth academic conversations in face-to-face meetings. On the other hand, we were able to learn about the efficiency and economic feasibility of on-line meetings. In the post corona era, many aspects of our daily lives will change. I will listen to the opinions of NMISC members on how our experiences through the covid-19 pandemic can further advance our society and conferences, and we will try to make these changes come true.



**SULEMAN SURTI** (S'98-AM'01-M'03-SM'08) is a Research Professor in the Department of Radiology at the University of Pennsylvania where he received his PhD in Physics in 2000. His research specialty is in quantitative PET imaging geared towards instrumentation for clinical and organ-specific systems. In a career spanning over 25 years, his research has focused on system development, optimization, and evaluation of several PET scanners developed at Penn as well as new commercial systems - ranging from small-animal PET through application specific PET (brain, breast, proton) to whole-body PET (Non-TOF, TOF, long axial field-of-view).

Suleman has previously served as the NMISC chair (2012-2013) and MIC co-chair (2016 and 2019). Has also served as the NPSS representative on the IEEE Transactions on Medical Imaging (TMI) Steering Committee (2014-2017) and is currently serving as the IEEE Transactions on Radiation and Plasma Medical Sciences (TRPMS) Steering Committee Chair (2016-current). He has also served as an Associate Editor for IEEE Transactions on Nuclear Science (TNS) (2015-2016) and IEEE TRPMS (2017-current), and is currently the chair of the joint oversight subcommittee (JOS) of RISC and NMISC that is responsible for the NSS/MIC site selection.

**Statement:** I have been participating in IEEE NSS/MIC for 25 years and have been a member of IEEE throughout this period, progressing from a Student member to Senior member. Over the years this meeting has contributed vastly to my professional development as a scientist using advanced technology to improve nuclear medicine imaging. During my term as the NMISC chair I was also heavily involved in the formation of a new imaging journal to better represent the needs of the NMISTC community for publishing papers in a high impact journal that could also be indexed within PubMed. If elected as the NMISTC representative to AdCom, I will work to further the goals of the NMISTC community by advocating for stronger student involvement in the annual meeting, improving accessibility to our meetings, and strengthening the publications.

**PARTICLE ACCELERATOR SCIENCE AND TECHNOLOGY (Vote for One)  
For a Four-Year Term 1 January 2023 – 31 December 2026**



**JOHN LEWELLEN** (M'04-SM'19) graduated from Case Western Reserve University in 1991 with a B.S. in Physics, and was granted a Ph.D. in Applied Physics by Stanford University in 1997. While at Stanford, he worked with Dr. R.H. Pantell on compact and high-efficiency free-electron lasers. From 1997 to 2007, Dr. Lewellen was at Argonne National Laboratory. In 2004, Dr. Lewellen helped form the Argonne-Office of Naval Research Project Office, where he served as Deputy Director and Beam Physics Lead. In 2007 Dr. Lewellen accepted a position at the Naval Postgraduate School in Monterey, CA as a Research Associate Professor. There, he led the team that designed, built and operated the first quarterwave superconducting RF photoinjector. Dr. Lewellen transitioned to the Los Alamos National Laboratory in 2012, where he worked on a variety of projects including the MaRIE X-FEL accelerator, and accelerators for space applications. He served as Chief Scientist for the AOT division for several years, and also engaged with the Scorpius induction linac project. In mid-2021, Dr. Lewellen began working with the LCLS-II-HE project at SLAC on the development of a quarterwave SRF beam source for the HE upgrade, and in October 2022 joined the HE project as System Manager, QW SRF gun R&D. Dr. Lewellen is a Fellow of the American Physical Society. He has numerous peer-reviewed publications across a variety of topics, and has been granted 16 patents related to accelerator technology, including industrial and medical applications.

**Statement:** The IEEE has been an underlying factor throughout my career, a fact which I have come to recognize more strongly in recent years. The accelerator-related conferences sponsored by IEEE, for instance, provide invaluable venues not only to present one's work, but also to forge relationships, professional and personal friendships that can span a career. They – and thus the IEEE – have also helped lead me towards pathways that I otherwise would not have seen, for both research interests and my career as a whole. It would be difficult for me to overstate how important this has been for me. The work the various committees perform regarding outreach, course development and awards are also vital to the continuing health of our field. I feel it's time I start giving more back to the field in general, and to IEEE in particular. Further, serving as an AdCom M-a-L would both allow me to begin better serving my community, and to more clearly identify future paths to increase my engagement. As AdCom Members-at-Large have voting rights, the position carries with it responsibility as well as capability to influence the future direction of PAST and NPSS. I believe my range of professional interests and career experience positions me well to serve in such a role.



**ROBERT SAETHRE** (S'86-M'87) is an engineering manager with more than 35 years of progressive experience in management, design, product development, and operations of accelerator and electrical power conversion systems for industry and governmental institutions. He joined ORNL in 2011 after an extensive career in industry with expertise in fiber optics design and pulsed power systems for accelerator systems and light sources for semiconductor photolithography. For many years, he was the team leader for accelerator magnet systems then the Electrical Systems and Operations Group Leader for the Spallation Neutron Source's Research Accelerator Division and, currently, is the Asset Management and Engineering Programs Manager for the Neutron Sciences Directorate. He is an active member in the Electrical Engineering community and has held several leadership roles in the IEEE conferences and workshops, currently including General Chair of the 2022 International Power Modulator and High Voltage Conference co-sponsored by NPSS, Vice-Chair of the IPMHVC EXCOM, and Local Organizing Chair of the IEEE NPSS IPAC24.

**Statement:** I am an active participant in IEEE conferences and have a strong interest in particle accelerator technologies and its applications. The opportunity to participate in organizing conferences such as the International Particle Accelerator Conference (IPAC) and promoting accelerator science and technology in general is exciting to me. Developing a diverse and inclusive workforce is a major part of my role at ORNL and feel it is important for conferences to support and promote this as well. Developing young engineers and scientists through outreach programs and events is an essential role of IEEE societies and being a member of the NPSS PAST is a great way of giving back to the next generation. I thank you for your time and consideration to be a member of the NPSS PAST Adcom as a Member at Large.

**RADIATION EFFECTS (Vote for One)**  
**For a Four-Year Term 1 January 2023 – 31 December 2026**



**MICHAEL CAMPOLA** (M'11) received the B.S. degree in Engineering Physics from Embry-Riddle Aeronautical University, and the M.S. degree in Electrical Engineering from Arizona State University. He is currently the leader of the Radiation Effects and Analysis Group at National Aeronautics and Space Administration's Goddard Space Flight Center (NASA-GSFC). Michael joined the Flight Data Systems and Radiation Effects Branch at NASA-GSFC in 2007. Throughout his career, he has been working on the center's spaceflight projects to capture system-level radiation response through analysis and ground-based testing of semiconductors with research into promising future technologies through the NASA Electronic Parts and Packaging (NEPP) program. The primary goal of this work and research is to provide support for mission success through implementation of Radiation Hardness Assurance (RHA) practices. He is a member of the Institute for Electrical and Electronics Engineers (IEEE) and Nuclear and Plasma Sciences Society (NPSS).

**Statement:** My interest in running for AdCom stems from wanting to gain understanding of our society and how it operates beyond the Radiation Effects Community (REC). I'm curious about the other fields within NPSS, the people who support those efforts through technical committees, and the shared goals across our communities. If nominated I'd like to turn the experience into an opportunity to strategize and grow our membership and conference attendance.



**PHILIPPE PAILLET** (M'97-SM'04-F'18) received his Master's degree in Electrical Engineering from the Université Aix-Marseille I, France in 1989 and his PhD degree in Electrical Engineering from the Université Montpellier II, France in 1995. He joined the Commissariat à l'Energie Atomique (CEA) in Arpajon, France in 1995 and is CEA International Expert. Philippe has been involved in numerous programs developing radiation-hardened electronic and optoelectronic technologies, characterizing the physical mechanisms responsible for radiation response of components and ICs, modeling the effects of radiation in MOS technologies and the creation of radiation-induced defects, and developing hardness assurance approaches. Philippe is currently serving as Associate Editor for IEEE Transactions on Nuclear Science and as RADECS Liaison to the IEEE Radiation Effects Steering Group.

**Statement:** My technical interests include the effects of radiation on electronics and optoelectronics, methods for understanding, modeling and mitigating those effects. I have participated in the IEEE Nuclear and Space Radiation Effects Conference as a Session Chair (2003, 2008), Radiation Effects Data Workshop Chair (2013), Local Arrangements Chair (2014), Technical Program Chair (2016), and Short Course Speaker (2022). I have authored or co-authored more than 200 publications, most in IEEE Transactions on Nuclear Science for which I currently serve as Associate Editor. My experience in the community along with technical knowledge and conference experience will allow me to be an effective AdCom member for the Nuclear and Plasma Sciences Society.

I would be honored to serve on AdCom. As a member, my goal would be to develop and support initiatives addressing the needs of the radiation effects community and of all the sections supported by the NPSS, to continue to foster diversity, inclusiveness and equality across the membership, and to promote the growth of IEEE and NPSS.

**RADIATION INSTRUMENTATION (Vote for One)**  
**For a Four-Year Term 1 January 2023 – 31 December 2026**



**GIULIA HULL** (M'17) received her PhD in Physics from the University "Roma Tre" (Rome, Italy) in 2005, defending an experimental thesis on the development of new scintillator-based instrumentation for medical imaging applications. She further pursued this research activity as a post-doctoral collaborator for one more year. In 2006 she joined the Lawrence Livermore National Laboratory (LLNL) as Post-Doctoral Research Staff member in the "Physics and Advanced Technologies" directorate. Her work at LLNL focused on the study of the detection properties of new scintillator materials, with particular attention to the light yield, the energy resolution and the non-proportionality effect. In 2010 Giulia Hull integrated the Centre National de la Recherche Scientifique (CNRS), in France, as Research Engineer, and since 2019, she is Senior Research Engineer. From 2010 to 2016 she has been member of the "R&D Detectors" group of the "Institut de Physique Nucléaire d'Orsay" (IPNO) and from 2017 she was head of the group. Since 2020, she is the head of the "Particles Detectors and Instrumentation" group in the Engineer Department of the "Laboratoire de Physique des 2 Infinis Irène Joliot-Curie – IJCLab", a recently established laboratory resulted from the merging of five institutes, including the former IPNO.

Detectors and detection properties have always been at the heart of Giulia Hull's research interests. Her current activity is centered on the design and R&D of ionizing radiation detectors for physics experiments, in different fields of applications. In particular she is the lead engineer for the development of photodetectors and scintillator based-detectors. Her most recent work includes the development of the calibration system for NectarCam, a medium size telescope of CTA, the development of the Neutral Particle Spectrometer at JLab, the R&D activity on the new LiquidO detection technique, and the R&D for a new generation shashlik calorimeter for high-energy physics experiments. Giulia Hull has also served as a reviewer for the IEEE Transactions on Nuclear Science since 2008; a prior RISC member in 2019-2021, and currently chairs the sub-committee to revise the RITC Constitution and Bylaws.

**Statement:** Since my PhD I have been involved in the activities of the IEEE-NPSS and, at many levels, these activities have contributed in defining my professional life. Since my first meeting in 2003, I started regularly attending the NSS-MIC conferences, which I believe are irreplaceable appointments for our community. I am serving as TNS reviewer since 2008 and I have been an elected member of the RISC from 2019 to 2021. As a member of the RISC, and as chair of the sub-committee in charge of the revision of the RITC Constitution and Bylaws, I learned the functioning of the committee and I have been able to fully realize and deeply appreciate the work done for the RITC community, including the organization of successful conferences and the presentation of prestigious awards. I am really interested in pursuing my participation and further developing my contribution to the activities of the IEEE-NPSS, and for this reason I would like to propose my candidature for the AdCom. If elected, I will put my experience, motivation and strong commitment at the service of the Society. It is my opinion that one of the main strengths of IEEE-NPSS is the ability to gather people from different fields, with very complementary backgrounds and expertise, at different stages of their career, fostering a virtuous and fruitful exchange of ideas. In this sense, if elected, I engage to facilitate the interactions between the different technical committees represented in the AdCom. Furthermore, I will intently contribute to the IEEE-NPSS continuous effort to increase the participation of people from all over the world to bring together a large, diverse and inclusive international community, with particular attention to the involvement of the young professionals, putting to good use their energy and enthusiasm, while training the next generations of researchers and engineers.



**MAXIM TITOV** (AM'03-M'04-SM'11) was born on May 6, 1973 in Kyiv; he holds a Ukrainian citizenship. He received his PhD in 2001, having carried out his research at DESY, Hamburg, Germany and completed his Habilitation in 2013 from University Pierre and Marie Curie (Paris VI), France. Today, he is a Director of Research at CEA Saclay, France. A nuclear and particle physics researcher for his 30-years career, Dr. Titov worked in both the development of advanced detector concepts and data analysis at collider experiments, inevitably within large international collaborations: HERA-B Experiment at DESY, Germany; D0 Experiment at FERMILAB, USA; ATLAS, CMS Experiments and RD51 Collaboration at CERN, Switzerland; and International Linear Collider Project (ILC) in Japan. Dr. Titov was one of the founding members and served from 2007 to 2015 as the Spokesperson of the RD51 collaboration at CERN "Development of Micro-Pattern Gaseous Detector Technologies". Nowadays, in addition to his scientific and instrumentation activities in the domains of gaseous and silicon detectors, he serves as an Advisor to the Members of CERN Council, and involved in science-policy preparation of ILC project in Japan.

