

CURRICULUM VITAE

NAME: Pantelis Karaiskos

CURRENT POSITION: Assist. Professor, Med. Phys. Dept., Medical School, University of Athens
<http://mpl.med.uoa.gr>
Medical Physicist, Med. Phys. Dept., Hygeia Hospital, Athens
<http://www.hygeia.gr/ogkologias.shtml>

ACADEMIC EDUCATION: 1992 Physics Degree, University of Athens
1994 MSc in Medical Physics, University of Aberdeen
2001 PhD, Medical School, University of Athens

Major research interests: Monte Carlo modelling of radiation sources for the generation of dosimetry data for use in radiation therapy treatment planning systems and development of analytical dosimetry models guided by Monte Carlo simulation
Experimental dose verification in modern radiation therapy techniques, such as Intensity Modulated Radiation Therapy (IMRT), high dose rate brachytherapy and gamma knife radiosurgery, using polymer gel dosimeters

Research experiments: Dosimetry in medical Physics applications (1996 -) – Special Research Account of the University of Athens (ELKE 70/4/4285, 70/4/3312, 70/4/3320)
Development of polymer gel dosimeters (1999 – 2001) - Greek General Secretariat of Research and Technology (PENED K.A.70/3/5071)
MITTUG (2000 – 2001) – Development of a brachytherapy treatment planning system (European Commission Grant IST-1999-10618)
“Energy Amplifier” and TARC CERN projects (1996-1999)- European Organization for Nuclear Research (Contract F141-CT96-009)

Teaching activities: Teaching lectures (Health Physics, Medical Physics) in BSc in Physics, Physics Dept., University of Athens
Teaching lectures (Brachytherapy) in European Postgraduate Course on Medical Physics, Postgraduate Studies in Medical Physics, University of Patras
Teaching lectures (Medical Physics) in Medical School, University of Athens
Teaching lectures (Radiotherapy) in Interdepartmental Postgraduate Course on Medical Physics, University of Athens
Teaching lectures (Occupational Exposure and Quality Assurance in Radiotherapy)” in Post Graduate Educational Course in Radiation
Teaching lectures (Radiotherapy, Protection and Safety in Radiation Sources) in International Atomic Energy Association (IAEA) (Athens, April 2003, February 2006))

PUBLICATIONS 33 refereed / peer reviewed papers (citations: 215 according to the ISI Web of Science)
30 presentations in international conferences
12 invited lectures

REVIEWER Medical Physics
Radiotherapy and Oncology

List of publications:

