

**IEEE DIELECTRICS AND ELECTRICAL INSULATION SOCIETY  
ELECTION OF MEMBERS TO THE ADMINISTRATIVE COMMITTEE  
For the Term 1 January 2018 to 31 December 2020**



**REFAT GHUNEM** (GSM'11-M'14) received BSc and MSc degrees from the American University of Sharjah, UAE, in 2008 and 2010, respectively, and the Ph.D. degree from the University of Waterloo in 2014. From 2008 until 2010 he worked as a substation engineer in the maintenance division of the Abu Dhabi Transmission and Despatch Company, Al Ain, UAE. He is currently a research officer with the Measurement Sciences and Standards, National Research Council Canada. He is the leading scientist and manager for R&D projects in the area of asset management of electric power distribution cables and testing and diagnostics of electrical insulation. Refat is the chair of the IEEE DEIS Outdoor Insulation Technical Committee. He is a member of the CIGRE D 1.62 working group on “Surface

Degradation of Polymeric Insulating Materials for Outdoor Applications” and he is the chair of the IEEE Joint Ottawa-Montreal DEIS Chapter. His research interests include outdoor insulation, condition monitoring and electrical insulation diagnostics.

**Statement:** Promoting the scientific research in the area of dielectrics and electrical insulation, particularly, among young professionals, researchers and new students is with a paramount importance, in the light of the evolution of new research challenges such as smart grid applications. This can be achieved by maintaining and expanding the continuous engagement of the DEIS in scientific research activities and the interaction among members of DEIS with wide spectrum of experience and knowledge. It was a great opportunity for me to be appointed as new chair of the DEIS outdoor insulation technical committee as this role has given me the chance to interact with more members from the community and to obtain better understanding of many of the new challenges. I always admired the massive efforts exerted by the AdCom of DEIS to promote dielectrics and electrical insulation research in the scientific community and to serve the members of the DEIS. As such, I was happy to contribute to these efforts as the chair of the local DEIS chapter in Ottawa and I am looking forward to serving the DEIS at a larger capacity. I intend to attend at least Adcom meeting each year.



**JUN (JIM) GUO** (S'07-M'10) has over 10 years of experiences working in the field of diagnostic testing for high voltage apparatus. He received the B.A and M.Sc. degrees in electrical engineering from the School of Electrical Engineering in Southwest Jiaotong University, Sichuan, China, in 2003 and 2006, respectively, and the Ph.D. degree in material science at the Electrical Insulation Research Center, Institute of Material Science, University of Connecticut, Storrs, CT, USA in 2010. He had been with UtilX Corp from 2010 to 2015 as Engineering Systems Analyst and Project Manager, and has joined in Techimp US Corp as VP of Technology since 2015. His research interests focus on high voltage dielectric aging and breakdown theories, partial discharge measurement and analysis,

and high voltage equipment diagnostic testing and monitoring. He has more than 20 publications in peer reviewed journals and international conferences, and holds 4 US and international patents. He is the member of IEEE PES and DEIS. He serves as a frequent reviewer for several academic journals such as *IEEE Electrical Insulation Magazine*, *IEEE Transactions of Dielectric and Electrical Insulation*, *IET Science Measurement & Technology*, etc. He also serves as an associate editor for *IET Science Measurement & Technology*.

**Statement:** I have known the DEIS Society since day one when I was in graduate school to start my career in the field of high voltage engineering and insulation materials. Since then DEIS Society has given me significant help and I have learned a lot through reading papers published in DEIS journals and conference proceedings, meeting and talking with the other DEIS members in conferences, and attending other activities and discussions DEIS held. I feel I must also share responsibilities of serving other members in DEIS Society, helping young engineers to grow, introducing the DEIS to college students and even high school students, expanding the influence of the DEIS in industry, and all the other aspects to maintain and improve the operation of the DEIS. Since I have been working in the industry for almost 15 years but still have close connection to academics, I would like to use my experiences, knowledge and connection to help drive the relationship between the academic researches and engineering applications to be tighter and stronger. Besides the services to help the society expanding and growing, I would like to help develop strategies and approaches to introduce DEIS to more potential members not only in colleges, but also in high schools and communities. If elected, I will dedicate to serve the Society and the members, and will attend at least one AdCom meeting every year.



