

Curriculum Vitae

JOHN DAMILAKIS, MSc, PhD, FIOMP, FIUPESM

Professor of Medical Physics

Certified Clinical Medical Physicist

Medical Physics Expert

Radiation Protection Expert

University of Crete, School of Medicine

February 1, 2025

1. Current Employment

a. Professor and Director, Department of Medical Physics, School of Medicine, University of Crete, Iraklion, Crete, Greece website: <https://med.uoc.gr/en/medschool-en/>

b. Director of the Medical Physics Department, University Hospital of Iraklion, Crete, Greece

I have been elected Chairman of the Division of Radiology, University of Crete for several academic years since 2015.

As a professor and director of the Department of Medical Physics at the School of Medicine, University of Crete, and the Medical Physics Department at the University Hospital of Iraklion, I oversee the academic and clinical strategies of both departments, coordinating them with the strategic plans of the Faculty, University, and University Hospital. My responsibilities include managing personnel and finances, delivering education, conducting research, providing clinical services, and facilitating knowledge transfer.

The University Hospital of Iraklion, established in 1989, serves as the primary site for the clinical activities of the School of Medicine and is among the five largest hospitals in the country. In the same year, I established the Medical Physics Department at the hospital, which now consists of a highly skilled team of medical physicists dedicated to delivering the highest standard of patient care.

2. Academic Qualifications

- 1992 PhD, Doctor of Philosophy, School of Medicine, University of Crete
- 1983 MSc in Medical Physics, University of Surrey, UK
- 1981 BSc in Physics, University of Thessaloniki, Greece

3. Positions in International Organizations

Current and future positions in international organizations

a. President (2022-2025) of the International Organization for Medical Physics (IOMP)

<https://www.iomp.org/>

IOMP is the primary scientific organization for medical physics, representing all medical physicists worldwide - currently more than 30,000 across ninety countries.

b. Member of the International Commission on Radiological Protection (ICRP), Committee 3

https://www.icrp.org/icrp_group.asp?id=9

The ICRP is an independent organization that provides recommendations and guidance on protection against ionizing radiation. Committee 3 focuses on the protection of individuals and unborn children in the context of ionizing radiation used in medical diagnosis, therapy, biomedical research, and veterinary medicine.

c. Chair of the International Union of Pure and Applied Physics (IUPAP), Affiliated Commission AC4 (2022-2025)

<https://iupap.org/who-we-are/internal-organization/affiliated-commissions/ac4-international-commission-on-medical-physics/ac4-members/>

The IUPAP, established in 1922, promotes the global advancement of physics. AC4 aims to advance medical physics by fostering both scientific and professional engagement within the physics community through collaboration with IUPAP commissions.

d. Vice President of the International Union for Physical and Engineering Sciences in Medicine (IUPESM) (from September 2025-2028)

<https://iupesm.org/>

The IUPESM serves as the international umbrella organization for biomedical engineering and medical physics. Its founding constituent organizations are the IOMP and the International Federation for Medical and Biological Engineering (IFMBE). Per its by-laws, the IUPESM President and Vice President roles alternate between the outgoing Presidents of the two constituent organizations to ensure balanced representation.

e. Member of the EuroSafe Imaging (ESI) campaign Steering Committee of the European Society of Radiology (ESR),

<http://www.eurosafeimaging.org/>

EuroSafe Imaging is a European Society of Radiology initiative aimed at promoting radiation protection and safety in medical imaging through education, research, and the development of guidelines and best practices.

Past Positions in International Organizations

f. Past President of the European Federation of Organizations for Medical Physics (EFOMP)

<https://www.efomp.org/index.php?r=pages&id=presidents>

EFOMP is the umbrella organization for medical physics scientific societies in Europe.

g. Founding President of the European Alliance for Medical Radiation Protection Research (EURAMED), (2017-2019)

www.euramed.eu,

EURAMED is a European platform dedicated to medical radiation protection research. It represents a consortium of associations involved in the application of ionizing radiation in medicine, including the European Society of Radiology (ESR), the European Society for Radiotherapy and Oncology (ESTRO), the European Association of Nuclear Medicine (EANM), the European Federation of Organizations for Medical Physics (EFOMP) and the European Federation of Radiographer Societies (EFRS). EURAMED's primary goal is to collaboratively enhance medical care and address issues related to medical radiation protection through sustainable research efforts.

h. Founding chair of EFOMP's Examination Board (EEB)

<https://www.efomp.org/index.php?r=news/view&id=7>

EEB facilitates the harmonization of medical physics education and training across Europe by administering the European Diploma of Medical Physics (EDMP) and the European Attestation Certificate for Medical Physics Experts (EACMPE).

