IRPS BULLETIN

Newsletter of the International Radiation Physics Society

Vol 25 No 4 December 2011

IRPS BULLETIN : ISSN 1328533

Contacts :

Items for the Bulletin : **Ron Tosh, Larry Hudson**

Membership Enquiries : **Elaine Ryan**

Layout and distribution of the Bulletin : **Shirley McKeown**

Web Pages : **Shirley McKeown**

Contact addresses are listed in the IRPS information above.

Internet Address : http://www.canberra.edu.au/irps

Printing and postage of the Bulletin, and support for the IRPS web pages, are courtesy of the University of Canberra, Canberra, A.C.T, Australia

Contents of this Journal

New Memberships, Membership Renewals

Membership form for new members, and details for payments by cheque for new and renewing members are on the last 2 pages of this journal and information for payment by credit card is given below.

If you are unsure when your renewal is due, contact

Elaine Ryan

email: **elaine.ryan@sydney.edu.au**

Membership Payments by Credit Card

Internet payments by credit card (Visa, Mastercard, AMEX, Discover) can be made via the IRPS website

http://www.canberra.edu.au/irps

You do not need a PayPal account to use this method of payment

Go to the Home Page on our website (as above)
click on Membership, scroll down to the selection of buttons and click on the one that suits your membership.

If you have any queries or problems contact :

Professor Malcolm Cooper
Department of Physics, University of Warwick
Coventry CV4 7AL, U.K

email : **m.j.cooper@warwick.ac.uk**

From the Editors

"It's a small world, after all…"

How can we arrive at the end of 2011 without being impressed with the unfolding effects of accelerating "globalization"? Vast are the flows of people, ideas, goods, services, information, culture, and capital. Drivers include changing climate, technological innovation, the rise of social media, the supply and demand of limited resources, population growth, and an intertwined global economy. This year has seen its share of natural and manmade disasters, political upheaval, uncertainty and austerity. And yet there is much to delight in and celebrate including enhanced understanding of the mechanisms of disease as well as the nature of the cosmos; new synchrotron, free electron, laser, and particle accelerator sources; the pursuit of non-carbon-based energy sources, *etc*. And our field of radiation physics is in the thick of it all!

This issue of The Bulletin is devoted largely to the IRPS election of society officers, including regional vice presidents and executive councillors. Within you will find biographical information, photos, and statements from the candidates. Besides being an informed voter, this may give a sense of future directions of the Society. Please note that submission instructions are provided with the ballot, and they indicate a deadline for receipt by Sepember 15, 2012. In lieu of postage, electronic scans of your ballot may be received as an email attachment by the Society Secretary, Mic Farquharson at farquhm@mcmaster.ca.

Also in this edition is a Vice President's report from Marcelo Rubio updating the latest radiation physics facilities in Latin America, as well as the usual announcements of topical meetings of interest. We would also note that as you begin to mark up your 2012 calendars, please remember to reserve October 7 to 12, 2012 for the 12th International Symposium on Radiation Physics (ISRP-12) and the associated pre-meeting workshop on topics related to dosimetry and radiological protection, October 4 & 5. This is our triennial meeting and primary opportunity to meet as a Society, and this time we will be hosted in Rio de Janeiro by the radiation-physics community of Brazil. More details will of course be forthcoming via this Bulletin related to both these events.

The cover art on this issue of the Bulletin is of the Disney amusement "It's a Small World" which endlessly plays the (sometimes annoying) tune of the same name; a version of this attraction is present in all the world's Disney parks. The song was intentionally not copyrighted, is one of the most translated and played tunes in the world, and bears the theme of our first paragraph, the connectedness of humanity. Hence we close with its opening lyrics and best wishes for all in the new year :

It's a world of laughter, a world of tears
It's a world of hopes and a world of fears
There's so much that we share, that it's time we're aware
It's a small world after all.

Larry Hudson and Ron Tosh

Guest-President Report

Many of us are concerned or affected by the uncertainty in economic measures across Europe and America. The world is of course affected by fear of recession, and it appears that Academic Institutions (Universities) are proactive in using this uncertainty to trim budgets, especially with the closure of several physics departments in the US, but also, and even, in Australia with several institutions cutting staff by e.g. 200 or more even in medium-sized universities.

We at IRPS feel for all staff and institutions affected, and would like to offer at least moral support in this extended time of crisis. On my local home front at the University of Melbourne, our School has lost some excellent and critical technical and general staff who of course support our key operations and ability to teach and do research. We can all ill-afford these cuts. Relatively, though, we have so far fared well.

We also feel deeply for our friends and co-workers in strife torn nations, especially perhaps Northern Africa, both in quests for democracy or freedom or other more complex issues. One reviewer for my Radiation Physics and Chemistry apologized profusely for not being able to submit his review on time – his office was somewhat obliterated and surrounded and he felt it might be a few weeks before he could get proper access to library and other essentials.

Earlier editorials have commented on and supported our Japanese colleagues (and others where major national disasters have occurred). The IRPS has a real role to play in supporting our colleagues through these difficult recovery times. I shall (at time of writing) be in Tsukuba next week giving a plenary at an exciting workshop Q2XAFS. We have a role in commenting on the nuclear situation, and perhaps occasionally in leading by example. Having monitored the dose around Tsukuba from Fukushima, I promise to balance this by not eating my usual banana for next week.

Each of these topics cannot be treated properly or seriously in a Bulletin Guest message. So let me commend any such articles or commentaries to be forwarded to the Editors Ron and Larry as we fulfill part of our mission.

It seems that the worst is not yet over in some of these situations (economic or strife-torn), so let me provide a silver lining of science. There are many exciting developments relating to Radiation Physics. Many topics will be raised and discussed at the next ISRP meeting (discussed elsewhere in this issue). One close to my heart is the renaissance to which we can look forward, in the understanding of XAFS, though some of our key and long-term members would prefer I emphasised X-ray Absorption in general. Other major organisations are looking to develop standards in order to test transparently and quantifiably the significance of claimed conclusions regarding all sorts of structural, thermal, bond-length, ionization state and other results. We can not only help – we can encourage and lead these efforts, and gain from them as we go!

Chris Chantler

Marcelo Rubio
Aluariz de Arenales 230
B Junours, Cordoba 500 Argentina
Email : **mrubio@ceprocor.uncor.edu**

Stretching the Borders of Radiation Physics in Latin America

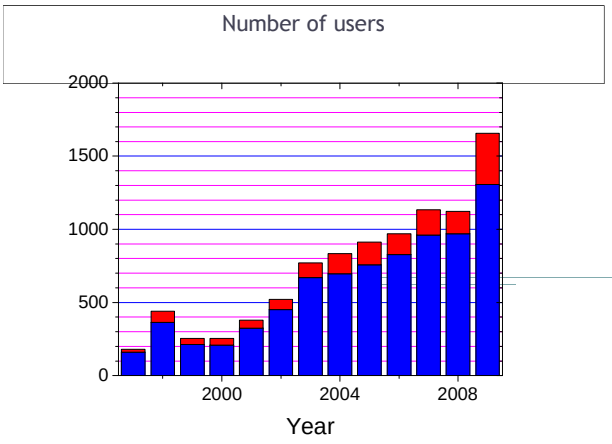
In 1980, in a not so big installation resembling a barn placed outside of the city of Campinas in Brazil, a group of physicists and engineers began what would become the basis for the present and future of radiation physics in the sub continent. These first steps were done inside the historical bunker of the ***Laboratorio Nacional de Luz Sincrotron*** (LNLS), in the green surrounding of a typical Brazilian neighborhood.

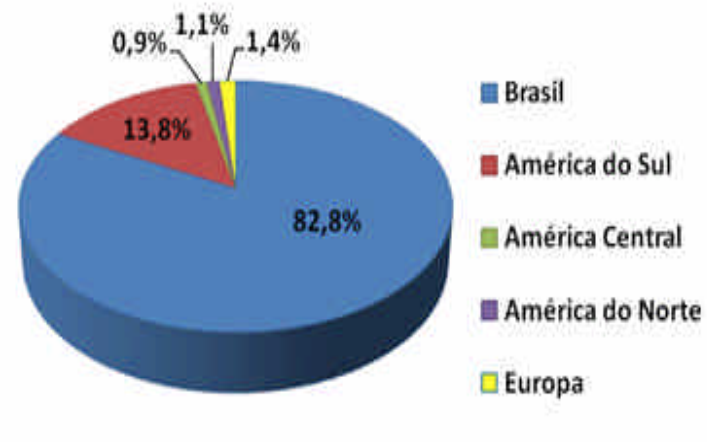
From the very beginning of the project, physicists throughout Latin-America have been invited to participate in the LNLS. Considering the growth of the regional user community over the preceding 30 years and the involvement of foreign professionals with the many different beam lines of the LNLS ring, this welcoming policy has given considerable impetus to synchrotron radiation science, enabling it to become a powerful tool for Latin America industry.

The 1987-1997 milestones of LNLS were:

- Jun 1987Design and construction begin
- Dec 1989 50MeV LINAC operates
- Aug 1995Installation of synchrotron light source starts
- Jul 1997 First operation for users

The next graph shows the increasing membership of the users' community reaching nearly 2000 at present.