**SHESHA H. JAYARAM** (S'88-M'90-SM'96-F'08) received the B.A.Sc. degree in electrical engineering from Bangalore University, India, the M.A.Sc. degree in high voltage engineering from the Indian Institute of Science, Bangalore and the Ph.D. degree in electrical engineering from the University of Waterloo, Canada. Jayaram has held various academic positions at the University of Waterloo since 1992. She is currently a full Professor, the University Research Chair and the Director of the High Voltage Engineering Laboratory. She is also an Adjunct Professor at the University of Guelph and McMaster University. Jayaram's research emphasizes solution-based outputs and is focused in four main areas: high voltage engineering and insulation diagnostic, high voltage engineering applied to environment,

nanocomposite materials and pulse power applied to biotechnology. She has been an active member of the IEEE Dielectrics and Electrical Insulation and Industry Applications Societies and the Electrostatic Society of America. She is a Registered Professional Engineer in the Province of Ontario, Canada. She has more than 100 archived journal publications, mostly in IEEE Transactions, and several patents. She has presented more than 200 papers at international conferences that include; invited, plenary, and keynote talks. Many of the conference presentations are at DEIS sponsored conferences, and Jayaram is a regular attendee at the CEIDP and EIC

meetings. She is also a recipient of IEEE IAS Melcher Award for best transaction papers in 2012 and 2013. She has trained many doctoral and master students in the field of dielectric materials, electrical insulation, and applied electrostatics. In addition, she has introduced high voltage engineering to undergraduate students through a very successful course at UW that includes laboratory sessions, in addition to teaching dielectrics and electrical insulation systems at graduate levels.

**Statement:** Dielectrics and electrical insulation are part of all electrical components; name it a device or a system. As such, all our sponsored and co-sponsored conferences are important in the growth of electrical engineering discipline. However the scientific community seems to have not recognized this. I have been serving on the IEEE IAS Electrostatics Processes Committee (EPC) since 1998, and chaired EPC from 1998-2000. Also, I am serving on the Electrostatics Society of America (ESA) as an executive since 2011 (president since 2015). During the past few years, the attendance at ESA annual meetings has increased by two folds. ESA and IAS-EPC hold joint meetings, along with Japanese and French electrostatics societies, and the attendance during such joint meetings has seen good synergetic effects. The joint meeting that I hosted at Waterloo in 2012 – stands as a hall mark with highest number of attendees ever. To bring more visibility to DEIS and to help with membership, I would like to use my experience from ESA and IAS administrations. Also, with my current position as IAS-EPC Technical Committee Paper Review Chair (equivalent to editor's position), I have been working towards improving the review process and quality of publications. Thus, with the vast administrative experience that I have, I can promise to contribute for the growth DEIS, in terms of its membership, technical sessions and publications.

Canada is well known in Power engineering community for its pioneering work in HV power transmission. But our identity within power engineering, in IEEE Region 7, is not receiving as much recognition today compared to yesteryears. I would like to work in building a good bridge between PES and DEIS by emphasizing the importance of electrical insulation in the sustainability of power system. In summary, I am thankful for my nomination, and I will do my best to represent the DEIS membership as a Member-at-Large.

The following brief list of my professional activities within the IEEE Societies can further endorse my nomination.

