

Brief CV

Theodora Leventouri

EDUCATION

- Ph.D. Physics, Experimental Condensed Matter Physics, University of Athens, Greece.
- Post Graduate Training: Visiting Research Scientist 1983-84, ORNL (Oak Ridge National Laboratory), X-Rays and Applications Group, USA. Visiting Research Scientist 1998, High Flux Isotope Reactor, Neutron Scattering Section, Solid State Division, ORNL, USA.

ACADEMIC APPOINTMENTS

- 2006-present: Professor, Physics Department, Graduate Faculty, FAU.
- 2010-present: Founding Director, Medical Physics program, FAU.
- 2006-present: Director, Center for Biomedical and Materials Physics (CBAMP).
- 1992-2006: Associate Professor, Physics Department, FAU.
- 1991-92: Adjunct Professor, Physics Department, FAU.
- 1988-91: Associate Scholar Scientist, Physics Department, FAU.
- 1986-92: Associate Professor, Physics Department, University of Athens, Greece.
- 1982-86: Lecturer, Physics Department, University of Athens, Greece.
- 1973-82: Assistant Professor, Physics Department, University of Athens, Greece.

HONORS

- Fall 2008: Sabbatical, National Technical University of Athens, Greece.
- 2006: Faculty Research Incentive Award, Division of Research, FAU.
- 2003: Charles E. Schmidt College of Science Undergraduate Teaching Award Nominee.
- 2001: Advisor of the Year Award for Eminent Leadership, Multicultural Premed Society.
- Fall 1998: Sabbatical at HFIR of the Oak Ridge National Laboratory.
- 1997: Award for Excellence in Undergraduate Advising.
- 1997: Nomination for the Teacher of the Year award by the students.
- 1996: Teaching Incentive Program Award (TIP).
- 1968-73: Hellenic National Research Foundation Graduate Fellowship.

PROFESSIONAL ORGANIZATIONS

- American Physical Society (APS, BIO, GMED)
- Hellenic Physical Society (HPS)
- American Crystallographic Association (ACA)
- Materials Research Society (MRS)
- American Association of University Women (AAUW)
- National Association of Women in Education (NAWE)
- American Association of Physicists in Medicine (AAPM)
- Society of Directors of Academic Medical Physics Programs (SDAMPP)
- Association for Women in Science (AWIS)

RESEARCH INTERESTS

Structure and physical properties of condensed matter, Medical Physics. Research topics include:

- Crystal structure, microstructure and properties of apatite based natural & synthetic biomaterials. Structure, microstructure and magnetism of alloy catalysts in carbon nanofibers. Structure and magnetism of nano-bioceramics.
- Medical Physics: Radiation Therapy.
- Preferred orientation, phonons, critical current density of bulk high-superconductors.
- Magnetic transitions in long-range ordered alloys.
- Structure and phonons in colossal magnetoresistance materials (CMR).
- Electronic states of light elements with x-ray Raman spectroscopy.
- Internal strains in solids with the techniques of x-ray crystallography.
- Plasmon excitations in solids using inelastic x-ray scattering.

Refereed Publications (1031 Citations, Research Gate May 2018, h index 13)

Journal Papers

1. *Raman and IR study of the effect of Fe substitution in hydroxyapatites and deuterated hydroxyapatite*, A. Antonakos, E. Liarokapis, A. Kyriakou, Th. Leventouri, *American Mineralogist* **102** 85-91 (2017) DOI: 10.2138/am-2017-5884.
2. *Improvement of the fracture toughness of hydroxyapatite (HAp) by incorporation of carboxyl functionalized single walled carbon nanotubes (CfSWCNTs) and nylon*, S.P. Khanal, H. Mahfuz, A.J. Rondinone, Th. Leventouri, *Mat Sc Eng C* **60**, 204-10, (2016) <http://dx.doi.org/10.1016/j.msec.2015.11.030>
3. *Dosimetric and radiobiological comparison of CyberKnife M6™ InCise multileaf collimator over IRIS™ variable collimator in prostate stereotactic body radiation therapy*, Vindu Kathriarachchi, C. Shang, G. Evans, Th. Leventouri, and G. Kalantzis *J Med Phys* **41**, 135–143 (2016) doi: 10.4103/0971-6203.181638.
4. *Investigations of a GPU-based levy-firefly algorithm for constrained optimization of radiation therapy treatment planning*, G. Kalantzis, C. Shang, Y. Lei, Th. Leventouri, *Swarm and Evolutionary Computation* **26**, 191-201 (2016).
5. *Evaluation of surface dose outside the treatment area for five breast cancer irradiation modalities using thermo-luminescent dosimeters*, S. P. Khanal, Z. Ouhib, R. K Benda, Th. Leventouri, *Intern. J. Cancer Therapy and Oncology*, **3**, (2015) ISSN 2330-4049.
6. *A GPU-based Pencil Beam Algorithm for Dose Calculations in Proton Radiation Therapy*, G. Kalantzis, Th. Leventouri, H. Tachibana, C. Shang, *Int. J. of Networked and Distributed Computing*, **3** 243-249, (2015) ISSN: 2211-7946.
7. *A computational tool for patient specific dosimetry and radiobiological modeling of selective internal radiation therapy with ⁹⁰Y microspheres*, Georgios Kalantzis, Th. Leventouri, A. Apte, C. Shang, *Applied Radiation and Isotopes*, **105**, 123-129, (2015) DOI: 10.1016/j.apradiso.2015.08.009.