The performance of the LNLS storage ring main parameters is shown in the following table :

Storage ring performance

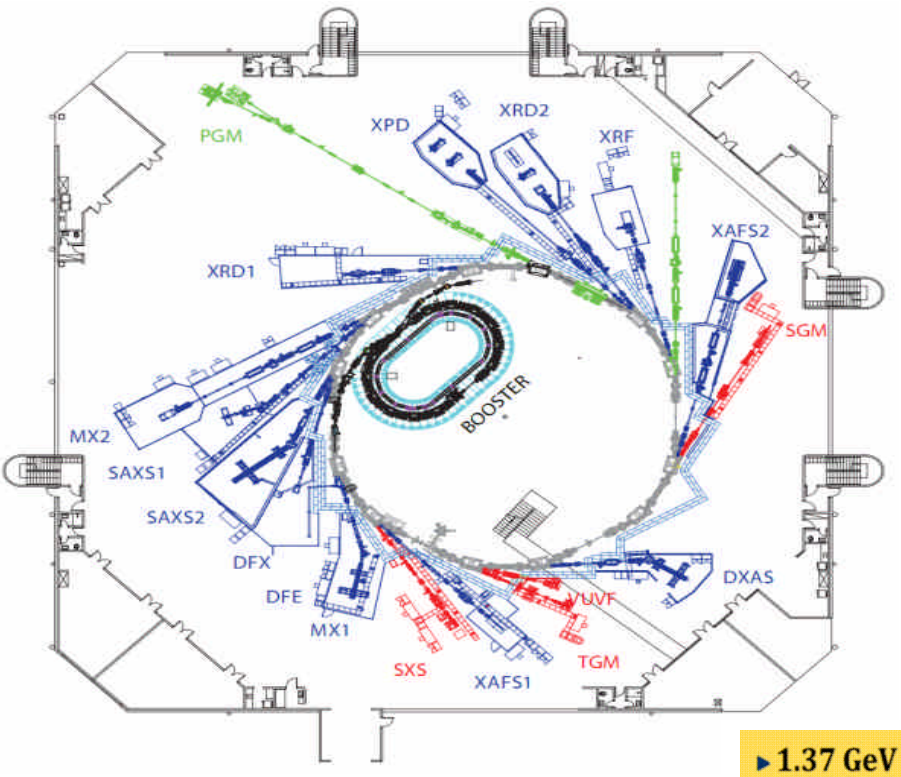
	Specified	Achieved		
		Jul/97	Dec/98	
Energy	1.15	1.37	1.37	GeV
Current	100	75	170	mA
Lifetime (@100 mA)	7	2.2	16	hours

Some experimental stations in operation since LNLS became available to users in 1997 were: :

- Small- Angle X-ray scattering
- VUV Spectroscopy –TGM
- Photoelectron spectroscopy - PES
- X-ray spectroscopy – EXAFS, XANES
- X-ray fluorescence, X-ray diffraction

Those experimental stations have participated, from 1997 to the present, in different kinds of scientific and technological projects regarding industrial needs, and have contributed to metallurgical, agro industrial, materials, environmental, pharmaceutical, mining and aeronautics projects of the region.

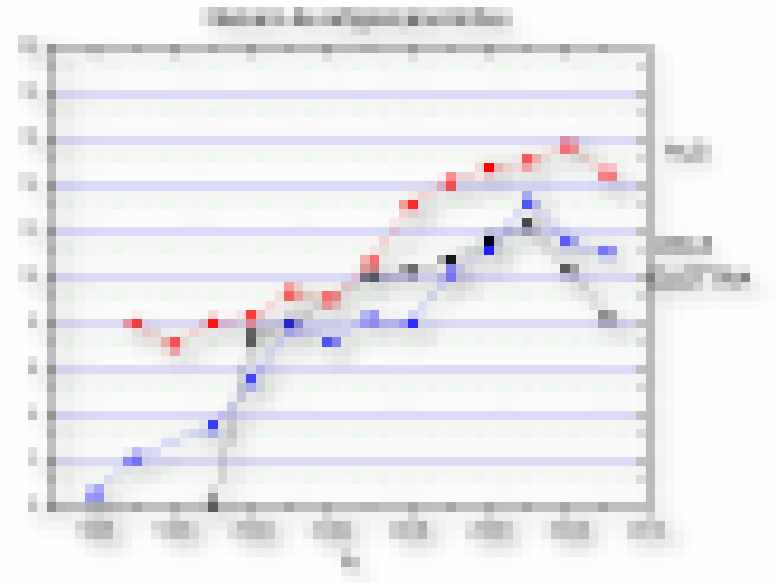
In 2001 a new 600 MeV booster began to operate, increasing the performance of radiation power of the LNLS. The following drawing shows the layout at that time.



- 1.37 GeV / 250 mA
- 100 nm.rad emittance
- 14 beamlines in operation (16 in 2011)

The LNLS Today

The performance of the LNLS may be compared with other synchrotron laboratories in first-world countries. One of them is the number of scientific and technological articles per working beam-line (16 at LNLS), as the following graph suggests:



The annual budget of the LNLS is 12.000.000 US dollars per year, being very significant in comparison to the average budget of scientific institutions or international facilities in Latin America. Since most of the synchrotron facilities are located in the Northern Hemisphere, it is also a considerable fraction of the budget for synchrotron light in the Southern Hemisphere.

The Future of the LNLS

Throughout the nearly 25 years of operation of the Synchrotron at Campinas, the Latin-American scientific community, industry and many social sectors have benefitted from its applications. Now, in order to satisfy the future demand for synchrotron radiation in the region, a project for a new ring is being developed to replace the existing 1.37 GeV UVX light source. SIRIUS is a 3rd generation 3.0 GeV low emittance synchrotron light source facility to be built in the same LNLS site.

The name SIRIUS comes from the Latin denomination of the Alpha Canis Maioris binary star (Sirius in Spanish and Portuguese). This is the most brilliant star in the Southern Hemisphere night sky. It has been very well known since the time of the ancient Egyptian Empire due to its reference related to Nile River inundations.

The main parameters of SIRIUS are shown in the following table, placing the region into the first position considering the accessibility to a 3rd generation photon source.

Table 1: Main parameters of Sirius.

Energy (GeV)	3.0
Beam current (mA)	500
Circumference (m)	460.5
Nat. emittance (nm.rad)	1.7
Effective emittance (nm.rad)	1.9
Cell / symmetry / structure	20 / 10 / TBA
Main dipole field (T)	0.5
Slice dipole field (T)	2.0
Total deflection by main dipoles	340°
Total deflection by slice dipoles	20°
Critical energy, main dip. (keV)	3.0
Critical energy, slice dip. (keV)	12.0
SR loss/turn, all dipoles (keV)	417.7
SR power, all dipoles (kW)	208.8
Betatron tune (h/v)	24.2 / 13.2
Synchrotron tune	9.3×10^{-3}
Nat. chromaticity (h/v)	-53.4 / -48.0
Nat. energy spread (%)	0.079
Momentum compaction	6.9×10^{-4}
Harmonic number	768
RF frequency (MHz)	500
RF voltage (MV)	3.2
Bunch length (mm)	4.3
Damping time (ms) (h/v/s)	16.3 / 22.1 / 13.4
Straight sections	10*9.4m +10*5.0m
Beam size (k=0.5%) @ slice (μm^2)	50 x 7
Beam size (k=0.5%) @ SS (μm^2)	246 x 4

Comparison of Sirius with today's LNLS source and most recent facilities in construction or operation

	LNLS - UVX[1]	LNLS - Sirius[2]	Soleil[1]	Diamond[1]	Shanghai[1]	NSLS II[3]
Energy (GeV)	1,37	3,0	2,75	3,0	3,5	3,0
Average diameter (m)	30	147	113	179	137	252
Brightness from dipoles @ 10 keV *	1	5600	1560	3600	2200	370[4]
Brightness from dipoles @ 50 keV *	1	$25 \cdot 10^9$	$1{,}9 \cdot 10^9$	$4{,}4 \cdot 10^9$	$5{,}8 \cdot 10^9$	2700[4]
Number of dipole beamlines	24	20	32	48	40	0 [4]
Number of insertion device beamlines	4	18	22	22	18	28
Emittance (nm.rad)	100	1,7	3,7	2,7	3,9	2,1

Notes: * normalized to that of LNLS existing source; [1] in operation; [2] in design; [3] in construction; [4] the design does not envisage dipole beamlines.

Final Remarks

As a region, Latin America is making important initial steps in cultural, social and economic integration. The scientific community is also realizing the benefits of inter/national cooperation to support a great facility for regional users. This fact may be better understood in the Northern Hemisphere because of its longer experience with common facilities for international users. In our countries, limited budgets for scientific and technological activities compounded by restrictions on investments abroad inhibit the creation of great common facilities. In the 21st century, the national governments are strategically moving to open financial programs oriented toward supporting international laboratories and other activities in science. One example is SIRIUS, but many other facilities are coming along. Another example is the financial aid of Argentina toward organizing and promoting the participation of Argentinean and Latin American physicists in the first international meeting of their respective physical associations, e.g. AFA (Physical Association of Argentina) and SUF (Uruguay Physical Society).