i. Member of the Board of Directors of IMPCB (International Medical Physics Certification Board) <https://www.impcbdb.org/>

The IMPCB promotes global standards of excellence in medical physics by providing certification programs that assess and validate the knowledge, skills, and professional competence of medical physicists worldwide.

j. Member of the 'Radiation Protection' Committee of the European Congress of Radiology (ECR), <https://www.myesr.org/>

k. I served for several terms as Chairman of the 'Physics in Radiology' committee and as a member of the 'Program Planning' committee of the European Congress of Radiology (ECR), <https://www.myesr.org/>

4. Editorial Board Member

BJR/Artificial Intelligence, Senior Editor

BJR/Case Reports, Senior Editor

European Journal of Medical Physics, Associate Editor

Investigative Radiology, Editorial Board member

Journal of Radiological Protection, Member of the International Advisory Panel

I have also served as 'Section Editor' of the 'European Radiology' journal.

5. Research Interests and Publications

My research focuses on developing novel methodologies and tools for estimating patient and occupational doses from medical radiation exposures, advancing radiation protection strategies, and integrating artificial intelligence (AI) into medical dosimetry.

Publications

I have published 272 research articles listed on PubMed, accompanied by 10,350 citations, and an h-index of 54 as documented on Google Scholar (January 2025).

Many of these publications are in leading journals such as *Medical Physics*, *Physics in Medicine and Biology*, *European Journal of Medical Physics*, *Radiology*, *Circulation*, *Investigative Radiology* and *European Radiology*.

Books:

1. J. Damilakis (Editor and author), Pregnancy and diagnostic X-rays. In: J. Damilakis (editor) Radiation Protection. ECR Syllabus, European Excellence in Education, Springer-Verlag Berlin Heidelberg 2004
2. Adams, Z. Mughal, J. Damilakis, A. Offiah. Chapter 12 'Radiology' p. 277-307, in 'Pediatric Bone', 2nd edition, Academic Press, 2012
3. J. Damilakis, G. Solomou. Chapter 'Radiation Protection and Quality Assurance in Bone Densitometry' p. 179-195 in 'Osteoporosis and Bone Densitometry measurements', Springer, 2013
4. J. Damilakis et al, (on behalf of MEDIRAD project), Guidelines on radiation protection education and training of medical professionals in the European Union, RP 175, Publication Office of the European Union, Luxembourg, 2014, Radiation Protection Series Publications, available online at <https://ec.europa.eu>
5. J. Damilakis et al, (on behalf of Pi-DRL project), European guidelines on Diagnostic Reference levels for paediatric imaging, RP 185, Publication Office of the European Union, Luxembourg, 2018, Radiation Protection Series Publications, available online at <https://ec.europa.eu>
6. J. Damilakis (Editor and author), 'Radiation dose management of pregnant patients, pregnant staff and paediatric patients in diagnostic and interventional radiology', (2020, IOP Publishing Ltd, Bristol, UK, ioppublishing.org)
7. J. Damilakis et al, (on behalf of EUCLID project), European study on clinical diagnostic reference levels for X-ray medical imaging, RP 195, Publication Office of the European Union, Luxembourg, 2021, Radiation Protection Series Publications, available online at <https://ec.europa.eu>

I have also contributed to the following ICRP www.icrp.org publications:

8. ICRP publication on 'Ethics in radiological protection for medical diagnosis and treatment' (forthcoming)
9. ICRP publication on 'Optimization of radiological protection in digital radiography, fluoroscopy and CT in medical imaging' (forthcoming)

6. Research Projects

I have been involved in several national and international projects as a scientific coordinator/project leader, working group leader or senior researcher:

1. **RHYTHM** (Radiation, Health, Safety and Quality for Youth: A Comprehensive Approach to Justification, Optimisation, and Education). Submitted to the European Commission for funding. Project proposal under review. **Scientific coordinator, Executive Board Chair**. Duration 48 months (2025-2029). Budget: € 3,720,750.59
2. **CLAUD-IT** (Clinical audit implementation in Europe – a practical and multidisciplinary approach). Contract with the European Commission. **Senior researcher**. Duration 36 months (2024-2027). Website: <https://www.eibir.org/projects/claude-it/> Budget: € 981,055.18
3. **CARE** (SAMIRA study on criteria for acceptability for medical radiological equipment). Contract with the European Commission. Work package (**WP**) **leader, Executive Board member** Duration 24 months (2024-2026). Website: <https://www.eibir.org/projects/care/> Budget: € 199,400

