

CURRICULUM VITAE

MARIA KALLERGI

D.E.A., M.S., Ph.D.

LAST UPDATE January 3, 2022

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1. PERSONAL INFORMATION

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DATE OF BIRTH : July 30, 1957
OFFICE ADDRESS : Department of Biomedical Engineering, K11.110
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2. EDUCATION (theses titles in parentheses)

INSTITUTION/ADDRESS	DEGREE	YEAR	FIELD OF STUDY
National & Kapodistrian University of Athens Athens, Greece (Solid state physics - Percolation theory)	B.Sc.	1982	Physics
Institut National Polytechnique de Grenoble Grenoble, France (Stockage électrochimique de l' énergie: Intercalation de Li dans des oxides des métaux de transition.)	D.E.A	1983	Renewable Energy Sources
University of South Florida, USA (Modulated reflectance studies of epitaxial $Al_xGa_{1-x}As$, GaAs, and AlAs.)	M.S.	1987	Physics
University of South Florida, USA (Optical studies of III-V Semiconductor Heterostructures.)	Ph.D.	1990	Physics/El. Eng.
University of South Florida, USA Muma College of Business (USF Morsani College of Medicine, Office of Research Strategic Plan 2001)	Grad. Certif.	2001	Management & Leadership

3. SCHOLARSHIPS – AWARDS – PROFESSIONAL MEMBERSHIPS & ACTIVITIES

3.1. Scholarships - Awards

Undergraduate Scholarship – University of Athens, GR	1980
Dean's List of Scholars	1987
GTE Graduate Scholar	1988-1990
DARPA Scholar	1990-1991
Student Travel Award, American Vacuum Society	1989
Fellow Research Award, College of Medicine, Univ. of South Florida	1992
AAPM Summer School Scholarship	1993
Evelyn & Alfred Silbiger Cancer Research Fellow	1994
Moffitt Center Director's Outstanding Research Award	1994
Woman of Achievement Award for Technology Category	2002
Carrollwood Business and Professional Women Foundation of Tampa Bay	

in honor of National Business Women’s Month (October 2002)	
SPIE Medical Imaging, 2 nd place Poster Award	2015
“Physics of a novel magnetic resonance and electrical impedance combination for breast cancer diagnosis.” Physics of Medical Imaging Conference 9412; Sponsored by GE Healthcare	
Jet Propulsion Lab, Caltech, NASA, Summer Faculty Research Fellow	2015

3.2. Professional Memberships

Student member of the American Vacuum Society	1987-1990
Student member of the American Physical Society	1989-1991
Student member of the Materials Research Society	1990-1991
Member of AAPM’s Publications committee	1999-2001
Member of Optical Society of America (OSA)	2001-2003
Member of H. Lee Moffitt Cancer Center & Research Institute	1993-2006
Member of the American Roentgen Ray Society	2006-2008
Member of the IEEE EMB	2012-2017
Member of the Society of Photo-Optical Instrumentation Engineers (SPIE)	since 1992
Member of the American Association of Physicists in Medicine (AAPM)	since 1992
Member of the European Society of Radiology	since 2008
Founding Member of the International Society for Research of Interplay Between Mental and Somatic Disorders (ISRIMSD)	since 2017
Member of the European Society for Hybrid, Molecular, and Translational Imaging	2019

3.3. Professional Activities

U.S. Civilian Research & Development Foundation (CRDF) reviewer, 1993-2005
 American Institute of Biological Sciences (AIBS) reviewer, 1993-2005
 U.S. Army Medical Research & Materiel Command - Breast, Ovarian, and Prostate Programs reviewer, 1993-2005
 NCI Biomedical Imaging Technology Study Section reviewer, 1993-2005
 NCI SBIB Study Section reviewer, 1993-2005
 American Cancer Society Institutional Grant Committee member, 1993-2005
 Institutional Committees for faculty evaluation and equipment purchases, 2000-2005
 Member of the Internal Review Board of the Foundation for Research and Technology–Hellas (FORTH), Crete, 11/2018-09/2021.

Chair of scientific sessions in 1st European Congress of Medical Physics, Athens, GR, 2014
 Workshop Organizer and Chair of the 1st Symposium of ISRIMSD, Nov. 10-11, Athens, GR, 2017
 Organizer and Chair of 2nd Symposium of ISRIMSD, Nov. 30 – Dec. 2, Athens, GR, 2018

Special Issue Editor “Metabolic Volume Measurements”, MDPI Metabolites, 2021.
https://www.mdpi.com/journal/metabolites/special_issues/Metabolic_Volume#editors

Associate Editor, Editorial Board Member, Guest Editor, and/or Reviewer of:

- IEEE Transactions on Information Technology in Biomedicine
- IEEE Transactions in Medical Imaging
- Medical Physics Journal
- Academic Radiology
- Computers and Biomedical Research
- Skeletal Radiology
- Journal of Magnetic Resonance Imaging
- Metabolites MDPI

3.4. Patents

1. *Nuclear Imaging Enhancer*. USA No. 5576548. Granted on November 19, 1996.
2. *Image Analyzing Device Using Adaptive Criteria*. USA No. 5825936. Granted on October 20, 1998.
3. *Workstation interface for use in digital mammography and associated methods*. USA No. 6630937 B2. Granted on October 7, 2003.
4. *Computer Aided Diagnosis Methodology for Mammographic Calcifications*. USA No. 7430308 B1. Granted on September 30, 2008.

