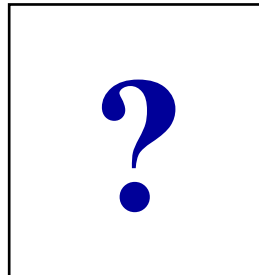


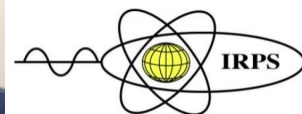
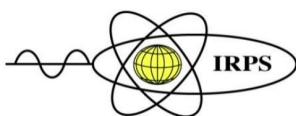
IRPS Bulletin

Newsletter of the International Radiation Physics Society



**ELECTION
EDITION**

**Who will be your next
IRPS president?**



25 years of IRPS Presidents

Clockwise from the top right:

**John Hubbell, Bikash Sinha, Malcolm Cooper, Richard Pratt, Dudley Creagh,
Odair Goncalves, Ladislav Musilek, Christopher Chantler, David Bradley**

Profiles of Election Candidates



Profile of member standing for President

Isabel Lopes

Isabel Lopes, Full Professor of Physics
Department of Physics, University of Coimbra,
Laboratory of Instrumentation and Experimental Particle Physics
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I am Full Professor at the Physics Department of the University of Coimbra, Portugal, and researcher at the Laboratory of Instrumentation and Experimental Particle Physics (LIP). Since 2018, I have been a member of the Board of Directors of LIP. I have worked in the field of radiation physics for more than thirty years. After graduation, I studied under Armando Policarpo at Coimbra University, Portugal, Werner Schmidt at Hahn- Meitner Institut of Berlin, Germany, and Tadayoshi Doke at Waseda University of Tokyo, Japan. I was an invited researcher of the Hahn-Meitner Institute and I was awarded a one-year fellowship from the Japan Society for Promotion of Science (JSPS) as researcher at Waseda University, Tokyo.

My research has been focused on the R&D of liquid-rare-gas radiation detectors from the point of view of both the physics processes involved in the radiation detection and their applications to the search of dark matter, nuclear medical imaging and particle experiments. From 2002 onwards, I have concentrated on the direct detection of dark matter, first in the framework of ZEPLIN-III Project and since 2010 within the LUX and LUX-ZEPLIN (LZ) experiments. I am also very interested and engaged in science education, high education policies, scientific literacy and physics outreach.

I lead a research group presently counting with 14 members, including junior researchers, postdocs, graduate and undergraduate students. I have been a Principal Investigator of more than 20 funded research projects. I am author or co-author of about 200 publications with more than 7000 citations, including two papers with 500+ citations.

See http://www.researchgate.net/profile/M_Lopes/publications.

I have served as member of the Executive Councils of the LUX e LZ Collaborations and of evaluation panels of funding agencies. I have also participated in the Stakeholders Tune European Physics Studies Network, as I am also very interested in physics teaching and science education.

Statement: I have been a member of the International Radiation Physics Society (IRPS) since 1991. IRPS have two characteristics that strongly motivated me to serve the Society. Firstly, it provides an international forum of researchers engaged in a large variety of different topics, both fundamental and applied, under the broad umbrella of Radiation Physics. Personally, I find this diverse and interdisciplinary character very stimulating and invaluable. Secondly, it truly promotes international links, collaborations and exchange of knowledge, with particular attention to the inclusion of countries with economies in transition and developing economies. It is an inclusive society in which members from all nations are encouraged to be participants.

My intention as President, with the collaboration of the next Directorate and Council, is to strengthen those roles of IRSP. I will pay special attention to reinforcing the Society's appeal to young researchers from all around the world, giving them opportunity to present research results in our conferences and activities.

I count on you to join me in this task. It will be an honor to be President of the International Radiation Physics Society.



Profile of member standing for Secretary Tomáš Trojek

Tomáš Trojek

Czech Technical University in Prague, Czech Republic
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I am the head of the Department of Dosimetry and Application of Ionizing Radiation at the Czech Technical University (CTU) in Prague. I graduated in Nuclear Engineering in 2001 and defended my PhD thesis five years later at the CTU. My PhD thesis was done at the ISIB and UPV in Valencia.

In 2013 I became Associate Professor in Applied Physics.

My research activities include the Monte Carlo calculation of radiation transport in matter; radionuclides in environment; high energy physics; and X-ray fluorescence analysis and its applications.

I joined the X-ray Spectrometry Laboratory at CTU in 2001, initially engaged with X-ray fluorescence analysis of art and archaeological objects. Also, I have been promoting the use of Monte Carlo simulation in quantitative XRF analysis. At present, I am engaged with confocal XRF and other depth-profiling XRF techniques. Apart from the X-ray techniques, Tomas was also involved with monitoring of radionuclides in environment. It included in-situ gamma spectrometry and laboratory analyses of samples.