The results of this integration of resources and expertise with new international facilities for the region will strongly impact regional scientific development in coming years and Latin American economic development for decades to come.

Acknowledgment

For information provided for this article, I wish to thank Prof. Aldo Craievich, pioneer of LNLS as Deputy of Director and Head of the Scientific Department, now at the University of Sao Paulo, and Eng. Ricardo Rodriguez former Head of Project of LNLS and present Sirius Project Director. More information can be found at http://www.lnls.br.

INFORMATION FOR ELECTION OF COMMITTEE MEMBERS AT I.S.R.P–12
October, 2012

Profile of Member Standing for President

Ladislav Musilek

Faculty of Nuclear Sciences and Physical Engineering,
Czech Technical University in Prague, Czech Republic

Ladislav Musilek graduated fom the Czech Technical University (CTU) in Prague, Faculty of Technical and Nuclear Physics (later renamed Faculty of Nuclear Sciences and Physical Engineering - FNSPE), Prague, Czech Republic (specialisation: Dosimetry and Application of Ioniing Radiation), gaining his MSc from CTU Prague in 1968 and his PhD in 1977. In 1983 he became Associate Professor of nuclear and subnuclear physics (CTU Prague) and Professor of experimental physics (CTU Prague) in 1996.

Appointments have included Vice-Dean of FNSPE (1990 -1994), Dean of FNSPE (1994 – 2000), and Vice-Rector for Science and Research of CTU in Prague (2000 – 2010).

His teaching activities have included lecturing in MSc and PhD courses on experimental and applied nuclear physics, and supervising MSc and PhD theses. He is a member of the commission for the presentation and defence of PhD theses in Nuclear Engineering, and was actively involved in preparing a BSc programme in Radiation Protection and the Environment and an MSc programme in Medical Radiation Physics in the framework of Nuclear Engineering study programmes at the Faculty. In addition, he has participated in Life Long Learning programmes at FNSPE CTU Prague and (in the 1980s) at the Faculty of Mathematics and Physics of Comenius University, Bratislava. 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 (in collaboration with IRI TU Delft) and in investigations of cultural heritage objects.
- Constructing an instrument for thermoluminescence dating of historic architecture.
- Building a laboratory for applying methods of the exact sciences in historic monument research (funded by a grant of the Ministry of Education, Youth and Sports of the Czech Republic, in collaboration with the Faculty of Architecture and the Faculty of Civil Engineering of CTU

Ladislav Musilek has authored/co-authored 2 books, 5 chapters in books written by teams, over 160 scientific papers in journals and conferences, 7 textbooks for students, and 2 patents; and has participated in preparing technical standards in the field of ionising radiation.

He is a member of the Scientific Boards of the FNSPE and of the Institute of Nuclear Research. He was a member of the "Fission" External Advisory Group in the EURATOM section of the EU 5th Framework Programme 2000-2002. He is a representative of the Czech Republic in the EURATOM-Fission Consultative Committee of the EU 7th Framework Programme. He is a member of the Administrative Council of the European Society for Engineering Education, a member of the Union of Czech Mathematicians and Physicists, and of the Czech Society of Radiation Physicists in Medicine.

Ladislav Musilek has organised two major conferences related to radiation physics and applications, ISRP-8 (2000) and IRRMA-7 (2008), and co-edited their proceedings. He has been Vice President of the International Radiation Physics Society for Central and Eastern Europe since 1997.

../Statement

Statement: I have been a member of the International Radiation Physics Society since ISRP-5 in Dubrovnik (Croatia) in 1991. Participating in the activities of the Society and coming into contact with members of the Society who are outstanding scientists (it would be impossible to name all of them without forgetting somebody, so let me name John Hubbell on behalf of them) has had a strong influence on my professional career and has also helped the whole of my Department at FNSPE to integrate into the international context of radiation physics and reinforce its contacts with the international scientific community, which had been limited under socialist Czechoslovakia.

My relations to the Society became even stronger after I was elected Vice-President for Central and Eastern Europe. I believe that IRPS is a good platform for international links, collaboration and exchange of knowledge, and it is for this reason that I want to devote my efforts to making the Society flourish.

IRPS is a relatively small society which indeed has members all over the world, but it needs to be more visible and to attract more members, especially young scientists and students. If we look at the web page of the Society, we will find its aims and objectives stated there. Some of the aims are strong features, e.g., the high quality of ISRPs. However, others need much more attention. In particular, education and training, encouraging international scientific research programmes, and disseminating relevant information about radiation physics to the general public can be considered as weak points in our activities. All of these are important tasks in the present-day world with its scepticism toward everything nuclear. In collaboration with my colleagues in the Council and with all willing members of the Society, I would therefore like to work on retaining the strong aspects of the Society and on improving the less developed activities. The International Symposia on Radiation Physics, the IRPS Bulletin and also informal personal contacts can help to continue in the good traditions of the Society and make the Society stronger. I believe that the suggested closer integration with the IRRMA group will also help toward these goals.

The Society has a worthy and important mission in the scientific world. It will be an honour for me to become President of the Society, but more than just an honour, it will also involve hard work for the benefit of the Society and for the benefit of radiation physics as an important aspect of human knowledge.

❖ ❖ ❖

.../Profile of Member standing for Secretary

Profile of Member Standing for Secretary

Jorge Fernandez

Energetics, Nuclear Engineering and Environmental Control Department, University of Bologna, Italy

After obtaining his M.Sc. in Physics (1977) and his Ph.D. in Physics from the University of Cordoba in Argentina (1985), Professor Fernandez was a Researcher in atomic and nuclear spectroscopy at institutes in Buenos Aires and Cordoba.

From 1994 on, he has been affiliated with the Alma Mater Studiorum University of Bologna, Italy. He is Associate Professor at the Energy, Nuclear and Environmental Control Engineering Department of this University, an Associated Researcher of the Italian Institute of Nuclear Physics (INFN), and a consultant to several companies and institutes in Italy and abroad. In the past he was affiliated with the former Italian National Institute for Physics of Matter (INFM).

His interest is mainly in the fundamental physics of the interaction of x-rays with matter including polarisation effects and its implications for applications. In particular:

- 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.
- Spectroscopic techniques using X-rays (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).

He is the author of over 100 articles in scientific journals, many as invited contributions, 2 books, 1 patent and several computer codes (SHAPE, MSXRF, MCSHAPE, etc) related to XRS.

He organised the European EDXRS Conference in 1998 and the 5th International Topical Meeting on Industrial Radiation and Radioisotope Measurement Applications (IRRMA-5) in 2002. Actually he continues as a Member of the International Advisory Committee for the European Conferences on X-Ray Spectrometry and of the Organizing Committee if the IRRMA Conference.

He acted as Board Member for X-Ray Spectrometry from 2000-2003.

In 2007 he acted as co-chair of both the Scientific Committee of the 10th International Symposium on Radiation Physics (ISRP-10) and the satellite FWorkshop on the Use of Monte Crlo Techniques for Design and Analysis of Radiation Detectors.

He serves actively within the International Radiation Physics Society as Regional Vice President for Western Europe (elected in 2006).

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 Secretary is to maintain and improve the high scientific level of the Society symposia (ISRP's), bringing this conference to countries interested in increasing their involvement and to attract young scientists to the subject.

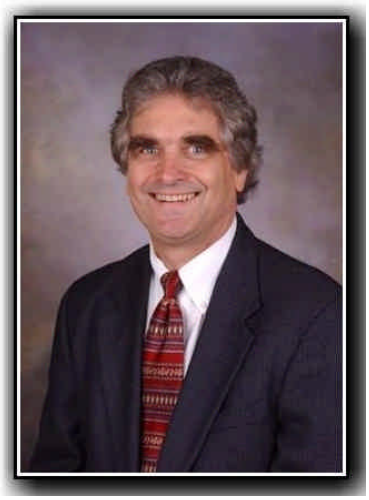
❖ ❖ ❖

.../Profile of Member standing for Treasurer

Profile of Member Standing for Treasurer

William Dunn

Department of Mechanical and Nuclear Engineering,
Kansas State University, Manhattan, USA



Dr. William Dunn received his M.S. and Ph. D. degrees in Nuclear Engineering from North Carolina State University. He has been a long-standing member of the radiation physics community and was an early member of IRPS, having attended the third Symposium at Ferrara in 1985.

Dr. Dunn worked for five years at Carolina Power and Light Company, where he served as an in-house Nuclear Engineering consultant. While there, he conducted radiotracer studies at the H.B. Robinson Nuclear Power plant. He next was employed by North Carolina State University, where he oversaw applications of the PULSTAR research reactor. Bill moved full-time into the research community in 1982, taking a position at Research Triangle Institute, where he performed research on dosimetry in computed tomography and measurement of lubricant thickness on hypodermic needles. He is the originator of the Symbolic Monte Carlo method for solving inverse problems using only a single Monte Carlo simulation. In 1988 Dr. Dunn co-founded, with his colleague Dr. Fearghus O'Foghludha, Quantum Research Services, Inc., a research and services firm, where he spent fourteen years as President. His research involved radiation effects on electronics, measurement of relative motion using plastic scintillating fibers, development of models for albedo and transmission in slabs, novel X-ray fluorescence measurement techniques, and measurement of hidden corrosion in aircraft. In 2002, Dr. Dunn returned to academia, assuming the position of Associate Professor in the Mechanical and Nuclear Engineering Department at Kansas State University.