8. *A Study of Mechanical Behavior and Morphology of Carbon Nanotube Reinforced UHMWPE/Nylon 6 Hybrid Polymer Nanocomposite Fiber*, M. R. Khan, H. Mahfuz, A. Adnan, Th. Leventouri, and S. Absar, *Fibers and Polymers* (2014), **15**, 1484-1492 DOI 10.1007/s12221-014-1484.
9. *Combined x-ray and neutron diffraction Rietveld refinement in iron substituted nano-hydroxyapatite* A. Kyriacou, Th. Leventouri, B. C. Chakoumakos, V. O. Garlea, C. B. dela Cruz, A. J. Rondinone, K. D. Sorge, *J Mater Sci* (2013) **48**:3535–3545, DOI 10.1007/s10853-013-7148-5.
10. *Elastic Properties of UHMWPE-SWCNT Nanocomposites' Fiber: An Experimental, Theoretic, and Molecular Dynamics Evaluation*, M. R. Khan, H. Mahfuz, A. Adnan, I. Shabib, Th. Leventouri, *J Mat Engin & Performance*, 08 (2013); **22**(6). DOI:10.1007/s11665-013-0471-9.
11. *Effect of strain hardening on the elastic properties and normalized velocity of hybrid UHMWPE–nylon 6–SWCNT nanocomposites fiber*, M. R. Khan, H. Mahfuz, Th. Leventouri. *J. Mat. Res.* **27**, 2657-2667 (2012). doi:10.1557/jmr.2012.155.
12. *Investigation of MWCNT reinforcement on the strain hardening behavior of Ultra High Molecular Weight Polyethylene (UHMWPE)*, H. Mahfuz, M. R. Khan, Th. Leventouri, E. Liarokapis, *J Nanotechnology* **2011** (2011), JNT/637395 doi: 10.1155/2011/637395.
13. *Enhancing toughness of LDPE filaments through infusion of MWCNTs and UHMWPE* M. R. Khan, H. Mahfuz, Th. Leventouri, V. K. Rangari and A. Kyriacou, *Polymer Engineering and Science*, 2010/DOI: 10.1002/pen.21873.
14. *Crystal structure studies of human dental apatite as a function of age* Th. Leventouri, A. Antonakos, A. Kyriacou, R. Venturelli, E. Liarokapis, V. Perdikatsis, *Intern J Biomat* **2009** (2009), ID 698547.
15. *Magnetic properties of Fe-Co catalyst particles in vertically aligned carbon nanofibers* K. D. Sorge, K. L. Klein, A. V. Melechko, C. L. Finkel, O. Malkina, Th. Leventouri, J. D. Fowlkes, P. D. Rack, and M. L. Simpson. *J. Appl. Phys.*, **104**, 033909 1-7 (2008).
16. *Micro-Raman and FTIR Studies of Synthetic and Natural Apatites*, A. Antonakos, E. Liarokapis, Th. Leventouri. *J. Biomat.* **28**, 3043-3054 (2007).
17. *Synthetic and Biological Hydroxyapatites: Crystal Structure Questions*, Th. Leventouri, *J. Biomat.* **27**, 3339-3342, (2006). (Leading Opinion Paper, invited).
18. *Magnetic Alloys in Nanoscale Biomaterials*", Th. Leventouri, A. V. Melechko, K. D. Sorge, K. L. Klein, J. D. Fowlkes, P. D. Rack, I. M. Anderson, J. R. Thompson, T. E. McKnight, M. L. Simpson, *Trans Met A*, **37A**, 3423-3427 (2006).
19. *Mean field approximations for the electronic states in disordered alloys* J. S. Faulkner, S. Pella, A. Rusanu, Y. Puzyrev, Th. Leventouri, G. M. Stocks, and B. Ujfalussy, *Phil. Mag.* **86** 2661-2671, (2006).
20. *Structure, Microstructure and Magnetism in Ferrimagnetic Bioglass Ceramics*, Th. Leventouri, A. C. Kis, J. R. Thompson, and I. M. Anderson, *J. Biomat.* **26**, 4924-4931, (2005).
21. *Magnetic and structural properties of ferrimagnetic bioceramics*, A. C. Kis, Th. Leventouri, J. R. Thompson, *Mater. Sci. Forum* **473**, 117-122, (2005).
22. *Using Computer Simulations to Enhance Teaching the Structure of Materials*, N. I. Papanearchou and Th. Leventouri, *Computer Based Learning in Science*, Vol. **2**, p. 106-115, (2004).
23. *Neutron powder diffraction studies of silicon substituted hydroxyapatite*, Th. Leventouri, C. E. Bunaciu, V. Perdikatsis, *J. Biomat.* **24**, 4205-11 (2003).