1. G. Lympelopoulou, P. Papagiannis, L. Sakelliou, P. Karaiskos, P. Sandilos, A. Przykutta and D. Baltas “Monte Carlo and thermoluminescence dosimetry of the new IsoSeed® model I25.S17 125I interstitial brachytherapy seed”, *Med. Phys.* **32**, 3313 – 3317 (2005)
2. P. Papagiannis P, P. Karaiskos, M. Kozicki, J.M. Rosiak, L. Sakelliou, P. Sandilos, I. Seimenis and M. Torrens “Three-dimensional dose verification of the clinical application of gamma knife stereotactic radiosurgery using polymer gel and MRI”, *Phys. Med. Biol.* **50**, 1979 – 1990 (2005)
3. E. Pantelis, P. Papagiannis, P. Karaiskos, A. Angelopoulos and G. Anagnostopoulos “The effect of finite patient dimensions and tissue inhomogeneities on dosimetry planning of ¹⁹²Ir HDR brachytherapy: a Monte Carlo dose verification study”, *Int. J. Radiat. Oncol. Biol. Phys.* **61**, 1596-1602 (2005).
4. P. Karaiskos, L. Petrokokkinos, E. Tatsis, A. Angelopoulos, P. Baras, M. Kozicki, P. Papagiannis, J.M. Rosiak, L. Sakelliou, P. Sandilos and L. Vlachos “Dose verification of single shot gamma knife applications using VIPAR polymer gel and MRI”, *Phys. Med. Biol.* **50**, 1235–1250 (2005).
5. G. Lympelopoulou, E. Pantelis, P. Papagiannis, E. Rozaki-Mavrouli, L. Sakelliou, D. Baltas and P. Karaiskos “A Monte Carlo dosimetry study of vaginal ¹⁹²Ir brachytherapy applications with a shielded cylindrical applicator set”, *Med. Phys.* **31**, 3080-3086 (2004).
6. P. Sandilos, A. Angelopoulos, P. Baras, K. Dardoufas, P. Karaiskos, P. Kipouros, M. Kozicki, J.M. Rosiak, L. Sakelliou, I. Seimenis and L. Vlahos “Dose verification in clinical IMRT prostate incidents”, *Int. J. Radiat. Oncol. Biol. Phys.* **59**, 1540-1547 (2004)
7. E. Pantelis, P. Papagiannis, G. Anagnostopoulos, D. Baltas, P. Karaiskos, P. Sandilos and L. Sakelliou “Evaluation of a TG-43 compliant analytical dosimetry model in clinical Ir-192 HDR brachytherapy treatment planning and assessment of the significance of source position and catheter reconstruction uncertainties”, *Phys. Med. Biol.* **49**, 55-67 (2004)
8. P. Kipouros, P. Papagiannis, L. Sakelliou, P. Karaiskos, P. Sandilos, P. Baras, I. Seimenis, M. Kozicki, G. Anagnostopoulos and D. Baltas “3D dose verification in ¹⁹²Ir HDR prostate monotherapy using polymer gels and MRI”, *Med. Phys.* **30**, 2031-2039 (2003)
9. G. Anagnostopoulos, D. Baltas, P. Karaiskos, E. Pantelis, P. Papagiannis and L. Sakelliou “An analytical dosimetry model as a step towards accounting for inhomogeneities and bounded geometries in ¹⁹²Ir brachytherapy treatment planning”, *Phys. Med. Biol.* **48**, 1625-1647 (2003)
10. P. Papagiannis, A. Angelopoulos, E. Pantelis, L. Sakelliou, P. Karaiskos and Y. Shimitzu “Monte Carlo dosimetry of ⁶⁰Co HDR brachytherapy sources”, *Med. Phys.* **30**, 712-721 (2003)
11. P. Karaiskos, A. Angelopoulos, E. Pantelis, P. Papagiannis, L. Sakelliou, E. Kouwenhoven and D. Baltas “Monte Carlo dosimetry of a new ¹⁹²Ir pulsed dose rate brachytherapy source”, *Med. Phys.* **30**, 9-16 (2003)
12. P. Baras, I. Seimenis, P. Kipouros, P. Papagiannis, E. Pappas, A. Angelopoulos, L. Sakelliou, D. Baltas, P. Karaiskos, P. Sandilos and L. Vlachos “Polymer gel dosimetry using a 3D MRI acquisition technique”, *Med. Phys.* **29**, 2506-2516 (2002)
13. P. Papagiannis, A. Angelopoulos, E. Pantelis, P. Karaiskos, P. Sandilos, L. Sakelliou and D. Baltas “Dosimetry comparison of ¹⁹²Ir sources”, *Med. Phys.* **29**, 2239-2246 (2002)
14. E. Pantelis, D. Baltas, K. Dardoufas, P. Karaiskos, P. Papagiannis, H. Rosaki-Mavrouli and L. Sakelliou, “On the dosimetric accuracy of a Sievert integration model in the proximity of ¹⁹²Ir HDR sources”, *Int. J. Radiat. Oncol. Biol. Phys.* **53**, 1071-1084 (2002)
15. P. Kipouros, G. Anagnostopoulos, A. Angelopoulos, D. Baltas, P. Baras, A. Drolapas, P. Karaiskos, E. Pantelis, P. Papagiannis, L. Sakelliou and I. Seimenis, “Dosimetric calculations and VIPAR polymer gel dosimetry close to the microSelectron HDR”, *Z. Med. Phys.* **12**, 252-259 (2002)
16. P. Kipouros, G. Anagnostopoulos, A. Angelopoulos, D. Baltas, P. Baras, A. Drolapas, P. Karaiskos, E. Pantelis, P. Papagiannis, L. Sakelliou and I. Seimenis, “Dosimetric calculations and VIPAR polymer gel dosimetry close to the microSelectron HDR”, *Z. Med. Phys.* **12**, 252-259 (2002)
17. G. Anagnostopoulos, D. Baltas, P. Karaiskos, P. Sandilos, P. Papagiannis and L. Sakelliou, “Thermoluminescent dosimetry of the selectseed ¹²⁵I interstitial brachytherapy seed”, *Med. Phys.* **29**, 709-716 (2002)
18. P. Karaiskos, P. Papagiannis, L. Sakelliou, G. Anagnostopoulos and D. Baltas “Monte Carlo dosimetry of the selectSeed ¹²⁵I interstitial brachytherapy seed,” *Med. Phys.* **28**, 1753-1760 (2001)
19. D. Baltas, P. Karaiskos, P. Papagiannis, L. Sakelliou, E. Loeffler and N. Zamboglou, “Beta versus gamma dosimetry close to Ir-192 brachytherapy sources”, *Med. Phys.* **28**, 1875-1882 (2001)