Last but not least, he has taken part in the experiment DIRAC in the CERN laboratory in Switzerland since 2001. The main goal of this experiment is to measure the lifetime of atoms made of Pi and K mesons.

I am the author or co-author of more than 65 papers published in international journals and I was awarded the CTU Rector's Award for excellent scientific results in the year 2010.

I have been a member of IRPS for more than 11 years and an Executive Councillor in the last 6-year period. He participated in organizing the conferences held in Prague, i.e. ISRP-8 (2000), IRRMA-7 (2008), and ICDA-1 (2013).



Profile of member standing for Treasurer Amir Bahadori

Amir Bahadori
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I graduated with the degree of Bachelor of Science degrees in Mechanical Engineering with Nuclear Engineering Option and Mathematics from Kansas State University in 2008 and attended graduate school at the University of Florida, graduating in 2010 with a Master of Science degree in Nuclear and Radiological Engineering, and in 2012, receiving a Doctor of Philosophy degree in Biomedical Engineering. I was then employed at the NASA Lyndon B. Johnson Space Center from 2010 to 2015, with work focused on astronaut radiation risk projection and assessment, space radiation dosimetry using active pixel detectors, and space radiation transport using deterministic and Monte Carlo-based codes.

I returned to Kansas State University as an assistant professor in December 2015, where I teach courses in nuclear and radiological engineering and conduct research with focus areas in space radiation protection, radiation transport applications, and semiconductor detector modelling and simulation. Since 2015, I have been certified in the comprehensive practice of health physics by the American Board of Health Physics., I am a member of the Health Physics Society, American Nuclear Society, and the IEEE Engineering in Medicine and Biology Society. I am, as well, an associate of the Committee on Space Research of the International Council for Science.

Profile of Member standing for Vice-President, Western Europe

Jorge Fernandez



Jorge Eduardo Fernandez

Laboratory of Montecuccolino

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After obtaining my M.Sc. in Physics (1977) and my Ph.D. in Physics from the University of Cordoba in Argentina (1985), I was affiliated to academic institutions in Cordoba and Buenos Aires. From 1994 on, I was affiliated with the Alma Mater Studiorum University of Bologna, Italy. I am an Associate Professor at the Industrial Engineering Department (DIN) of this University, and from 2016, Director of the hub for all Latin America of the Alma Mater Studiorum University of Bologna located in Buenos Aires. I am also affiliated to the Italian National Research Council (CNR) and the Italian Institute of Nuclear Physics (INFN).

My research interest is mainly focused on the fundamental physics of the interaction of x-rays with matter including polarisation effects and its implications for applications, and metrology problems of X-Ray Spectrometry. In particular: modelling of X-ray interactions; Transport Models (deterministic and Monte Carlo) for polarised and unpolarised photons, and for charged and neutral particles; coupled transport problems involving photons and charged particles; problems of multiple scattering of photons; characterization of the response function of radiation detectors; inverse problems in X-Ray Spectrometry (spectrum unfolding from detector influence and improvement of the detector resolution); spectroscopic techniques using X-rays (XRF, EDXRS, XANES, electron microprobe, computed tomography); applications of X- and gamma rays to industrial diagnostics, medical physics, environmental physics, and cultural heritage (non-destructive methods),

I am the author of over 120 articles in scientific journals, many as invited contributions, 3 books, 1 patent and several computer codes (SHAPE, MSXRF, MCSHAPE, etc) related to XRS, photon transport and the interactions of x-rays with matter.

I organised the European X-Ray Spectrometry Conferences (EXRS) in 1998 and 2014, the 5th International Topical Meeting on Industrial Radiation and Radioisotope Measurement Applications (IRRMA-5) in 2002, the first International Forum on Advances in Radiation Physics (FORUM BA-2017) in 2017, the Non-Destructive Techniques for Cultural Heritage (NDTCH-2018) in 2018, and the first Italy-Argentina Forum in 2019. In 2007 I acted as co-chair of, both, the Scientific Committee of the 10th International Symposium on Radiation Physics (ISRP-10) and the satellite Workshop on the Use of Monte Carlo Techniques for Design and Analysis of Radiation Detectors.

I am Editor of Applied Radiation and Isotopes (ARI) and Editorial Board Member of X-Ray Spectrometry (XRS). I am the current secretary of IRPS.

Statement: I have been a member of the International Society of Radiation Physics from its foundation in 1985. I fully endorse the objectives of the society of promoting the global exchange and integration of scientific information pertaining to the interdisciplinary subject of radiation physics. My intention as Vice President for Western Europe is to maintain and improve the high scientific level of the society symposia (ISRPs, IRRMAs, ICDAs, Forums), disseminating these conferences to countries interested to increase their activities and to attract young scientists to the subject.