4. FOREIGN LANGUAGES AND OTHER EXPERTISE

Greek Maternal
English Proficiency (Michigan & Cambridge)
French Sorbonne III

Programming languages: Basic, C++, IDL, MATLAB

Participation in seminars, continuing education lectures and workshops with certification:
«Enhancing Teaching and Learning with PowerPoint Workshop”, February 27, 1998
«AAPM Summer School on Digital Imaging», August 1-6, 1993
«The protection of human research subjects», April 26, 2002
«Digital Mammography», March 16-17 2001
«Radiation Safety», January 7, 2002

5. PROFESSIONAL EXPERIENCE

Graduate Research Assistant, Institut National Polytechnique, Grenoble, France Research on alternative forms of energy (nuclear, solar, etc), development of new materials for energy storage (batteries) and x-ray spectroscopy.	1982-1983
Graduate Research Assistant, Department of Physics, USF, Tampa Research on optical characterization of III-V and II-VI semiconductors and semiconductor devices using modulation reflectance (electro- and photoreflectance), photoluminescence, and Raman scattering.	1988-1990
Postdoctoral Research Associate/Diagnostic Radiology H. Lee Moffitt Cancer Center & Research Institute, Tampa. Research on diagnostic medical physics including application, characterization and improvement of emission computed tomography. Performed phantom and patient measurements using beta or gamma emitting radionuclides, image analysis and processing, statistical analysis and presentation of experimental data.	1991-1992
Postdoctoral Research Associate/Diagnostic Radiology Department of Radiology, College of Medicine, USF, Tampa.	1992-1993
Research Triangle Institute/NASA Consultant NASA/NCI project on technology transfer to digital mammography. Generated report with evaluation of dual-use technologies identified in Federal Laboratories which could be applied to mammography for direct digital x-ray detection, computer assisted diagnosis, and teleradiology.	Jun-Nov 1992
Visiting Assistant Professor Department of Radiology, College of Medicine, USF, Tampa. Continued research on medical physics performing quality control and assurance of mammographic units and nuclear medicine systems, image processing and data analysis. Research included phosphor technology, amorphous	1993 -1994

semiconductors, and CCD applications to digital mammography. Teaching Physics of Mammography as a part of a Medical Imaging Technology graduate course in Computer Science and Engineering at USF

Assistant Professor 1995-2000
 Department of Radiology, College of Medicine, USF, Tampa.

Associate Professor of Radiology 8/2000–6/2006
 Department of Radiology, College of Medicine, USF, Tampa.

Joint Associate Professor of Interdisciplinary Oncology 6/2002 – 6/2003
 Joint Appointment to the faculty of the Department of Interdisciplinary Oncology, College of Medicine, USF, Tampa.

Courtesy Professor of Physics 2003- 2006
 Courtesy Appointment to the faculty of the Department of Physics, College of Arts & Sciences, USF, Tampa

Consultant 9/2006 – 12/2007
 Breast Imaging and Interventional Center, George Washington Medical Center, The George Washington University, Washington, DC

Associate Professor 7/2006 – 11/2020
 Digital Medical Imaging and Radiotherapy
 Department of Biomedical Engineering
 University of West Attica (UNIWA)
 (Previously Technological Educational Institute of Athens (TEIA))

Visiting Investigator since 9/2006
 Division of Nuclear Medicine
 Biomedical Research Foundation of the Academy of Athens (BRFAA)

Professor since 12/2020
 Hospital Biomedical Technology
 Department of Biomedical Engineering
 University of West Attica (UNIWA)

6. ADMINISTRATIVE EXPERIENCE

Interim Program Leader 1/99-5/99
 Digital Medical Imaging Program of the H. Lee Moffitt Cancer Center & Research Institute.

Program Leader 6/1999-12/2004
 Digital Medical Imaging Program of the H. Lee Moffitt Cancer Center & Research Institute.

Director 6/1999-12/2004
 Division of Imaging Science Research, Department of Radiology, College of Medicine, University of South Florida.

Member - USF College of Medicine Research Committee 1999-2006

Senator - USF Faculty Senate 2000-2003

Member – USF College of Medicine Faculty Council 2001-2004

Member - USF Federal Effort-Reporting Systems (PARs) Replacement Committee 2001-2002

Member – USF Physics Department Committees for Faculty Search, 2000-2004
 Positions in Biomedical Physics/Biophysics and Materials Physics/Nanophysics

Member – Coordinating Committee of MS program in Biomedical Engineering, 2014-2018
 Department of Biomedical Engineering, TEI of Athens/UNIWA

Director – Smart Hospital Research Laboratory, Department of Biomedical Engineering, 2019-2021
 UNIWA

7. EDUCATIONAL EXPERIENCE

High School, IB all levels and SAT, mathematics and physics	1984-1985
Graduate Teaching Assistant, Department of Physics, USF, Tampa	1986-1987
Teaching all sections of calculus and non-calculus based introductory laboratory physics courses.	
Graduate Course on Medical Imaging	Fall 1993
Lectures on x-ray imaging physics and computer assisted diagnosis for graduate computer science and engineering students.	
Preparatory course for radiology residents for certification examinations	1993-2001
Lectures on physics of Nuclear Medicine, Radiation Protection, Statistics, and Digital Radiography.	
Faculty of <i>Breast Imaging Update</i> , CME course of Moffitt and USF	May 1997-2007
Lectures to radiologists and radiology technologists on digital mammography and computer assisted diagnosis (above average evaluations).	
Graduate course on computer assisted diagnosis for radiology	Fall 2000
Established new graduate course for basic science and engineering students dealing with special topics related to medical imaging and CAD. This course became part of the formal USF curriculum in Fall 2001.	
Participation in H. Lee Moffitt's Project LINK Program as Mentor	2001
(Fellow: Okheyla Knight – 2001-2002)	
Continuing Medical Education course on Digital Mammography	2002-2007
Co-Director and faculty of CME course for radiologists and technologists to satisfy 8-hours of FDA required training for Digital Mammography. Course includes CAD training and is offered independently (5 times per year) or prior to the annual BIU course.	
Greek Undergraduate Courses	since 2006
Department of Biomedical Engineering – University of West Attica	
(1) Electrical Measurements (Theory/Lab – Sophomore year)	
(2) Biomechanics (Theory - Sophomore year)	
(3) Principles of Automated Control (Theory/Lab – Junior year)	
(4) Organization, Management, and Marketing for Engineers (Theory – Junior year)	
(5) Biomaterials and Tissue Engineering (Theory/Lab – Junior year)	
(6) Project Development and Project Management for Engineers (Theory – Senior year)	
(7) Mathematical Modeling in Biology and Physiology (Theory/Lab – Senior year)	
(8) Biomedical Technology Assessment Methodologies (Theory – Senior year)	
(9) Biomedical MEMS & NEMS (Theory – Senior Year)	
(10) Biomedical technology of surgery, intensive care, and emergency departments (Theory/lab – Senior year)	
(11) Hospital organization and facilities. (Theory – Senior year)	
(12) In vitro biomedical technology (Theory/lab – Senior year)	
Greek Graduate Courses	since 2014
Program: “Advanced Systems and Methodologies in Biomedical Technology”	
Department of Biomedical Engineering – University of West Attica	