**Statement:** Maxim Titov served for 3-terms as an elected RISC member (2007-2009, 2012-2014, 2020-2022) and TNC Vice-Chair (2005-2012), participating in several ADCOM meetings. He was NSS Program Co-Chair in 2012 (Anaheim), 2008 (Dresden) and 2003 (Portland). Most recently, he served as a General Chair of the 2016 IEEE NSS/MIC/RTSD Symposium in Strasbourg, France. From my first participation in the NSS/MIC meeting 25 years ago, IEEE NPSS has played a major role in my research and career development. I would very much appreciate an opportunity to act as a liaison between RITC community and NPSS AdCom and ensure strong communication between two bodies. I will exert my best efforts to strengthen the global importance of IEEE and NPSS with a special attention towards global events, in particular in Europe and Asia. I will promote interdisciplinary communications between radiation instrumentation and medical imaging fields, strongly support Society's international outreach activities and professional development of young scientists and encourage them more actively contribute into the NPSS life. I believe that my experience in international collaborations, organizational skills, and interest to multidisciplinary research could be beneficial to the RITC community, should I be elected to the NPSS Adcom.

**IEEE NUCLEAR AND PLASMA SCIENCES SOCIETY ELECTION  
FUSION TECHNOLOGY STANDING COMMITTEE ELECTION  
For the Four-Year Term 1 January 2023 – 31 December 2026  
(Vote for UP to FOUR)**



**MARC-ANDRÉ DE LOOZ** (M'22) received his BS in Mechanical Engineering from Lehigh University in 2005 and his MS in Mechanical Engineering from UPENN in 2006. Prior to PPPL, he worked for 12 years in the oil and gas industry at Schlumberger. He worked as the sole mechanical and integration engineer on the world's first DC X-ray borehole density system. His other roles included management of a large team of mechanical engineers, analysts and designers as an expatriate in India supporting technology development worldwide, and as an engineering project manager in Houston for wireline conveyance tools. Since 2019, he has worked on the National Spherical Torus Experiment (NSTX) passive plate electrical shunt design (thermo-mechanical and EM) and fabrication. He has also worked on United States support of ITER (USITER) through support of the Low-Field Side Reflectometry (LFSR) diagnostic effort, demonstrating Reliability, Accessibility, Maintainability, and Inspectability compliance, and overall compliance of the in-vessel design to requirements. He has led a team in

the design and analysis of the overhead structural steel support for two diagnostics projects, completing both design reviews, and supporting fabrication and ensuring the recent delivery of the very first PPPL hardware at the ITER site. This work was shared in a poster presentation at SOFE2021. He is currently the technical project manager for the Toroidal Interferometer Polarimeter diagnostic for USITER, which will measure electron density of the ITER plasma for science and machine control. He is a member of the American Physical Society (APS) for nuclear non-proliferation, a member of the PPPL Lab Directed Research and Development (LDRD) committee, the manager of the PPPL Rotational Engineering Program, a member and white paper contributor of the 2022 USITER SIWG, an active member in science outreach to K-12 and has given guest lectures to undergraduate and graduate students at Rutgers University on Fusion Energy.

**Statement:** In 2019, I made a stark career change to support a green future for all through Fusion. I am proud of that decision, and passionate about working to both extend and enhance its community. I would like to serve on the FTC so that I can be even more deeply involved in working within the community through discussion and impactful action that further progress. By being on this committee, I will work with the NPSS members to drive committee goal of the advancement of fusion science and technology and the growth of our community. I am also passionate about energy policy, and within the committee I will strive to meaningfully contribute to the drafting of IEEE USA Energy Policies for our future.



**TREY GEBHART** (M'18-AF'22) Dr. Trey Gebhart is R&D Staff at Oak Ridge National Laboratory in the Blanket and Fuel Cycle group within the Fusion Energy Division. He received a BS and MS in mechanical engineering from Virginia Tech, and a PhD in nuclear engineering from the University of Florida. His current focus is on the science and technology for disruption mitigation (DM) and is currently the technical lead of the US ITER contribution to the ITER DM system. Dr. Gebhart is the recipient of a Department of Energy Early Career Research Award to develop a cryogenic pump based direct internal recycling loop to reduce the tritium inventory requirements of a future fusion power plant. Dr. Gebhart also serves as the Secretary-Treasurer for the Fusion Energy Division of the American Nuclear Society.

**Statement:** As an early career researcher, I am interested in the IEEE NPSS Fusion Technology Committee to gain exposure to the areas of fusion science and technology fields that I am not currently a part of. I would like to be a part of this committee to help drive the synergistic activities within the fusion technology community. I believe my participation on the committee would be mutually beneficial for myself and the committee as I have been heavily involved in the organization and planning of the ANS TOFE meetings since 2016 and currently stand as the secretary/treasurer of the ANS Fusion Energy Division.



**SEHILA GONZALEZ DE VICENTE** (M'22) has a PhD in Physics from the Universidad Complutense de Madrid. She has 18 years of experience in Fusion, mostly in materials and technology. In the last 12 years, she has managed international projects. At EFDA/EUROfusion she was responsible of the Materials Program in Europe where more than 20 institutions and around 50 full time researchers located in different countries of the European Union were involved. Currently at IAEA she manages two projects, one about the standardization of test techniques for steels where 9 organizations from Europe, China, Japan, UK and USA are participating, including the European ITER Domestic Agency (F4E). In addition, she leads the IAEA working groups in the areas of Safety and Security and Radwaste Management for fusion in close collaboration with the ITER Organization and with the contribution of teams from Europe, China, Japan, Korea, USA and UK. These activities were included in the Practical Arrangement signed between IAEA and ITER Organization in 2019.

Reporting to internal and external international high level stakeholders as well as successfully establishing the involvement of organizations from all around the world in the projects carried out at IAEA.

**Statement:** I would be very honoured to be part of the IEEE Committee for Fusion Technology. I'm a fusion technology expert as you can see in my resume. I share the values of IEEE in fostering technological innovation and excellence for the benefit of humanity and it would be a pleasure to contribute my expertise in the fusion technology area as part of one of IEEE Technical Committees.



**FRANCISCO HERNANDEZ-GONZALEZ (M'22)** Dr. Francisco Hernandez-Gonzalez has a Ph.D. in Mechanical Engineering (2016) from Karlsruhe Institute of Technology. He is currently a research scientist at the Institute of Neutron Physics and Reactor Technology (INR) of the Karlsruhe Institute of Technology (KIT), Eggenstein-Leopoldshafen (Germany). He is Head of the Design and Analysis of nuclear components, Manufacturing and Qualification (DAF) group at INR in KIT. Previously, he was system design lead for the EU Breeding Blanket in the Plant Systems Design Division of EUROfusion and Deputy Leader of the Breeding Blanket Task Force at KIT. He has participated in F4E projects for the design, development and fabrication of a ITER HCPBTBM BU (F4E-2008-GRT-09) and for the development of feasibility mock-ups for the ITER HCPB-TBM cooling plates (OPE-305-03).

**Statement:** For almost 13 years I have been researcher at the Karlsruhe Institute of Technology (Germany) in the field of Breeding Blankets for nuclear fusion. I was first attracted by the Test Blanket Module (TBM) program in ITER, where I started my work as a R&D engineer for the development of the Breeder Unit of the Helium Cooled Pebble Bed (HCPB) TBM. Soon my motivation to pursue a career in the nuclear fusion and deepen in the field of Breeding Blanket technology was so strong, that pushed me to start a PhD program in this area, which I successfully finished in 2016. During the last 5 years I have been following with great interest the nuclear fusion developments outside Europe, especially in UK and US, with the emergence private-public partnerships. I am very interested to extend my professional network abroad, which may crystalize in international collaborations. Being a member of the FTC will be a great platform to connect with cutting-edge researchers in the fusion technology field. On the other side, I will be pleased to collaborate as active member of the FTC to assist in the duties of the Committee.



**INGO KUEHN (M'18)** has a Diplom-Ingenieur (Bauingenieur) from the University of Technology RWTH Aachen in Germany. He is also a certified Project Management Professional (PMP). He has a 15-year trajectory within the ITER Organization, currently serving as the Engineering Work Package (EWP) coordinator for Tokamak Complex Buildings. He has extensive knowledge in the Design Integration and Configuration Control of the plant systems in the Tokamak Complex buildings as Area Manager. Among other major engineering accomplishments, he was designated Lead Designer of the ITER Vacuum Vessel.

**Statement:** I am currently leading the Engineering Work Package (EWP) – Joint Integration Team (JIT) covering the preparation and follow-up of the EWPs required to launch Tokamak Complex construction. I am further the Facility Responsible Officer (Chef d'installation) of the Tokamak building with the responsibility to ensure that the use of the facility conforms to the ITER Organizations procedures and regulations. My accomplishments in the ITER Organization for in-cryostat & ex-cryostat activities over the past 22 years allowed me to gather a comprehensive global understanding and detail knowledge of the systems and components design as well as the construction of the civil works and plant systems which brings a benefit for the Fusion Technology Committee. I would be honored to serve the Fusion Technology Committee for additional 4 years.



**LEOPOLDO SOTO-NORAMBUENA (M'22)** received his Ph.D. degree in Physics in 1993 from the Pontificia Universidad Católica de Chile, Santiago. He joined to the Chilean Nuclear Energy Commission in 1993 where he founded the Plasma Physics and Nuclear Fusion Laboratory. His research interests include dense transient plasmas, pulsed power, especially Z- pinch, plasma focus, nuclear fusion mechanisms, capillary discharges, pulsed power miniature devices, effects of pulsed radiation on materials and on biological objects, pulsed plasma thrusters, transient plasma diagnostics, holography, interferometry, and optical refractive diagnostics. Main contributions in the scaling rules for miniaturization of plasma focus devices, extending the research up to devices operating inclusive lower than one joule. Over 140 articles published. In 1999, he was awarded with a Presidential Chair in Science by the President of Chile. In 2007, he was elected as a Fellow of the Institute of Physics, UK. Nowadays, he is the Director of the Research Center on the Intersections in Plasma Physics, Matter and Complexity, P2mc, of the Nuclear Chilean Energy Commission. He is associate full professor of the Universidad Andres Bello, Physical Sciences Department, Chile. He is member of the scientific advisory committee of the Latin American Workshop in Plasma Physics and of the International Congress of Plasma Physics. He was the President of the Chilean Physical Society for 2 periods, 2003 to 2008 and currently his Secretary General for the period 2017 to 2022. Since June 2017, he is scientific advisory of the Commission of Challenges of the Future, Science, Technology and Innovation of the Senate of the Republic of Chile.

**Statement:** My interest to join to the IEEE Fusion Technology Committee the Nuclear and Plasma Science Society is to promote the research of plasma physics related to nuclear fusion in small devices. According to my experience, some small pulsed plasma experiments reproduce a scenario to study basic phenomena related to nuclear fusion, as instabilities, plasma shocks, filaments, plasma jets. Also, small plasma devices are useful to study plasma facing materials for first wall of future nuclear fusion reactors. Moreover, I want to promote a relationship between the community working in large laboratories with those working in small laboratories, particularly between senior and young scientist and training of students. In addition, I want promote outreach activities to general public, authorities and leaders of opinion.

**IEEE NUCLEAR AND PLASMA SCIENCES SOCIETY ELECTION**  
**NUCLEAR MEDICAL AND IMAGING SCIENCES COUNCIL ELECTION**  
**For a Three-Year Term 1 January 2023 – 31 December 2025**  
**(Vote for UP to FIVE)**

**ALEXANDRE BOUSSE** (M'22) is a senior research scientist with the National Institute of Health and Medical Sciences (INSERM) in France. He is based within the Laboratory of Medical Information Processing in Brest, France (INSERM U1101), where he is in charge of the Image Reconstruction Group. He obtained his PhD degree in signal and image processing from the University of Rennes 1, Rennes France, and Nanjing South East University, Nanjing, China, in 2008. After that he has worked as a Research Fellow at the Institute of Nuclear Medicine, University College London, London, UK.

Dr. Bousse has spent the majority of his scientific activity in the field of positron emission tomography (PET) and computed tomography (CT) imaging, with methodological developments in both image reconstruction and image post-processing as well as in system design. He has notably developed innovative methodologies in the field of motion compensation for multimodality image reconstruction, with particular emphasis in the motion estimation process within iterative reconstruction algorithms. His current research focuses on PET/CT and spectral CT machine and deep learning reconstruction techniques to improve image quality and quantification within the context of low-dose imaging.

