



Subcommittee AC1

Prof. Habib Zaidi, Ph.D, PD, FIEEE, FAIMBE, FAAPM

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Professor Habib Zaidi is Chief physicist and head of the PET Instrumentation & Neuroimaging Laboratory at Geneva University Hospital and faculty member at the medical school of Geneva University. He is also a Professor of Medical Physics at the University of Groningen (Netherlands) and Adjunct Professor of Medical Physics and Molecular Imaging at the University of Southern Denmark.



He is actively involved in developing imaging solutions for cutting-edge interdisciplinary biomedical research and clinical diagnosis in addition to lecturing undergraduate and postgraduate courses on medical physics and medical imaging. His research is supported by the Swiss National Foundation, private foundations and industry (Total 6.2M US\$) and centres on hybrid imaging instrumentation (PET/CT and PET/MRI), modelling medical imaging systems using the Monte Carlo method, development of computational anatomical models and radiation dosimetry, image correction, reconstruction, quantification and kinetic modelling techniques in emission tomography, and more recently on novel design of dedicated PET and PET/MRI scanners. He was guest editor for 10 special issues of peer-reviewed journals and serves on the editorial board of leading journals in medical physics and medical imaging. He has been elevated to the grade of fellow of the IEEE, AIMBE and the AAPM and was elected liaison representative of the *International Organization for Medical Physics (IOMP)* to the World Health Organization (WHO) in addition to being affiliated to several International medical physics and nuclear medicine organisations. He is developer of physics web-based instructional modules for the RSNA and Editor of IPEM's Nuclear Medicine web-based instructional modules. His academic accomplishments in the area of quantitative PET imaging have been well recognized by his peers and by the medical imaging community at large since he is a recipient of many awards and distinctions among which the prestigious *2003 Young Investigator Medical Imaging Science Award* given by the *Nuclear Medical and Imaging Sciences Technical Committee of the IEEE*, the *2004 Mark Tetalman Memorial Award* given by the *Society of Nuclear Medicine*, the *2007 Young Scientist Prize in Biological Physics* given by the *International Union of Pure and Applied Physics (IUPAP)*, the prestigious (100'000\$) *2010 Kuwait Prize of Applied sciences* (known as the *Middle Eastern Nobel Prize*) given by the *Kuwait Foundation for the Advancement of Sciences (KFAS)* for "outstanding accomplishments in Biomedical technology", the *2013 John S. Laughlin Young Scientist Award* given by the *American Association of Physicists in Medicine (AAPM)*, the *2013 Vikram Sarabhai Oration Award* given by the *Society of Nuclear Medicine, India (SNMI)*, the *2015 Sir Godfrey Hounsfield Award* given by the *British Institute of Radiology (BIR)*, the *2017 IBA-Europhysics Prize* given by the *European Physical Society (EPS)* and the *2019 Khwarizmi International Award* given by the *Iranian Research Organization for Science and Technology (IROST)*. Prof. Zaidi has been an invited speaker of over 150 keynote lectures and talks at an International level, has authored over 274 peer-reviewed articles in prominent journals and is the editor of four textbooks.

Carmel J. Caruana, PhD, FIPEM, Professor

Email: carmel.j.caruana@um.edu.mt

Qualifications:

2003 – 2006 PhD Faculty of Mathematics and Physics, Charles University, Prague

1989 – 1990 MSc Applied Radiation Physics, University of Birmingham, (UK)



1973 – 1976 BSc Physics and Mathematics, University of Malta.

Positions:

Professor and Head, Medical Physics department, Faculty of Health Sciences, University of Malta

Area of specialization: Diagnostic and Interventional Radiology, patient dosimetry, radiation protection, optimization processes, professional and educational issues.

Past-Chair, Education and Training Committee, EFOMP

Past experience in European/International Activities:

Guidelines on the Medical Physics Expert (MPE) Project: Principal author of chapter 2 ('The role of the MPE') and Chapter 3 ('Qualification and curriculum frameworks for the MPE in Europe').

MEDRAPET Project (Medical Education in Radiation Protection and Training): Principal author of the chapter dedicated to E&T of Medical Physicists and Medical Physics Experts.

ENETRAP (European Network for Education and Training in Radiation Protection) project: Member of Advisory Board.

EUTEMPE (EUropean Training and Education for the Medical Physics Expert

Author and coordinator of module: 'Leadership and Challenges in Medical Physics'

Chair AC1, Accreditation Committee IMPCB

Experience in Malta:

Set up the E&T system in Malta which was the first in Europe following the recommendations of the European Guidelines on the Medical Physics Expert.