Dr. Dunn's research interests are concerned primarily with radiation measurement applications, including quantitative analysis, imaging, radiogauging, and radiotracing. He also has an active interest in particle transport analysis, particularly using Monte Carlo methods. Bill and his colleague, Dr. Ken Shultis, authored a book, published in April, 2011, entitled *Exploring Monte Carlo Methods*. He and another colleague, Dr. Douglas McGregor, have written an extended chapter on Gamma-Ray Spectroscopy, soon to be published. Bill is a member of the American Nuclear Society and has been involved in the series of Industrial Radiation and Radioisotope Measurement Applications (IRRMA) meetings, the eighth of which he chaired in June of 2011. Dr. Dunn is primary author of two patents and has two patents pending. Bill has served IRPS as both an Executive Council member and as Vice President for North America. He has worked closely with the current IRPS Treasurer and has managed the IRPS US bank account since March 2010.

Statement: I support the International Radiation Physics Society as a home where those of us who value developments in radiation physics can share our ideas and interact with others of like minds. Our society is unique in many ways. It encourages involvement of members from around the world, including those from developing countries. It chooses to host its meetings at locations that span the globe, allowing attendance, at least occasionally, by those who live in what some may consider remote locations. It has avoided the common practice of charging high membership fees, preferring instead to make do on a modest budget. My vision of the Society is that it is evolving into the pre-eminent international organization through which radiation physics is discussed, developed, and appreciated. I am an engineer by training but a physicist at heart. I embrace the mission of the Society and pledge, if elected, to do my best to help the Society grow and prosper.

❖ ❖ ❖

.../Profile of Member standing for Vice President, Western Europe

Profile of Member Standing for Vice President – Western Europe

José Rodenas

Department of Nuclear Engineering,
Polytechnic University of Valencia, Valencia, Spain

He was born in Valencia, Spain, on 22 January 1949.

Graduated in 1972, Industrial Engineering, Polytechnic University of Barcelona, Spain.

Obtained in 1981 PhD in Nuclear Engineering, Polytechnic University of Valencia, Spain.

Associate Professor of Nuclear Engineering in 1984 and Full Professor of Nuclear Engineering in 2003, both at the Polytechnic University of Valencia, Spain. Head of the Nuclear Unit, Department of Chemical and Nuclear Engineering from 2004 to 2008.

Teaching activities (Master and PhD levels) on Nuclear Technology, Nuclear Physics, Radiological Protection, Environmental problems of Nuclear Energy, Radioactive Contamination, Fuel Cycle and Nuclear Materials.

Scientific and research activities on Environmental Radioactivity, Dose Calculations, Shielding Analysis, Radiological Protection, Thermohydraulics, Monte Carlo applications, Criticality Analysis, Detector Calibration, Medical accelerators, Radiotherapy Treatment Planning and others, with papers and articles extensively published on these topics.

Several books published (in Spanish), among them the following:

- Problemas Ambientales de la Energía Nuclear, Universidad Politécnica de Valencia, IBERDROLA, 1994
- Tecnología energética 4. Energía Nuclear, Universidad Politécnica de Valencia, 1995
- Introducción a la Ingeniería de la Contaminación Radiactiva, Intertécnica, Valencia, 2003

Member of the Nuclear Spanish Society, the Spanish Society of Radiological Protection, International Radiation Physics Society and corresponding member of EURADOS.

Secretary of CHERNE (Cooperation in Higher Education on Radiological and Nuclear Engineering) since its creation in 2005.

General Chairman of the Workshops on European Cooperation on Higher Education and Research in Nuclear Engineering and Radiological Protection held in Valencia in 2005 and 2006.

Chairman of the Scientific Committee of the Workshops on European Cooperation on Higher Education and Research in Nuclear Engineering and Radiological Protection held in Prague in 2007, Favignana (Italy) in 2008, Jülich (Germany) in 2009, Coimbra (Portugal) in 2010 and Brussels (Belgium) in 2011.

Member of the Technical Program Committee of the International Conference "Monte Carlo 2005" held in Chattanooga, Tennessee, USA (17-21 April 2005), organized by the ANS Radiation Protection and Shielding Division on the topic The Monte Carlo Method: Versatility Unbounded in a Dynamic Computing World.

Member of the Scientific Committee of the 7th International Topical Meeting on Industrial Radiation and Radioisotope Measurement Application. IRRMA 7 held in Prague 2008 and the 8th International Topical Meeting on Industrial Radiation and Radioisotope Measurement Application. IRRMA 8, held in Kansas City (US) 2011.

Nominated General Chairman of the 9th International Topical Meeting on Industrial Radiation and Radioisotope Measurement Application. IRRMA 9, to be held in Valencia (Spain) in 2014.

Affiliated with IRPS as of 2005 at the IRRMA-6, at the suggestion of Ladislav Musilek and Jorge Fernández.

Participated in ISRP 10 and 11, respectively at Coimbra and Melbourne.

❖ ❖ ❖

.../Profile of Member standing for Vice President, Central and Eastern Europe

Profile of Member Standing for Vice President – Central and Eastern Europe

Ines Krajcar Bronic

Radiocarbon and Tritium Laboratory, Department of Experimental Physics, Ruđer Bošković Institute, Zagreb, Croatia

Ines Krajcar Bronić is a senior scientist at the Ruđer Bošković Institute in Zagreb. She obtained her Master's Degree and a Doctor of Science in radiation physics, specializing in the interactions of low-energy electrons with matter and principles of gas detector operation.

She obtained the Humboldt Fellowship for research at PTB in Braunschweig, Germany (1995 – 1997) and JSPS Fellowship for research in Japan (1997) and established a long-term co-operation with M. Inokuti and M. Kimura (Argonne National Lab.). She was a special consultant of the IAEA committee for "Atomic and Molecular Data for Radiotherapy and Radiation Research" and a member of two ICRU Report Committees.

Her recent research interests have turned to application of various isotopes (^{3}H, ^{14}C, stable isotopes ^{2}H, ^{13}C and ^{18}O) in interdisciplinary studies. She was the co-coordinator of the FP6 project AMS-14C (2007 – 2008) and led several bilateral scientific projects. She is the author of 60 papers in CC journals and 15 in other journals and several contributions to various books. She has good organizational skills, having organized symposia, training courses and workshops and acted as an editor of 5 proceedings. She also has held numerous public lectures promoting the radiation science and its application for peaceful purposes. She is a secretary of the Croatian Radiation Protection Association, delegate in the IRPA General Assembly and a liaison officer between the RB Institute and ICRM.

Statement: I joined the IRPS in 1991 when the ISRP-5 was held in Dubrovnik, Croatia. Since then, I participated at ISRP-8, ISRP-10 and ISRP-11. I have also contributed to the IRPS Bulletin. I am interested in promotion of interdisciplinary aspects of research involving radiation, especially in environmental studies and in dating of cultural heritage objects.

If I am elected as vice-president for Central and Eastern Europe I will do my best to:

1) promote radiation physics and radiation science in general in the region,
2) attract new (and young) members among scientists from the region,
3) promote ISRPs as exciting meetings with great opportunities for exchange of ideas.

❖ ❖ ❖

.../Profile of Member standing for Vice President.. F.S.U.

Profile of Member Standing for Vice President – F.S.U

Igor V. Shamanin

Nuclear Technologies Division, Applied Physics and Engineering Institute, Tomsk Polytechnic University, Russia

Professor Igor V. Shamanin (born 16 October 1962) graduated from Tomsk Polytechnic Institute (since 1991, Tomsk Polytechnic University) in 1985, specializing in nuclear reactor physics. He obtained the degree of Candidate of Sciences in 1988 and the degree of Doctor of Sciences (Physics and Mathematics) in 1997. The degree of Candidate of Sciences he obtained with the scientific specialty "Charged Particle Beam Physics and Accelerator Techniques" and degree of Doctor of Sciences with the specialty "Experimental Physics".

In 1998 he became Professor of the Nuclear Power Installations Department at the Applied Physics and Engineering Faculty in Tomsk Polytechnic University. From 1998-1999, he was Visiting Professor at the Institute for Safety Researches and Reactor Technologies (ISR-2) at Research Center Juelich (Germany). Since 2010, he has been the Head of the Nuclear Technologies Division at the Applied Physics and Engineering Institute of Tomsk Polytechnic University.

In 2010, Professor Igor Shamanin was selected as academician of Academy of Engineering Sciences of Russia.