4. **SINFONIA** (Radiation risk appraisal for detrimental effects from medical exposure during management of patients with lymphoma or brain tumour). Contract with the European Commission. **Scientific Coordinator, WP leader, Executive Board Chair.** Duration 48 months (2020-2024). Website: <https://www.sinfonia-appraisal.eu/> Budget: € 5,999,998.75
5. **i-Violin** (Implementing verifiable oncological imaging by quality assurance and optimisation). Contract with the European Commission. **Task leader, senior researcher.** Duration 48 months (2022-2024). Website: <https://www.eibir.org/projects/i-violin/> Budget: € 1,172,488
6. **EURAMED rocc-n-roll** (European medical application and radiation protection concept strategic research agenda and roadmap interlinking to health and digitization aspects). Contract with the European Commission. **WP leader, Executive Board member.** Duration 36 months (2020-2023). Website: <https://roccnroll.euramed.eu> Budget: € 1,959,175
7. **EUCLID** (European Study on Clinical Diagnostic Reference Levels for X-ray Medical Imaging). Contract with the European Commission. **Project Leader, WP leader, Executive Board Chair.** Duration 33 months (2017-2020). Website: <http://www.eurosafeimaging.org/euclid>, Budget: € 249,700
8. **MEDIRAD** (Implications of Medical Low Dose Radiation Exposure). Horizon 2020, Contract with the European Commission. **WP Leader, Executive Board member.** Duration 48 months (2017-2021), Website: <http://www.medirad-project.eu/>, Budget: € 9,995,145.75
9. EC Tender project ‘**BSS Transposition in the Medical Sector**’ (Evaluation of national actions regarding the transposition of Council Directive 2013/59/Euratom’s requirements in the medical sector). Contract with the European Commission. **WP leader.** Website: <http://www.eurosafeimaging.org/bss-transposition>. Duration: 15 months (2016-2017), Budget: € 99,700
10. **CONCERT** (Conceptus Radiation Doses and Risks from Imaging with Ionizing Radiation) – Contract with the General Secretariat for Research and Technology, Greece, **Scientific Coordinator - Principal investigator, Executive Board Chair, WP leader.** Website: <http://embryodose.med.uoc.gr/index.php/en/>. Duration: 36 months (2012-2015), Budget: € 340,000
11. **EUTEMPE-RX-** (EUropean Training and Education for Medical Physics Experts in Radiology). Contract with the European Commission. **WP Leader, Executive Board member.** Website: <http://www.eutempe-net.eu/>. Duration: 36 months (2013-2016), Budget: €1,879,690.60
12. **EUTEMPE-NET** The EUTEMPE-RX project has entered its sustainability period. Duration: 2016-today. Project partners are repeating modules at a European and international level. Website: <https://eutempe-net.eu/>
13. **Pi-DRL** (European DRLs for Paediatric Imaging). **Scientific Coordinator, Chair of the Steering Committee, WP leader.** Website: www.eurosafeimaging.org. Duration: 27 months (2013-2016), Budget: €250,000
14. **MEDRAPET** (Medical Radiation Protection Education and Training) Project – Contract with the EC, Luxemburg, **Scientific Coordinator, Chair of the Steering**

Committee, WP leader. Website: www.eurosafeimaging.org. Duration: 27 months (2010-2013), Budget: €330,700

7. Teaching Activities

Undergraduate and Graduate level

I have been responsible for the

- ‘Medical Physics’ undergraduate course for medical degree students, offered at the School of Medicine, University of Crete since 1996 <https://med.uoc.gr/en/medschool-en/>
- ‘Medical Physics’ undergraduate course, part of the ‘International Program in Medicine’, University of Crete, for international students pursuing a medical degree <https://imed.med.uoc.gr/>

I have been involved in the

- teaching and organization of the national ‘Inter-University Graduate Course in Medical - Radiation Physics’ since 1998, serving as a member of its Steering Committee. This course, which leads to a Master’s degree, has a duration of 3 semesters. Website: <https://medphys-en.med.uoa.gr/>
- teaching of the ‘Biomedical Engineering’ MSc program <https://mcs.uoc.gr/bme-crete/personnel/john-damilakis/> The program is entirely conducted in English.

I regularly supervise MSc and PhD theses. I currently serve as the primary supervisor for 3 PhD candidates.

Residency level

I have developed a medical physics residency program at the University Hospital of Iraklion. Trainees of this program receive comprehensive clinical training across all aspects of diagnostic and interventional radiology, nuclear medicine and radiation oncology physics. Upon completion, they are fully prepared for board certification and a professional career in all fields of clinical medical physics.