María-Ester Brandan, PhD, Professor

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María-Ester Brandan is, since 1991, University Professor in the Physics Institute of the National Autonomous University of Mexico, UNAM. Her education includes a 1974 B.Sc.(Physics) from Universidad de Chile- Santiago, and a 1979 Ph.D.(Physics) from University of Wisconsin- Madison. Brandan's



present and past research include a broad spectrum of subjects in experimental nuclear physics, radiation dosimetry and medical physics (<http://www.fisica.unam.mx/~brandan/>). She was the creator in 1997, and was the coordinator during 20 years, of the UNAM M.Sc.(Medical Physics) program aimed at specializing physicists into medical applications. More than 150 medical physicists have graduated from the program (www.fisica.unam.mx/fismed): most of them hold clinical positions in Mexican and other regional health services, and an important fraction of the graduates is pursuing –or has finished- a doctorate degree. This project has substantially changed the professional practice and academic situation of medical physics in Mexico. ME Brandan has been awarded the Mexican Physics Society Medal for the Development of Physics in Mexico, recognizing research achievements as well as the solid results in the education of nuclear and medical physics professionals. At the moment, her main research interests are techniques in digital mammography to quantify anatomical and functional features of breast tissue, and the response of TL dosimeters to densely ionizing radiation, particularly X-rays relevant for mammography. Brandan has participated in about 140 scientific publications and her h-index is 29. She is a member of the Mexican Academy of Sciences (currently, member of the Directive Board), Fellow of the American Association of Physicists in Medicine and of the American Physical Society, and a Fellow (member) of TWAS, the Academy of Sciences for the Developing World. She has been President of the Nuclear Physics and the Medical Physics Divisions of the Mexican Physics Society. In 2010-2013 she was Chair of the International Solid State Dosimetry Organization, ISSDO. ME Brandan received the UNAM 2013 Premio Universidad Nacional in the area of Research in Exact Sciences.

LEE Kar-ho Francis, PhD, CMPHy, DABR, DABMP

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Dr. Francis Lee received his PhD in Medical Imaging in the Chinese University of Hong Kong. He joined the Queen Elizabeth Hospital and received resident physicist training in 2004. In 2011, he received the professional qualification as Certified Medical Physicist in Radiotherapy Physics from HKAMP and ABR. In 2017, he received the certification in Health Physics from ABMP. He is the author or co-author of over 15 articles in peer-review journal and over 20 abstracts in international conferences.

Dr. Lee is now the Department Manager of the Medical Physics Division in Queen Elizabeth Hospital, Hong Kong. He is the journal reviewer for the Hong Kong College of Radiology, and abstract reviewer for the 'ESTRO meets Asia' in 2018 & 2019. He is the adjunct assistant professor in the University of Hong Kong and the City University of Hong Kong. Dr. Lee has also served as the chairperson for the Examination Committee of HKAMP since 2015.

Professor Stephen Pistorius, M.Sc. (Med), Ph.D., PPhys, FCOMP

University of Manitoba

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Education and Certifications:

- Post Graduate Diploma in Business Administration, Edinburgh Business School, Heriot Watt University, UK, 02/2005
- Certified as a Professional Physicist by Canadian Association of Physicists, 08/2002
- Ph.D. (Physics), University of Stellenbosch, South Africa, 12/1991
- Certified as a Medical Physicist by the Health Professions Council of South Africa, 08/1986
- M.Sc. (Medical Physics) (Cum Laude), University of Stellenbosch, South Africa, 12/1984
- B.Sc. Hons (Radiation Physics), University of Stellenbosch, South Africa, 12/1983
- Certificates (Part I and II) in Health Physics, Pretoria Technikon, South Africa, 12/1982
- B.Sc., (Dual Major: Physics, Geography), University of Natal, South Africa, 02/1982

Current Positions / Roles:

- **Professor and Associate Head: Medical Physics, Physics and Astronomy, University of Manitoba**
- Professor, Radiology, Rady Faculty of Health Sciences, University of Manitoba
- Senior Scientist, Research Institute of Oncology and Hematology
- Vice Director, Biomedical Engineering Program, University of Manitoba

Research, Teaching, and Leadership have played an integral role in my somewhat diverse career. Educated in South Africa, I served as a military engineer and instructor before moving into industry where I was instrumental in setting up the first industrial electron-beam accelerator in South Africa, used for both industrial processing and research. Following my Medical Physics Internship (Residency) in both Radiation Oncology Physics and Diagnostic Imaging Physics, I spent ten years as a certified clinical medical physicist in both South Africa and Canada, working in radiation oncology with particular focus on treatment planning. I spent a further decade as the Provincial Director for Medical Physics at CancerCare Manitoba, with senior management responsibility for a diverse group of scientists, engineers, technicians, and therapists responsible for the provincial radiation therapy, imaging, and radiation protection programs. My research interests focus on image processing and reconstruction, medical device development, improving, optimizing, and quantifying various diagnostic and therapeutic techniques and in modeling and understanding radiation transport in clinically useful imaging and treatment modalities. I have supervised or examined over 100 research students and am currently developing improved systems for cancer diagnosis that use artificial intelligence, scatter enhanced x- and γ -ray techniques and microwaves; and use on-line megavoltage portal imaging for real-time in-vivo tracking of motion and optimization of radiotherapy. I am an author on over 260 publications, patents, and presentations, have held over C\$8 million in research grants and together

with my students, who play a key role in our research, have received numerous national and international awards. I served for nine years on the Board of the Canadian Organization of Medical Physics (COMP) and was President from 2006-2008, and on the Board of the Canadian Association of Physicists for ten years, where I was President from 2017-2018. I serve on numerous grant review panels, am on the editorial boards of several publications, have served as an IAEA expert, and enjoy assisting in the training of Medical Physicists, both in my own CAMPEP accredited graduate program, and throughout the world.