24. *A Comparison of Crystal Structure Parameters of Natural and Synthetic Apatites from Neutron Powder Diffraction*, Th. Leventouri, B. C. Chakoumakos, N. Papanearchou, V. Perdikatsis, J. Mat. Res. **16**, 2600-06 (2001).
25. *Crystal Structure Studies of Natural and Synthetic Apatites from Neutron Powder Diffraction*, Th. Leventouri, B. C. Chakoumakos, N. Papanearchou, V. Perdikatsis, Mater. Sci. Forum **378**, 517-22 (2001).
26. *Powder neutron diffraction studies of a carbonate fluorapatite*, Th. Leventouri, B. C. Chakoumakos, H. Y. Moghaddam, V. Perdikatsis, J. Mat. Res. **15**, 511-7 (2000).
27. *Structural Studies of a Carbonate Fluorapatite from Powder Neutron Diffraction Data*, Th. Leventouri, H. Y. Moghaddam, B. C. Chakoumakos, V. Perdikatsis, Mater. Sci. Forum, **321**, 924-929 (2000).
28. *Local lattice distortions and Raman spectra in the $La_{1-x}Ca_xMnO_3$ System*, E. Liarokapis, Th. Leventouri, D. Lampakis, D. Palles, J. J. Neumeier, D. H. Goodwin, Phys. Rev. B **60**, 12758-63 (1999).
29. *Raman and Structural Studies of the $Y_{1-x}Ca_xBa_2Cu_3O_{7-d}$ Superconductor*, D. Palles E. Liarokapis, Th. Leventouri, B. C. Chakoumakos, J. Physics **10**, 2515-24 (1998).
30. *Local Lattice Distortions and Thermal Transport in Perovskite Manganites*, J. L. Cohn, J. J. Neumeier, C. P. Popoviciu, K. J. McClellan, Th. Leventouri, Phys. Rev. B **56**, R8495-8 (1997).
31. *A New Method for Measuring the Degree of Preferred Orientation in Bulk Textured $YBa_2Cu_3O_x$* , Th. Leventouri, Physica C **277**, 82-6 (1997).
32. *Modeling the Preferred Orientation in Bulk $YBa_2Cu_3O_x$* , Th. Leventouri, Superlattices and Microstructures **21**, 207-12 (1997).
33. *Ca Doped YBCO on the Ba Site* Th. Leventouri, G. A. Soifer, M. Calamiotou, V. Perdikatsis, E. Liarokapis, J. of Superconductivity **8**, 625-30 (1995).
34. *The Ca substitution for Y and Ba in the $YBa_2Cu_3O_y$ superconductor: a Raman study* D. Palles, N. Poulakis, Th. Leventouri, E. Liarokapis, Physica C **238**, 1179-86 (1994).
35. *Effect of Ca Substitutions on the Properties of $YBa_2Cu_3O_{6+d}$* , Th. Leventouri, G. A. Soifer, M. Calamiotou, V. Perdikatsis, O. Papageorgiou, Physica C **235**, 375-80 (1994).
36. *The Effect of Partially Oriented Precursors on the Melt-Textured Growth of $YBa_2Cu_3O_x$* Th. Leventouri, F. D. Medina, B. D. Landreth, Solid State Commun. **85**, 675-9 (1993).
37. *A Raman Study of Bi-Pb-Sr-Ca-Cu-O Superconductors*, E. Liarokapis, Th. Leventouri, O. Papageorgiou, H. Lu, F. D. Medina, M. Phys. Lett. B **5**, 1751-9 (1991).
38. *Anomalous Behavior in Transport Critical Current Density of $YBaCuO$ and $YBaCuO+Ag$ Bulk Samples*, Y. S. Hascicek, R. Kennedy, L. R. Testardi, H. Niculescu, P. J. Giliessse, Th. Leventouri, J. Appl. Phys. **69**, 863-866 (1991).
39. *EPR Spectra of Bulk Textured Samples of the $YBa_2Cu_3O_x$ Superconductor*, M. Calamiotou, N. Guskos, Th. Leventouri, S. M. Paraskevas, Y. S. Hascicek, M. Phys. Lett. B **5**, 1287 (1991).
40. *Studies of the Orientation of the Grains in the $YBaCuO$ Superconductor*, M. Calamiotou, Th. Leventouri, V. Perdikatsis, Acta Crystal. **A46**, C-320 (1990).