- (1) Micro- and nano-technology applications in molecular diagnostics, therapy, and prosthetics (Theory - Graduate level)
- (2) Superconductivity and superfluidity (Theory – Graduate level)
- (3) Observer studies & ROC - theory and applications in medicine (Theory – Graduate level)
- (4) Nanotechnology and molecular diagnostics (Theory – Graduate level)
- (5) Medical image compression and big data management (Theory – Graduate level)
- (6) Hybrid medical imaging technologies for diagnosis and treatment planning (Theory – Graduate level)
- (7) Applications of single and hybrid diagnostic systems in treatment planning, installation requirements and quality control. (Theory – Graduate level).

Mentor and supervisor to numerous high school and undergraduate students participating as scholars, fellows, or interns in research projects and workshops of the Imaging Science Research Division of the Moffitt Cancer Center & Research Institute and the University of South Florida in Tampa, Florida..... 1995-2005

Supervisor of Princeton University Interns in an Internship Program organized by Empiria Learning between the University of West Attica and Princeton University Summer 2021

Member of Senior thesis, MS thesis, and PhD dissertation examination committees at USF and UNIWA since 1995

Supervisor of Undergraduate Senior Thesis projects at UNIWA since 2008

Directly supervised and successfully completed Senior Thesis projects at the undergraduate level or integrated Master's are listed in the Appendix.

Supervision of MASTER'S & DOCTORAL theses:

(In brackets, the current occupation/position of the graduates if known]

1. Peeples OD. *Collimator requirements and restoration conditions of gamma camera imaging of positron emitting radionuclides*. Master's Thesis, Department of Physics, University of South Florida. August 1995. (**Major Professor and Mentor.**) [Working for Smith Kline Beecham Laboratories].
2. Heine JJ. *Multiresolution Statistical Analysis of High Resolution Digitized Mammograms and Other Gray Scaled Images*. Ph.D. Dissertation, Department of Physics, University of South Florida. September 1996. (**Committee Chairperson.**) [Professor at Moffitt Cancer Center & Research Institute.]
3. Gavrielides M. *Shape analysis of mammographic calcification clusters*. Master's Thesis, Department of Electrical Engineering, University of South Florida, December 1996. (**Major Professor and Mentor.**) [Completed PhD degree at Duke University, postdoctoral studies in Greece and UK, FDA fellow conducting research in medical imaging.]
4. Ruth E. *Estimating the minimal sample size of calcification clusters which approximates the Bayes risk of diagnosis*. Master's Thesis, Department of Mathematics, University of South Florida. August 1997. (**Co-Major Professor and Mentor.**)
5. Battler M. (Radiation Therapy). Master's Thesis, Department of Physics, University of South Florida. May 1998. (**Committee member.**)
6. Battler P. (Radiation Therapy). Master's Thesis, Department of Physics, University of South Florida. May 1998. (**Committee member.**)
7. Vossberg M. (Diagnostic Radiology - CAD). *Statistical Analysis of Tissue Density in Digital Mammograms*. Master's Thesis, Department of Physics, University of South Florida. May 1998. (**Committee member and Co-Mentor.**) [Working for a major German mobile communications company.]
8. Monroe J. *A new high energy scintillating fiber optic SPECT detector*. Ph.D. Dissertation,