**Profile of Member Standing for Vice-President,
Former Soviet Union (FSU)
Sultan Dabagov**

Professor Sultan Dabagov

Dir Ric INFN, Lab. Naz. di Frascati

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I began my research career in 1980, investigating surface effects in solids at the Kabardino-Balkarian State University, and completed my undergraduate work in the Dept. of Physics, Moscow State University and the I.V. Kurchatov Institute of Atomic Energy (KIAE), under the supervision of Prof. M.A. Kumakhov, head of the laboratory for Electromagnetic Interactions, KIAE.

My undergraduate and postgraduate research was mostly dedicated to the development of the quantum theory of coherent and incoherent scattering of relativistic electron beams in oriented crystals. During 1991-92 I performed studies at the Institute of Physics Astronomy (Aarhus University) at the invitation of Profs. J. Lindhard and J.U. Andersen. The joint research was devoted to the investigation of ion, neutron and electron beams scattering in high T superconductors (HTSC), especially channelling and channelling radiation of MeV- electrons in Y-Ba-Cu-O crystals, to be used as a novel technique for investigating characteristics of HTSC. In 1992 I was nominated as a Research Director at the International Institute for Roentgens (a former KIAE Laboratory), which aimed at the development of novel beams optics based on capillary/polycapillary systems.

From 1992 to 1995 I proposed and developed the wave theory for neutral particles passing through capillary structures (from micro/surface to nano/bulk channelling) that allowed new features of X-rays and thermal neutrons propagation in periodical structures to be predicted and observed successfully; within the project at the Hahn-Meitner Institute (by the invitation of Prof F. Mezei) together with Kumakhov, designed the first neutron capillary bender.

During 1994-1998 Dabagov led the project at the Laboratory for High Energy Electrons of P.N. Lebedev Physical Institute RAS by the invitation of Acads. O.N. Krokhin and V.L. Ginzburg that was dedicated to studying coherent phenomena in SR focussing by means of various capillary/polycapillary systems.

Since 1998 I have performed my research within the framework of the international projects on channelling of X-rays and neutrons in various capillary-based structures at the National Institute of Nuclear Physics (INFN) and led the group at the National Laboratories of Frascati (LNF).

I was a principal investigator of a number of projects at both INFN and CERN on the interaction of charged and neutral particles in strong external fields of various origins within the research program on the advanced techniques of particle acceleration and novel powerful sources of electromagnetic radiation.

Since 1990, I have participated in many Soviet Union, Russian, Former-Soviet States, European and USA conferences, workshops, and schools as a member of Advisory Boards, Program and Organizing Committees. He is the chairman of the International "Channelling" conference "Charged and Neutral Particles Channelling Phenomena" and the organizer of the international permanent seminar "Advanced Accelerator & Radiation Physics."

At present I am, *Dirigente di Ricerca*, INFN, the head of new LNF laboratory XLab Frascati, and Professor of National Research Nuclear University MEPhi.



Profile of Member Standing for Vice-President, North America Ron Tosh

Ronald E. Tosh

Radiation Physics Laboratory

National Institute of Standards and Technology (USA)

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I work as a physicist in the Radiation Physics Division at the National Institute of Standards and Technology (NIST), working in the Dosimetry Group on standards and instrumentation for absorbed dose. I joined NIST in 2004 after several years as a sales engineer for National Instruments (now NI). Prior to that, I did experimental research in molecular-beam scattering as a postdoctoral researcher in the Department of Chemistry and Biochemistry at the University of Delaware. I was awarded an M.S. and later a Ph.D. degree in physics from the Department of Physics and Astronomy at the University of Pittsburgh, studying atomic physics and gaseous electronics.

Current projects at NIST include development of calorimetry standards for absorbed dose in beams of gamma rays, x-rays, electrons and protons used in medicine and industry. Research activities are focused on uses of acoustic and optical methods and photonic sensors for dosimetry in radiation fields with large spatial gradients and high dose rates, with applications in radiotherapy, irradiation of surfaces, and radiosensitivity of semiconductor microdevices and biological systems.

Statement: I have been with the International Radiation Physics Society since 2005 and coedited the IRPS Bulletin for 13 years. The past two decades have brought big changes to IRPS and the radiation physics landscape, with new facilities and conferences and faces moving the spotlight among academic institutions, metrology institutes, private industry, and broader stakeholder communities (including the general public). The variety of perspectives has helped us in different ways to weather the impacts on research, education and outreach efforts wrought by economic booms and busts and shifting political sands. This variety is the source of our strength and so I would hope to contribute as an IRPS Vice President for North America to realizing and enhancing opportunities for collaboration in research, educational outreach and fellowship.