41. *A Raman Study of the Structural Properties of $YBa_2(Cu_{1-x}Fe_x)_3O_y$* , E. Liarokapis, Th. Leventouri, L. T. Wille, L. Martinez, H. Lu, V. Hadgiev, M. Iliev, *Physica C* **170**, 419 (1990).
42. *Structure and Properties of Bulk Oriented $YBa_2Cu_3O_x$* , Th. Leventouri, E. Liarokapis, J. S. Faulkner, M. Calamiotou, V. Perdikatsis, Y. S. Hascicek, L. R. Testardi, *J. of the Less-Common Metals* **164&165**, 1142 (1990).
43. *Transport Critical Current Densities in Partially Aligned Bulk Samples of $YBaCuO$ Superconductors*, Y. S. Hascicek, L. R. Testardi, Th. Leventouri, E. Liarokapis, L. Martinez, *J. Appl. Phys.* **68**, 4178-82 (1990).
44. *Bulk Preferred Orientation in Superconducting $YBa_2Cu_3O_x$* , Th. Leventouri, E. Liarokapis, J. S. Faulkner, *Solid State Commun.* **74**, 1103-6 (1990).
45. *Study of Y-Ba-Cu-O Superconductors Prepared with the Oxalate Precipitation/Evaporation method*, Th. Leventouri, E. Liarokapis, L. Martinez, F. D. Medina, M. Moreno, B. D. Landreth, W. J. Wallace, R. J. Clark, B. Andracka, J. S. Kim, G. R. Stewart, *M. Phys. Lett. B* **4**, 1237 (1990).
46. *X-ray Diffraction and Electron Paramagnetic Resonance Studies of a $Bi_4Sr_{2.5}Ca_{2.5}Cu_4O_x$ Superconducting Phase*, Th. Leventouri, N. Guskos, M. Calamiotou, O. Papageorgiou, S. Paraskevas, V. Perdikatsis, *M. Phys. Lett. B* **3**, 1319 (1989).
47. *Raman and Far-Infrared Reflectance Investigation of Microcrystal Orientation in $YBa_2Cu_3O_{7-x}$ Superconductors*, E. Liarokapis, E. I. Kamitsos, Th. Leventouri, F. D. Medina, *Physica C* **157**, 551-7 (1989).
48. *On the Possibility of the Existence of Cu^{3+} Ions in High- T_C Superconducting Samples of $YBa_2Cu_3O_x$* , N. Guskos, Th. Leventouri, Ch. Trikalinos, M. Calamiotou, S. M. Paraskevas, J. Kuriata, L. Sadlowski, *Phys. Stat. Sol. (b)* **152**, K9 (1989).
49. *Growth and Orientation of Crystallites in Y-Ba-Cu-O Superconductors*, Th. Leventouri, M. Calamiotou, V. Perdikatsis, J. S. Faulkner, *J. Appl. Phys.* **66**, 3144-7 (1989).
50. *EPR Spectra of Cu^{2+} Ions in Orthorhombic Complexes of the $YBa_2Cu_3O_x$ Compound* N. Guskos, Th. Leventouri, Ch. Trikalinos, M. Calamiotou, *Phys. Stat. Sol. (b)* **149**, K157 (1988).
51. *Observations on the Processing and Properties of the Y-Ba-Cu-O Superconductor* Th. Leventouri, *M. Physics Letters B* **2**, 1155-8 (1988).
52. *Preliminary Studies of the Thermal Expansion Coefficients of Long-Range-Order Aluminates*, Th. Leventouri, O. B. Cavin, J. S. Faulkner, *Phys. Rev.* **B31**, 7436 (1985).
53. *X-ray Raman Scattering on Polycrystalline Graphite in the scattering angle range 0-120°* Z. I. Kavogli, Th. Leventouri, C. N. Koumelis, *Can. J. Phys.* **61**, 629 (1983).
54. *On a Mosaic Graphite Spectrometer without Collimators*, C. N. Koumelis, C. A. Londos, Z. I. Kavogli, Th. Leventouri, A. B. Vassilikou, G. E. Zardas *Can. J. Phys.* **60**, 1241 (1982).
55. *X-ray Raman Scattering in Amorphous Boron*, Th. Leventouri, S. S. Vaiopoulos, A. B. Vassilikou, C. N. Koumelis, *Can. J. Phys.* **56**, 438 (1978).
56. *Internal Strain of GaAs II. Transverse case*, C. N. Koumelis, G. E. Zardas, C. A. Londos, Th. Leventouri, *Acta Cryst.* **A32**, 306 (1976).
57. *Surface Plasmon Excitation in Small Spherical Graphite Particles by X-rays* C. N. Koumelis, Th. Leventouri, *Phys. Rev.* **B7**, 181 (1973).