- Departments of Physics and Electrical Engineering, University of South Florida, May 1998 (**Committee member**). [Faculty at Mallinckrodt Institute of Radiology, St. Louis.]
9. Li HD. *Monochrome and multichrome image processing: Application to communications and biomedicine*. PhD Dissertation, Department of Electrical Engineering, University of South Florida, December 1999 (**Mentor** - Provided all experimental data and supervised the application part of his work; also reviewed and corrected his doctoral thesis manuscript). [Working for a software company in Silicon Valley, CA.]
 10. Chetelat SM. *Generating a three dimensional view from the two standard projections in mammography*. Master's Thesis, Department of Computer Science and Engineering, University of South Florida, May 2000. [Military.]
 11. Komaravolu PK. *Digital mammography*. Master's Thesis, Department of Computer Science & Engineering, University of South Florida, December 2000. (**Co-Major Professor and Mentor**.) [Working for a software company in Silicon Valley, CA.]
 12. Alexander D. *Full Field Digital Mammography Clinical Trial*. Master's Thesis, Department of Epidemiology, College of Public Health, University of South Florida, August 2001. (**Co-Major Professor and Mentor**.) [Completed doctoral degree at the University of Alabama at Birmingham; offered full scholarship.]
 13. Fernandez D. *Fourier-Transform Infrared Spectroscopic Imaging of Prostate Histopathology*. Ph.D. Dissertation, Department of Pathology, College of Medicine, University of South Florida, in collaboration with the National Cancer Institute. May 2003. (**Committee member**). [NIH Fellow; attended Cornell Medical School.]
 14. Tembey M. Master's Thesis, Department of Computer Science & Engineering, University of South Florida, December 2003. (**Co-Major Professor and Mentor**) [Working for a private hospital in Chicago.]
 15. Kim YR. Ph.D. Dissertation, Department of Physics and Marine Science, College of Arts & Sciences, University of South Florida. December 2004. (**Committee Member and Mentor**.) [Member of the Marine Science Dept., USF, Spring 2005.]
 16. Mason N. Ph.D. Dissertation, Department of Physics, University of South Florida. October 2004. (**Committee Chairperson**.) [Certified medical physicist; owner of Tampa Bay Oncology Center.]
 17. Kovalchuk N. Ph.D. Dissertation, Department of Physics, University of South Florida. May 2008. (**Major Professor/Committee Member**.) [Employed at Mayo Clinic, Cleveland, OH]
 18. Behera M. Master's Thesis, Department of Chemical Engineering, Biomedical Engineering Program, University of South Florida. July 2004. (**Committee Member and Co-Mentor**.) Ph.D. Dissertation, Department of Biomedical Engineering, University of South Florida. February 24, 2012. (**Committee Member and Co-Mentor**.) [Manager of Research, Winship Cancer Institute, Emory University]
 19. Arbis S and Roumeliotis S. *Magnetic resonance electrical impedance mammography: Phantom development and pilot study*. Master's Thesis, Department of Biomedical Engineering, Technological Educational Institute of Athens, 2016. (**Major Professor**.)
 20. Linardatos D. *Phantom development and testing for MRI imaging of the breast ductal pattern*. Master's Thesis, Department of Biomedical Engineering, Technological Educational Institute of Athens, 2017. (**Major Professor**.)
 21. Oikonomou Y. *Decision making algorithm for medical equipment maintenance*. Master's Thesis, Department of Biomedical Engineering, Technological Educational Institute of Athens. December 2018. (**Major Professor**.) [Electronics Engineer, Hospital Gennimatas, Athens, GR.]
 22. Dritsa D. *Advanced tools and methodologies for early diagnosis of dementia*. Master's Thesis, Department of Biomedical Engineering, UNIWA. (**Major Professor**.)
 23. Sklavounos IA. *Prostate imaging with multiparametric MRI*. Master's Thesis, Department of Biomedical Engineering, UNIWA. (**Major Professor**.)
 24. Bavela P. *Risk management of the production of infusion pumps: FMEA analysis*. Master's Thesis, Department of Biomedical Engineering, UNIWA. (**Major Professor**.)
 25. Papoutsis V. *Comparison of portable and handheld ultrasound systems for the evaluation of lower*

extremity venous insufficiency. Master's Thesis, Department of Biomedical Engineering, UNIWA. Completed September 2021. (**Major Professor.**) [Private sector, started his own company in medical equipment.]

26. Lagou G. *Design and pilot application of a database program for the selection of medical equipment supply*. Master's Thesis, Department of Biomedical Engineering, UNIWA. Completed September 2021. (**Major Professor.**) [Employed by Siemens Medical.]
27. Karazachos A. *Creating a research lab website*. Master's Thesis, Department of Biomedical Engineering, UNIWA. Completed December 2021. (**Major Professor.**)
28. Golfinopoulou A. *Intensive care unit – smart biomedical technologies*. Ph.D. Dissertation, Department of Biomedical Engineering, UNIWA. (**Major Professor.**)

8. PUBLICATIONS

8.1. Books and Book Chapters

(**Bold** indicates publication as senior or co-senior author)

1. Clarke LP, Qian W, **Kallergi M**, Venugopal P, and Clark RA. Hybrid Wavelet Transform for Image Enhancement for Computer-Assisted Diagnosis and Telemedicine Applications. In: *The Frequency and Wavelets in Biomedical Signal Processing*. Akay M (Ed.), IEEE Press Series in Biomedical Engineering, New York, 1998, Chapter 21, pp. 519-532.
2. Deans SR, Gangadharan D, Heine J, Kallergi M, Qian W, and Clarke LP. Wavelet Transforms. In *Encyclopedia of Electrical and Electronics Engineering*. Webster JG, Editor. J. Wiley & Sons, Inc, New York, 1999.
3. **Kallergi M**, Heine JJ, and Tembey M. Computer Aided Diagnosis of Mammographic Calcification Clusters: Impact of Segmentation. In: *Handbook of Medical Image Analysis: Segmentation and Registration Models*, Suri, Wilson, and Laxminarayan (Eds.), IEEE Press Series, 2004.
4. **Kallergi M**, Hersh M, and Manohar A. Automated segmentation of pancreatic tumors in computed tomography. In *Handbook of Medical Image Analysis, Volume I: Segmentation and Registration Models*, Suri, Wilson, and Laxminarayan (Eds.), IEEE Press Series, pp. 176-226, 2004.
5. **Kallergi M**. Evaluation of computer aided detection and diagnosis algorithms for medical imaging. In *Applied Medical Image Analysis Methods*, Costaridou L (Ed.), CRC Press, Electrical Engineering and Applied Signal Processing Series, 2005.
6. **Kallergi M**, Manohar A, and Kovaltchuk N. A new imaging technique for the stereoscopic representation of the breast using mammography. In *Emerging Technologies in Breast Imaging and Mammography*, Suri (Ed.), American Scientific Publishers, 2007.

8.2. Articles in International Peer Reviewed Journals

(IF=impact factor at time of publication)

1. **Kallergi M**, Aubel J, and Sundaram S. Modulated reflectance study of strain in epitaxial GaAs on silicon. *J Appl Phys* 1989; 66:4862. (IF=2.171)
2. Roughani B, Kallergi M, Aubel J, and Sundaram S. Raman scattering of epitaxial GaAs on Si substrate. *J Appl Phys* 1989; 66:4946. (IF=2.171)
3. **Kallergi M**, Roughani B, Aubel J, Sundaram S, Chu T, Chu S, and Green R. Modulated reflectance and Raman scattering studies of metalorganic chemical vapor deposited homolayers of GaAs. *J Vac Sci Technol A* 1990; 8:1907. (IF=1.628)
4. **Kallergi M**, Roughani B, Aubel J, and Sundaram S. Correlation of interference effects in photoreflectance spectra with GaAs homolayer thickness. *J Appl Phys* 1990; 68:4656. (IF=2.171)
5. Huang D, Kallergi M, Aubel J, Sundaram S, DeSalvo J, and Comas J. Lattice damage and atomic mixing induced by As⁺⁺ implantation and thermal annealing in AlAs/GaAs multiple quantum well structures. *J Appl Phys* 1991; 70(8):4181-4189. (IF=2.171)