Professor Igor Shamanin has authored more than 100 papers, 3 monographs and 7 textbooks. Monographs cover a wide range of fundamental and applied problems: "Interaction of Pulsed Charged Particle Beams with Matter" (2003); "Thorium in Nuclear Fuel Cycle" (2006); "Electrophysics of Reticulated Solutions of Salts in Liquid Polar Dielectrics" (2010). He has been a scientific advisor of 6 Candidates of Sciences.

Statement: My reasons for seeking the office of Regional Vice President in IRPS:

a) Science is not a boxing ring or a stadium where there are winners and losers; I wish to promote collegial and constructive exchanges.

b) The Universe is in disequilibrium; I want to know how radiation impacts the evolution of the Universe.

c) Planet Earth will do without us, but we without it aren't present. It is necessary to protect planet Earth.

❖ ❖ ❖

…/Profile of Member standina for Vice President. North America

Profile of Member Standing for Vice President – North America

Larry Hudson

NIST, Gaithersburg, U.S.A.

Since 1990, Larry Hudson has worked as a physicist at the National Institute of Standards and Technology (NIST), USA.

Dr. Hudson's science career began as a flight controller for the US Space Shuttle Orbital Flight Test Program before attending graduate school at Vanderbilt University (1983 – 1989) with NASA support to work on radiation interactions with surfaces. Later at NIST, this theme continued with work on the pre- or post-flight calibrations of five x-ray astronomy platforms for NASA.

At NIST Hudson leads a program that produces custom-designed calibrated curved-crystal spectrometers that are fielded to help characterize the performance and spectra from exotic x-ray sources including the electron beam ion trap, the electron cyclotron resonance ion source, advanced medical radiography sources, laser-produced plasmas, terawatt pulsed accelerators, ultrafast Petawatt lasers, and inverse-Compton backscatter sources. This work is rooted in a culture of instrument making and an infrastructure of fundamental precision metrology efforts, including absolute x-ray wavelength determination (at the femtometer level) in support of high-accuracy transfer standards needed in fundamental and applied experiments around the world.

After the deliberate contamination of the US mail with anthrax, Hudson assisted in design and co-ordination of experiments for the White House Task Force on Mail Irradiation resulting in the development of the protocol still in use to sanitize government mail with industrial x-ray sources. In co-ordination with the US Department of Homeland Security, Hudson currently serves as the NIST project leader for the development of national and international standards for x-ray security screening systems related to measuring their technical performance and radiation safety. This includes all the venues that employ screening for bulk explosives: checkpoint, checked baggage, cargo/vehicle, human-subject and bomb-squad applications.

Statement: Having had the privilege of co-editing of the Bulletin of IRPS, as technical co-chair of ISRP-11, and serving as an Executive Councillor of the Society, I have been able to observe the high spirit and quality of the leadership, participants, and the mission of IRPS. I am particularly drawn to the breadth of the radiation physics and geography represented at the Symposia. It is my intent that the Society continues to make the fruitful interconnections across both subject matter and geography that will advance our common causes.

❖ ❖ ❖

.../Profile of Member standing for Vice President, South and Central America

Profile of Member Standing for Vice President – South and Central America

Marcelo Rubio

Aluariz de Arenales 230, B Juniors, Cordoba, Argentina

Marcelo Rubio is a physicist at the Centro de Excelencia en Productos y Procesos de Cordoba (CEPROCOR) in the Province of Cordoba, Argentina.

He has worked in the Radiation Laboratory of CEPROCOR since 1995. He also has been a Professor at the Facultad de Matematica, Astronomia y Fisica (FAMAF) of the University of Cordoba since 1978. During the period 1988-1992 he was Vice-Dean of the Faculty.

After obtaining his M.Sc. in Physics (1978) and his Ph.D. in Physics from the University of Cordoba in Argentina (1985), Professor Rubio became a researcher in atomic and nuclear spectroscopy, with international appointments in Brazil and Italy, and is responsible for bringing a number of research projects from Argentina to the Frascati and Campinas LNLS Synchrotron.

He held postdoctoral positions at the University of Rome "La Sapienza" in Medical Physics, serving as President of the Argentinean Society of Medical Physics in 1991/93. His research progressed from traditional fundamental parameters applied to XRF to diagnostic radiology to characterization of biopolymers by SRXRF and x-ray microtomography, the focus of his present activities.Dr. Rubio is author or co-author of more than 40 scientific publications in international journals, and 56 scientific papers as proceedings of international conferences, Latin-American prospective studies or virtual articles. He is author or co-author of 6 book chapters on XRF and scientific-opinion documents.

In the field of scientific policy activities, Dr. Rubio was State Secretary of Science and Technology of the Province of Cordoba (1995-1999) and chief of the Scientific Advisory Councillor of the National Government (2000/2001). During 2008 he occupied the national-government position of President of the Argentinean Funding Agency, and, as of 2009, Dr. Rubio has returned to his to his research and academic activities.

Dr. Rubio was one of the founders of CEPROCOR and manager of the µSat VICTOR project that launched successfully in 1996 the first microsatellite of Argentina.

❖ ❖ ❖

.../Profile of Member standing for Vice President. South East Asia

Profile of Member Standing for Vice President – South East Asia

Suprakash C. Roy

Calcutta University and
Indian Institute of Port Management, Kolkata, India

Professor Roy was a Professor of Physics at Bose Institute, Calcutta, India, from 1986 to 2006, after receiving his PhD degree from Calcutta University and gaining post-doctoral experience at the University of Pittsburgh and Yale University, U.S.A.

His major research interests are in the areas of photon-atom scattering, radiation damage in solids and liquids, radiation detectors and medical physics. He has more than 100 publications to his credit and was a regular visitor to the University of Pittsburgh, USA in connection with co-operative research on photon-atom scattering with Professor Richard H. Pratt. Professor Roy was awarded the JSPS Invitation Fellowship for the year 2000 by the Japan Society for Promotion of Science. He was appointed Visiting Associate at the Fa.M.A.F, National University of Cordoba, Argentina under the TWAS-UNESCO Associateship Scheme at the Centres of Excellence in the South by the Third World Academy of Sciences in 2001 for three years. He was a Visiting Professor at Calgary University, Canada and Purdue University, USA.

Currently he is a Visiting Professor at Calcutta University teaching postgraduate classes on interaction of X-rays and gamma rays with matter and their application in medical physics. He is deeply involved with one of the venerable and prestigious journals of India, Science and Culture as its Editor-in-Chief. He is also one of the Editors of the Elsevier journal Applied Radiation and Isotopes. Professor Roy has been associated with the International Radiation Physics Society (IRPS) from the time when it was yet to be formally established, and was Membership Secretary of the IRPS and Associate Editor of the IRPS News for about 15 years after its foundation. He is currently the Vice-President (South-East Asia) of the International Radiation Physics Society.

Statement: I would like to continue to be the Vice President for South East Asia in order to foster and nurture the growth of radiation physics in the South-East Asian Region and in India in particular, which I have been doing for years.

❖ ❖ ❖

.../Profile of Member standing for Vice President, North East Asia

Profile of Member Standing for Vice President – North East Asia

Ziyu Wu

National Synchrotron Radiation Laboratory,
University of Science and Technology of China, Hefei Anhui, China

Professor Ziyu Wu received his PhD in Physics at the University of Science and Technology of China (USTC) in 1988.

He worked about 12 years at the Laboratori Nazionali di Frascati of the Istituto Nazionale di Fisica Nucleare (INFN), Italy and 3 years at CEA, France.

He was scientific director of the Beijing Synchrotron Radiation Facility from 2001 to 2008. At present, he is the director of the National Synchrotron Radiation Laboratory, professor of the Beijing Synchrotron Radiation Facility, and chair of the Synchrotron Radiation Committee of China.

He is member of the International advisory committee of the Vacuum Ultraviolet and X-Ray Physics Conference (VUVX), member of the Executive Committee (EC) of the International XAFS Society (IXAS) and a regional vice president of the International Radiation Physics Society (IRPS). He is the chair of the next 15th International Conference on X-ray Absorption Fine Structure (XAFS15), chair of the 38th International Conference on Vacuum Ultraviolet and X-ray Physics (VUVX 2013) and co-chairman of the 11th International Conference on XRM (XRM 2012). He has also organized several international workshops dedicated to SR applications and focused on the developments of x-ray absorption spectroscopy and imaging.

He was leader of several national research projects in China and supervisor of about fifty PhD students. He completed a series of world-recognized researches both theoretical and experimental publishing about 300 research papers with more then 2,600 citations. His actual h-index is 24. Important manuscripts have been published in the journals: Nature, Science, PNAS, JACS, Phys. Rev. Lett., Chem. Commun., Chem. Mater. and Carbon.