58. *Plasmon Excitation in Colloidal Graphite produced by X-rays* C. N. Koumelis, Th. Leventouri, K. Alexopoulos, Phys. Stat. Sol. (b) **46**, K89 (1971).

Proceedings papers

59. *A GPU accelerated simulation annealing algorithm for IMRT optimization*, P.

Galanakou, T. Leventouri, A. Georgakilas, G. Kalantzis, (IEEE proc. SNPD 2017).

60. *A computational study on different penalty approaches for constrained optimization in radiation therapy treatment planning with a simulated annealing algorithm*, S.

Mohamadi, C. Shang, Z. Ouhib, Th. Leventouri, G. Kalantzis, 16th IEEE/ACIS International Conference on Software Engineering, Artificial Intelligence, Networking and Parallel/ Distributed Computing (SNPD) June 1-3, 2015, Takamatsu, Japan DOI:10.1109/SNPD.2015.7176174

61. *Effect of Simulated Body Fluid on the Microstructure of Ferrimagnetic Bioglass*

Ceramics. N. Papanearchou, Th. Leventouri A. C. Kis, A. Hotiu, and J. M. Anderson, Mat. Res. Soc. Symp. Proc. **839**, P3.7.1, (2005).

62. *Processing, Structure and Magnetic Properties of Bioactive, Ferrimagnetic Glass-*

Ceramics, Th. Leventouri, A. C. Kis, C. E. Bunaciu, K. Sorge, J. R. Thompson, Mat. Res. Soc. Symp. Proc. **711**, 271 (2002).

63. *Atomic Displacements Parameters of Carbonate Apatites from Powder Neutron Diffraction Data*, Th. Leventouri, H. Y. Moghaddam, N. Papanearchou, C. E. Bunaciu, R. L. Levinson, O. Martinez, Mat. Res. Soc. Symp. Proc. **599**, 79 (2000).

64. *Structural, Magnetic and Raman Spectroscopy Studies in the $La_{1-x}Ca_xMnO_3$ System*

Th. Leventouri, E. Liarokapis, D. Lampakis, J. J. Neumeier, D. H. Goodwin, "Electronic, Magnetic and Optical Ceramics", Ed. P. Vincenzini, TECHNA srl, Faenza, Italy, (1999).

65. *The effect of processing and Ca concentration on the structure and Raman spectra in the CaYBCO system* Th. Leventouri, E. Liarokapis, D. Palles, B. C. Chakoumakos, Advances in Science and Technology "Science and Engineering of HT_c Superconductivity" **23**, 381 (1999) Ed. P.Vincenzini, (TECHNA Srl, Faenza Italy).

66. *Melt-Textured Processing & Alloying in YBCO*, Th. Leventouri, E. Liarokapis, M. Calamiotou, V. Perdikatsis, F. D. Medina, B. D. Landreth, O. Papageorgiou, N. Poulakis, "Metallic Alloys: Experimental and Theoretical Perspectives", NATO ASI Series **256**, 121 (1994).