- IEEE CEIDP TECHNICAL Program Committee Member, 1997-present.
- Member of the DEIS AdCom, 1996-2002.
- CEIDP Board Member, (1993-1998) and (2001-2008), and 2017-2020.
- Local Arrangements Chair for the 2001 CEIDP meeting in Waterloo, Ontario, Canada.
- Local Arrangements committee member, 2016 CEIDP, Toronto.
- IEEE CEIDP Publicity and Publication Committee Chair 2005-2008.
- DEIS – ISEI Organization Committee Member 1994-2006.
- IAS-EPC Technical Committee Paper Review Chair since 2014.
- IAS Fellow Evaluation Committee member since 2016.
- IEEE-IAS Electrostatic Processes Committee (EPC) Chair (1998-1999).
- Served as Publicity Chair and Program Chair for Kitchener-Waterloo IEEE section- 1992 to 1998.
- IEEE Power and Energy Society's lecturer on the Basics of Electrical Insulation under the IEEE Expert Now educational program, 2009/2010.



**GEORGE LAITY** (GSM'08-M'13) received the B.S. degree in physics and the M.S. / Ph.D. degrees in electrical engineering from Texas Tech University, USA, in 2008, 2010, and 2013, respectively. He completed his graduate studies with the TTU Center for Pulsed Power and Power Electronics, under scholarship with the U.S. Air Force and NASA, in the science of high voltage insulator flashover at vacuum / dielectric interfaces. For this work he was awarded an IEEE DEIS Graduate Fellowship in 2010, was the first place recipient of the inaugural DEIS student essay contest in 2011, and was the recipient of the IEEE Tom Burkes Outstanding Graduate Student Award at the 2012 IPMHVC (a DEIS-sponsored conference). In 2012, he was a visiting doctoral scholar with the High Power Electromagnetics

department at the U.S. Air Force Research Laboratory. In 2013, he joined the Pulsed Power Sciences group at Sandia National Laboratories, where he currently serves as principal investigator at the Sandia Z Accelerator in the area of pulsed power S&T. He is the team lead of the Power Flow Physics & Spectroscopy working group, which is developing state-of-the-art diagnostics and modeling tools supporting magnetically-insulated transmission line (MITL) designs for next-generation pulsed power accelerators. He is active on the organizing and technical committees for numerous IEEE conferences, including as general conference chair of the upcoming 2018 IPMHVC, and is an adjunct professor of electrical engineering at Texas Tech University. He has authored / co-authored more than 60 papers in journals or international conferences related to pulsed power technology.

**Statement:** Working in the pulsed high voltage / high power research field has been incredibly rewarding, and I have been an active attendee and committee member of various IEEE conferences for a number of years (e.g. IPMHVC, CEIDP, PPC, ICOPS). I am also presently serving as general conference chair of the upcoming 2018 IPMHVC. Having been the recipient of the IEEE DEIS Graduate Fellowship, I've experienced first-hand the excellence that DEIS brings to students and early-career professionals. I currently work at the interface between engineering and applied physics related to the design of next-generation pulsed power accelerators, which rely on various magnetically- and dielectric-insulated technologies to enable operation of these accelerators for medicine, basic research, and industry. If elected to DEIS AdCom, I will provide a unique perspective from the power modulator / pulsed power / high power electromagnetic research field, and I have a strong motivation to promote and improve student and young professional integration into these increasingly interdisciplinary technologies across multiple IEEE societies (e.g. NPSS, EDS, EMC). Leveraging opportunities to grow the society, increase visibility amongst members, improve student advocacy, and develop collaborative relationships with other

IEEE societies will be my primary focus areas during AdCom tenure, but I also look forward to learning and contributing to other areas as we advance the society.



**LAURENT LAMARRE** (S'78-M'82-SM'10) received his Bachelor and Master degrees in Engineering Physics at École Polytechnique, Montréal, in 1975 and 1978, respectively. Subsequently, he received his Ph.D. in Material/Polymer Science at MIT in 1983, and a MBA degree in 1993. He was a Research Engineer at Hydro-Québec Institute of Research (IREQ) from 1982 to 2013, where he worked on projects in high voltage engineering, rotating machines, underground distribution cable diagnostics, dielectric properties, aging and degradation of dielectrics. In addition, he was a Lecturer at the École Polytechnique and École Technologie Supérieur (ETS) between 1982 and 2000, and taught graduate courses at the University of Quebec in 1995 and 1996. He has been an active member of the IEEE Dielectrics and Electrical Insulation Society. He chaired the Montréal IEEE Section from 2008-2009, and he was a DEIS AdCom Member-at-Large from 2010-2015. Currently, he is active in IEEE Standards Review Groups (Power Engineering Society, Subcommittee on Materials), and he is the Chair of a new Standard on Advanced Analysis of DC Diagnostic Techniques Data.