❖ ❖ ❖

…/Profile of Member standing for Vice President, Africa and Middle East

Profile of Member Standing for Vice President – Africa and Middle East

Mohamed A.M. Gomaa

Atomic Energy Authority, Nasr City, Cairo, Egypt

BSc, Phyics, Alexandria University

PhD Radiation Physics, Middlesex Hospital Medical School, London University, 1968

Date of Birth : November 18, 1940

Current job :

Radiation Protection Consultant and Professor of Radiation Physics, Atomic Energy Authority, Cairo, Egypt

Radiation Protection Expert, Egyptian Ministry of Health, from 1980

Consultant, Radiation Protection and nuclear safety Expert, Egyptian syndicate of Scientific Profession, 2004

Supervisor of Training Courses of Middle Eastern Center -Radioistopes Center for Arab Countries :

- Applications of Radioisotopes and Radiation Protection, 5 weeks, Feb 2009
- Radiation Awareness, 2 week Nov 2008

Supervisor of Training Courses of Egyptian Atomic Energy Authority :

- Instruments for detection of ionizing radiation and calibration, 2 weeks, Dec 2008
- Medical Response of Nuclear and Radiation Accidents
- Radiation Awareness, 2 weeks, Feb 2009

Supervisor of Training Courses of Arab Atomic Energy Authority ;

- Medical Response of Nuclear and Radiation Accidents and waste disposal at Hospitals, 2 weeks, 2007
- Radiation Protection in nuclear medicine, one week, 2007

Previous jobs :

Vice President of Egyptian Atomic Energy Authority (EAEA) for training and international cooperation, 1999-2000

Chairman of Nuclear Research Center, EAEA, 1997

Chairman Atomic Reactors Division, EAEA, 1995 Head of Radiation Protection Department, EAEA, 1983

Head of Physics Dept., College of Education, King Saud University, Abha, Saudi Arabia, 1984-1988

Assistant Professor, College of Science, Phys Dept, Basrah University, Iraq, 1975-1979

International and National Representations :

Egypt representative at World Health Organization, Global Initiative in Radiation Safety in Healthcare Settings, Geneva-Switzerland, from Dec 2008

Vice President of International Radiation Physics Society for Africa and Middle East, 2009 -2012

Coordinator of Kuwait-Egypt cooperation in the field of radiation emergency, 2010-2012

Conference Scientific Secretary of the Radiation Physics and Protection Conferences, from 1992 Atomic Energy Authority, Cairo, Egypt

Conference Scientific Secretary of AFROG-II, Cairo, Egypt, 2002

Egyptian coordinator of AFRA Medical Physics Project, 2001- 2005

Egyptian representative at Arab Atomic Energy Authority Activity planning Meeting, Tunis, Oct 2008

IRPA Egypt President, from 1992,

Egypt representative to 12th International Radiation Protection Association (IRPA), Argentina, Oct 2008

Egyptian Representative at United Nations Committee of the Effects of Atomic Radiation UNSCEAR, from 2001, Rapporteur of UNSCEAR, 2008-2012

Profile of Member Standing for Vice President, Africa and Middle East (continued)

Egyptian Representative at International Atomic Energy Agency (IAEA), Technical Committee Meeting dealing with Upgrading International Basic Safety Standards for Protection Against Ionizing Radiation and Safety of Radiation Sources, Vienna, July 2007

Congress Scientific Secretary of the Second All African IRPA Regional Radiation Protection Comgress, April 2007

Egyptian Representative of IAEA Technical Cooperation Meeting Dealing with Radiation Occupational Exposure, Cairo, 2007

Scientific Socities Memberships

Health Physics Society, USA

American Nuclear Society, USA

International Radiation Physics Society

British Institute of Physics, UK

Society of Radiological Protection, U K

International Radiation Protection Association

Egyptian Society of Nuclear Sciences and Applications

Egyptian Nuclear Physics Association

Egyptian Society of Medical Physics

Egyptian Society of Pure and Applied Biophysics

Egyptian Society for Nuclear Medicine Specialists

Principal Researcher of Radiation Protection consultation and services project, Atomic Energy Authority, Cairo, Egypt

Radiation protection expert at several Egyptian hospitals and medical centers

Awards :

National Physics Award, 1976, Egypt

National Enivronmental research award, 1992, Egypt

EAEA Scientific Excellence Award, 1995

Recent publication :

M.A.M. Gomaa, personal dosimetry for radiation workers upgrading an old petroleum oil field, naturally occurring radioactive material (norm vi), proceedings of the sixth international symposium on naturally occurring radioactive material. Marrakesh, morocco, 22–26 march 2010, international atomic energy agency, pp 103-108.2011.

❖ ❖ ❖

.../Profile of Member standing for Vice President, Australasia

Profile of Member Standing for Vice President - Australasia

Christopher Chantler

School of Physics, University of Melbourne, Melbourne, Australia

Professor Chris Chantler graduated from the University of Western Australia with a B.Sc. (Hons 1) in Chemical Physics in 1984, followed by a D. Phil. from Oxford in Atomic Physics in 1990.

In 2003 he became an Associate Professor and Reader of the School of Physics, University of Melbourne.

In January 2012 he is formally appointed as full professor of physics.

.He has made seminal developments in X-ray atomic form factor theory. His theory is the current NIST and US reference database on the subject. This database is accessed 10000 to 20000 times per month by X-ray scientists, academics, commercial groups and others. It impacts upon EXAFS (Extended X-ray Absorption Fine Structure), crystallography, X-ray optics, DAFS (Diffraction Anomalous Fine Structure) and Cherenkov radiation studies. The X-ray data are relevant for fundamental theory, materials analysis, X-ray and synchrotron biological efforts and many other fields. Chantler has over 125 refereed publications including Phys. Rev. A, Phys. Rev. Letts, and J Phys. Chem. Letts, with citation rates of 12 and 8 per annum for single papers, over 1400 citations and over 215 citations on a single publication. Additionally, he has over 230 conference presentations, including 37 invited orals and plenaries at international and national fora.

Chantler has developed new high-accuracy experimental techniques (XERT) in the X-ray regime, for the determination of attenuation and absorption coefficients and the imaginary component of the atomic form factor. These experimental results lie at the core of a new understanding of the interaction of light with matter, especially in the practical sense of developing new analytic tools for XAFS. Recent work by his group has led to improvements in the understanding of theory (as measured by the reduced chi^2 fitting of experimental data) by a factor of 100. The future for XAFS looks bright, but there is an urgent need for the accurate evaluation of significance of result, preferably in an automated manner with reliable deposited data. This has been espoused in elder days by Creagh and Hubbell, and also by Oyanagi, the International Union of Crystallography Commission on XAFS, in which I am the Secretary; and in the International XAS Society.

Chantler has formulated the first dynamical theory of curved non-ideally imperfect crystal X-ray diffraction. His has completed numerous invited reviews, post-graduate textbook chapters and major tabulations. Chantler has performed precise measurements of the resonance lines of a helium-like ion in the Z=19-31 range. These are on the verge of being sensitive to two-electron QED effects (0.14 eV accuracy for a 0.16 eV effect). Chantler's experiments present new types of tests of medium-Z QED. Chantler has received several prestigious awards including recently the David Syme award, the JARI international Enterprise award and FAIP. Over the recent period Chantler has been appointed Editor-in-Chief of Radiation Physics and Chemistry, and the impact factor therein has experienced a renaissance. He is also looking forward to the next ISRP meeting and the Special Issue returning to the traditional RPC.

❖ ❖ ❖

.../Profiles of Members standing for Executive Councillor, full 6 year term

Profile of Member Standing for Executive Councillor – Full 6 year term

Richard P. Hugtenberg

Swansea University, Swansea, Wales, U.K.

I began my career in New Zealand, later moving to the UK to practice radiotherapy physics at the Queen Elizabeth Medical Centre in Birmingham and then Singleton Hospital in Swansea, Wales. I am involved with the training of a new generation of medical physicists and coordinate a flourishing MSc program in Medical Radiation Physics at Swansea University.

My research includes the development of silicon and diamond-based dosimeters, for use with high-resolution radiotherapy modalities, and Monte Carlo modelling of radiation processes, in particular of effects at microscopic and nanoscopic dimensions. The work extends to the modelling of energy deposition in the sub-cellular volumes associated with therapeutic and carcinogenic effects of radiation. I also have strong interest in emergent methods for the structural analysis of tissue in medicine, utilising laboratory and synchrotron-based micro-CT, as well as novel MRI modalities.

I have been a member of IRPS for over 10 years and have been an enthusiastic attendee at the three most recent ISRP meetings. My work remains international in breadth, and includes collaborations with scientists in Australia, France, China and Algeria. I try to attend several periodical conferences in the subject area, including the IRRMA and ISSSD meetings.

This internationalism extends to 3rd mission activity, including advising on the provision of training in medical physics outside of the UK, principally in the Middle East.

I am also Editor-in-Chief of the Elsevier journal, Applied Radiation and Isotopes.

❖ ❖ ❖

.../Profiles of Members standing for Executive Councillor, full 6 year term (continued)

Avneet Sood

Los Alamos National Laboratory, Computational Physics Division,
Los Alamos, NM USA

I completed my PhD work in the nuclear engineering department at North Carolina State University in 2000. While at N. C. State, my research interests were in developing Monte Carlo codes and new experimental techniques that were both focused on radiation detection and measurements. In April 2000, I joined Los Alamos National Laboratory as a part of the Monte Carlo code development team and was an MCNP code developer for over 10 years. Over the past 8 years, I have been applying my theoretical radiation physics simulation background coupled with radiation detection and measurements to improve the response and assessment to global nuclear threats, nuclear criticality safety, and inverse solutions using passive and active interrogation radiation measurements. My current research involves using new deterministic calculations to optimize variance estimates in difficult Monte Carlo problems.