6. **Kallergi M**, Woods K, Clarke LP, Qian W, and Clark RA. Image Segmentation in Digital Mammography: Comparison of Local Thresholding and Region Growing Algorithms. *Comp Med Imag Graph* 1992; 16(5):323-331. (IF=1.158)
7. Qian W, **Kallergi M**, and Clarke LP. Order Statistic-Neural Network Hybrid Filters for Gamma Camera-Bremsstrahlung Image Restoration. *IEEE Trans Med Imag* 1993; 12(1):58-64. [Co-senior author; performed all experimental work and wrote the paper] (IF=3.755)
8. Qian W, Clarke LP, Kallergi M, and Clark RA. Tree structured nonlinear filters in digital mammography. *IEEE Trans Med Imag* 1994; 13(1):25-36. (IF=3.755)
9. Lucier BJ, **Kallergi M**, Qian W, DeVore RA, Clark RA, Saff EB, and Clarke LP. Wavelet compression and segmentation of mammographic images. *J Dig Imag* 1994; 7(1):27-38. [Co-senior author; this work was done in collaboration with University of South Carolina and Purdue University; performed all the work at USF and wrote the part of the paper that refers to the application and evaluation] (IF=0.953)
10. Priebe CE, Solka JL, Lorey RA, Rogers GW, Poston WL, Kallergi M, Qian W, Clarke LP, and Clark RA. The application of fractal analysis to mammographic tissue classification. *Cancer Letters*, 1994; 77(2,3):183-189. (IF=2.614)
11. Clarke LP, **Kallergi M**, Qian W, Li HD, Clark RA, and Silbiger ML. Tree-structured nonlinear filter and wavelet transform for microcalcification segmentation in digital mammography. *Cancer Letters* 1994; 77(2,3):173-181. [Co-senior author; performed the application and wrote the paper with the first author] (IF=2.614)
12. Li H-D, **Kallergi M**, Clarke LP, Jain VK, and Clark RA. Markov Random Field for Tumor Detection in Digital Mammography. *IEEE Trans Med Imag* 1995; 14(3):565-576. [Co-senior author; supervised the student in his work, provided the database, did the evaluation and writing of the manuscript]. (IF=3.755)
13. Yang Z, **Kallergi M**, DeVore R, Lucier BJ, Qian W, Clark RA, and Clarke LP. Effect of wavelet bases on compressing digital mammograms. *IEEE Engineering in Medicine and Biology Magazine* 1995; 14(5):570-577. [Co-senior author; this work was done in collaboration with University of South Carolina and Purdue University; performed all the work at USF and wrote the part of the paper that refers to the application and evaluation; also supervised the student Yang during his fellowship at USF] (IF=0.649)
14. Li H-D, **Kallergi M**, Qian W, Clarke LP, and Jain VK. Neural network for maximum entropy restoration of nuclear medicine images. *Optical Engineering* 1995; 34(5):1431-1440. [Co-senior author; provided experimental data to the student and supervised his work and application; wrote and corrected the manuscript] (IF=0.877)
15. Qian W, Clarke LP, Zheng B, Kallergi M, and Clark RA. Computer assisted diagnosis for digital mammography. *IEEE Engineering in Medicine and Biology Magazine* 1995; 14(5):561-569. (IF=0.649)
16. Qian W, Kallergi M, Clarke LP, Li HD, Venugopal P, Song D, and Clark RA. Tree structured wavelet transform segmentation of microcalcifications in digital mammography. *Medical Physics* 1995; 22(8):1247-1254. (IF=2.305)
17. **Kallergi M**, Clarke LP, Qian W, Gavrielides M, Venugopal P, Berman CG, Holman-Ferris SD, Miller MS, and Clark RA. Interpretation of calcifications in screen/film, digitized, and wavelet-enhanced, monitor-displayed mammograms: A receiver operating characteristic study. *Academic Radiology* 1996; 3:285-293. (IF=1.409)
18. **Kallergi M**. Digital mammography: From theory to practice. *Cancer Control* 1997; 5(1):72-79.
19. Qian W, Li HD, Kallergi M, Song D, and Clarke LP. Adaptive neural network for nuclear medicine image restoration. *Journal of VLSI Signal Processing* 1998; 18:297-315. (Special issue on *Applications of Neural Networks in Biomedical Imaging/Image Processing*.) (IF=0.593)
20. **Kallergi M**, Gavrielides MA, He L, Berman CG, Kim JJ, and Clark RA. A simulation model of mammographic calcifications based on the ACR BIRADS. *Academic Radiology* 1998; 5:670-679. (IF=1.409)
21. **Kallergi M**, Carney G, and Gaviria J. Evaluating the performance of detection algorithms in digital mammography. *Medical Physics* 1999; 26(2):267-275. (IF=2.305)