**Statement:** From my first participation in the IEEE NSS/MIC meeting in 2010 I have considered this society as an integral part of my scientific activity as well as that of my students. Having worked in both hardware and software I find the combination of the two domains within our society a formidable success. We have over the past few years witnessed a number of new exciting progresses in imaging systems and in image processing techniques, such as new machine and deep learning techniques. These progresses are paving the way for low-dose imaging, which I strongly believe is the first step towards screening, personalized medicine and therapy response monitoring.

I believe that increased emphasis in such new developments need to be given during the IEEE MIC meetings either in the form of special seminars or sessions or both, the subjects of which can be re-evaluated on a yearly basis. Such an activity will not only be educational for the newcomers to our conference and working field but it will also allow an interaction with members of other societies increasing this way the impact and enhancing the image as well as growth of our conference. If elected I will actively work towards the fulfilment of these ideas.

**JUNWEI DU** (GSM'09-M'11-SM'15) is a Project Scientist in the Department of Biomedical Engineering at the University of California, Davis (UC Davis). He received his B.S. in Applied Physics (June 2005) and Ph.D. in Electronic Science and Technology (June 2010) from the University of Science and Technology of China (USTC). After a short period of postdoc at USTC, in March 2011, he joined Dr. Simon Cherry's group at UC Davis. Dr. Du's research focuses on developing high-resolution and high-sensitivity Positron Emission Tomography (H2RS-PET) for biomedical imaging. His research involves developing PET system, PET detector, readout electronics, etc. Dr. Du has been involved to develop several PET scanners, including small-animal PET scanners and human brain PET scanners. Currently, he leads a team to develop two total-body high performance small animal PET scanners (<https://h2rs-pet.ucdavis.edu>), and is part of a collaborative team with Yale University developing the neuroEXPLORER (a next generation human brain PET system). He has over 40+ peer-reviewed publications in the biomedical imaging field that cover scanners, detectors, simulations, electronics, and positioning algorithms. Dr. Du is an IEEE Senior Member since 2015.

**Statement:** I started my career in the field of nuclear medicine in the year 2005 when I started my Ph.D. studies. Since 2009, I have contributed to the IEEE Nuclear Science and Molecular Imaging community by consistently publishing my work on IEEE Transaction on Nuclear Medicine and IEEE Transaction on Plasma and Medical Science, and presenting my work at the IEEE Nuclear Science Symposium and Medical Imaging Conference (50+ presentations), and reviewing papers and abstracts every year. If elected, creating more opportunities for young scientists and attracting more young scientists to continue working in our field will be my top topics.

**YONG DU** (S'02-M'04-SM'15) Yong Du, Ph.D., is an Associate Professor in the Department of Radiology and Radiological Science at the Johns Hopkins University. Dr. Du is an American Board of Radiology Certified Nuclear Medicine Physicist. He received his B.S. and M.S. in Biophysics from Nankai University, China. He then completed a second M.S. in Applied Physics at East Carolina University and obtained his Ph.D. in Biomedical Engineering from the University of North Carolina at Chapel Hill. He completed a postdoctoral fellowship in the Department of Radiology at the Johns Hopkins University prior to his faculty appointment. His areas of expertise are SPECT and PET imaging physics, image reconstruction, photon transport simulation and modeling, quantitative image biomarker and data analysis, and tracer kinetic modeling. He is also experienced in the design and optimization of imaging protocols for animal studies and various clinical trials. He applies these to solve medical problems in cardiology, oncology, and neurology. He has published 70 peer-reviewed research articles, 3 book chapters, and over 130 conference abstracts. He has been the principal investigator for many research grants awarded by industries, agencies, and the NIH. He also led the effort to setup a Joint Master's Degree Program in Medical Physics at the Johns Hopkins University School of Medicine that was inaugurated in fall 2021.

**Statement:** As an IEEE NPSS member, I have participated annually in the Nuclear Science Symposium and Medical Imaging Conference since 2001. I have been a reviewer of the NSS-MIC conference abstracts since 2007. I served as an assistant chair in the IEEE NSS-MIC 2007 meeting (MIC part). I have also been an active reviewer of several IEEE Transactions, including Medical Imaging, Nuclear Science, and Radiation and Plasma Medical Science. Nuclear Medicine is a multidisciplinary science involving many fields of expertise, such as physics, instrumentation, mathematics, and computer science. The Nuclear Medical and Imaging Sciences Council (NMISC) has been a platform for people from those fields to communicate and disseminate their knowledge and to promote advanced research. If elected to the NMISC, in addition to supporting the current scientific and educational activities of the council, I would like to enhance collaborations between MIC and NSS and to broaden the topics of conference sessions and online education. With increased interest in radiopharmaceutical therapy, I believe NMISC is at the forefront of advocating new instrumentations and algorithms for imaging beta- and alpha-emitters used in the therapy. I will suggest and organize new plenary sessions and conference sessions on related topics, including new cameras and new algorithms for dosimetry, treatment planning, and monitoring. I will also advertise the council among young scientists to attract new members to the NPSS.

**GEORGIOS KONSTANTINOU (M'22)** started his professional career as a technical student at CERN, in 2009, followed up by a research associate placement until 2014 at the front-end detector development group for the straw tracker of the NA62 experiment. This led to a Marie Curie fellowship through the ITN INFIERI, at the Universidad Carlos III in Madrid (secondment at INFN Pisa), focusing on transverse technologies and their application for new generations of MR compatible PET inserts. After finishing his PhD, he spent a year as a patent examiner at the European Patent Office, which was followed up by his first attempt in entrepreneurship, through founding the start-up SensYnc in the Netherlands, in 2019, intended to spin out the technology developed through his PhD. With the company being acquired by the Swiss start-up Multiwave Metacrystal S.A., for the last 2.5 years Georgios is the head of science and CTO of this company, along with placement as visiting postdoctoral research fellow at the Instituto de Instrumentación para Imagen Molecular (I3M), in Valencia.

Through this research/industry career he had the opportunity to develop a trans-disciplinary specialization spanning from nuclear physics, electronics, firmware and data acquisition all the way to intellectual property and business development. At the moment, he focuses on the research of metascintillators comprising scintillating and light-guiding materials, in what can lead to the next generation of superior PET scanners integrating ToF and DoI capabilities in a cost-effective way.

**Statement:** I have been working in the field for all my career, from detector development at CERN to today's work on the next generation of scintillation detectors. As such, I have the luck to have belonged to both the nuclear science and medical imaging communities. Throughout this time, I have been participating in workshops and conferences to present my work and interact with the community, with the highest point being the honor of receiving an award on best student poster, at the IEEE NSS/MIC in 2015. My intention has been to build bridges between the communities and assist the outreach and dissemination from the one to the other, along with harmonization of practices, especially in the field of signal processing for radiation detectors.

I am a supporter of open science and I am now working toward the development of an open source library for streamlined signal processing algorithms, including neural networks application, inspired by the open hardware and open GATE collaboration. By participating in the NMISC, I believe I can enhance its impact on the newer generation of researchers, who face lack of permanent contracts, extreme requirements of mobility and a transformation of workflow due to the pandemic and environmental crises.

**SUN IL KWON (GSM'07-M'09-SM'17)** Dr. Sun Il Kwon is currently Associate Professional Researcher in the Department of Biomedical Engineering at the University of California, Davis (UC Davis). He received his B.S. degree in electrical engineering from the Korea Advanced Institute of Science and Technology (KAIST), Daejeon, South Korea, in 2002, and his Ph.D. degree in the interdisciplinary program of radiation applied life science from Seoul National University, Seoul, South Korea, in 2013. His Ph.D. course was under the supervision of Professor Jae Sung Lee. Dr. Kwon joined the UC Davis Cherry laboratory as a postdoc in 2013 and was trained under the supervision of Professor Simon R. Cherry before joining the Academic Federation at UC Davis in 2016. Dr. Kwon has more than fifteen years of experience in biomedical imaging, with a strong focus on nuclear medicine instrumentation. His career focused on developing new reconstruction-free direct positron emission imaging (dPEI) and positron emission tomography (PET) instrumentation, including detectors, electronics, and system design and engineering. Dr. Kwon is serving as Principal Investigator on multiple National Institutes of Health (NIH) funded grants that are developing novel technologies and methods for PET. He is an IEEE senior member.

**Statement:** I have participated annually in the Nuclear Science Symposium (NSS) and Medical Imaging Conference (MIC) since 2007, and the NSS/MIC is always my priority conference to present recent findings. I have served as a reviewer and session chair for the NSS/MIC. I have also served as a reviewer of the Transactions on Nuclear Science (TNS) and Transactions on Radiation and Plasma Medical Sciences (TRPMS) journals. I actively work on multiple international projects with many institutes, universities, and companies, and collaborative research results have been actively presented at the NSS/MIC. Given the active participation and dedicated commitment that I have demonstrated over more than ten years, I strongly believe that I can make a significant contribution to the Nuclear Medical and Imaging Sciences Council (NMISC). If elected to the NMISC, I plan to expand my role in promoting conferences, especially for underrepresented nations, societies, and minority groups. I also intend to expand educational opportunities for junior investigators in our communities by offering more affordable and accessible educational courses and by providing more opportunities to communicate with senior researchers.



**YIHUAN LU** (GSM'14-M'17) My name is Yihuan Lu. I am a Principal Scientist at Shanghai United Imaging Healthcare. I completed my Ph.D. in Electrical Engineering at Stony Brook University in 2015, working in the field of Single Photon Emission Computed Tomography and X-ray breast Tomosynthesis. I then worked as Postdoctoral Associate at the Yale PET Center, doing PET physics related research under the supervision of Drs. Chi Liu and Richard E. Carson. In 2017, I was promoted to a faculty member as an Associate Research Scientist and started independent research. In 2021, I was promoted to Research Scientist. My work focuses on the development of novel motion correction algorithms for Positron Emission Tomography (PET) imaging as well as deep learning-based applications in PET. I am the first (or senior) author of 15 (3 is under review) and co-author of 15 journal articles. As a PI, I was awarded an R03 and R21 in 2019 and 2020, respectively. In Sep. 2021, I joined United Imaging Healthcare to keep developing novel algorithms for PET imaging.

**Statement:** As an IEEE member and a scientist, I have participated annually in the Nuclear Science Symposium and Medical Imaging Conference since 2012. I have contributed 34 MIC conference abstracts as first/senior author as well as 15 abstracts as a co-author since then. I received the IEEE Bruce Hasegawa Young Investigator Medical Imaging Science Award in 2020. Given the active participation and strong commitment that I have demonstrated over the last 10 years at the MIC conferences, I believe 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. I will try to promote scientific and educational activities, to ensure the high-quality MIC and NSS-MIC joint sessions, as well as to help select distinguished plenary speakers. I will also provide input to the editorial boards of TNS and TMI, encouraging them to provide speedy high-quality reviews. I will be happy to help to promote Nuclear Medical and Imaging Sciences activities as a NMISC council member.

**TIANYU MA** (S'05-M'07) is a tenured Associate Professor of Medical Imaging Physics at Tsinghua University, China. He received his PhD in nuclear science and technology at Tsinghua University. He completed postdoctoral fellowships at Tsinghua University (2004-06) and at the State University of New York at Buffalo, US (2006-08) prior to his faculty appointment at Tsinghua University. His area of expertise includes the design, simulations, and instrumentation of PET and SPECT systems and the development of novel radiation detectors and image reconstruction algorithms for PET and SPECT. With the joint appointment at the technology transfer partner, Beijing Novel Medical Co. Ltd., he worked as the R&D director from 2015 to 2017. He developed a commercially available animal PET/SPECT/CT triple-modality system, a clinical SPECT system, and an industrial gamma camera. He was the co-editor of a book, has published over 50 journal papers and 90 conference proceeding papers/abstracts, and delivered more than 20 invited lectures worldwide. He was the vice president of the youth council (2018-20) and is a member of the standing council (2021-22) of the Nuclear Medicine Branch, China Nuclear Society. He has been an associate editor of IEEE TMI since 2020.

**Statement:** I have been an active IEEE member for 17 years and have regularly attended IEEE NSS/MIC starting as a PhD student. I began to review for the conference since 2018 and served as session chair, topic convenor and medical imaging technical achievement award committee member. Based on our innovative self-collimating SPECT concept (MIC2019, TMI2021), in 2021 conference, two students from my group received the first-place NSS best paper award and entered the student paper competition in MIC. The active participation and commitment have been a solid foundation for the NMISC member role if elected.

I have strong experience developing innovative medical imaging systems, from the basic technique and proof-of-concept prototype to the commercialized systems through technology transfer with industrial partners. I strongly believe I can bring valuable knowledge to promote the MIC meetings. If elected to the NMISC, I wish to apply my experience and passion for enhancing the overall quality of academic activities and bridging the gap between clinical needs, smart technical ideas, and industrial implementations. I will try to broaden the impact and participants of the conference by promoting diversity and encouraging scholars of all ages and nationalities to participate in the Nuclear Medical and Imaging Sciences activities as an NMISC council member.