**Statement:** I have been well informed of the society's issues and been a member of the AdCom previously. I personally stress the importance of the Transactions and the Magazine, and I will always bias my decisions to favor these two things. Secondly, I will see that our Web site stays on top of things. Times are changing and financial rationalization will have to be considered seriously in the coming years. I have a particular interest in the historical aspects of DEIS; I am retired and a Life Member and can spend some time on writing things of the past and share old documents that I have in a box. I have been at IREQ for a long time (1982-2013), and I have been in touch with people there since 1976, the year of the first Symposium on Electrical Insulation (ISEI) in Montreal, organized by Ray Bartnikas and Hugues St-Onge, and many other volunteers. I am attending DEIS Conferences one or two times a year, as well as the IEEE Standards working groups. I am aware of and accept the responsibilities and work commitment as a DEIS AdCom Member-at-Large, and I would use my experience to represent the DEIS membership to the best of my ability.



**TAO SHAO** (M'10-SM'12) was born in Hubei, China, in 1977. He received the B.Sc. degree from the Wuhan University of Hydraulic and Electrical Engineering, Wuhan, China, in 2000, the M.Sc. degree in electrical engineering from Wuhan University, Wuhan, in 2003, and the Ph.D. degree in electrical engineering from the Graduate University, Chinese Academy of Sciences (CAS), Beijing, China, in 2006. He joined the Institute of Electrical Engineering, CAS, after graduation, where he has been a Professor since Oct 2013. He was a Visiting Scholar with the ECE Department in the University of New Mexico, Albuquerque, NM, USA, from 2011 to 2012. Dr. Shao is a Fellow of the Institution of Engineering and Technology (IET). He is a Senior Member of the IEEE and the Chinese Society of Electrical Engineering (CSEE). He was the Member of Youth Innovation Promotion Association of Chinese Academy of Sciences since 2011-2014. He was a recipient of the 2012 Lu Jiaxi Young Talent Award by the CAS K. C. Wong Education Foundation. He worked as a PI supported by the Excellent Young Science Foundation from the National Natural Science Foundation of China. He was awarded the Royal Society-Newton Advanced Fellowship (NA140303), UK, in 2015. He was awarded the Yong Changjiang Scholar from the Ministry of Education, China, in 2017. Dr. Shao has published over 180 papers, which consist of 70+ international refereed journal papers (32 IEEE Transactions, etc.) and 70+ domestic journal papers, and 30+ IEEE international conference papers/abstracts. He is an Editorial Board Member of the *Laser and Particle Beams* and the *High Voltage*, and some domestic journals including the *Transaction of China Electrotechnical Technology*, the *High Voltage Engineering*, the *High Voltage Apparatus*, and the *Insulating Materials*. He served as a Co-Guest Editor of the *IEEE Transactions on Dielectrics and Electrical Insulation* of the Special Issue on Power Modulators and Repetitive Pulsed Power in 2015. He served as a Co-Guest Editor of the *IEEE Transactions on Plasma Science* of the Special Issue on Invited and Plenary Speakers of the International Conference on Plasma Sciences in 2015, and serves as a Chief-Guest Editor of the *IEEE Transactions on Plasma Science* of the Special Issue on Atmospheric Pressure Plasmas and Their Applications in 2016.