20. P. Karaiskos, P. Papagiannis, A. Angelopoulos, L. Sakelliou, D. Baltas, P. Sandilos and L. Vlachos, "Dosimetry of ^{192}Ir wires for LDR interstitial brachytherapy following the AAPM TG-43 dosimetric formalism," *Med. Phys.* **28**, 156-166 (2001)
21. A. Angelopoulos, P. Baras, L. Sakelliou, P. Karaiskos and P. Sandilos "Monte Carlo dosimetry of a new ^{192}Ir high dose rate brachytherapy source" *Med. Phys.* **27**, 2521-2527 (2000)
22. P. Karaiskos, A. Angelopoulos, P. Baras, H. Rozaki-Mavrouli, P. Sandilos, L. Vlachos and L. Sakelliou, "Dose rate calculations around ^{192}Ir brachytherapy sources using a Sievert integration model," *Phys. Med. Biol.* **45**, 383-397 (2000)
23. P. Karaiskos, L. Sakelliou, P. Sandilos and L. Vlachos, "Limitations of point and line source approximations for the determination of geometry factors around brachytherapy sources" *Med. Phys.* **27**, 124-128 (2000)
24. P. Kipouros, E. Pappas, P. Baras, D. Hatzipanayoti, P. Karaiskos, L. Sakelliou, P. Sandilos and I. SeimenisI, "Wide dynamic dose range VIPAR polymer gel – MRI dosimetry in the presence of steep dose gradients" *Phys. Med. Biol.* **46**, 2143-2159 (2001)
25. P. Papagiannis, E. Pappas, P. Kipouros, A. Angelopoulos, L. Sakelliou, P. Baras, P. Karaiskos, I. Seimenis, P. Sandilos and D. Baltas, "Dosimetry close to an ^{192}Ir HDR source using N-vinylpyrrolidone based polymer gels and magnetic resonance imaging" *Med. Phys.* **28**, 1416-1426 (2001)
26. P. Karaiskos, A. Angelopoulos, P. Baras, L. Sakelliou, P. Sandilos, K. Dardoufas and L. Vlachos, "A Monte Carlo investigation of the dosimetric characteristics of the VariSource ^{192}Ir high dose rate brachytherapy source," *Med. Phys.* **26**, 1498-1502 (1999)
27. P. Karaiskos, A. Angelopoulos, L. Sakelliou, P. Sandilos, C. Antypas, L. Vlachos and E. Koutsouveli, "Monte Carlo and TLD dosimetry of an ^{192}Ir high dose rate brachytherapy source," *Med. Phys.* **25**, 1975-1984 (1998)
28. E. Likoka, A. Angelopoulos, P. Baras, P. Karaiskos, E. Pantelis, L. Sakelliou and P. Dimitriou, "Bladder wall dosimetry for ^{131}I administered activities" *Rad. Prot. Dos.* **95**, 109-116 (2001)
29. P. Karaiskos, A. Angelopoulos, P. Baras, P. Dimitriou, A. Frantzis and L. Sakelliou, "Radiation dose to the bladder wall from technetium-99m accumulated in the bladder contents," *Rad. Prot. Dos.* **87**, 281-286 (2000)
30. H. Arnould et al., "Experimental verification of neutron phenomenology in lead and transmutation by adiabatic resonance crossing in accelerator driven systems," *Phys. Lett. B* **458**, 167-180 (1999)
31. A. Abanades et al., "Experimental verification of neutron phenomenology in lead and of transmutation by adiabatic resonance crossing in accelerator driven systems A summary of the TARC Project at CERN," *Nucl. Instr. Meth. Phys. Res. A* **463**, 586-592 (2001)
32. A. Abanades et al., "Results from the TARC experiment: spallation neutron phenomenology in lead and neutron-driven nuclear transmutation by adiabatic resonance crossing," *Nucl. Instr. Meth. Phys. Res. A* **478**, 577-730 (2002)
33. E. Pappas, P. Karaiskos, A. Angelopoulos, A. Apostolakis, P. Baras, H. Rozaki-Mavrouli, G. Trabidou and L. Sakelliou, "Indoor radiation measurements in Greece," *Rad. Prot. Dos.* **82**, 307-312 (1999)