**AKRAM MOHAMMADI** (M'14) is a Senior Researcher in the Imaging Physics Group at the National Institutes for Quantum Science and Technology (QST), formerly known as the National Institute of Radiological Sciences (NIRS), Chiba, Japan. She received her Ph.D degree in Quantum Science and Energy Engineering from Tohoku University (Japan) in 2008, focusing on measurement of high intensity X-ray beams using Compton scattering. She then worked as a postdoctoral fellow on internal dosimetry of new radiopharmaceuticals at Japan Atomic Energy Agency (JAEA). In 2014, she joined Dr. Taiga Yamaya's group at NIRS and began working in the field of nuclear medicine physics. Her research covers detector development for positron emission tomography (PET) scanners and the application of novel developed PET scanners in her research group for range verification in heavy ion therapy. She has published more than 49 peer-reviewed journal articles, and she is the first author of 20 articles. She has received 6 awards from journals and societies. She also awarded Japanese Government (Monbukagakusho) Scholarship for her PhD courses.

**Statement:** I have participated in all of the annual Nuclear Science Symposium and Medical Imaging Conferences (NSS-MIC) since 2014. More than 34 presentations, including co-authored abstracts, have been accepted for presentation at the NSS-MIC during those 8 years. I was a Topic Convener of MIC 2021 and a session chair of MIC 2019 and MIC 2021. I am acting as a reviewer for academic journals such as Physics in Medicine and Biology (PMB), IEEE Transactions on Radiation and Plasma Medical Sciences (TRPMS), and Journal of Instrumentation (JINST). I would like to use my academic career and experiences and widen international activity through contributing to the Nuclear Medical and Imaging Sciences Council (NMISC). If elected to the NMISC, I will try to engage members in academic societies, especially young scientists and motivated students, to participate in IEEE medical imaging activities and encourage international collaborations. It would be my honor to support the community to develop and advance the nuclear medicine physics field as a member of NMISC.

**IRENE POLYCARPOU** (GSM'10-M'20) I am an Assistant Professor in Medical Physics and the Vice Chair of the Department of Health Sciences at European University Cyprus. I attained MSc and PhD from King's College London and undertook postdoctoral research at St Thomas' Hospital London. My research interests include enhancement of the diagnostic value of Positron Emission Tomography (PET) and its integration with simultaneous Magnetic Resonance Imaging (MRI). I was involved in the development of simulated 4D PET-MR datasets that can be used freely by academia and industry for any scientific investigation. I have participated in several EU projects. I have actively participated in the organization of many international conferences. I am the Cyprus representative of the EFOMP committee and a member of the EFOMP European Matters Committee. I am the President of the Cyprus Association of Medical Physics and Biomedical Engineering and a former vice president of the board of the Society of Medical Physicists Cyprus.

**Statement:** I have been attending IEEE NSS/MIC meetings for over 10 years, since the beginning of my career as a PhD student. The spirit and scientific level of these meetings continue to leave me impressed, a testament to the hard work and professionalism of the committee members. The breadth and variety of scientific and educational activities of the committees have greatly expanded my research and academic horizons. Having benefited from IEEE NSS/MIC, I had always cherished the time when I could reciprocate and further the committee's work. Having built a solid experience in nuclear medicine, I am confident that I can take this important step. I would thus like to express my interest for the upcoming NMISC Elections. Having participated in many committees, I have built a reputation of being highly collaborative, able to cultivate a team spirit and build consensus. I am aware of the hard work required but I assure you that I am ready to undertake any duties to support the successful record of the committee. The fresh perspective I can bring to NMISC as a young woman-in-science, early career investigator with ambitions and vision, are some of the elements that I believe will be a valuable addition.

**ZHYE YIN** (M'22) is a Senior Research Scientist at GE Healthcare where her research focuses on analytic, iterative and deep-learning-based CT image reconstruction algorithms, low-dose CT imaging and photon-counting CT. She received the B.S. (1997) and M.S. (1999) from Seoul National Univ., Seoul, Korea, and the Ph.D. (2003) from Purdue Univ., West Lafayette, all in electrical engineering. In 2003, She joined GE Global Research, Niskayuna, NY, as a research imaging scientist where she had worked on medical and industrial CT algorithm development for more than 18 years and led multi-disciplinary corporate research programs and government grants. She has been granted 17 patents (issued) and more than 60 journals and conference papers. She joined GE Healthcare, Waukesha, WI, in 2021. She is a scientific committee member of the International Conference on Image Formation in X-Ray Computed Tomography (CT Meeting).

**Statement:** My first IEEE Nuclear Science Symposium and Medical Imaging Conference was back in 2006 even though I frequented other IEEE conferences such as ICASSP and ICIP before. It had a beautiful backdrop of San Diego, plenty of CT scientists and engineers and eye-opening contents on diverse medical imaging topics. Since then, I participate in NSS/MIC regularly, reviewing abstracts and chairing sessions. While CT being critical imaging modality and providing active research topics, it has been often underrepresented in NSS/MIC. The current effort of NMISC to promote the diversity in the medical imaging community, including various modalities, academia, industry, and underrepresented groups, motivates me to apply for an NMISC member. I'd like to bring my own perspective based on 20 years of industrial research experience in CT to NMISC, especially how the discovery and the innovation can be realized from academy-industry collaborations. If elected, I'd like to actively promote inclusiveness and diversity within medical imaging community and create nourishing environment for early career scientists and engineers of any background and gender identity.

**JUN ZHANG** (AM'17-M'19) Jun Zhang, Ph.D., is an Associate Professor (tenured) in Department of Radiology at The Ohio State University (OSU) and a Medical Physicist certified in Diagnostic (ABR) and Nuclear Medicine (ABSNM). His research focuses on PET/CT imaging quantification, instrumentation and technologies of PET/CT and NM, Theranostics and Translational Imaging. He provides clinical support in PET/CT, Nuclear Medicine and Diagnostic Imaging. Dr. Zhang served as PI and Co-I for many NIH, industry and state funded grants, has over 50 peer-reviewed papers, 200 abstracts and 1 book published. He is the reviewer of several journals and conferences, and has been invited to organize and give lectures at international meetings (SNMMI, AAPM and RSNA etc). He is the board member of AAPM NMSC and has served as Director of Operations for Imaging and Radiation Oncology Core (Ohio), voting member of NCI Clinical Imaging Steering Committee as well as CALGB/SWOG/Alliance Imaging Committees for more than 10 years.

**Statement:** As a member of IEEE NPSS/MIC, it is an honor and a privilege to have been nominated to consider joining the council members of NMISC for the January 2023 – December 2025 term. If elected, I'd like to volunteer my time and efforts in better serving NMISC and contributing to IEEE NPSS/MIC. I will work closely with the board through educational and scientific activities that promote Nuclear Medical and Imaging Sciences, assist the council to create new opportunities of seminars and training programs focusing on emerging and innovative PET and NM instrumentation and technologies, and help to develop and grow relationship with other professional societies. I hope you will consider voting for me; and with your big support, I will provide good service to NMISC and help with promoting the growth of IEEE NPSS/MIC.

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

**Member-at-Large to the PAST ExCom  
For the Four-Year Term 1 January 2023 – 31 December 2026  
(Vote for ONE)**

**WILLEM BLOKLAND** (S'90-M'07) is a senior researcher at Oak Ridge National Laboratory. He has received a Master's in Applied Physics from Delft University and a PhD in Electrical Engineering from Vanderbilt University. He started his career in Accelerator Instrumentation at Fermi National Accelerator Laboratory and later joined the Beam Instrumentation and Experimental Technologies at the Spallation Neutron Source. His expertise is in accelerator instrumentation such as beam current monitors, electron scanners, strain measurements, and beam imaging systems as well as data analysis techniques including machine learning. He has been involved in organizing various IEEE and non-IEEE conferences. Over the years he has mentored many students for summer students and is involved with the ORNL student program.

**Statement:** I am an active participant in IEEE and non-IEEE conferences, such as IBIC, and have been gaining experience in organizing conferences. In addition to publishing articles on accelerator instrumentation, I have reviewed SBIR proposals and the occasional journal publication and thus understand the need for promoting science using different channels. As a member-at-large of the PAST committee, I can further strive for the advancement of particle accelerator science, especially in beam diagnostics and student programs which are dear to my heart and give back to the community. I hope you will be able to consider for me to become a member of the NPSS PAST committee.

**VLADIMIR SHILTSEV** (S'73-M'78-LM'18) is a Distinguished Scientist at Fermilab. He got his PhD and Dr.Sci. (Habilitation) in accelerator and beam physics from Budker Institute of Nuclear Physics (Novosibirsk, Russia) in 1994 and 2017, respectively, and worked in leading accelerator laboratories in Novosibirsk and Protvino in Russia, the Superconducting Super Collider Lab in Texas (USA) and DESY before joining Fermilab as a Wilson Fellow in 1996. There he initiated and led the project of beam-beam compensation with the *Tevatron Electron Lenses*. In 2001 he became the Head of the *Tevatron Department* and one of the leaders of the *Collider Run II* team of then the world's most powerful accelerator. In 2007, he was appointed the inaugural Director of the *Fermilab Accelerator Physics Center*. His research interests include beam-beam effects and their compensation; beam dynamics, instabilities, space-charge effects and emittance control; beam cooling, noises and ground motion in large hadron colliders, linear  $e+e$ -colliders and muon colliders; particle collimation with electron lenses; high-power ultra-fast high voltage devices and coherent synchrotron radiation effects. He authored five books including *Electron Lenses for Super-Colliders* (Springer, 2016) and *Accelerator Physics at the Tevatron Collider* (Springer, 2014, with V.Lebedev), and more than 400 publications. He is also an Adjunct Professor at the Northern Illinois University (DeKalb, IL). Prof. Shiltsev is a Member of the European Academy of Sciences and Foreign Member of the Bologna Academy. He is a Fellow of the IEEE, AAAS, and the American Physical Society (APS). Shiltsev has received the Nishikawa Accelerator Prize (IPAC/ACFA, 2019), the George Gamow award (RASA, 2016), the APS Outstanding Referee Award (2018), the APS Robert Siemann Award (2015), and the European Accelerator Prize (EPS, 2004). In 2018 he was the Chair the APS *Division of Physics of Beams*. Shiltsev actively contributes to the history of physics and scientific outreach with several dozens of publications in *Physics Today*, *Physics World*, *Physics in Perspective*, *Science First Hands*, *Potential*, *Physics Uspekhi*, *Il Nuovo Saggiatore*, *Journal of Astronomical History and Heritage*, he gave many lectures and seminars in the US and worldwide. Dr. Shiltsev served and currently serves on a number of US DOE and International review committees and advisory boards, including BNL, JLab, ORNL, CERN MAC, STFC/MICE/RAL (UK), FCC IAC, FACET-II, etc. as well on the editorial boards for *Physical Review AB* and *JINST* journals. He is a co-convenor of the *Accelerator Frontier* of the *Snowmass'2021* US High Energy Physics planning effort, the editor of the *Springer Particle Accelerator and Detection* book series and member of the Organizing and Program Committees for the International and North American Particle Accelerator Conference series (IPAC, NA-PAC). He was the Program Committee Chair of the 2016 NA-PAC in Chicago.

**Statement:** I am honored to be nominated for the IEEE NPSS PAST M-A-L. I have been an active member of the accelerator community since I started in the field in later 1980's, and I believe in the ability of executive committees of societies such as IEEE and APS to benefit researchers in their field. For example, while serving as the Chair for the American Physical Society Division of Physics of Beams (APS DPB), I had initiated a very successful campaign to attract international accelerator scientists and beam physicists to the APS and make them an active part of both the global discussions on the future accelerator facilities and R&D as well effective contributors to the DPB discussions. Similar effort on attraction of students and early career scientists – via informational events at the US Particle Accelerator School sessions and IEEE and APS conferences and workshops – made many of them aware of multiple opportunities in the field in general. Among my efforts to increase the diversity of the field of accelerators and emphasize outstanding contributions of women was initiative to set up a joint IEEE NPSS-APS DPB Helen Edwards Award for leadership in construction and commissioning of frontier particle accelerators. As a Member-at-Large for IEEE-NPSS PAST, I would seek out similar ways that the PAST committee can benefit community members to encourage their participation, from long standing members to the next generation of accelerator researchers to join our field.

**DMITRY TEYTELMAN** (S'91-M'01) started working in the area of accelerator feedback control and diagnostics in 1994, while studying towards his Ph.D. at Stanford Electrical Engineering department and Stanford Linear Accelerator Center. His doctoral dissertation on control and diagnostics of coupled-bunch instabilities has received the American Physical Society's award for outstanding doctoral thesis research in beam physics in 2003. In 2006, he started Dimtel, Inc. The company builds feedback control and diagnostic systems for circular accelerators. Dimtel systems are used in day-to-day operation of 30 storage rings at 24 laboratories and universities on five continents.