67. *EPR Spectra of Bulk Textured Samples of the $YBa_2Cu_3O_x$ Superconductors*, M. Calamiotou, N. Guskos, Th. Leventouri, S. M. Paraskevas, Y. S. Hascicek, "Physics and Materials Science of High Temperature SC II" **209**, 403 (1992), NATO ASI Series. Kluwer Acad. Publ.

68. *Processing and Properties of Bulk Textured $YBa_2Cu_3O_x$* , Th. Leventouri, J. S. Faulkner, E. Liarokapis, F. D. Medina, L. Martinez, L. R. Testardi, Y. S. Hascicek, M. Calamiotou, V. Perdikatsis, B. D. Landreth, "Physics and Materials Science of High Temperature SC II" **209**, 673 (1992), NATO ASI Series. Kluwer Acad. Publ.

69. *Processing and Properties of Bismuth Superconducting Phases*", O. Papageorgiou, Th. Leventouri, M. Calamiotou, V. Perdikatsis, "Physics and Materials Science of High Temperature SC, II" **209**, 699 (1992), NATO ASI Series. Kluwer Acad. Publ.

70. *Studies of the Bulk Orientation in Y and Bi Superconducting Phases*, Th. Leventouri, O. Papageorgiou, E. Liarokapis, J. S. Faulkner, H. Lu, M.

- Calamiotou, N. Guskos, L. Martinez, V. Perdikatsis, B. D. Landreth, Proc. ICMC 90 High-Temperature Superconductors, Materials Aspects" **1**, 245 (1990). Ed. H. C. Freyhardt, R. Fluekiger, M. Peuckert. Verlag.
71. *Preparation and Studies of the $\text{Bi}_4\text{Ca}_{2.5}\text{Sr}_{2.5}\text{Cu}_4\text{O}_x$ Superconductor*, M. Calamiotou, Th. Leventouri, N. Guskos, V. Perdikatsis, Proc. 1st European Conf. on Advanced Materials and Processes, Aachen, FRG, p. 948 (1990).
 68. *Magnetic Studies of $\text{Ni}_3\text{Al}(\text{Fe})$ compounds*, S. T. Sekula, H. R. Kerchner, J. R. Thomson, Th. Leventouri, Mat. Res. Soc. Symp. Proc. Vol. **39**, 513 (1985).
 69. *Studies of the Effect of Partially Oriented Precursors on the Preparation of Highly Aligned $\text{YBa}_2\text{Cu}_3\text{O}_x$* , Th. Leventouri, F. D. Medina, E. Liarokapis, Proc. of the VIII Panhellenic Conference on Solid State Physics, p.424-427, (1992).
 70. *A Spectroscopic Study of Bi-Pb-Sr-Ca-Cu-O Superconductors*, E. Liarokapis, Th. Leventouri, H. Lu, Proc. of the VII Panhellenic Conference on Solid State Physics, p.419-423, (1991).
 71. *Critical Currents in Partially Aligned Samples of the $\text{YBa}_2\text{Cu}_3\text{O}_x$ Superconductor*, Th. Leventouri, E. Liarokapis, Y. S. Hascicek, L. R. Testardi, Proc. of the VI Panhellenic Conference on Solid State Physics, p.1-8 (1990).
 72. *Preparation and Studies of the SC $\text{Bi}_4\text{Sr}_3\text{Ca}_3\text{Cu}_6\text{O}_x$, $\text{Bi}_{.7}\text{Pb}_{.3}\text{SrCaCu}_{1.8}\text{O}_x$, $\text{Bi}_{1.8}\text{Pb}_{.2}\text{Sr}_2\text{Ca}_2\text{Cu}_3\text{O}_x$* , O. Papageorgiou, H. Lu, M. Calamiotou, Th. Leventouri, Proc. of the VI Panhellenic Conference on Solid State Physics, p. 9-12 (1990).
 73. *Spectroscopic Study of Bismuth Superconductors*, E. Liarokapis, Th. Leventouri, O. Papageorgiou, Proc. of the VI Panhellenic Conf. on Solid State Physics, p.14-17, (1990).
 74. *Preparation Parameters and Preferred Orientation in the YBCO Superconductor*, Th. Leventouri, M. Calamiotou, E. Liarokapis, L. Martinez, Proc. of the V Panhellenic Conference on Solid State Physics, p. 191-194 (1989).
 75. *Spectroscopic Study of the $\text{Bi}_4\text{Sr}_{2.5}\text{Ca}_{2.5}\text{Cu}_4\text{O}_x$ Superconductor*, E. Liarokapis, E. I. Kamitsos, Th. Leventouri, Proc. of the V Panhellenic Conference on Solid State Physics, p. 195-198 (1989).
 76. *A study of the Superconductor Bi-Sr-Ca-Cu-O*, N. Guskos, M. Calamiotou, Th. Leventouri, O. Papageorgiou, S. Paraskevas, V. Perdikatsis, Proc. of the V Panhellenic Conference on Solid State Physics, p. 199-203 (1989).
 77. *Spectroscopic Study of the Orientation of the Grains in the YBCO Superconductor*, E. Liarokapis, Th. Leventouri, L. Martinez, Proc. of the V Panhellenic Conference on Solid State Physics, p. 195-198 (1989).
 78. *Effect of the Processing on the Crystallographic Properties of the Y-Ba-Cu-O Superconductor*, Th. Leventouri, M. Calamiotou, O. Papageorgiou, V. Perdikatsis, Proc. of the IV Panhellenic Conf. on Solid State Physics, p. 371-374 (1988).
 79. *A qualitative study of Y-Ba-Cu-O superconductors by Raman Spectroscopy*, E. Liarokapis, Th. Leventouri, Proc. of the IV Panhellenic Conf. on Solid State Physics, p. 390-393 (1988).
 80. *Preparation and Study of the Bi-Sr-Ca-Cu-O Superconductor*, Th. Leventouri, O. Papageorgiou, D. Niarchos, V. Perdicatsis, Proc. of the IV Panhellenic Conf. on Solid State Physics, p. 403-406 (1988).
 81. *Electron Paramagnetic Resonance (EPR) from various Y-Ba-Cu-O superconductors*, Th. Leventouri, N. Guskos, M. Calamiotou, Ch. Trikalinos, S. Paraskevas, Proc. of the IV Panhellenic Conference on Solid State Physics, p. 399-402 (1988).