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Profile of Member Standing for Vice-President, South East Asia **M.Iqbal Saripan**



M. Iqbal Saripan
Professor of Biological Engineering
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I have served the International Radiation Physics Society as the Regional Vice President of South East Asia since 2018. My area of research is in nuclear medical imaging, especially in gamma camera, Single Photon Emission Computed Tomography (SPECT) and Positron Emission Tomography (PET).

I was appointed as the Deputy Vice Chancellor (Academic and International) at Universiti Putra Malaysia in 2017.

As well, I am the chairman of 15th International Symposium on Radiation Physics that will be held in Kuala Lumpur in late 2021.

Profile of Member Standing for Vice-President, South and Central America **Marcelo Rubio**



Marcelo Rubio
Associated Professor
SEU, National University of Cordoba
rubioeba@yahoo.com

Marcelo Rubio holds a doctorate in physics and lives with his wife in Huerta Grande, Córdoba, Argentina. I have two children in scientific and professional activities in Canada and Argentina. My present academic position is honorary and is related to the training of young students in processes of technological and productive innovation at SEU, National University of Córdoba.

In my academic and scientific career I have held the following positions:

- Professor at the Faculty of Mathematics, Astronomy and Physics (FAMAF) of the National University of Córdoba (UNC)
 - Researcher at CONICET – Argentina
 - Vice Dean of FAMAF (UNC)
 - Secretary of Science and Technology of the Government of the Province of Córdoba, Córdoba, Argentina.
 - Founder of the CEPROCOR Technological Center of Córdoba, Argentina.
 - President of the National Agency for Scientific and Technological Promotion of the Argentine National Government.
 - Member of the Board of Directors of the Argentine Military Aircraft Factory.
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Profile of Member Standing for Vice-President, Australia and Oceania Chanh Tran



Chanh Tran

Department of Chemistry and Physics
La Trobe University
Victoria Australia
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I am a Lecturer of Physics at La Trobe University in Australia. My major research interests include interactions of X-rays with matter, complex anomalous fine structures, optical coherence and x-ray imaging. I received my PhD from the University of Melbourne in 2003 in the area of precision measurement of the imaginary component of the atomic form factor using the X-ray Extended Range Technique.

I won an Australian Synchrotron Research Fellowship and an Australian Research Fellowship in 2003 and 2006, respectively. Since 2007, I have been a lecturer at La Trobe University with ~70 refereed publications to date. My work in the field of radiation coherence led to the first complete reconstruction of the coherence function of a synchrotron beam.

I have extensive synchrotron experience and have conducted my research at major facilities around the world including the Australian Synchrotron (AUS), the Photon Factory (Japan), the Advanced Photon Source (US), the Stanford Synchrotron Radiation Lightsource (US), The European Synchrotron Radiation Facility (EU), and Diamond Light Source (UK).

Recently, I have combined my expertise in precision X-ray spectroscopy and imaging to develop a technique for determining both the amplitude and phase components of the complex anomalous fine structures. This is an analogue to X-ray Absorption Spectroscopy in the phase domain and promises exciting opportunities in probing structures of matter.

Profile of Member Standing for Vice-President, Afrika and Middle East Mohamed Ahmed Mahmoud Gomaa



Mohamed Ahmed Mahmoud Gomaa

Emeritus Professor

Egyptian Atomic Energy Agency

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I was born in the middle eastern city of Alexandria, Egypt. I graduated from physics Department, Faculty of Science, Alexandria university. I granted PhD degree in Radiation Physics from London University. My PhD topic was Neutron Shielding.

Later I joined Atomic Energy Authority at Radiation Protection Department. And my interest was shifted to radiation detection and dosimetry, later my interest was directed to nuclear Safety and security. Currently, I am Emeritus Professor of Radiation Physics at the Egyptian Atomic Energy Authority.

It is nearly 40 years since I participated in the Proceedings of the Second International Radiation Physics Symposium (IRPS) held in Penang Malaysia. It was great change to meet in person John Hubbel and Prof Ghose and in this event the foundation of IRPS was established.

Consequently, ten years later and with the help of Egyptian Radiation physicists the first radiation physics was held in Qena (800 Km south of Cairo), Egypt in 1992. With the help of John Hubbel, the proceedings of the conference were published at Journal of Radiation Physics and Chemistry as special issue in 1994. Among the participants of the conference, was the late Prof Isabelle. In 1994 the second radiation physics conference was held in Sheeben El Kom, (100 Km north of Cairo), Egypt. And among the participants David Bradley (IRPS Chairman) and the proceedings was published at the same journal in 1996. In 2009, I attended the 9th IRPS symposium held in Melbourne.