**Statement:** I am honored to be nominated to become a Member-at-Large of the NPSS Particle Accelerator Science and Technology (PAST) Technical Committee. In my career I was fortunate to participate in a large number of conferences and workshops, first as a scientist, later both as a scientist and an industrial exhibitor. This experience convinced me that it is important for every researcher in the field to attend in-person events. Online meetings, in my opinion, cannot match the bandwidth for scientific communication and the opportunities for learning available at real, physical conferences. As a Member-at-Large of the PAST I would focus on expanding the accessibility of conferences and workshops to a wider range of researchers, especially students and early career scientists. Another area of interest for me is finding ways to offer additional services to the IEEE members at accelerator conferences, such as senior member elevation events. I have been exposed to widely different institutional cultures in my interactions with existing and prospective clients at more than 25 laboratories worldwide. I hope that experience would be of value in the PAST TC environment.

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**YOUNG PROFESSIONAL (Vote for One)**  
**For a Two-Year Term 1 January 2023 – 31 December 2024**

**DAVID CESAR** (M'22) is a Research Associate at the SLAC National Accelerator Laboratory where he works on ultrafast science in the FEL R&D division. He received a PhD in Physics from UCLA advised by P. Musumeci. He is the recipient of the 2019 IEEE NPSS PAST Doctoral Student Award “For contributions to dielectric laser accelerators and time-resolved electron microscopy.”

**Statement:** I am interested in serving as the PAST young professional member at large in order to advocate for the needs of early career scientists in the field of accelerator science. Young professionals have been most severely impacted by the pandemic induced restrictions of the past several years, and it is important to draw upon new and diverse resources to inspire future career development. IEEE can help through its co-sponsorship the xPAC conference series and its organization of teaching and outreach programs. I want to use this position to advocate for programming which benefits the future growth of our community.

**SALVADOR SOSA** (M'19-AF'21) is a research scholar in the Electrical and Computer Engineering Department, University of New Mexico. He has a Ph.D. in Physics from Old Dominion University and a specialty in particle accelerator science and technology. He has a B.S. in Physics from the University of Puebla in Mexico, where he was part of the ALICE collaboration. As a grad student, he developed his research at Jefferson Lab in superconducting radiofrequency technology and beam dynamics for the Electron Ion Collider. He is currently working on the applications of Artificial Intelligence for controls of the MeV Ultrafast Electron Diffraction system at Brookhaven National Lab. As part of his continuing education, he has attended several sessions of the US Particle Accelerator School and organized the Mexican Particle Accelerator School (MePAS) in 2015 and 2017. Salvador is a member of the American Physical Society (APS) and the Institute of Electrical and Electronics Engineers (IEEE), as well as the Mexican Community for Particle Accelerators (CMAP).

**Statement:** I feel honored to run for the PAST ExCom as a young member of IEEE, I hope to offer an international and diverse perspective in PAST programs in years to come, particularly from my experience as an international student and researcher in the US. As a young scientist in the accelerator community, my work has benefited by IEEE journals, and PAC conferences, and I am excited to give back to this organization and in particular to help develop the spaces and resources that younger members of the community could benefit from.

**IEEE NUCLEAR AND PLASMA SCIENCES SOCIETY**  
**PULSED POWER SCIENCE AND TECHNOLOGY TECHNICAL COMMITTEE ELECTION**  
**For a Four-Year Term 1 January 2023 – 31 December 2026**  
**(Vote for UP to FOUR)**

**BRAXTON BRAGG** (GSM'10-M'12) received BSEE (2009), MSEE (2010), and PhD (2012) degrees from Texas Tech University. His graduate studies were with the Center for Pulsed Power and Power Electronics with specific focus on pulsed power systems and solid-state high power microwave source research. Since graduation, Braxton has worked at Lockheed Martin Missiles and Fire Control where he has worked development of compact pulsed power systems and HPM sources including solid-state and vacuum tube systems. Additionally, Braxton has worked on ground-based radar systems, missile seekers, and conformal antennas. While at Lockheed Martin, Braxton has interacted with various university research projects and pushed for greater collaboration between industry and academia specifically focused on pulsed power and high power microwave research. His volunteer experience includes being a technical journal reviewer and supporting Science, Technology, Engineering, and Mathematics (STEM) activities at Lockheed Martin.

**Statement:** Being exposed to pulsed power early in my academic career was a pivotal moment in my desire to get graduate level degrees. The field is fascinating and can often times make other aspects of engineering feel quite banal. While I know our field of electrical engineering is full of exciting research fields, providing a stronger voice for pulsed power and high power microwave sources from the perspective of industry is an exciting opportunity. I find it paramount that industry, research laboratories, and academia continue to collaborate, grow, and drive technology forward. In such a niche field, the need for student and professional engagement is critical. IEEE, NPSS, and PPST opens these channels through dedicated journal articles and international conferences. It would be an honor to have the opportunity to be involved in some of the planning aspects for this community.

**RANDY CURRY** (S'79-M'82-SM'02) Dr. Randy Curry (IEEE senior member) received his PhD in 1992 in Applied Physics from the University of St. Andrews, and his BSEE and MSEE from Texas Tech University in 1982, and 1985 respectfully. Dr. Curry recently joined Sandia National Laboratories (SNL) as a distinguished member of the technical staff in 2022, after 26 years at the University of Missouri-Columbia and 11 years in industry previous to his academic service. Dr. Curry's experience includes private industry (Physics International, Titan Pulse Sciences, Power Spectra), academia (University of Missouri) and currently, SNL, a DOE national laboratory. Dr. Curry's experience includes pulsed power applications, applied electromagnetics, high voltage material research and development, and design of pulsed power systems. At SNL he is presently involved in material research, high voltage switching, pulsed power and applications of applied electromagnetics. During his career he has developed ultrahigh voltage, compact capacitors and compact antennas using nanodielectrics, high pressure flowing oil switches, rapid disinfection of surfaces, nonlinear detection of electronics, compact pulsed power for directed energy applications, megavolt opening switches, atmospheric plasma toroids, and pulsed power systems for electron beam sustained lasers.

Dr. Curry has served as the technical Chair of the 2009 IEEE Pulsed Power Conference, and the Conference Chair of the 2011 IEEE Pulsed Power Conference. He has also supported the Marie Sklodowska-Curie award committee as a committee member and the DEIS International High Power Modulator Conference as a publication chair as well serving on the technical organization committees. He has coauthored over 135 journal and conference papers, 2 book chapters and 17 patents.

**Statement:** During my career, I have worked in almost every aspect of pulsed power including laboratory experiments, design, computation and fielding of complex state-of-the-art applications and systems. These range from kilovolts to 10 MV and from a few kiloamperes to megamperes. As well as electron beam systems. During my unique career, which spans industrial, academic and national laboratories, I have had the pleasure of working with many of the founders of the Pulsed Power field as well as helping to educate and train the new emerging generation of Pulsed Power engineers. It is this unique experience that I wish to bring to the IEEE Pulsed Power Science and Technology Committee. Having served several terms on the committee previously, I want to represent the Pulsed Power and Plasma industry by giving back my time to the committee. If elected I will bring my experience to the committee to enhance the Pulsed Power Conference experience and hopefully reduce the impact of the complicated environment which IEEE conferences face today.

**JOSHUA A. GILBRECH** (S'03-M'04-SM'19) received his BSEE (2005) from the University of Arkansas, and his MSEE (2015) from the University of New Mexico. Since his graduation in 2005 he has focused his work on power electronics, high voltage modulators, and pulsed power systems and technology with a variety of companies. His work has led to designing, building, testing, and installing systems for Air Force Research Labs, Sandia National Labs, Lawrence Livermore National Labs, Atomic Weapons Establishment, Naval Surface Warfare Center, and a variety of other customers. Most recently he has been hired by Leidos to work on the development of innovative and novel high power microwave systems. During his career he has been a member of IEEE for 12 years, including 2 years as a student where he served as secretary and president of the student branch. He holds 3 patents with the USPTO and 2 patents with the WIPO, all for pulsed power technology.

**Statement:** I have always been happy to be part of the IEEE and its mission. I have been entranced by pulsed power since my first job with Kaiser System Inc (2005), designing resonant chargers and magnetic modulators for excimer laser systems. I have been lucky early in my career to have always been placed under extremely experienced leaders in the pulsed power field. As I get further and further into my career, I'm finding more and more that now it's my turn to take on these responsibilities of teaching and instructing the next generation of pulse power engineers. As an engineer closing in on mid-career, I am looking more and more at opportunities to serve our niche community in pulsed power. Since I have spent most of my career in fast paced smaller companies, I find that I have worked on most types of pulsed power archetypes and systems. Working at places like North Star Research allowed me to work on systems that went all over the world for a variety of customers and programs. Likewise now at Leidos, I'm finding my world opened back up to deliver systems to support fascinating programs. One of my early mentors had a saying, "Pulsed power is a solution looking for a problem to solve". We are in exciting times, where finally pulsed power is finding problems to solve outside of the laboratory setting.

**FRANK HEGELER** (S'91-M'95-SM'01) is the Head of the Pulsed Energy Technology Section in the Plasma Physics Division at the Naval Research Laboratory (NRL), in Washington, DC. He received a Diploma in Electrical Engineering from the Fachhochschule Wilhelmshaven, Germany, in 1989, and a M.S. and Ph.D. in Electrical Engineering from Texas Tech University in 1991 and 1995, respectively. He was a Visiting Associate Professor with Kumamoto University, Kumamoto, Japan, from 1995 to 1997, and a Post-Doctoral Researcher and then a Research Assistant Professor at the University of New Mexico, Albuquerque, NM, from 1997 to 2000, before joining NRL in 2000. His areas of expertise are in repetitive pulsed power systems, electromagnetic launchers, electron beam pumped lasers, electron beam generation and propagation, high power microwave sources, plasma diagnostics, non-thermal atmospheric-pressure plasma reactors, and high voltage dielectric breakdown. He has authored/co-authored more than 100 publications.

Frank has been very active in IEEE NPSS and DEIS. He served as an elected member on the PPST from 2017-2020 and on the NPSS AdCom representing the PPST community from 2018-2021. He will serve as treasurer for the upcoming 2023 PPC.

**Statement:** The Pulsed Power Conference has been my main conference for the last 30 years. I feel honored for the recognition that I have received from the community, starting with the International Pulsed Power Conference Outstanding Graduate Student Award in 1993 to the most recent 2021 Magne "Kris" Kristiansen Award. The Pulsed Power Community is my family, and I am happy to serve this community. Specifically, I will support the 2023 PPC Chair, Stephen Bayne, as his treasurer in San Antonio, TX. Afterwards, I will interface with the 2025 PPS organizers for the conference in Berlin, Germany. After more than two years of the COVID pandemic, we are all looking forward to in-person events again. Specific student and young professional activities as well as diversity and inclusion events will become more dominant in future conferences. If given the opportunity to serve another 4-year term on PPST, I would like to concentrate some of my efforts on the next generation of pulsed power engineers and scientists.

**AMANDA LOVELESS** (GSM'15-M'17) Dr. Amanda Loveless received the B.S. degree in nuclear engineering from Purdue University in 2015, the M.S. degree in nuclear engineering from Purdue University in 2017, and the Ph.D. in nuclear engineering in 2020. She is currently a post-doctoral research assistant in nuclear engineering at Purdue University studying bioelectrics and electrophysics. Her research interests include (1) theoretical studies of gas breakdown and electron emission, focusing on developing robust theories for predicting breakdown voltage and electron behavior across multiple length, pressure, and frequency scales, and (2) bioelectrics, concentrating on developing simple models to account for modified membrane potential due to electroporation and rapidly predict the electroporation threshold for various applied pulses.

Dr. Loveless received the 2016 Krauss Scholarship from Purdue University, the 2016 IEEE Dielectrics and Electrical Insulation Society Graduate Fellowship, the 2017 IEEE Nuclear and Plasma Sciences Society (NPSS) Graduate Scholarship, the 2018 Igor Alexeff Outstanding Student in Plasma Science Award, and three Directed Energy Professional Society (DEPS) Scholarships. She also won 1st place for "Best Student Paper" at the 2016 International Conference on Plasma Science (ICOPS) and the 2016 Electrostatic Society of America (ESA) Annual Meeting and received the 2020 Purdue College of Engineering (COE) Outstanding Graduate Research Award for the School of Nuclear Engineering. She has worked on projects with the Department of Defense, National Laboratories, and small companies nationally and internationally. She has authored/coauthored 19 refereed journal articles and given 25 contributed conference talks, including 3 invited.

**Statement:** My work in plasma physics began with studying gas breakdown at microscale considering two emission mechanisms and has developed into nexus theory for microscale gaps considering many additional emission mechanisms and including a magnetic field. Additionally, I have worked in areas including nuclear forensics, non-destructive testing, and bioelectrics. This research has enabled me to collaborate with various national labs, companies, and universities in the US, Iceland, and China. Furthermore, my current position as a post-doc allows me to work with and mentor undergraduate and graduate students and teach them the process of research from the ground up which is extremely rewarding. I feel my experience with interdisciplinary research and cross-sector collaborations coupled with my desire to foster student involvement would benefit the PPST committee and it would be a privilege to serve as a member.