Andreea Dohatcu, PhD, Assistant Professor

Email: [adohatcu at gmail dot com](mailto:adohatcu@gmail.com)

Andreea is a Senior Diagnostic Medical Physicist and Assistant Professor in Radiology Department, School of Medicine at Yale University, CT, USA. Dr. Dohatcu graduated from SUNY at Buffalo and she completed her clinical training in the Imaging Physics Residency Program at UT- MDAnderson Cancer Center.



Dr. Dohatcu is board-certified by American Board of Radiology (ABR), by American Board of Magnetic Resonance Safety (ABMRS) as MRSO and by American Board of Medical Quality (ABMQ) as CMQ. She is currently providing imaging physics support for all aspects related to Radiology's clinical operations: compliance (Quality Assurance, Quality Control) for Mammography, US, MRI, CT, PET/ SPECT, Fluoroscopy, Radiography; ionizing radiation's and MRI's safety; and practice quality improvement and quality management. She is involved in clinical research/PQIs in MRI safety, CT and Fluoroscopy dose reduction and optimizations, as well as in teaching radiology residents.

Gian Luca Poli, PhD

Medical Physics department, ASST Papa Giovanni XXIII
Piazza OMS 1, 24127 Bergamo, Italy
Email: g.luca.poli@gmail.com

Qualifications:

1988-1994: MSc in Physics, Università degli Studi di Milano, Italy
1994-1997: PhD in Nuclear Physics, Università degli Studi di Milano, Italy
1997-1999: MSc in Medical Physics, Università degli Studi di Milano, Italy
2001: Qualified Expert in Radiation Protection

Professional experience:

2020-01 to present: Medical Physics Expert and Radiation Protection Expert for the nuclear medicine department of the ASST Papa Giovanni XXIII hospital in Bergamo, Italy
2013-2019: Medical Physicist (Nuclear Medicine) in the Dosimetry and Medical Radiation Physics section (Division of Human Health) of the International Atomic Energy Agency
2000-2012: Medical Physics Expert and Radiation Protection Expert for the nuclear medicine department of the ASST Papa Giovanni XXIII hospital in Bergamo, Italy

Activities in teaching, education and training of medical physicists:

2013-2019: During my service at the IAEA, I organized and took part as course director and lecturer to several training courses related to nuclear medicine physics (Training Courses in the frame of the Technical Cooperation programme, and Joint ICTP/IAEA Advanced Schools in Trieste, Italy).

As project officer I was in charge of projects related to the development and production of education and training material for the IAEA Human Health Campus, including tutorial videos, on-line seminars and e-learning modules in the field of nuclear medicine physics.

Responsibilities as Scientific Secretary and active contribution to drafting and review of IAEA guidance documents as well as publications related to education of medical physicists such as the



[Nuclear Medicine Physics: A Handbook for Teachers and Students.](#)

Contributor to the AFRA document [Academic and Clinical Training Programmes and Portfolios for the Regional Training in Medical Physics.](#)

Responsible of the Gamma Camera Laboratory in Seibersdorf used for practical training courses on topics considered essential for medical physicists specializing in nuclear medicine.

As Technical Officer of several Technical Cooperation projects I provided technical input to support individual training (fellowships) for medical physicists specializing in nuclear medicine.

Member of the AMPLE (Advanced Medical Physics Learning Environment) editorial board.

2000-2012: adjunct professor at the University of Milano Bicocca for various courses related to medical physics, including nuclear medicine equipment, QA/QC in nuclear medicine, radiation protection in nuclear medicine.

Tutor for students of the MSc in medical physics and technologists (BSc).

Research

I have published 37 papers in international peer-reviewed journals and contributed to 11 among books and guidance documents.

Other information

As Project Officer I coordinated IAEA Research Coordination Projects (CRP) related to imaging and in particular to nuclear medicine physics, including a doctoral CRP on Advances in Medical Imaging Techniques.

Member of the Scientific Committee and actively involved in the organization of IAEA conferences in the field of nuclear medicine and medical physics, such as IMIC, IPET and IDOS.

Member as IAEA observer of the EANM Physics, Dosimetry and Radiation Protection Committees.

Guest editor and reviewer for Physica Medica.

Member of the Italian Association of Medical Physics and the European Association of Nuclear Medicine.