22. Li L, Zheng Y, Kallergi M, and Clark RA. Improved method for automatic identification of lung regions on chest radiographs. *Academic Radiology* 2001; 8:629-638. (IF=1.409)
23. **Kallergi M**. Computer-aided diagnosis of mammographic microcalcification clusters. *Medical Physics* 2004; 31(2):314-326. Also selected for publication in the *Virtual Journal of Biological Physics Research* published by the American Physical Society and the American Institute of Physics, issue of February 1, 2004. (IF=2.305)
24. **Kallergi M**, Heine JJ, Berman CG, Hersh MR, Romilly AP, and Clark RA. Improved interpretation of digitized mammography with wavelet processing: A localization response operating characteristic study. *AJR* 2004; 182:697-703. (IF=2.474)
25. **Kallergi M**, Berman CG, Cressman JB, Loeffler WE, Romilly AP, Szabunio MM, Vedam PK, Venugopal PR, and Walker JK. Clinical evaluation of a new digitization device for improved mammography. *Academic Radiology*, 2004; 11(11):1242-1250. (IF=1.409)
26. **Kallergi M**, Lucier BJ, Berman CG, Hersh MR, Kim JJ, Szabunio MS, and Clark RA. High-Performance Wavelet Compression for Mammography: Localization Response Operating Characteristic Evaluation. *Radiology* 2006; 238(1):62-73. (IF=4.815)
27. Wismüller A, Meyer-Bäse A, Lange O, Schlossbauer T, Kallergi M, and Reiser MF. Segmentation and classification of dynamic breast MR image data. *Electronic Imaging*, 2006; 15(1):1-13. (IF=0.694)
28. Li L, Wu Z, Salem A, Chen Z, Chen L, George F, Kallergi M, and Berman C. Computerized analysis of tissue density effect on missed cancer detection in digital mammography. *Comput Med Imaging Graph* 2006; 30(5):291-297. Epub 2006 Jul 11. (IF=1.158)
29. Krupinski EA and **Kallergi M**. Special Review: Choosing a Radiology Workstation: Technical and Clinical Considerations. *Radiology* 2007; 242(3):671-682. Epub 2007, Jan 17. (IF=4.815)
30. Land WH, Margolis D, Kallergi M, and Heine JJ. A kerner approach for ensemble decision combinations with two-view mammography applications. *International Journal of Functional Informatics and Personalised Medicine* 2010; 3(2):157-182.
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50. Charonitakis N, Savvoglu C, and Kallergi M. Robotic Health Assistant: A Line-Following Prototype. Proc. 4th BioMedical Instrumentation and related Engineering and Physical Sciences International Conference 2015, Athens, GR, June 18-20 (poster).
51. Kallergi M, Haynes MS, Bizimi V, Sheth PA, Eshraghi LD, and Love SM. Automated breast ultrasound for the detection and reconstruction of the breast ductal pattern. Proc. 1st European Congress of Medical Physics, Athens, GR, September 1-4, 2016. Physica Medica, Volume 32, Supplement 3, 2016, Page 218.

52. Papiris SA, Pianou NK, Georgakopoulos A, Kolilekas L, Roussou AP, Papaioannou AI, Papadaki G, Giouleka P, Korbila I, Gialafos E, Tomos IP, Argentos S, Kagouridis K, Maniati M, Kelekis N, Filippatos G, Karakatsani A, Kallergi M, Manali ED, and Chatziioannou S. The role of PET in lung sarcoidosis: Preliminary results from Greece. Proc. 8th International WASOG conference, Gdańsk, Poland, June 2 – June 4, 2016.
53. Love SM, Haynes MS, Bizimi V, Eshraghi L, and Kallergi M. Breast Ductal Pattern Generation with 3D Automated Ultrasound. Avon Breast Cancer Forum, Miami, FL, USA, September 7-9, 2016 (poster).
54. Nikolakopoulou MF, Kagiampaki Z, Mitrou Ch, Owens DA, Chatziioannou S, Kallergi M, Moutsatsou P, Panagiotou Ch, Anyfandi E, Papalois A, Papageorgiou ChC, Tsaltas E. Chronic Antipsychotic-Induced Metabolic Syndrome in the Rat: Effects of environmental modulators of the browning process and thermogenesis: A Pilot Study. Proc. 27th Meeting of the Hellenic Society for Neuroscience, Athens, GR, December 8-10, 2017 (poster).

8.5. Articles in Greek Journals (in Greek or English)

1. Stratikopoulos IS, Saatsakis G, and Kallergi M. Noise monitoring and alarm system for infant incubators. *e-Journal of Science & Technology* 2012; 7(3):73-77 ; http://e-jst.teiath.gr/issue_26/Stratikopoulos.pdf.
2. Papoutsis V and Kallergi M. Evaluation of Hospital Personnel: Comparison of Public and Private Sector. *e-Journal of Science & Technology* 2014; 9(3):61-69 ; http://e-jst.teiath.gr/issue_36/Papoutsis_36.pdf
3. Τριανταφύλλου Β, Τριανταφύλλου Χρ, και Καλλέργη Μ. Κλινικά χαρακτηριστικά, παράγοντες κινδύνου και μέθοδοι διάγνωσης της ουρολοίμωξης: μια βιβλιογραφική ανασκόπηση. Το Βήμα του Ασκληπιού, 2022, 21(1):3.