**BUCUR M. NOVAC** (M'07-SM'08) has been awarded an MSc (in 1977) and a PhD (in 1989) both from the University of Bucharest. After graduation he started a scientific career at the Institute of Atomic Physics and in 1993 was promoted to Head of the Plasma Physics Laboratory, having 60 members of staff covering mainly the research domains of plasma focus, tokamak fusion and masers. He joined the then Department of Electronic and Electrical Engineering at Loughborough University UK in October 1998 as a full time Research Associate. Later was promoted as Research Fellow (in 2000), Senior Research Fellow (in 2002), Senior Lecturer (in 2003), Reader (in 2009) and finally full Professor of Pulsed Power in 2011. From 2019, Professor Novac is the holder of an International Chair for Pulsed Power Applications (PULPA) at E2S, The University of Pau and Pays de l'Adour, France.

Professor Novac is a member of the International Steering Committees for both the MEGAGAUSS Conferences and for the International Euro-Asian Pulsed Power Conferences and the Chairman of the U.K. Pulsed Power Symposium. He was in the past a Voting Member of the Pulsed Power Science and Technology Committee in the IEEE Nuclear and Plasma Science Society and an Organizing Committee Member of the IEEE International Power Modulator and High Voltage Conference. Dr. Novac has chaired along the years a number of international pulsed power conferences in Europe. He is a Chartered Engineer, Fellow of the Royal Academy of Engineers, Fellow of The Institution of Engineering and Technology and a Senior Member of the IEEE.

His interests and expertise are in the domain of high-energy pulsed power physics and technology, compact and repetitive pulsed power systems, magnetic flux-compression and applications, high-current, high-power conditioning systems, fast transient and photonic sensors and 2D numerical modeling of pulsed power systems. Professor Novac has co-authored two books on explosive pulsed power and has published more than 200 refereed papers and conference contributions.

**Statement:** Why I wish to serve on the PPST Committee:

- In the past, I was a member of the PPST Committee, so I have the required experience.
- I organized along the years many international pulsed power conferences, mostly as a Technical Chair, and therefore I have extremely useful personal contacts, both with the majority of our community members as well as with senior staff working in the industry.
- I am an enthusiast, with my professional life fully dedicated to the pulsed power art.
- I consider the PPST as a major international Committee, where I can bring my contribution for the benefit of our pulsed power community.

**IEEE NUCLEAR AND PLASMA SCIENCES SOCIETY**  
**PLASMA SCIENCE AND APPLICATIONS EXECUTIVE COMMITTEE ELECTION**  
**For a Three-Year Term 1 January 2023 – 31 December 2025**  
**(Vote for UP to SIX)**

**JIM BROWNING** (M'90-SM'08) received his BS and MS degrees in Nuclear Engineering from the Missouri School of Science and Technology in 1983 and 1985, respectively. He received his PhD in Nuclear Engineering and Engineering Physics from the University of Wisconsin—Madison in 1988 where his research was on RF waves in mirror-confined plasmas. He was a Post-doctoral researcher and research associate at Northeastern University in Boston from 1988-1992 where he worked on Crossed-Field Amplifiers (CFAs), space plasma, and gated vacuum field emitters. He joined Micron Technology from 1992-1998 where he designed, developed, tested, and manufactured active matrix Field Emission Displays (FEDs) and passive matrix FEDs. In 1998 the group became part of PixTech, Inc., which also developed and manufactured FEDs. In 2001 he formed a consulting company working in a variety of flat panel display technologies. He joined the Electrical and Computer Engineering Department at Boise State University in 2006 where he is currently a professor and the Associate Dean for Research Affairs in the College of Engineering. His research includes experimental and simulation efforts in magnetrons and CFAs, in vacuum transistors including gated field emission reliability and characterization, and in cold atmospheric pressure plasma for use in biomedical and agricultural pathogen remediation.

**CHAO CHANG** (GSM'10-M'11-SM'16) Prof. Chang, IEEE Senior Member, IEEE Plasma Science and Application Executive Committee 2019-2021, Founding Chair of IEEE NPSS Xi'an Chapter (1st NPSS Chapter established in China), Associate Editor of IEEE Trans. Micro. Theo. Tech., Senior Editor of IEEE Trans. Plasma Science, General Chair of 2018 Asia-Pacific Conference on Plasma and Terahertz Science, Technical Program Chair of 2020 and 2024 International Conference on Plasma Science (ICOPS) and International Advisory Committee of 2015 and 2016 ICOPS.

Prof. Chang was born in 1983, received Bachelor in 2006 and Ph.D. in 2010 both from Tsinghua University, and Post doctoral in 2011-2013 from Stanford University. He is Director of Innovation Laboratory of Terahertz biophysics, Chief Scientist of China National Scientific Innovation District, and Chair of China Terahertz Biophysics Society. He is Professor of Xian Jiaotong University, and Professor of School of Physics in Peking University.

He studied the mechanisms of intense nanosecond microwave-driven window breakdown and discovered effective methods of multipactor suppression on windows and in dielectric-loaded accelerators, and proposed the novel electromagnetic undulators for free electron lasers. He published 1 book, 70 peer-reviewed journal articles (including Nature Communication, PNAS, PRLs, JACS, AFM, ACS Nano, Small, JMCC, JPCL, APLs et al.), and 1 US patent. He gave 2 plenary and 8 invited talks at International Conferences.

He is recipient of 2017 IEEE NPSS Early Achievement Award, 2020 The Ho Leung Ho Lee Foundation Innovation Prize; 2019 1st Recipient of China State Science Award; 2019 Leading talents of China Ten Thousand Plan; 2018 AAPPS-DPP Young Researcher Award.

**PETER DUSELIS** (M'22) was born in Indianapolis, IN in 1976. He received a B.S degree in mathematics and physics from Purdue University in 1999, M.S. and Ph.D in applied physics from Cornell University in 2003 and 2004, and an M.B.A from University of New Mexico in 2008. In 2004 he joined Mission Research Corporation, which was acquired by Alliant Tech Systems, as a Scientist developing high power microwave sources. In 2006, he joined Ktech Corporation as a Senior Scientist. He managed the development of the first high power microwave system to engage targets while airborne. When Raytheon acquired Ktech in 2011, he first became a Senior Manager for HPM systems and in 2014 became the Senior Manager for Directed Energy. While in the position, he doubled the revenue of the Directed Energy Division and grew the staff to 65+ people by focusing on developing high technical readiness level pulsed power, high power microwave, and charged particle beam systems for both defense and commercial applications. In 2018, he and his business partner started Science, Engineering, Management Solutions (Sem-Sol) in Albuquerque, NM where he is currently the Executive Vice President. He has grown the Sem-Sol to 31 employees and over \$5M in yearly revenue.

Dr. Peter Duselis won the Raytheon Corporate Excellence in Engineering Award in 2013 for his work on advanced airborne high power microwave technology. He has also won the Flying 40 Falcon Award for business growth in New Mexico in 2019, 2020, and 2021. He currently is on the Technical Advisory Committee for Multi-University Research Initiative for the Air Force Office of Scientific Research.

**JONATHON HEINRICH** (M'20) is a Plasma Physicist at Verus Research, an Albuquerque based R&D startup with a portfolio spanning high power microwaves, a 3 MA dense plasma focus, and spacecraft. He received his B.S. degree in Physics from the University of Southern California in 2007 and his PhD in Plasma Physics from The University of Iowa in 2011. From 2012 to 2014 he was a National Research Council Postdoctoral Fellow at the Airforce Research Laboratory in the space weather directorate at Kirtland AFB (RVBXR). From 2014 to 2019 he was a member of the Revolutionary Technology Programs at Lockheed Martin's Skunk Works leading the experimental campaign for LM high-beta fusion effort. At Verus Research, Dr. Heinrich leads multiple programs and SBIRs including two Phase II efforts, one for whistler wave remediation of the Van Allen Belts and the other for high-speed plasma-based limiters. His research has covered a broad range of plasma physics, from low temperature plasma to dusty plasma to space plasma to fusion. His current research interest are low temperature plasmas, atmospheric pressure plasmas, and high-power microwave devices.



**CHUNQI JIANG** (S'01-AM'02-M'03-SM'09) received her BS (1995) from the Changchun Institute of Optics and Fine Mechanics, China, her MS (1998) from the University of Electronic Science and Technology of China, and her PhD (2002) from Old Dominion University (ODU), USA. She worked in the pulsed power research group at the Department of Electrical Engineering – Electrophysics, University of Southern California (USC) for nearly ten years, first as a Postdoctoral Research Associate (2002-2005) then a Research faculty (2008-2013). She joined ODU in 2013 and is currently Professor affiliated with both the Center for Bioelectrics and the Electrical and Computer Engineering Department at ODU. In addition to her academic experience, she worked as a Research and Development Engineer at a startup company in New Jersey for two years (2005-2007). Her recent research interests include nanosecond pulsed plasma sources, pulsed electromagnetic fields and their applications in industrial, environmental and biomedical fields. Her research has been funded by DoD, DoE, NIH and the private sector. She published 7 book chapters, more than 60 research papers, and holds one patent. She has been an IEEE NPSS member for 20 years. Over the course of her IEEE membership tenure, she has served as Technical Program co-Chair (2019) for the IEEE International Conference on Pulsed Power and Plasma Science, Technical Area Coordinator and Session Chair for several past IEEE International Conferences of Plasma Science, Short Course Chair (2012), General Overseas Conference Attendance Chair (2010), a technical program committee member for IEEE International High Voltage and Power Modulator Conferences, and Guest Editor for 2015 & 2019 special issues of IEEE Transactions on Plasma Science, 2009 special issue of IEEE Transactions on Dielectrics and Electrical Insulation, and 2020 special issue of Plasma Research Express. She served on the IEEE Pulsed Power Science and Technology Committee as a voting member in 2017-2021.

**JANE LEHR** (S'86-M'96-SM'02-F'08) Dr. Jane Lehr received the Bachelor of Engineering degree from Stevens Institute of Technology and the Ph.D. degree in Electrical Engineering from New York University in 1996 under the supervision of Professor Erich Kunhardt. Dr. Lehr joined the University of New Mexico's Electrical and Computer Engineering faculty in 2013 after spending twelve years at Sandia National Laboratories. She served five years at the Air Force Research Laboratory's Directed Energy Directorate studying ultra-wideband high power electromagnetics and repetitive pulsed power where she was awarded the USAF-wide Basic Research Award in 2001. Dr. Lehr's research interests are in all aspects of high power electromagnetics, pulsed power, high voltage engineering and the physics and application of electrical breakdown in vacuum, gases and liquids. In 2017, she authored *Foundations of Pulsed Power Technology* with Prahlad Ron. Dr. Lehr is a Fellow of the IEEE.

Prof. Lehr currently serves as the Diversity and Inclusion Chair for Nuclear and Plasma Sciences Society and Chairs the Fellow Advisory and Consulting Team (Fellow ACT) to facilitate member elevation. Dr. Lehr was President of the NPSS in 2007 and 2008 and served on the IEEE Technical Activities Board Publications Committee as well as their representative to the Women in Engineering Committee. Other contributions include Guest Editor for the IEEE Transactions on Plasma Science and Associate Editor for the IEEE Transactions on Dielectrics and Electrical Insulation. Dr. Lehr received the IEEE Shea Distinguished Member Award in 2015 and the IEEE Region 6 Award for Leadership in 2001. She was named an Outstanding Woman of New Mexico and has been inducted into the New Mexico Hall of Fame.

**BUCUR M. NOVAC** (M'07-SM'08) has been awarded an MSc (in 1977) and a PhD (in 1989) both from the University of Bucharest. After graduation he started a scientific career at the Institute of Atomic Physics and in 1993 was promoted to Head of the Plasma Physics Laboratory, having 60 members of staff covering mainly the research domains of plasma focus, tokamak fusion and masers. He joined the then Department of Electronic and Electrical Engineering at Loughborough University UK in October 1998 as a full time Research Associate. Later was promoted as Research Fellow (in 2000), Senior Research Fellow (in 2002), Senior Lecturer (in 2003), Reader (in 2009) and finally full Professor of Pulsed Power in 2011.

From 2019, Professor Novac is the holder of an International Chair for Pulsed Power Applications (PULPA) at E2S, The University of Pau and Pays de l'Adour, France.

Professor Novac is a member of the International Steering Committees for both the MEGAGAUSS Conferences and for the International Euro-Asian Pulsed Power Conferences and the Chairman of the U.K. Pulsed Power Symposium. He was in the past a Voting Member of the Pulsed Power Science and Technology Committee in the IEEE Nuclear and Plasma Science Society and an Organizing Committee Member of the IEEE International Power Modulator and High Voltage Conference. Dr. Novac has chaired along the years a number of international pulsed power conferences in Europe. He is a Chartered Engineer, Fellow of the Royal Academy of Engineers, Fellow of The Institution of Engineering and Technology and a Senior Member of the IEEE.

His interests and expertise are in the domain of high-energy pulsed power physics and technology, compact and repetitive pulsed power systems, magnetic flux-compression and applications, high-current, high-power conditioning systems, fast transient and photonic sensors and 2D numerical modeling of pulsed power systems.