**Statement:** Since 2010, I have been an IEEE member and attended the IEEE International conferences related to High Voltage and pulsed power regularly, such as IPMHVC, CEDIP, PPC, and ICOPS. I am also an active volunteer as the IPMHVC Technical Committee member and conference VISA Chair, and other IEEE conference session chair. My current work is gas discharge & breakdown, and atmospheric-pressure plasma applications driven by pulsed power, it is very important for expanding dielectric and breakdown technology used for pulsed power technology, so it is a great honor to be nominated for this committee membership of DEIS. If elected, I will volunteer my time to serve the committee and promote its growth, especially, encourage the communications between DEIS and China. I will try to promote further scientific and educational activities, to encourage Chinese scientists to participate in IEEE DEIS activities.



**TOSHIHIRO TAKAHASHI** (M'02) was born in Ehime, Japan in 1973. In 2001, he received his Ph.D. in Electrical Engineering from Nagoya University. He joined Yokosuka Research Laboratory of the Central Research Institute of Electric Power Industry (CRIEPI) in 2001 and is now a senior research scientist of Electric Power Engineering Research Laboratory, CRIEPI. He has been engaged in a study of gas (SF<sub>6</sub>), solid, and cryogenic insulations, and development, insulation diagnosis and aging analysis of power apparatus such as XLPE cables and GIS. Recently he has been engaged in analysis of accidents in XLPE and oil-filled cable systems. He was a guest scientist at IREQ, Canada, in 2000 and at the University of Bologna, Italy, in 2014-2015. He is a member of IEEEJ and CIGRE. He is also a member of CIGRE B1 Japanese national committee and WG B1.58. He served secretary of some international conferences (CMD, ISEIM), and domestic

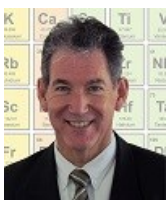
conferences. He is serving as a chair of Japanese national committee of IEC/TC20 WG16, high voltage cables (1 kV and above), their accessories and cable systems.

**Statement:** It is my great pleasure to be nominated the AdCom Member-at-Large of IEEE DEIS. The research fields dealing DEIS are closely related to the electricity, which is essential power source of modern society. One of the major research fields of DEIS is high voltage engineering. In Japan, huge amount of electric power apparatus have been reaching their design lifetime in past and coming 10 and several years. Thus Japanese power utility companies face to demand of diagnostic technologies for such highly aged power apparatus to rank their replacement priority. Moreover, there are some big troubles in power transmission system in Japan in these days, and their cause may come from the long-term complex characteristics of electrical insulating materials. On the contrary, when we turn our attention to European countries, a number of HVDC transmission project have been established and some of them will start their operation in a few years. Their design lifetime would be around 30 years and their diagnosis techniques based on their deterioration mechanisms will become much important in the end of their design lifetime. Therefore, the role of fundamental researches is getting more important in future. From these viewpoints, it is my role to bridge the electric power industry and academic world more tightly than before, because I am a member of third-party industrial research institute and an important position of international standards. I believe my position and experience will help the expansion of DEIS with tight connection between industry and academy.



**YASUHIRO TANAKA (M'00)** was born in Fukuoka, Japan in 1961. He received the B.E., the M.E. and Ph.D. degrees in Electrical Engineering from Waseda University, Japan, in 1986, 1988 and 1991, respectively. He became a Lecturer, an Associate Professor and a Professor at Musashi Institute of Technology (presently Tokyo City University), in 1992, 1998 and 2004, respectively. He was a Visiting Scientist at University of Southampton from 1999 to 2000. Currently, he is researching and developing the measurement system for the space charge distribution in various solid dielectric materials at high temperature, under ultra-high electric field or under irradiation of electron-beam in vacuum. He received the Excellent Paper Award from the IEEJ (The Institute of Electrical Engineers of Japan) in 2009. He also received the IEC1906 award in 2013. He has published more than 85 papers in peer-reviewed scientific journals. Currently, he is a head of Department of Mechanical Systems Engineering in graduate school of Tokyo City University from 2017, and chair of Technical Committee of Dielectrics and Insulating Materials in IEEJ from June, 2013. He is a vice president of the Institute of Engineers on Electrical Discharges in Japan, and he is a vice chair of IEEE DEIS Japan Chapter. He is a convener of WG8 in IEC TC 112 and a member of CIGRE SC D1. He was a General Chair of 2014 ISEIM (International Symposium on Electrical Insulating Materials), and he is again a General Chair of 2017 ISEIM, which will be held in Toyohashi, Japan in September and it is technically supported by IEEE DEIS.