8.6. Abstracts in Greek Conference Proceedings (in Greek or English)

1. Μανταδάκης Ε, Μενύχτας Δ, Χατζηγιάννου Σ, Παπασπύρου ΣΛ, και Καλλέργη Μ. Τηλεϊατρική με PET/CT. 3^η Διεθνής Ιατρική Έκθεση MedicExpo Αθήνα, 27-30 Μαρτίου, 2008.
2. Καλλέργη Μ. Εξελίξεις στην ιατρική απεικόνιση: Μοριακή Απεικόνιση και Απεικόνιση Πολλαπλών Τεχνολογιών. 3^η Διεθνής Ιατρική Έκθεση Medic Expo, Αθήνα, 27-30 Μαρτίου, 2008.
3. Μενύχτας Δ, Μανταδάκης Ε, Χατζηγιάννου Σ, Παπασπύρου ΣΛ, και Καλλέργη Μ. Θέματα διαδικτυακής ασφάλειας για τηλεϊατρικές εφαρμογές. 4^η Διεθνής Ιατρική Έκθεση MedicExpo, Αθήνα, 3-5 Απριλίου, 2009.
4. Φαρσάρης Μ, Σκοπελίτης Μ, Βούρτση Α, και Καλλέργη Μ. Ανάλυση κόστους ψηφιακής και αναλογικής μαστογραφίας στην Ελλάδα. 4^η Διεθνής Ιατρική Έκθεση MedicExpo, Αθήνα, 3-5 Απριλίου, 2009.
5. Καλλέργη Μ. Νανοτεχνολογία & Ιατρική. 4^η Διεθνής Ιατρική Έκθεση MedicExpo, Αθήνα, 3-5 Απριλίου, 2009.
6. Καλλέργη Μ. Απεικόνιση μαστού: 1913-2010. 5^η Διεθνής Ιατρική Έκθεση MedicExpo, Αθήνα, 23-25 Απριλίου, 2010.
7. Μενύχτας Δ και Καλλέργη Μ. REVIEW – Ρομποτική στην Ιατρική. 6^η Διεθνής Ιατρική Έκθεση MedicExpo, Αθήνα, 25-27 Φεβρουαρίου, 2011.
8. Στρατικόπουλος Η, Σαατσάκης Γ, και Καλλέργη Μ. Αυτόματο Σύστημα Παρακολούθησης της Στάθμης Θορύβου σε Μονάδες Εντατικής Θεραπείας. 6^η Διεθνής Ιατρική Έκθεση MedicExpo, Αθήνα, 25-27 Φεβρουαρίου, 2011.
9. Κοντίλη Μ, Κυριαζή Ν, και Καλλέργη Μ. Αξιολόγηση συστήματος CAD για δύο προβολές ψηφιακής μαστογραφίας. 6^η Διεθνής Ιατρική Έκθεση MedicExpo, Αθήνα, 25-27 Φεβρουαρίου, 2011.

10. Κλεφτόγιαννη Ε, Μαθιούδη Ε, και Καλλέργη Μ. Συμπύεση ψηφιακών μαστογραφιών χωρίς ορατές απώλειες. 6^η Διεθνής Ιατρική Έκθεση MedicExpo, Αθήνα, 25-27 Φεβρουαρίου, 2011.
11. Στρατικόπουλος Η, Σαατσάκης Γ, και Καλλέργη Μ. Αυτόματο Σύστημα Παρακολούθησης της Στάθμης Θωρύβου σε Θερμοκοιτίδες προς Αποφυγή Νευρολογικών Παθήσεων στα Νεογνά. Συνέδριο Ελληνικής Εταιρείας Βιοϊατρικής Τεχνολογίας (ΕΛΕΒΙΤ) Αθήνα, 20-21 Ιανουαρίου 2012.
12. Kallergi M, Tzimas A, Roussos E, Georgakopoulos A, Pianou N, Metaxas M, and Chatziioannou S. Correlation of technical and clinical characteristics of whole body and dedicated, high resolution, head neck FDG PET/CT imaging of thyroid cancer. Proceedings of Workshop on Bio-Medical Instrumentation and related Engineering and Physics Sciences (BIOMEPE), Athens, July 6, 2012.
13. Kallergi M, Kondili M, and Kiriazi N. Single and two-view CAD in full field digital mammography. Proceedings of Workshop on Bio-Medical Instrumentation and related Engineering and Physics Sciences (BIOMEPE), Athens, July 6, 2012.
14. Stratikopoulos I, Saatsakis G, and Kallergi M. Noise monitoring and alarm system for infant incubators. Proceedings of Workshop on Bio-Medical Instrumentation and related Engineering and Physics Sciences (BIOMEPE), Athens, July 6, 2012.
15. Σπυρόπουλος Β, Καλλέργη Μ, Γκολφινόπουλου Α, και Μαρίνης Μ. Η στήριξη της ελληνικής φαρμακοβιομηχανίας στη διαχείριση των προσφυγικών και μεταναστευτικών ροών. 6^ο Συνέδριο Διαχείρισης Κρίσεων στον Τομέα της Υγείας, Αθήνα, 21-23 Φεβρουαρίου 2020.

8.7. **Invited Lectures - Seminars**

1. Clarke LP, Blaine GJ, Doi K, Yaffe MJ, Shtern F, Brown GS, Winfield DL, and Kallergi M. Digital mammography cancer screening: factors important for image compression. *Proceedings of the Space and Earth Science Data Compression Workshop (NASA Conference Publication 3191)*, Invited Presentation, Snowbird, Utah, April 2, pp. 63-74, 1993.
2. Clarke LP, Kallergi M, Qian W, Li HD, Velthuizen RP, and Clark RA. Digital mammography: Review of advanced computer assisted diagnostic (CAD) methods. *President's Symposium; Proceedings of the 35th Annual Meeting of the AAPM*, Invited Presentation, Washington DC, August 8-12, 1993.
3. Qian W, Clarke LP, Kallergi M, and Lucier BJ. Wavelet transform for image segmentation and analysis. *President's Symposium; Proceedings of the 35th Annual Meeting of the AAPM*, Invited Presentation, Washington DC, August 8-12, 1993.
4. Kallergi M, Qian W, Venugopal PR, Clark RA, and Clarke LP. Wavelets in digital mammography: enhancement, segmentation, and compression. *Workshop of Computer-Aided Diagnosis in Medical Imaging*, Invited Speaker and Computer Demonstration, Georgetown University Medical Center, Washington D.C., July 5-6, 1994.
5. Kallergi M. Computer assisted diagnosis and digital mammography (1 CME credit). *AAPM Southeastern Chapter Annual Meeting*, Orlando, FL, April 20-21, 1995.
6. Kallergi M. Digital mammography and computer aided design (1 CME credit). *AAPM Southeastern Chapter Fall Meeting*, Orlando, FL, November 20, 1998.
7. Kallergi M. Digital mammography. *Faculty of the Bristol-Myers Squibb Oncology Preceptorship Program*. Lectures to oncology nurses and physician assistants on digital mammography issues, March 1999.
8. Kallergi M. Digital Mammography and Telemammography. *Guest Speaker of the Joint Cancer Conference of the Florida Universities*, Orlando, FL, January 27-29, 2000.
9. Kallergi M. Digital mammography, comparison to screen/film mammography, and quality control requirements. *MQSA Continuing Education Course, Conference of Radiation Control Program Directors - Committee on Mammography*. Tampa, FL, May 12-14, 2000. January 2000
10. Kallergi M. Digital Mammography, CAD, and Telemammography. *Guest Speaker of the Florida West Coast Section Meeting of the American Society of Mechanical Engineers*. February 9, 2000 (Certificate of Appreciation).