Local Radiation physics conferences were regularly held every two years and in 2018 the 12th conference was held in Cairo.

Currently I represent Egypt at UNSCEAR (United Nation Scientific Committee on the Effects of Atomic Radiation).

Furthermore, I am chairman of the IRPA Egyptian Associate Society, which was founded in 1992. Among the activities of the local society was to organize the second regional radiation protection African congress which was held in Ismailia in 2007. International experts from IAEA staff, from Europe and US attended the congress.

Several radiation protection Workshops were held in Cairo. The last one was held in 2020. I am actively participating in IAEA technical meetings leading to publications of its safety series and safety requirements.

Profile of Member Standing for Vice-President, North East Asia Yu-hui Dong



Yu-hui Dong
Deputy Director
Institute of High Energy Physics
Chinese Academy of Sciences
dongyh@ihep.ac.cn

I am the Deputy Director of Institute of High Energy Physics, Chinese Academy of Sciences. I am the executive member Biophysics Society of China, the director of Photobiology Committee and also the member of Chinese Crystallography Society and Macro-molecular Crystallography committee.

In 1990, I obtained B.S. in Physics in Sun Yat-Sen University (Zhongshan University), Guangzhou, China. I earned my Ph.D. in Physics in Beijing Synchrotron Radiation Facility, Institute of High Energy Physics, Chinese Academy of Sciences, Beijing, China, in 1995. During 1995-2000 I was Post-doctoral Research Associate at Institute of Physics, Chinese Academy of Sciences, Beijing, China and University of Trento, Italy.

In 2001 he became Professor of condensed matter physics in Institute of High Energy Physics, Chinese Academy of Sciences. Teaching activities have included lectures in MSc and PhD courses and supervising of MSc and PhD theses.

My research activities focus on the methodological research in structure determination of proteins and protein complexes based on synchrotron radiation. The main research fields are:

- The structure-function relationship of proteins and protein complexes by synergic method on synchrotron radiation, e.g., protein crystallography, SAXS, X-ray imaging;
- Methods in structure determination of proteins and complexes;
- The structures and functions of proteins involved in DNA repair and metabolism.

I have authored/co-authored: 3 chapters in books written by teams; about 160 scientific papers in journals and conferences.

I am a reviewer for *Nature*, *Nature Communication*, *Scientific Report*, *Nucleic Acid Research Acta Crystallographica Section A: Foundations of Crystallography*, *Acta Crystallographica Section D: Biological Crystallography*, *Acta Crystallographica Section F: Structural Biology and Crystallization Communications*, *Journal of Applied Crystallography*, *Journal of Physical Chemistry*, *Journal: Physica B*, *Solid State Sciences*, *Chinese Physics Letters*; also for proposals applied to National Natural Science Foundation of China; National Basic Research Program of China (973 Program), Ministry of Science and Technology; ECHO Grants - Chemistry in Relation to Biological and Medical Sciences, Netherland.

I am the Co-organizer of “Lecture Course on Structural and Biophysical Methods for Biological Macromolecules in Solution” (Sponsored by European Molecular Biology Organization), Beijing Synchrotron Radiation Facility, Beijing, April 28- May 5, 2011.

Profile of Member Standing for Vice-President, IRMMA/Industrial Applications William Dunn



William Dunn
Professor and Teaching Scholar
Department of Mechanical and Nuclear Engineering
Kansas State University
dunn@ksu.edu

I have devoted my professional life to radiation measurement applications. Along the way, I have investigated techniques for modeling radiation responses from sensors and simulating radiation transport, primarily by Monte Carlo methods. I obtained my BS degree in Electrical Engineering from the University of Notre Dame and my MS and PhD degrees in Nuclear Engineering from North Carolina State University.

I spent my early career as an in-house nuclear engineering consultant for Carolina Power & Light Company, where I conducted radioactive and inert tracer studies at the H.B. Robinson nuclear power-plant. After a stint as Reactor Applications Engineer and Adjunct Assistant Professor at the Nuclear Engineering Department at North Carolina State University, I then entered into a long career in contract research. In 1988 I founded Quantum Research Services, Inc., a small-business contract research firm in Durham, North Carolina.

I spent fourteen years as President of Quantum, performing research primarily in radiation applications, such as nondestructive testing. My research often involved Monte Carlo modeling and inverse analysis. In the summer of 2002, I joined the Kansas State University (KSU) faculty as Associate Professor in the Department of Mechanical and Nuclear Engineering (MNE). I was Head of the MNE Department at KSU from 2013 to 2019.