I have strived to maintain a strong external connection with universities and professional societies. I have taught dozens of domestic and foreign MCNP classes. I am an adjunct professor of nuclear engineering at N.C. State and Kansas State University. I actively publish in peer-reviewed journals and routinely present technical conference papers. I serve as part of the governance and organizing committees for a few professional societies including the American Nuclear Society (Mathematics and Computational Division) and Industrial Radiation and Radioisotope Measurement Applications (IRRMA).

I am looking forward to serving as a part of the International Radiation Physics Society as an Executive Councillor, if elected, as a part of the global radiation physics family. I embrace the mission of the international organization and will do my part to help the Society to flourish.

❖ ❖ ❖

.../Profiles of Members standing for Executive Councillor, full 6 year term (continued)

James Tickner

C.S.I.R.O, Australia

Dr James Tickner is a Science Leader with CSIRO, the Australian Government's national research organisation. He leads a group developing novel X-ray and nuclear-based instruments to solve challenging measurement and imaging problems in the minerals and security industries. The group focuses on techniques that can be used to measure bulk materials in harsh environments, including X-ray fluorescence and diffraction, radiography and tomography using X-rays, gamma-rays and neutrons, and gamma-ray and neutron activation analysis. Dr Tickner's research speciality is the development of Monte Carlo modelling techniques and their application to design and optimise new radiation-based instruments.

Taking instruments from the concept stage through to full commercial implementation is an important part of Dr Tickner's role and his group maintains strong links with the major global minerals and security companies. Together with Dr Sowerby, he invented the fast-neutron/X-ray radiography concept for air cargo screening; systems using this technology developed with a commercial partner are now being sold and installed worldwide.

Dr Tickner received his D.Phil in particle physics from Oxford University in 1997 and has worked at CSIRO since 1998. He has published more than 100 papers and patents in the fields of nuclear, X-ray and particle physics. He has received several significant awards, including CSIRO medals for research and the promotion of excellence in young scientists, the Australian Academy of Science's Frederick White prize and the Eureka prize for science in support of defence or national security. He is an active supporter of young researchers and helped to launch the Global Young Academy and the Australian Early-Mid Career Researchers Forum.

Statement: I have two passions in my scientific life that I would bring to a role with the IRPS.

The first is a conviction that science has a place in broader society and that research conducted only with an eye to publications and approbation from other scientists is a sterile endeavour. All scientists need to communicate their research to a wider audience, contribute to national and international debates and the development of policy, and work to see their research adopted by industry. Scientific societies such as the IRPS need to contribute their expertise with the authority that comes from the mandate of their membership.

My second passion is for the role of young researchers. Many countries stifle their brightest and most creative young scientists with limited funding opportunities and tenuous job security. I believe that all science organisations have an essential role to play to nurture, bring together and support the next generation of young researchers.

❖ ❖ ❖

.../Profiles of Members standing for Executive Councillor, full 6 year term (continued)

Peter K.N. Yu

Department of Physics and Material Science,
City University of Hong Kong, Hong Kong, P.R. China

Peter K. N. Yu is a Professor at the Department of Physics and Materials Science of City University of Hong Kong (CityU), and is the director of the Nuclear Radiation Unit in the department. (CityU was ranked 110th in the 2011 world university rankings according to Quacquarelli Symonds).

Prior to joining CityU, Peter Yu received a Ph.D. in physics from the University of Hong Kong in 1988. His research has been in radiation biophysics, medical physics, ion track physics and radon dosimetry. Peter Yu is author or coauthor of approximately 350 journal papers, which have received about 3000 citations, and has an h-index of 23 (as of December 2011 according to Scopus).

Peter Yu was a Guest Associate Editor of Medical Physics (published by American Institute of Physics) from 1999 to 2003, and became an Associate Editor of Medical Physics from 2004 to 2006. He has also been an Editorial Board Member of the Journal of Environmental Radioactivity (published by Elsevier) since May 2005, an Editorial Advisory Board member of The Open Environmental Pollution & Toxicology Journal, (published by Bentham Open) from November 2008, and an Advisory Editorial Board member of Nuclear Technology & Radiation Protection Journal from Sep 2010. He was also appointed as an Associate Guest Editor of Radiation Measurements (published by Elsevier) in 2008 for the Proceedings of the 24th International Conference on Nuclear Tracks in Solids, held in Bologna, Italy, 2008.

Recently Peter Yu served on the Organizing Committee of 7th International Topical Meeting on Industrial Radiation and Radioisotope Measurement Application, Prague, Czech Republic, 2008; as a Conference Advisor of the Biomedical Engineering International Conference 2010 (BME2010) and Pre-conference Workshop, Hong Kong, 2-5 November 2010; on the Technical Program Committee of 8th International Topical Meeting on Industrial Radiation and Radioisotope Measurement Application, Kansas City, Missouri, USA, 26 June - 1 July 2011; and on the Science Advisory Committee of the 25th International Conference on Nuclear Track in Solids (25 ICNTS), Puebla, Pue, Mexico, 4-9 September, 2011.

Statement: I aspire to work towards enhancing the visibility and influence of the International Radiation Physics Society.

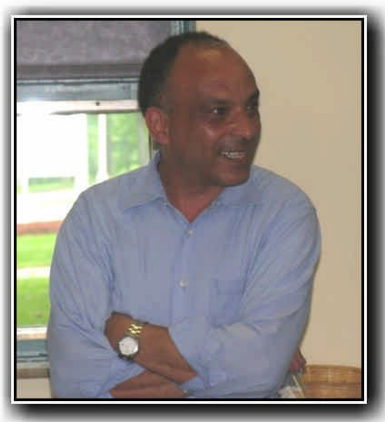
❖ ❖ ❖

.../Profile of Member standing for Executive Councillor - 3 year term

Profile of Member Standing for Executive Councillor – 3 year term

Esam M.A. Hussein

Dept. Mechanical Engineering, University of New Brunswick, Fredricton, Canada



Esam M. A. Hussein is presently a professor in the Department of Mechanical Engineering and coordinator (and co-founder) of the Laboratory for Threat-Material Detection, and Associate Dean of Engineering at the University of New Brunswick,Fredericton Canada.

After completing his undergraduate studies and a master's degree in nuclear engineering at Alexandria University, Egypt, he earned a PhD in nuclear engineering from McMaster University, Canada. Prior to joining the University of New Brunswick in November 1984, he was employed for four years as a Nuclear Design Engineer at Ontario Hydro (currently Ontario Power Generation).

Dr. Hussein is leading a research program that focuses on the industrial and medical uses of nuclear and atomic radiation for non-destructive testing and imaging and for the detection of threat materials. He has published numerous scientific papers and industrial reports, and is a holder of six patents, the author of four books, and an editor for Applied Radiation and Isotopes. Dr Hussein is a rcipient of the Canadian Nuclear Innovation Achievement Award in June 2003, and the Sylvia Fedoruk Award - 2000 of the College of Physicists in Medicine and the Canadian Organization of Medical Physics.

Statement: The International Radiation Physics Society represents the true spirit of the scientific endeavour. It has no boundaries, it is multifaceted and diverse. It will be an honour for me to serve on the Executive Council of IRPS. As a Councillor, I will be an advocate and promoter for the practical applications of radiation in various fields.

❖ ❖ ❖

.../Election Ballot Form

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 and one candidate for a three-year slot to fill a vacancy.
For all positions you may write in names of other members of the Society and cast your ballot for them.

President (vote for one)

Ladislav Musílek (Czech Rep.) ☐

_____ ☐

Secretary (vote for one)

Jorge Fernandez (Italy) ☐

_____ ☐

Treasurer (vote for one)

William Dunn (USA) ☐

_____ ☐

Vice Presidents:

Western Europe (vote for one)

Jose Rodenas (Spain) ☐

_____ ☐

Central & Eastern Europe (vote for one)

Ines Krajcar Bronic (Croatia) ☐

_____ ☐

F.S.U. (vote for one)

Igor Shamanin (Russia) ☐

_____ ☐

North America (vote for one)

Larry Hudson (USA) ☐

_____ ☐

South & Central America (vote for one)

Marcelo Rubio (Argentina) ☐

_____ ☐

South East Asia (vote for one)

Suprakash C. Roy (India) ☐

_____ ☐

North East Asia (vote for one)

Ziyu Wu (P.R. China) ☐

_____ ☐

Africa & Middle East (vote for one)

Mohamed Gomaa (Egypt) ☐

_____ ☐

Australasia (vote for one)

Chris Chantler (Australia) ☐

_____ ☐

Executive Councillors:

Six years term (vote for four)

Richard Hugtenberg (UK) ☐

Avnet Sood (USA) ☐

James Tickner (Australia) ☐

Peter K N Yu (Hong Kong) ☐

_____ ☐

_____ ☐

_____ ☐

_____ ☐

Three years term (vote for one)

Esam Hussein (Canada) ☐

_____ ☐

Please use this ballot to vote. Instructions for return:

1) regular mail: use the double-envelope system (place ballot in a small, unsigned envelope, and enclose the latter in a larger envelope, signing and printing your name and return address on the latter to authenticate your anonymous ballot), and send to:

Prof Michael Farquharson, IRPS Secretary
Department of Medical Physics and Applied Radiation Sciences, McMaster University
1280 Main Street West, Hamilton , Ontario, Canada L8S 4K1

2) electronic submission: scan your completed ballot and email the image to: farquhm@mcmaster.ca

Ballots must be received by the Secretary by 15 September, 2012.
The results will be announced at ISRP-12 in Rio de Janeiro, Brazil, 07-12 October, 2012.