Professor Novac has co-authored two books on explosive pulsed power and has published more than 200 refereed papers and conference contributions.

**RAJDEEP SINGH RAWAT** (M'11) did his MSc (1987) and PhD (1994) in Physics, with specialization in experimental plasma physics from University of Delhi, India, and currently is a Professor in Physics and Head of Natural Sciences and Science Education Academic Group in National Institute of Education, NTU. Rajdeep's key research areas of expertise encompass interdisciplinary fields of plasma sources, pulsed power, plasma diagnostics, plasma applications, material science and technology for energy storage materials and spintronics.

After joining at NTU, he has participated in 44 research grants, including one CRP and 5 MOE Tier 2 grants, amounting more than 14 M\$ since 2001 with 25 as principal investigator with 18 of them from external/industrial sources and has graduated 4 MSc and 13 PhD students and currently supervising 5 PhD students. He has published over 250 Journal papers and over 70 conference papers with >7500 citations and H-index of 46. He also holds a patent on "New Fast Absolute Neutron Detector" and four more patent applications have been submitted related to applications of plasmas for 1 nm thick carbon coatings, anti-fogging, and anti-fingerprint coatings. He has delivered 18 Plenary/Keynotes and more than 50 invited talks at international conferences.

He has been an active member of IEEE NPSS for more than a decade and has served IEEE NPSS in different capacities such as (i) Chair of 47th IEEE International Conference on Plasma Science 2020 which was organized online due to COVID-19 with record participation of about 740 participants; which was organized with 2nd Asia Pacific Conference on Plasma and Terahertz Sciences (APCOPTS), envisioned as Asian version of ICOPS, (iii) Chair and Vice Chair of Singapore Chapter of IEEE NPSS on several occasions, and (iv) International Committee member of ICOPS conferences on several occasions, including the Chair of Student Best Paper Award selection committee at ICOPS2021.

He is currently the President of Asian African Association for Plasma Training (AAAPT), which has 54 member institutions in 23 countries, since 2012 and has organized several program and activities of AAAPT including students and faculty visits through support from ICTP, IAEA and other resources for training and collaboration on plasma sources and diagnostics to help them establish plasma diagnostics in their native labs. As AAAPT President, he has insured regular organization of annual conference of AAAPT, the International Conference on Plasma Science and Applications (ICPSA) series of conferences, which have held without fail for last 14 years. He is currently the President of International Physics Olympiad, the most prestigious international physics competition for high school students, since 2018. He serves on Board of Directors of Division of Plasma Physics of Association of Asia Pacific Physical Society (AAPPS-DPP) since 2018 and the council member of AAPPS since 2017. He also serves as Associate Editor of Review of Modern Plasma Physics (Springer), and as Editorial Board Member of Plasma Physics Express (IOP), Journal of Theoretical and Applied Physics (previously Springer), Plasma (MDPI), and The Physics Educator (World Scientific).

**IAN M. RITTERSDORF** (GSM'11-M'12) Dr. Ian M. Rittersdorf received the B.S.E., M.S.E., and Ph.D. degrees in nuclear engineering and radiological sciences from the University of Michigan in Ann Arbor, MI in 2008, 2010, and 2014, respectively. He also holds a graduate certificate from the Michigan Institute for Plasma Science and Engineering (MIPSE) and has been a member of the IEEE since 2011. During his graduate studies, he investigated the effects of random manufacturing errors on microwave vacuum electron devices under Professor Yue Ying Lau. This work included publications on the effects of random manufacturing errors in traveling-wave tubes and the temporal and spatial locking of magnetrons. He also co-developed a code based on a klystron intermodulation algorithm for NASA JPL.

Concurrent with this time in graduate school, Dr. Rittersdorf had two separate internships with L-3 Communications in the electron devices division at their Williamsport, PA and San Carlos, CA facilities. The focus of this work was microwave source development. He aided in the design of new klystrons for Jefferson Lab's CEBAF particle accelerator, investigated novel traveling-wave tube performance with computer simulations, and designed novel W-band output coupling configurations.

Following graduate school, Dr. Rittersdorf joined the U.S. Naval Research Laboratory in Washington, DC working with the Pulsed Power Physics Branch in the Plasma Physics Division as a National Research Council Post-Doctoral Fellow. At this position he studied the modeling of electrode plasma formation in high-power diodes using particle-in-cell methods. These investigations led to the development of current density scaling laws for relativistic cylindrical diodes and a Monte Carlo model for space charge affected field emitters.

In 2016, Dr. Rittersdorf was a Jerome Karle Fellowship recipient and was converted to a full-time employee at NRL the following year. During this time, Dr. Rittersdorf was part of a joint service Navy, Air Force, and Army team that was awarded funding by the Operational Capability Energy Improvement Fund to develop a millimeter-wave ground-to-ground wireless power beaming demonstration. The current focus of Dr. Rittersdorf's research is providing simulations of high-power diodes for use as x-ray sources. Dr. Rittersdorf is also the PI for a three-year project with NRL base program funding to applying uncertainty quantification techniques to plasma chemistry systems for atmospheric propagation of electron beams.

In addition to his technical duties, he sits as a member on the radiation safety council at NRL. Dr. Rittersdorf has also mentored three summer interns and continues to participate in NRL's summer student internship efforts. He also recently joined the NRL mentorship program to help mentor new hires at the lab.

Dr. Rittersdorf has a decade of experience in the field of plasma science and applications, focusing primarily on the development of numerical models for the evolution of electrode plasmas, high-power microwaves, and the physics of high-power charged particle beam diodes for various applications. This work has resulted in over 20 publications and numerous presentations at scientific conferences such as the International Conference on Plasma Sciences, which he has attended since 2011.

**JOSE O. ROSSI** (M'05-SM'12) received a B.Sc. degree in Electrical Engineering from Campinas University, Campinas, SP, Brazil, in 1982, an M.Sc. degree in Electronics from the Technological Institute of Aeronautics (ITA), Sao Jose dos Campos, SP, Brazil, in 1992, and a doctorate in Engineering Science from Oxford University, Oxford, U.K., 1998. He has been with the Associated Plasma Laboratory of the National Institute for Space Research (INPE), Sao Jose dos Campos, SP, Brazil, since 1983, working on pulsed power generators for microwave generation and surface treatment by plasma implantation. Dr. Rossi was in a Ph.D. program on pulsed power systems and transmission line transformers at the Department of Engineering Science, Oxford University, from 1994 to 1998. During the academic year of 2007–2008, he was a Visiting Scientist with the Department of Electrical and Computer Engineering, University of New Mexico, Albuquerque, where he was involved with the research on dielectrics of high breakdown strength for compact energy storage systems. Dr. Rossi is also a member of the IEEE Nuclear and Plasma Sciences Society (NPSS) and the Brazilian Physics /Power Electronics Societies. Nowadays, his main research interests are in nonlinear transmission lines and high-voltage ceramic dielectrics for compact pulsed power and RF generation.

**ALLA S. SAFRONOVA** (M'06) received a Ph.D. in physics from the Institute of General Physics, Russian Academy of Science, Moscow, Russia, in 1986. From 1994 to 1998, she was a Visiting Scientist and then a Post-Doctoral Research Associate with the Department of Physics, University of Nevada, Reno (UNR), NV, USA, where she has been an Associate Research Professor since 1998 and is currently a Research Professor. She is one of the pioneers in the application of X-ray line polarization to astrophysical and laboratory plasmas, and currently is working in the field of High Energy Density Plasmas (HEDP). Dr. Alla Safronova has authored and co-authored more than 225 publications and 350 presentations, and personally delivered more than 50 invited talks. Her current research interests include the study of radiation from and processes in HEDP such as Z-pinch and high-power laser plasmas, as well as tokamak plasmas. Dr. Alla Safronova was an Organizer and Co-Chair of a series of international workshops on Radiation from High-Energy-Density Plasmas (RHEDP) in 2011, 2013, and 2015 and the 10th International Conference on Dense Z-Pinches in 2017, as well as of the sessions at the International Conferences on Plasma Science (ICOPS) and other international meetings on plasma physics. She was the General Chair of the ICOPS 2021 conference. Virtual ICOPS 2021 with over 425 registered participants from about 28 countries was a great success in the challenging times of COVID-19 pandemic. Dr. Alla Safronova was the Guest Editor of the 5<sup>th</sup> and 7<sup>th</sup> Special Issues of the IEEE TRANSACTIONS ON PLASMA SCIENCE (TPS) on Z-Pinch Plasmas in 2012 and 2018, respectively, and the two special topic sections on RHEDP of *Physics of Plasmas* in 2014 and 2016. She is currently the Guest Editor of the Special Issue of the IEEE TPS on Plenary, Invited, and Minicourse Papers from ICOPS 2021. From 2015 to 2017, she served on the IEEE Plasma Science and Applications Executive Committee. The former UNR graduate students, who graduated with PhD from her group, are now working in US National and Federal Laboratories, scientific companies, as well as faculty at universities abroad.

**DAVID SIMON** (GSM'10-M'14) is a senior physicist at the Air Force Research laboratory. He received a double BA from UC Berkeley in nuclear and mechanical engineering and PhD from the University of Michigan in nuclear engineering in 2016. Since then, he has been working in the directed energy directorate on development of next generation high-powered microwave sources. His research interests include analytical and numerical investigation of electron beam devices.

## IEEE NUCLEAR AND PLASMA SCIENCES SOCIETY ELECTION

### RADIATION INSTRUMENTATION STEERING COMMITTEE ELECTION

For a Three-Year Term 1 January 2023 – 31 December 2025

(Vote for UP to FIVE)

**GABRIELLA A. CARINI** (S'04-M'06) received MSc and PhD in electronics engineering from the University of Palermo, Palermo, Italy, in 2001 and 2006, respectively. From 2003 to 2005 she was a research scholar at Brookhaven National Laboratory (BNL) where she continued her research as a post-doc, assistant and associate physicist until 2011. She then moved to SLAC where she became the detectors department head and detectors program director for the Linac Coherent Light Source (LCLS). In 2018 she rejoined BNL as a senior scientist and deputy division head of the Instrumentation Division. Since 2020 she is the director of BNL's Instrumentation Division. Her interests include x- and gamma-ray detectors, advanced instrumentation, system development, microelectronics, and technology. Under her leadership the Instrumentation Division has grown both in traditional and emerging R&D areas. She spearheaded the effort to develop the QIST laboratory in Instrumentation Division with focus on quantum network research, now launched as user facility. She has published more than 150 publications and holds two patents. She received several awards for her research and leadership including an R&D 100 Award in 2005.

**Statement:** Throughout my career I have performed my research at various facilities and national laboratories around the world, developing a good understanding of international and local research communities. My work to advance detector technology and new concepts builds on technologies and applications as the two key elements for innovation in instrumentation. I have focused on 1) advancing technologies as the building blocks of dedicated instruments and enablers of new science; and 2) understanding fundamental requirements of specific experiments. I serve in several panels for detectors and instrumentation strategic development, conference and review committees, and have collaborations with many institutions - national labs, industry, and academia. I believe the challenges ahead of us can only be tackled by very diverse teams through cross-cutting initiatives. RISC can play a big role in shaping our community to fully embrace this model. This role would offer me a unique opportunity to contribute to this effort.

**GRZEGORZ W. DEPTUCH** (M'99-SM'07) received MSc in electronics from the AGH University of Science and Technology (AGH-UST), Krakow, Poland, in 1996, PhD in physics-electronics jointly from Université Louis Pasteur, Strasbourg, France, and AGH-UST in 2002, and titles of DSc and Titular Professor in electronics in 2014 and 2021, respectively. From 1996, he was research assistant at AGH-UST then continued as post-doc at Laboratoire d'Electronique et Physique des Systèmes Instrumentaux, Strasbourg, France from 2002 to 2004. He joined the Instrumentation Division at Brookhaven National Laboratory (BNL) in 2005. Two years after, he moved to Fermi National Accelerator Laboratory, where he led the ASIC Development Group from 2011 until 2019, when he returned to BNL as senior scientist. He pioneered Monolithic Active Pixel Sensors for high precision tracking, three-dimensional integration for pixel detectors for X-rays detection and contributed to cryogenically-operated integrated electronics for reading out signals from liquid noble gases detectors. He has published about 145 publications. He holds 10 US patents and received IEEE NPSS Radiation Instrumentation Early Career Award in 2008. His interests include nuclear electronics with emphasis on mixed-mode, readout integrated circuits, semiconductor sensors, high density interconnect technologies, application in extreme environments and processing of signals in such systems.

**Statement:** Research on radiation detectors, integrated electronics, and processing signals from these detectors fill up my career. My first design was in a 1.2 um CMOS process, I work with decanometric nodes now. I have been looking comprehensively into developments of new detector systems, aiming at not ignoring details of individual components, i.e., a sensor, readout integrated circuit, data acquisition, but also their interplay to build instruments for collection of good sets of data. I seek for innovative technologies allowing bringing new generations of devices with more in-situ processing to life. If elected to RISC, I would work in a similar manner seeking for cohesion, helping to maximize benefits to the radiation instrumentation community through carrying about the emphasis on core components and justifying their specifications by good understanding of applications. I would be advocating for such a balanced programmatic content for the benefits of NSS/MIC/RTSD meetings. I have contributed my presentations to IEEE meetings over many years, while my first meeting was in 2001. Since 2009, I have been regularly involved in shaping of the meetings as a topic convener for the sessions. I trust that my experience and intrinsic curiosity would make me an effective member of RISC.