**Statement:** It is my pleasure to be nominated to the AdCom Member-at-Large of IEEE DEIS again. I think our research field of the electrical insulating materials is facing a new aspect, HVDC (High Voltage Direct Current) networking project which gradually become established in Europe area. The project may produce a wide electricity network across the seas, country's borders and continents. It means the replacement of equipment for the high voltage networking must be happen in this decade. Therefore, the researchers in our field must be expected to develop many new materials and devices for HVDC. On the other hand, Japanese people working in this field have contributed to the development of the high voltage technology of the day. Therefore, I believe their knowledge and experience are also useful to develop them. Last year, I had been re-elected chair of technical committee of Dielectrics and Insulating Materials in IEEJ. Therefore, I think it is my duty to make a good relationship between IEEE DEIS and Technical Committee of DEI in IEEJ. If elected the AdCom member-at-large of DEIS, I can play a role to establish the relationship.



**STEPHEN TUCKWELL (M'12)** graduated from London School of Polymer Technology, North London University with BSc in 1986. Career has been all most totally involved with the develop; manufacture and supply of electrical insulating resins for the electromagnetic coil manufacture. First working in R&D in the UK before becoming part of the technical team-serving customers in the field. Finally moving to Product Management. Later the role lead to positions with several companies in the USA where today is the Business Manager for ELANTAS PDG Inc., a major supplier to the electric motor and transformer industries and other related end users. During this time has been an author and co-author of papers relating to developments in electrical insulating resins and their applications. Has been a member of multiple trade associations, serving on the board for many and is now the chairperson for the NEMA 6IM section that is specifically focused on insulating materials.

**Statement:** The IEEE – DEIS is key to much of the work I have undertaken over many years of service to the Electrical Insulation of electrical equipment. As a passionate leader in this market, I want to see the development of the institute in its promotion of the electrical engineering and the understanding of student electrical engineers and graduated engineers. Volunteering for the DIES AdCom would be an honor and a fulfillment in the support of membership and the promotion of the organization and development of the student body.



**HUGH ZHU (M'97-SM'01)** received his Ph.D. from Glasgow Caledonian University in the UK in 1995. As a post-doctor, he worked on a project for National Grid in the UK for two years. His working experience covers Ontario Hydro Research Division, ADWEL International, and Powertech Labs in Canada. Currently he is a Principal Engineer with Doble Engineering Company in the USA. Hugh has been working on research, testing, condition assessment on the insulation system of generators, motors, transformers, and cables for more than 20 years with publications of 50 papers.

He has served the following positions with IEEE:

- Chair of the Aging Factors Technical Committee of DEIS.
- Chair of the Awards Committee of IEEE EMC Materials Subcommittee.
- Chair of the DEIS Toronto Chapter for 5 years.
- Active participation in many IEEE Working Groups to develop IEEE Standards for insulation testing of rotating machines.
- Chair of the Working Group to revise IEEE1553 Standard.
- Reviewed a number of the papers for IEEE Transactions and Conferences

Hugh has also been involved in developing the IEC standards and CIGRE documents in insulation testing of rotating machines

**Statement:** I propose to work to make the DEIS a more attractive society for dielectric professionals. Interactions between the academia and industry are very critical for DEIS and for benefits of the both parties. I would like to utilize both my research and industrial experience to bridge the gap between the academic community and industry, so our researchers can know better what the industry needs from research. I will also encourage young professionals in the industry to join DEIS through the technical conferences in the industry which I participate.