I am now a Professor and the Don and Linda Glaser—Carl and Mary Ice Cornerstone Teaching Scholar in the MNE Department. I have received numerous awards, including the Fred Burgraff Award of the Highway Research Board, the North Carolina Entrepreneurial Excellence Award, and the Radiation Science and Technology Award from the American Nuclear Society.

I am author of over 100 scientific publications, including four patents. With Dr. Ken Shultis I am preparing the second edition of our book *Exploring Monte Carlo Methods*. I am the originator of the symbolic Monte Carlo (SMC) method and the X-ray backscatter scanning technique. I attended the third ISRP in Ferrara, Italy, and has been a member of IRPS for 46 years.

Profile of Member Standing for Executive Councillor Avneet Sood



Avneet Sood, PhD.

Senior Scientist, Computational Physics (X) Division,
Weapons Physics Directorate,
Los Alamos National Laboratory,
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Dr. Avneet Sood has served in Los Alamos National Laboratory's nuclear weapons program since 2000 as a technical leader and organizational manager.

His last 10 years have been in a key leadership role responsible for approximately 50 technical staff, post docs, and graduate students involved with Monte Carlo radiation transport methods and code development (including MCNP) and variety of radiation transport applications.

These applications involve applying radiation transport principles supporting the US nuclear emergency response, nuclear counter-terrorism, and nuclear non-proliferation efforts. He has helped produce seven PhD students at five universities, post-doctoral student advisor for seven students, and is an adjunct professor of nuclear engineering.

He serves as an academic reviewer to nuclear engineering departments and professional societies.

Profile of Member Standing for Executive Councillor Christopher Chantler



Christopher Chantler
Physics Department
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I am Professor of Physics at the University of Melbourne where my major research interests include high-accuracy XAS in transmission and fluorescence, XERT and Hybrid techniques at synchrotrons, atomic and condensed matter theory and experiment, and tests of Quantum Electrodynamics [QED] at Electron Beam Ion Traps [EBITs]. I am a Fellow of the AIP and APS. I received my D Phil from Oxford in High-accuracy X-ray tests of Quantum Electrodynamics and following fellowships at Oxford and the National Institute for Standards and Technology, Maryland, USA I returned to Australia and the University of Melbourne some 27 years ago.

My research makes extensive use of synchrotron, X-ray and IR beamlines and in particular XAS. I have used BigDiff at Tsukuba extensively in collaboration with Australian and Japanese collaborators. I have published over 205 papers. My research work has been recognised with numerous awards including the international JARI Enterprise award, and the David Syme Prize.

I have chaired, co-chaired or been the scientific or proceedings chair on many conferences. I am Chair of the International Union of Crystallography Commission on XAS, am a member of the Society of Crystallographers in Australia and New Zealand, Immediate Past President of the International Radiation Physics Society, a member of the IUCr Commissions on International Tables, Editor-in-Chief of Radiation Physics and Chemistry, and Editor of the forthcoming International Tables for Crystallography, Volume I on X-ray Absorption Spectroscopy.

I have created several new fields of inquiry, including high-accuracy XAS and analysis with uncertainty, the popular FDMX codes, updates of GRASP atomic theory, the first measurements of low energy Inelastic Mean Free Paths at synchrotrons, and the new coupled plasmon theory of solid state transport. Recently I have applied this to understand such issues as Alzheimer's disease using synchrotrons.

Profile of Member Standing for Executive Councillor Esam Hussein



Esam Hussein, Ph.D., P.Eng.
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I am currently the Dean of Engineering and Applied Science at the University of Regina. After completing my undergraduate studies and a master's degree in nuclear engineering at Alexandria University, Egypt, I earned a PhD also in nuclear engineering from McMaster University. I was then employed as a Nuclear Design Engineer at Ontario Hydro (now Ontario Power Generation). Subsequently, I joined the University of New Brunswick – Fredericton, where I taught subjects in Chemical then Mechanical Engineering, and served as Department Chair, Associate Dean and Vice-President and President of the Association of UNB Teachers.

I led a research program that focused on the industrial and medical uses of nuclear and atomic radiation for non-destructive testing and imaging and for the detection of threat materials. I have supervised many graduate students, published numerous scientific papers and industrial reports, am a holder of six patents, and the author of three books on I am a recipient of the 2019 Outstanding Achievement Award of the Association of Professional Engineers and Geoscientists of Saskatchewan, the Canadian Nuclear Innovation Achievement Award in June 2003, and the Sylvia Fedoruk Award in 1999. I am currently a receiving editor of Applied Radiation and Isotopes and Physics Open. My current research focus is on small modular reactors.