Calendar

2012

4th - 8th February, 2012

10th International Conference of Nuclear Sciences and Applications

Second Announcement

ESNSA - The Egyptian Society of Nuclear Sciences and Applications

The Egyptian Atomic Energy Authority
Sinai University
Quseir-Marsa alam, Egypt

Full information and registration form in previous Journal

Contact : Prof. Abdel-Fattah I. Helal, Atomic Energy Authority
3 Ahmed Al-Zomor St.
Al-Zuhoor Sector, Madient Nasr
Cairo, Egypt

Tel : **002-0101116525** ***Email :*** **esnsa22012@yahoo.com**

Website : http ://www.esnsa.com

25th - 28th November, 2012

11th Radiation Physics and Protection Conference

Ismailia, Egypt

Full information and registration form on following pages

Contact : Prof. Mohamed A.M. Gomaa
Atomic Energy Authority
3 Ahmed Al-Zomor St.
El-Zohoor District, Nasr City, Egypt

Email : radmedphys@yahoo.com

Atomic Energy Authority **National Network of Radiation Physics**

11th Radiation Physics and Protection Conference

25 -28 November 2012, Ismailia , Egypt

Under the Auspices of His Ex. Minister of Electricity & Energy
Dr Eng Hassan Yoinus

Conference Honorary Chairman President Atomic Energy Authority
Prof. M.E.Abd El-Azim

Conference Scientific Secretary
Prof. M. A. M. Gomaa
NNRP, IRPA EGYPT

CONFERENCE TOPICS

1) Natural and Man Made Radiation Sources
2) Radiation Damage and Radiation Effects
3) Radiation Detection and Measurements.
4) Applied Radiation Physics in Industry and Earth Sciences.
5) Radiation Medical Physics & Biophysics
6) Radiation Dosimetery
7) Environmental Radioactivity.
8) Operational Health Physics.
9) Radiation Shielding
10) Transport of Radioactive Material.
11) Waste Disposal and Waste residue.
12) Decommissioning of Facilities
13) Training and Education.
14) Radiation Protection Regulations
15) Public Protection against radiological attack

CALL FOR REGISTRATION, PAPERS & PUBLICATIONS

Papers covering original work not published previously are accepted for participation in the conference, **Abstract** of not more than 250 words on A4 paper should be sent **on line at** (**www. rphysp.com**) by 15 July 2012. For registration, please **submit registration form on line by 15th July 2012**. The full paper must be submitted via Internet according to instructions to authors and should be received by 15 September 2012 Conference Proceedings shall be published in Arab J. of Nuclear Sciences &Applications and on conferences websites.

CONFERENCE FEES

Egyptian participants	LE 1000	Non Egyptian participants	€ 500

CORRESPONDENCE

All correspondence should be via Internet to
Email: radmedphys@yahoo.com
Prof. MOHAMED A.M. GOMAA
ATOMIC ENERGY AUTHORITY
3 Ahmad El Zomor St., El Zohoor Dist., Nasr City,
Children Village P.O.B., P. code 11787, Cairo, Egypt.
Fax: 002-02-22728813/ 002-02-22876031 M, /01001457161

Atomic Energy Authority

National Network of Radiation Physics

IRPA

EGYPT

11th Radiation Physics and Protection Conference

25 -28 November 2012, Ismailia , Egypt

REGISTRATION FORM

Name	Prof./ Dr. /Mr./ Ms.:
Passport No. & Date Country	
Organization	
Specialization	
Paper title	
Registration Fees	€ 500 per person for non Egyptians LE 1000 for Egyptians
Type of presentation	Oral ☐ Poster ☐
E-Mail address	
Phone and Fax number	

INTERNATIONAL RADIATION PHYSICS SOCIETY

The primary objective of the International Radiation Physics Society (IRPS) is to promote the global exchange and integration of scientific information pertaining to the interdisciplinary subject of radiation physics, including the promotion of (i) theoretical and experimental research in radiation physics, (ii) investigation of physical aspects of interactions of radiations with living systems, (iii) education in radiation physics, and (iv) utilization of radiations for peaceful purposes.

The Constitution of the IRPS defines Radiation Physics as "the branch of science which deals with the physical aspects of interactions of radiations (both electromagnetic and particulate) with matter." It thus differs in emphasis both from atomic and nuclear physics and from radiation biology and medicine, instead focusing on the radiations.

The International Radiation Physics Society (IRPS) was founded in 1985 in Ferrara, Italy at the 3rd International Symposium on Radiation Physics (ISRP-3, 1985), following Symposia in Calcutta, India (ISRP-1, 1974) and in Penang, Malaysia (ISRP-2, 1982). Further Symposia have been held in Sao Paulo, Brazil (ISRP-4, 1988), Dubrovnik, Croatia (ISRP-5, 1991) Rabat, Morocco (1SRP-6, 1994), Jaipur, India (ISRP-7 1997), Prague, Czech Republic (ISRP-8, 2000), Cape Town, South Africa (ISRP-9, 2003), Coimbra, Portugal(ISRP-10, 2006), Australia (ISRP-11, 2009) and ISRP-12 will be in Rio de Janiero, Brazil in 2012. The IRPS also sponsors regional Radiation Physics Symposia.

The **IRPS Bulletin** is published quarterly and sent to all IRPS members.

The IRPS Secretariat is : Prof. M.J. Farquharson, (IRPS Secretary),
Department of Medical Physics and Applied Radiation Sciences
McMaster University, Main Street West, Hamilton, Ontario, Canada.
Phone : 001 905 525 9140 ext 23021 *email:* farquhm@mcmaster.ca

The IRPS welcomes your participation in this "global radiation physics family."

INTERNATIONAL RADIATION PHYSICS SOCIETY

Membership Registration Form

1. Name : _____
(First) (Initial) (Last)

2. Date and Place of Birth : _____

3. Business Address : _____

_____
(Post Code) (Country)

Telephone:_____ Email: _____ Fax: _____

4. Current Title or Academic Rank (Please also indicate if Miss, Mrs., or Ms.): _____

5. Field(s) of interest in Radiation Physics (Please attach a list of your publications, if any, in the field:

_____

_____

6. Please list any national or international organization(s) involved in one or more branches of Radiation Physics, of which you are a member, also your status (e.g., student member, member, fellow, emeritus):

_____

../Continued

_____

7. The IRPS has no entrance fee requirement, only triennial (3-year) membership dues. In view of the IRPS unusually low-cost dues, the one-year dues option has been eliminated (by Council action October 1996), commencing January 1, 1997. Also, dues periods will henceforth be by calendar years, to allow annual dues notices. For new members joining prior to July 1 in a given year, their memberships will be considered to be effective January 1 of that year, otherwise January 1 of the following year. For current members, their dues anniversary dates have been similarly shifted to January 1.

Membership dues (stated in US dollars - circle equivalent-amount sent):

Full Voting Member: 3 years	**Student Member: 3 years**
Developed country $75.00	Developed country $25.00
Developing country$30.00	Developing country $10.00

Acceptable modes of IRPS membership dues payment, to start or to continue IRPS membership, are listed below. Please check payment-mode used, enter amount (in currency-type used), and follow instructions in item 8 below. (For currency conversion, please consult newspaper financial pages, at the time of payment). All cheques should be made payable to :

International Radiation Physics Society.

(For payments via credit card - http://www.irps.net/registration.html)

[ ] *(in U.S. dollars, drawn on a U.S. bank)*: Send to Dr W.L. Dunn, Dept. Mechanical and Nuclear Engineering, Kansas State University, 3002 Rathbone Hall, Manhattan, KS, 66506-5205. U.S.A.

Amount paid (in U.S. dollars) _____

[ ] *(in U.K. pounds):* Send to Prof. Malcolm J. Cooper, (IRPS Treasurer), Physics Dept., University of Warwick, Coventry, CV4 7AL, U.K.. Bank transfer details: Account number: 30330701. Bank and Branch code: Barclays, code 20-23-55. Eurochecks in U.K. pounds, sent to Prof. Cooper, also acceptable.

Amount paid (in U.K. pounds) _____

8. Send this Membership Registration Form ***AND*** a copy of your bank transfer receipt (or copy of your cheque) to the Membership Coordinator:

Dr Elaine Ryan
Department of Radiation Sciences
University of Sydney
75 East Street, (P.O. Box 170)
Lidcombe, N.S.W. 1825, Australia
email: elaine.ryan@sydney.edu.au

9. _____ _____

Signature *Date*