82. *An a-b Planes Orientation Study of the Y-Ba-Cu-O Superconductor by Far-Infrared Spectroscopy*, E. I. Kamitsos, Chr. Symeonidis, Th. Leventouri, Proc. of the IV Panhellenic Conference on Solid State Physics, p. 407-410 (1988).

83. *Preparation of the 93K Superconductor. Preliminary experiments*, Th. Leventouri, Proc. of the III Panhellenic Conf. on Solid State Physics, p. 54-57 (1987).

Journal Abstracts/extended abstracts

84. *Effects of Therapeutic Radiation On Sperm in Prostate External Radiotherapy* SU-I-GPD-J-92 Medical Physics **44**, 2017. A Ataei*, T Leventouri, S Pella.

85. *Implementation of a Parallel Simulating Annealing Algorithm for Intensity Modulated Radiation Therapy Optimization*, SU-I-GPD-J-99, Medical Physics **44**, 2017, P Galanakou*, T Leventouri, G Kalantzis.

86. *Consistency of Treatment Volume Vs. Bladder and Rectum Anatomical Variations with Fractionated High-Dose Rate GYN Brachytherapy Using Multi Lumen Cylinders*, SU-I-GPD-J-104, Medical Physics **44**, 2017, M Shojaei*, N Dumitru, S Pella, T Leventouri.

87. *Dosimetric Implications of the Organs at Risk in Vaginal Cuff Brachytherapy with Multi-Lumen Cylinder*, SU-I-GPD-T-37, Medical Physics **44**, 2017, N Dumitru, M Shojaei, S Pella, T Leventouri.

88. *A Technique for Modeling a Diode Array Into the TPS for Lung SBRT Patient Specific QA*, C Curley, Z Ouhib and T Leventouri, SU-F-T-270 Med. Phys. **43**, 3524 (2016).

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90. *Dosimetric Evaluations Due to Minimal Displacements in Gynecological High Dose Rate Brachytherapy*, N. Dumitru, S. Pella, M. Hyvarinen, S. Long, Th. Leventouri, Brachytherapy, **14**, 102, 2015.