I am a registered professional engineer in the Provinces of Saskatchewan, New Brunswick and Ontario. As well I am a member of the Canadian Nuclear Society, American Nuclear Society, American Society of Mechanical Engineer, IEEE Nuclear IEEE Nuclear and Plasma Sciences Society, American Society for Non-destructive Testing and a Fellow of the Canadian Society of Senior Engineers. I currently serve as an executive councillor of the International Radiation Physics Society.

Profile of Member Standing for Executive Councillor Odair Gonçalves



Odair Gonçalves

Instituto de Física

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I was awarded my Bachelor's degree in Physics from Universidade de São Paulo (1973), my Master's on Physics from the Universidade Federal do Rio de Janeiro (1978) and PhD on Physics from the Universidade Federal do Rio de Janeiro (1986).

I have been an Associated Professor at the Instituto de Física, Universidade Federal do Rio de Janeiro since 1979. My fields of expertise are: fundamental and applied research on interactions of photons with matter, mainly Rayleigh and Compton scattering, Medical Physics and Nuclear Energy (policies, safety and security). Between 2003 and 2011, I moved away temporarily from the university to be head of the Comissão Brasileira de Energia Nuclear (CNEN- Brazilian Nuclear Energy Commission), institution responsible for formulating the nuclear energy policies which is also the National Nuclear Regulatory Body; during this period was also president of the Executive Board of the nuclear companies NUCLEP and INB.

Between 2009 and 2012 I was President of the Radiation Physics Society (IRPS) and since then am a member of the IRPS Executive Council. In 2012 hosted the 12. International Symposium on Radiation Physics

In 2011, I returned to UFRJ assuming the coordination of the Medical Physics Under-graduation Program. As well I am responsible for the Laboratory of Gamma and X rays Physics.

I am the author of 63 papers with more than 400 citations.

Honors:

2010 - Grand Officer of the Order of Rio Branco, Ministry of Foreign Affairs - Federal Government;
2009- Member of the Order of Scientific Merit, Ministry of Science and Technology - Federal Government;

2008- Grand Officer of the Order of Merit Anhanguera - Government of Goiás, Goiás State; 2018 - Carneiro Felipe Medal, awarded by the CNEN Deliberative Commission to personalities who stood out for the development of peaceful applications of nuclear energy.

Profile of Member Standing for Membership Officer

Eric Shirley



Dr. Eric L. Shirley, Physicist
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Eric L. Shirley: Staff member, physicist, at the National Institute of Standards and Technology in Gaithersburg, Maryland, USA; PhD in Physics from the University of Illinois at Urbana Champaign, 1991.

I am currently serving as Membership Secretary for the Society. I work closely with the Treasurer to keep abreast of new memberships and membership renewals. At present I am overhauling the database for the membership roster and (as of March 2021) is undertaking another Society-wide renewal cycle.

By training I am a theoretical solid-state physicist, with experience in atomic-structure calculations, band-structure calculations, and many-body theory. I have been involved in calculations of the optical spectra of solids throughout the electromagnetic spectrum, from the far-infrared to the hard x-ray region, including the very important topic of calculating inelastic mean free paths for charged particles. My research interests lie in computational physics, which relies heavily on the use of extensive computational resources, as well as mathematical physics, which is limited only by the abilities of the practitioner. Beyond studying the main moving parts of solids, i.e., electrons, having a background in mathematical physics (of the applied, down-to-earth sort) has helped me and my colleagues study the wave propagation of photons in photonic crystals and practical optical systems such as collimators, radiometers, and telescopes. These research endeavours have led to successful understanding of problems pertinent to communities ranging from semiconductor manufacturing to astronomy. Recently, I have also studied generation of synchrotron radiation, going beyond the conventional Schwinger formula, which is only approximate, and is presently considering effects of recoil as a correction to the calculated photon flux. This is in support of NIST's use of a synchrotron as a standard optical source in radiometry.

I am a member of the American Physical Society, the International Radiation Physics Society, and Sigma Xi. I have been actively involved in the Conference on Characterization and Radiometric Calibration from Remote Sensing (CALCON) since 1995, having contributed to short courses and session planning, and during 2001-2013 was on the International Advisory Board and Program Committee of the Vacuum Ultraviolet (VUV) International Conference, which has now merged with the X-ray and Inner-Shell Processes (X) International Conference.

A Hertz Fellow in graduate school, I began my postdoctoral research as a Miller Fellow at the University of California at Berkeley. I have also been honoured with the Presidential Early Career Award for Scientists and Engineers (1999), the Sigma Xi Award Young Researcher Award (2002), Fellowship of the American Physical Society (2006), and the Arthur S. Flemming Award in the area of Basic Science (2008). As well, I am a co-recipient of Department of Commerce Silver Medal (2002), Bronze Medals (2005 and 2020), and Gold Medal (2013) award.