Medical Physics level

I have organized several training activities to support the education and training of medical physicists. Medical physicists from several countries have received training in my department, gaining skills and knowledge in specialized topics.

Medical Physics Expert level

I organize an international course titled ‘Dose management of pregnant patients, pregnant staff and paediatric patients in Radiology’ <https://eutempe-net.eu/modules/> at the University of Crete. This biennial training course offers blended learning, combining online and face-to-face training, for European Medical Physics Experts seeking to stay updated on the latest developments in the field.

I currently chair the Board of the ‘IOMP School’, which provides education and training opportunities to medical physicists worldwide, promoting access to high-quality professional development.

8. Organization of Scientific Meetings

I have played a key role in organizing numerous international conferences, workshops, and scientific meetings. These include the European Congress of Medical Physics (President, Athens, Greece, 2016), the VI International Conference on Medical Physics (Vice-President, Patras, Greece 1999), the MEDRAPET workshop (Chair, Athens, 2012), the PiDRL workshop (Chair, Lisbon, 2015) and the EUCLID workshop (Chair, Luxembourg, 2019). I'm currently organizing a workshop titled 'Advances in CT Dosimetry and Machine Learning', which will be held on February 7-10, 2025, in Kuwait, in conjunction with the Middle East Federation of Organizations of Medical Physics (MEFOMP) Conference <https://mefomp-conference.com/>. Additionally, I have been an active member of the scientific and organizing committees of numerous conferences worldwide.

9. Invited Presentations

I have delivered over 500 invited presentations at national and international conferences, including the European Conference of Radiology (ECR), the Radiological Society of North America (RSNA) annual meeting, the American Association of Physicists in Medicine (AAPM) annual meeting, the International Radiation Protection Association (IRPA) conferences, the IAEA (International Atomic Energy Agency) conferences and other scientific meetings, the ICRP scientific meetings, the IOMP Conferences and Congresses and the EFOMP Congresses. Furthermore, I have been invited by universities and scientific societies to deliver lectures, both in person and remotely. For example, I have given invited lectures to students of the Medical Physics MSc course, Stockholm University, since 2018.

10. Other Academic/Scientific Activities

- a. President of the 'Hellenic Association of Medical Physicists' (1998-2000)
- b. President of the 'Committee for the recognition or renewal of recognition of Medical Physics Experts, as per the decision of the Board of Directors of the Greek Atomic Energy Commission (GAEC)' (2022-today)
- c. Chair of the ICRP 'Working Party on 'Radiation protection and Artificial Intelligence for medical imaging and radiotherapy' (2022-today)
- d. Invited Visiting Professor for lectures on radiation protection (CT, Dose management of pregnant patients), Boston University, USA (2007)
- e. Scientific visit to enhance my knowledge on computed tomography, 17/7-17/8, 2006, Institute of Medical Physics, Friedrich-Alexander University Erlangen-Nurnberg, Germany
- f. Invited expert in several IAEA missions and meetings
- g. Member of several international work groups for developing syllabuses, guidelines, and recommendations
- h. Peer-reviewer for several journals

11. Awards and Distinctions

- a. Included in Stanford University's list of the "World's Top 2%" scientists
- b. The paper titled 'Radiomic features for machine-learning-based radiation dosimetry in chest CT' received an award at the Panhellenic Congress of Medical Physics, held on October 4-6, 2024.
- c. 'IUPESM Fellow', IUPESM meeting, 2020
- d. 'Felicitation Certificate', AOCMP-AMPICON 2017, Jaipur, India 2017
- e. 'IOMP Fellow', International Congress of Medical Physics, 2016, Bangkok, Thailand
- f. 'Certificate of Appreciation', IOMP/EFOMP/MEFOMP International meeting, 2015, Qatar
- g. 'Certificate of Appreciation', IOMP (World Congress of Medical Physics, 2015, Toronto)
- h. 'Certificate of Appreciation', Japan Radiological Society (74th Annual meeting of the Japan Radiological Society, 2015, Yokohama)
- i. 'Appreciation Award', MEFOMP (International Conference of Medical Physics, 2013, Brighton, UK)
- g. 'Appreciation Award', Association of Medical Physicists of India' (AMPICON 2013, Kolkata)
- k. 'Excellence in Research Award' for the research performed on 'Radiation doses and risks from CT examinations', Hellenic Ministry of Education, 2012
- l. The paper titled "Eye-Lens Bismuth Shielding in Pediatric Head CT: Artifact Evaluation and Reduction" published in Pediatric Radiology was awarded the 'Walter E. Berdon Award' (The Society for Pediatric Radiology), 2011

12. Professional Address

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