**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 in 1988 and a Ph. D in Particle Physics in 1999 both from Graduate School of Chinese Academy of Sciences (GUCAS which transformed to UCAS later) China. He visited GSI, Darmstadt Germany and CERN Geneva in 90's as a visiting scientist for years, and joined 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 have active research programs in instrumentation 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, the Concentration, preprocessing and Fanout (CPPF) for CMS L1 trigger system Phase I upgrade since 2013 to 2017, and RPC Backend Electronics and trigger concentrator for CMS Phase II upgrade since 2018 and CEPC TDAQ R&D activities. As an IEEE/NPSS member he have introduced as Local Organization Chair the first NPSS conference, the Real Time Conference 2009 to China, contributed presentations to IEEE/NPSS meetings/conferences over years, and also services as an organizing committee member (Scientific Committee Co-chair for RT2014 and RT2016, Executive Committee member

for RT2012/18/20/22, Asia-Pacific Liaison Co-Chair NSS-MIC2013 in Korea, Membership Booth running in SOFE2017 in Shanghai, and TIPP2017 as General Chair in Beijing).

**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 as presentative, helping to improve the communication and 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 NPSS fields, with my experience in CANPS member, TNC member and past elected RISC Member. Experience in organizing the NPSS conferences have given me insight to be an effective member to RISC.

**ALESSANDRO MARCHIORO** (M'89-SM'19) received his Laurea in Physics (cum Laude) at the University of Padova in 1979. Since 1980 he has been working in various positions at CERN until his retirement in 2020. At CERN he worked on the construction of the ALEPH detector where in the mid 80's he realized the potential for using microelectronic technologies for very large instruments in particle and nuclear physics. He actively promoted the introduction of such technologies in larger scale until their full deployment in the design and construction of various detectors in the LHC experiments and has played a key role in the introduction of RHBD techniques using commercial technologies for applications in the extremely harsh LHC environment. He has been leading the Microelectronics Group at CERN for several years. To strengthen and diversify his competences in scientific projects he worked on a sabbatical at the IBM T. J. Watson Research Center, Yorktown Heights (NY) in 1992 and at the Sandia National Laboratory in Albuquerque (NM) in 2014. He is currently Editor of the Institute of Physics JINST magazine and Guest Editor of NIM-A; co-recipient of the 2005 IOP Duddell prize. Currently he is an Honorary Member of CERN, associated with the National Institute for Nuclear Physics in Torino (I) and he is teaching a course on Microelectronics for physicists at the University of Padova (I).

**Statement:** Having been an IEEE Member for many years throughout my career, I believe that the IEEE and its Societies are ideally placed to play an important role in the education of new generations of young scientists and engineers. I would like to help building bridges between the professional world of IEEE and the educational world by bringing the perspective, motivation and enthusiasm of successful professionals into our classrooms and expose young minds to the most challenging problems that our sciences and technologies are trying to solve.

**BRUCE MELLADO** (M'18) a PhD from Columbia University, Bruce Mellado, is a Full Professor at the University of the Witwatersrand, a Senior Researcher of iThemba LABS and serves as the Director of the Institute for Collider Particle Physics. Prof. Mellado is the National Contact Physicist of South Africa at the ATLAS experiment at CERN, the Chairman of the Institutional Board of the Tile Calorimeter of the ATLAS experiment and the co-Chair of the Nuclear Particle and Radiation Division of South African Institute of Physics. He is the recipient of several awards and fellowships. Prof. Mellado is an Internationally acclaimed researcher of the South African National Research Foundation. Prof. Mellado's interests in the area of instrumentation lie in calorimetry. He contributed to the calorimeter of the ZEUS experiment at DESY and the Tile Calorimeter of the ATLAS experiment. This includes maintenance, operations, calibrations, R&D and readout systems. It also includes work in the area of radiation of materials and radiation certification of electronics. Prof. Mellado's team is involved in the upgrade of the Tile Calorimeter of the ATLAS experiment.

**Statement:** I have been a NPSS member for over 5 years. In collaboration with colleagues from the NPSS we have organized a number of schools in different locations in Africa. These activities are very important for the growth of science and technology in the continent. As such, the participation of Africa in Astronomy, Astrophysics and Collider Particle Physics is growing steadily, both in terms of number of participants, geographical footprint and quality. South Africa hosts the Square Kilometer Array, which will become the largest experiment in wave astronomy in the world. This effort includes a large number of African countries that will also host dishes. South Africa has its own accelerator facilities where nuclear reactions and radiation of materials are performed routinely. I believe the activities of the IEEE NPSS are highly beneficial to Africa, where a strong ecosystem of stakeholders in science and technology should work together for the promotion of STEM in the continent.

**ARIANNA MOROZZI** (GSM'15-M'17) received her master's degree in Electronic and Telecommunication Engineering from the University of Perugia, Italy, in 2012, and a Ph.D. in Industrial and Information Engineering in 2017 from the same University. She has been involved in various international research projects developing skills in the numerical simulation of innovative detectors for HEP applications with Technology CAD tools. Within this framework, she contributed to the modeling of the radiation damage effects induced by irradiation on semiconductor detectors at high fluences and to the modeling of radiation hard detectors manufactured with CVD diamond. She is now the principal investigator of the NegHEP project (Young Grant from INFN-CSN5) which aims at investigating the potentiality of the electronics based on ferroelectric materials, namely negative capacitance, for application in the HL-LHC scenario. She was awarded by the IEEE Nuclear and Plasma Sciences Society with the 2017 Emilio Gatti and Franco Manfredi Best Ph.D. Thesis Award in Radiation Instrumentation (1st place) in 2017 and with IEEE Radiation Instrumentation Early Career Award in 2020 for "contributions to numerical modelling of radiation damage effects in semiconductor detectors and to the development of TCAD models of synthetic diamond and negative capacitance materials for advanced radiation sensors".

**Statement:** I have carried out research on radiation instrumentation for the past 10 years and I intend to continue in this field for many more years, fostering the comprehension of the radiation damage effects on solid-state detector. I am confident that I can make a strong contribution as a member of the RISC committee. I hope to have the opportunity to help expand the RITC's global activities, advocating initiatives of value to the radiation Instrumentation community. I would help to promote an environment that will attract more young talent into our field. Indeed, new ideas and new people are the basis for a dynamic and stimulating environment to grow. I look forward to learn and serve the committee to my best.

**STANISLAV POSPÍŠIL** (M'00-SM'11-LS'22) is the Director Emeritus of the Institute of Experimental and Applied Physics (IEAP) of the Czech Technical University in Prague (CTU). He received MSc. degree in Nuclear Physics at the CTU in 1964 and later the Doctor of Science (DrSc.) degree in Physical and Mathematical Sciences at Charles University in Prague. In 2002 he founded the IEAP CTU as an independent university institute, which he led for 13 years. From 2009 to 2018 he served as Professeur Associé for the Faculté des Arts et des Sciences, Université Montréal. He supervised 25 MSc. and 18 Ph.D. students. For his "academic activities of lasting values" the CTU awarded him the Gold Medal and Gold Felber Medal. During his 58 years scientific career, Stanislav dealt with neutron nuclear physics and spectroscopy. He carried out his experiments in the FLNP JINR Dubna, on HFBR of the BNL, Tandem in Munich and on HFR of the ILL Grenoble. In 1992, when Czech Republic became the Member state of CERN, he focused his activities on ATLAS and MoEDAL particle physics experiments, as well as on R&D19/48/50 and Medipix2/3/4 collaborative projects dedicated to development of radiation hard pixel detectors for LHC experiments and their applications for hadron therapy, X-ray and neutron imaging, NDT and dosimetry. Later he also pushed the use of hybrid pixel detectors for real time measurement of radiation in extraterrestrial conditions. Stanislav's publication record lists 1350 publications cited 50216 times with H-index of 110. The results devoted to the development of hybrid pixel detectors and their applications for X-ray and neutron imaging, 3D particle tracking has received recognition and presented as invited plenary lectures at number of conferences including the 2008 and 2019 IEEE NSS/RTSD. Stanislav has been a past RISC member from 2007-2010. As a Senior Life IEEE Member, Stanislav currently contributes to activities of the IEEE NPSS Czechoslovak Chapter, which he founded in 2009, and to educational activities organized by the IEEE NPSS worldwide. In 2020 he received "The Glenn F. Knoll Radiation Instrumentation Outstanding Achievement Award for contributions to the development and application of pixelated radiation detectors in medical, high-energy and space science".

**Statement:** I consider as my main goal during my work in the IEEE NPSS RISC to raise public awareness of the importance of experimental physics of microworld both (a) general needs of education, and (b) strengthening the transfer of knowledge, methods and high-tech technologies developed in the framework of the experimentally oriented physics for the needs of the development of other scientific disciplines and their socially highly sought-after applications.

Specifically, I would work on – (1) Raising awareness of the activities of the IEEE NPSS in Europe following a three-year period when, as result of the global Covid-19 epidemic, not only our immediate contacts but also contacts with students from distant countries have been significantly reduced. (2) Bring information to non-European colleagues about what we are doing in Europe with the support of the IEEE NPSS, namely on contributions oriented to introduction of subatomic physics to laboratory education of high school and university students. (3) To inform the international community of the IEEE NPSS about the progress in the development of detector and the methodology of their use in Europe beyond the high-energy physics cultivated at CERN. By this I mean non-destructive imaging and tomography for biomedical applications and material sciences, for nuclear research, and for research oriented on near and far space, which all are often addressed in the EU in close cooperation with US partners. Joint NASA/ESA projects solved with the participation of Czech research teams serve as a good example of such cooperation.

In formulating these goals for my possible work in RISC, I draw on the personal experience of the Director of the Institute of Experimental and Applied Physics (IEF) CTU in Prague, which I founded twenty years ago with a group of young people, mostly doctoral students and postdoctoral students. I have constantly taken care that the IEEE NSS/MIC/RTSD conferences become a key source of knowledge for these young colleagues about what real scientific work at international level means. Their active participation in them with the presentation of their own results has always been a significant motivation for their further creative work. In this sense, after 20 years, I can state that our constant contacts with the IEEE NPSS, which over the years were reflected in the also establishment of the NPSS branch at the Czechoslovak IEEE Section on March 17, 2009, significantly contributed to the successful development of my institute. It motivates me also to contribute to the work of the IEEE NPSS RISC again.

**ANDRE SOPCZAK** (M'07-SM'11) is an Associate Professor at the Institute of Experimental and Applied Physics (IEAP) and Czech Technical University (CTU) in Prague. IEEE member since 2006, senior member since 2011, RISC member 2016-2018. Since 2017 president of the Nuclear & Plasma Sciences Chapter of the IEEE Czechoslovakia Section. Since 2019 member of the NPSS Transnational Committee, 2021 founder of the Life Member Affinity Group (LMAG) for IEEE Region 8 Czechoslovakia. Undergraduate studies in mathematics and physics at Munich University, 1992 Ph.D. University of California, San Diego, Isidor I. Rabi Diploma for Best Students at Erice School. CERN and DESY Fellowships, teaching and research assistant at Karlsruhe University. 2001 faculty member at Lancaster University, tenured 2004. Since 2012 Czech Technical University in Prague, ATLAS group leader. Research on radiation hardness of CCD detectors, application of Medipix, Timepix and Timepix3 detectors, accelerator R&D (collimators), searches for new particles and Higgs boson physics. Forward Detector applications at LHC. Major collaborations include L3, DELPHI, LCFI, D-zero and ATLAS. Several TNS publications as leading author, >120 individual publications.

**Statement:** With the privilege and opportunity to bring my professionalism and dedication to foster the important goals of the IEEE, I would be delighted to expand my IEEE engagement and serve as a member of the Radiation Instrumentation Steering Committee (RISC). Having strong specific qualifications, experience, abilities and motivation for the Radiation Instrumentation Technical Committee (RITC), as a member of the RISC I can contribute to several areas:

- contribute to advancements of theory and applications of Ionising Radiation Instrumentation
- give a positive image of the detectors based on successful applications
- through initiating and chairing an LMAG, adding experience with the IEEE admin procedures
- promote the detector technology advancements for further applications

- serve as ambassador between the large Collaborations and RISC
- find efficient ways to explain detector advancements understandably
- based on several grants for outreach, promote public understanding
- electronic learning and an e-learning project in an international consortium
- successful with fund raising for School organizations
- with participation in most IEEE NSS/MIC conferences since 2005, supporting the JOS, researching future NSS/MIC conference locations and assisting the selection of the respective General Chairs
- supporting the Awards committee with experience of student selection and successfully supporting and initiating RISC Glenn Knoll awards