Editor

The position of Editor of the IRPS Bulletin is usually decided at a Council Meeting. For this and future issues in 2021 the position of Editor has been decided by the President in consultation with relevant Council members. Ming Tsuey Chew has accepted the position, and this is her first IRPS Bulletin.



Ming Tsuey Chew
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My qualifications are: PhD (University of Surrey, UK), MSc (Uppsala University, Sweden), BSc Biomedical Sciences (University Malaya, Malaysia). I am a Senior Lecturer at the Centre for Applied Physics and Radiation Technologies, School of Engineering and Technology at Sunway University, Malaysia.

My particular research interests include the radiobiology of photons and heavy ions. Within the fields of radiation sciences more widely, my work has me engaging in efforts to improve the overall survival for cancer patients, and in nuclear medicine research for diagnosis & improving cancer patient care management. I am also involved in implementing preliminary screening for high incidence cancers such as colorectal cancer in the community. My other fields of interest include preventive medicine for non-communicable diseases such as hypertension, diabetes and cardiovascular diseases.



ELECTION BALLOT FORM

For all posts, except those of executive councillors, vote for one by marking the appropriate box. For executive councillors, you may vote for up to four candidates who are running for the full six-year term.

For all positions you may write in names of other members of the Society and cast your ballot for them.

President (vote for one)

Isobel Lopes (Portugal) _____

Secretary (vote for one)

Tomáš Trojek (Czech Rep.) _____

Treasurer (vote for one)

Amir Bahadori (USA) _____

Vice Presidents:

Western Europe (vote for one)

Jorge Fernandez (Italy) _____

Central & Eastern Europe (vote for one)

Ladislav Musilek (Czech) _____

Former Soviet Union (FSU) (vote for one)

Sultan Dabagov (FSU) _____

North America (vote for me)

Ron Tosh (USA) _____

South & Central America (vote for one)

Marcelo Rubio (Argentina) _____

Vice Presidents (Continued)

South East Asia (vote for one)

Iqbal Saripan (Malaysia) _____

North East Asia (vote for one)

Yu-Hui Dong (People Rep. China) _____

Africa and Middle East (vote for one)

Mohamed Gomaa (Egypt) _____

Australasia & Oceania (vote for one)

Chanh Tran (Australia) _____

IRMMA/Industrial Application

Bill Dunn (USA) _____

Membership Officer (vote for one)

Eric Shirley (USA) _____

Executive Councillors: (vote for four)

Avneet Sood (USA) _____
Christopher Chantler (Australia) _____
Esam Hussein (Canada) _____
Odair Gonçalves (Brazil) _____

Please use this ballot to vote. Instructions for return:

1) Electronic submission: Scan your completed ballot and email the image to Jorge Fernandez at Jorge.Fernandez@unibo.it
Ballots must be received by the Secretary by 30 September 2021
The results will be announced at ISRP-15

Profile of Member Standing for Vice-President, Central and Eastern Europe Ladislav Musílek



Ladislav Musílek

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Professor Ladislav Musílek graduated from the Czech Technical University (CTU) in Prague, Faculty of Technical and Nuclear Physics (renamed later to Nuclear Sciences and Physical Engineering - FNSPE), Prague, Czech Republic (specialisation : Dosimetry and Application of Ionising Radiation), gaining his MSc from CTU Prague in 1968 and PhD in 1977.

He became Associate Professor of nuclear and subnuclear physics (CTU Prague) in 1983 and Professor of experimental physics (CTU Prague) in 1996. Appointments have included Vice-Dean of the FNSPE (1990 -1994) , Dean of the FNSPE (1994 – 2000), and Vice-Rector for Science and Research of the CTU in Prague (2000 – 2010).

Teaching activities have included lectures in MSc and PhD courses on experimental and applied nuclear physics and supervising of MSc and PhD theses.

His scientific and research activities have included:

- Technical applications of radionuclides, especially transmission and scattering of gamma-ray beams.
- Integrating dosimetric methods.
- Radioanalytical methods in the environment and cultural heritage.
- Building a laboratory for applying methods of the exact sciences in historic monument research.

Professor Musilek has authored/co-authored 2 books, 5 chapters in books written by teams, about 200 scientific papers in journals and conferences, 7 textbooks for students, and 2 patents; and has participated in preparing Czech technical standards in the field of ionising radiation. He chaired the organising committees of three important conferences related to radiation physics and applications, ISRP-8 (2000), IRRMA-7 (2008) and ICDA-1 (2013), which were co-organised by IRPS and CTU Prague, and co-edited their proceedings. He has been Vice President of the International Radiation Physics Society for Central and Eastern Europe since 1997 and its President in 2012 – 2015.