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92. SU-E-T-693 *Should We Use RapidArc (VMAT) for Breast Treatments? A Dosimetric Comparison of IMRT Versus VMAT Optimization in Whole Breast Irradiation of Early Stage Breast Cancer*, N Moshiri Sedeh, S Pella, T Leventouri, D Littlejohn and T Costantino Med. Phys. **42**, 3496 (2015); <http://dx.doi.org/10.1118/1.4925057>

93. SU-E-T-373339 *A GPU-Based Pencil Beam Algorithm for Dose Calculations in Proton Radiation Therapy*, G Kalantzis, T Leventouri, H Tachibana and C Shang, Med. Phys. **42**, (2015); <http://dx.doi.org/10.1118/1.4924398>

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95. SU-E-T-85: *Comparison of Treatment Plans Calculated Using Ray Tracing and Monte Carlo Algorithms for Lung Cancer Patients Having Undergone Radiotherapy with Cyberknife*, A Pennington, R Selvaraj, T Leventouri, S Kirkpatrick and S Oliveira, Med. Phys. **41**, 241 (2014); <http://dx.doi.org/10.1118/1.4888415>

96. SU-E-T-179: *Exploring Appropriate Offset Values for Pencil Beam and Monte Carlo*

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97. *SU-E-T-244: Motion Control Challenges in High Dose Rate Brachytherapy*, M Hyvarinen, T Leventouri, S Pella and N Dumitru, Med. Phys. **41**, 279 (2014); <http://dx.doi.org/10.1118/1.4888575>
98. *SU-E-T-630: Commissioning for SRS Planning Systems*, S Pella, C Smith, A Bacala and T Leventouri, Med. Phys. **41**, 373 (2014); <http://dx.doi.org/10.1118/1.4888966>
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100. *Measuring Output Factors for Photon Fields Smaller than 10 cm × 10 cm* B Doozan, S Pella, A Bacala, Th Leventouri, C Smith, J Applied Clinical Medical Physics, **15**, No. 3, 2014.
- Book Chapter**
101. *Structure Studies of Hydroxyapatite-based Biomaterials*, Th. Leventouri, invited by Nova Science Publishers Inc. Book title: Biomaterials Research Advances, Editor: Jason B. Kendall ISBN-1-978-1-60021-892-7 (2007).
- Session Report of International Conference**
102. *"Inorganic Materials in Biological Systems"*, Th. Leventouri, American Crystallographic Association Newsletter 3, p. 40, 2005.

International Conferences/Colloquia/Local: 93

Invited: 33

Grants

Over \$ 1.5 million from Federal Agencies, Companies and FAU.

TEACHING at FAU

Advisor Ph.D. Physics: Graduated 6 students.

Co-Advisor Ph.D. Physics: 5 students.

Advisor MS Physics: Graduated 5 students.

Co-Advisor Professional Science Master in Medical Physics (PSMMP): Graduated 18 students (2011-2017).

Courses

PHY 3221, PHY 4822L, PHS 5224, PHS 5204, PHY 5937, PHY 6938, PHY 6971, PHZ 6435, PHY 6920, PHY 2053, PHY 2054, PHY 3051, PHY 3050, PHY 3040, PHY 7980, PHZ 5304, RAT 6686, RAT 6975, RAT 6687, PHY 6920 RAT 6932 RAT 6686, PHY 5937, PHY 6938, PHZ 6435.

SERVICE

Editorial Service: Reviewer for 14 journals.

"*Status of Women in Physics*" sponsored by the APS, Speaker.

Partial list of University, College and Departmental level Service

- Founder and Director Medical Physics programs: 2010-
 - ✓ Professional Science Masters in Medical Physics (PSMMP), CAMPEP accredited 2014.

- ✓ Medical Physics Certificate for Ph.D. holders, CAMPEP accredited
2017
- University Faculty Senate 2017-
- Director: Center for Biomedical and Materials Physics (CBAMP) 2005-
- Institutional Review Board (IRB) 2012-
- NTT Instructors Promotion Committee 2013-
- NTT Scientists Promotion Committee 2013-
- Frontiers in Science Steering Committee 2015-
- Master Teacher 2014-
- Undergraduate Advisor, Department of Physics 2006-15
- SPS/Sigma Pi Sigma Advisor 2006-14
- Pre-professional Advisory Committee, Chair 2000-03
- Pre-professional Advisory Committee 1992-2000
- Advisor for the Premedical Honors Association 2000-01
- Advisor, Multicultural Premedical Students Society 2000-01

Partial list of Community Service

- The Broward County Science Fair, Judge 2005
- Executive Board of the Hellenic Society "Paideia" 2003-08
- Hellenic Society "Paideia" Secretary Elected 2004
- Poinciana Elementary Magnet School, *a Physicist at work* 1995