11. Kallergi M. Digital Imaging, Breast Cancer. *Invited Speaker at the Moffitt Cancer Center Research Retreat*. February 26, 2000, Tampa, FL.
12. Kallergi M. Digital Mammography Databases. *Invited Speaker at the Technical Topics Conference of the Research Computing Group of the H. Lee Moffitt Cancer Center and Research Institute*. October 18, 2000, Tampa, FL.
13. Kallergi M. Seminar on Digital Mammography. *Invited Speaker of the Mammography Conference for Mammography Personnel - Seminars for Continuing Education*. October 28, 2000, Tampa, FL.
14. Kallergi M. Digital Mammography Clinical Trial: An Update. *Invited Speaker at the Cancer Control Research Interest Group Monthly Meeting*. January 11, 2001, H. Lee Moffitt Cancer Center & Research Institute, Tampa, FL.
15. Kallergi M. QC for Digital Mammography. *Invited Speaker of the Annual Meeting of the Florida Chapter of the AAPM*. April 19-21, 2001, Orlando, FL.
16. Kallergi M. New technologies for breast imaging. *Invited Speaker and Panelist. 4th Annual Breast Cancer Awareness Luncheon, Sarasota/Manatee/Moffitt*, October 17, 2001.
17. Kallergi M. Digital Radiography Computer Aided Detection/Diagnosis – Breast Cancer. *Invited speaker, Digital Radiography Mini-Course, RSNA 2002*.
18. Kallergi M. Evaluation issues on computer aided detection and diagnosis methodologies. *Invited Speaker, NCI Workshop on "Validation of Computer Assisted Diagnosis Procedures"*, Chevy Chase, MD, October 15, 2003.
19. Kallergi M. Digital Mammography and CAD. Hot Topics in Breast Cancer. *Seminars in Oncology. H. Lee Moffitt Cancer Center & Research Institute*. February 16, 2005.
20. Kallergi M. Advances in Breast Imaging. *Breast Imaging Update 2005*. Key West, FL, April 6-9, 2005.
21. Kallergi M. User Interface Optimization. *SCAR University, Section 7, Image Perception. Proc. SCARU, pp. 78-80, Orlando, FL, June 2-5, 2005*.
22. Kallergi M. Update on FFDM Systems. *DC Metropolitan Radiological Society Breast Imaging Update 2005*. Washington DC, October 28-30, 2005.
23. Kallergi M. Digital Mammography and Advanced Applications. *DC Metropolitan Radiological Society Breast Imaging Update 2005*. Washington DC, October 28-30, 2005.
24. Kallergi M. Breast Imaging Technologies. *8th European Conference on Medical Physics (ECMP) and 3rd BIOMEIP International Conference*, Athens, GR, September 11-13, 2014.
25. Kallergi M. Automated 3D assessment of tumor response to therapy. *Science in Technology (SCIinTE) International Conference*, Athens, GR, November 5-7, 2015.
26. Kallergi M. Biostatistics and Big Data. *1st National Conference of Psychosomatic Medicine*. Athens, Greece, November 10-12, 2017. (In Greek) <https://www.youtube.com/watch?v=n4jllfZBz0>
27. Kallergi M, Bizimi V, Manousaki D, Panagiotopoulou A, Haynes MA, Eshraghi L, Senosak N, and Love S. Applying automated breast ultrasound and computer aided detection for the generation of the normal breast's ductal pattern: what we learned from a pilot study. *9th International Symposium on the Breast*. Santa Monica, CA, USA, February 23-24, 2017.
28. Kallergi M. Artificial Intelligence in PET/CT. *8th Hellenic National Conference in Biomedical Engineering*. Athens, Greece, May 9-10, 2019.
29. Kallergi M. Neuroimaging: quantitative brain characteristics. *3rd National Conference of Psychosomatic Medicine*. Athens, Greece, November 29 – December 1, 2019. (In Greek)

8.8. Editorials

1. Kallergi M. *Computer assisted diagnosis in mammography: The role of artificial neural networks and wavelets*. Advance for Administrators in Radiology and Radiation Oncology, Guest Editorial, April 1995.
2. Kallergi M. *Building a Better Mammogram*. Invited contribution, The Moffitt Monographs, Vol. 1, Number 2, pp. 18-21, 2003.
3. Kallergi M. Point/Counterpoint with Robert Nishikawa on CAD for screening mammography. C. Orton (Ed.), Med. Phys. April 2006; 33(4):811-814.

8.9. Book Reviews

1. Meyer-Bäse A. *Pattern Recognition for Medical Imaging*. Elsevier Academic Press, San Diego, CA 2004.
2. *Advanced Plaque Imaging: Pixel to Molecular Levels*. CRC Press 2004.
3. Beverly Hashimoto. *Practical Digital Mammography*. Thieme Press 2005.

9. CITATIONS

SCOPUS

Date of last search:	January 2022
Number of publications with citations:	74
Number of citations (excluding self-citations):	1014
Maximum number of citations for one publication:	203
Index- h (for publications after 1995):	16

GOOGLE SCHOLAR

Date of last search:	January 2022
Number of publications with citations:	132
Number of citations:	2716
Maximum number of citations for one publication:	435
Index- h :	25
i10-index:	40

10. RESEARCH PROJECTS

10.1. Active Research Projects

NONE

10.2. Completed Research Projects

Project Title: Digital enhancement of mammograms
Source of Support: ACS/Moffitt Cancer Center - Institutional Grant Program
Role in Project: Principal investigator
Award amount (\$): 10,000 (per year)
Period covered: 02/1/1994 - 01/31/1995 (completed)
Effort (%): 10
Brief Description: Application and evaluation of algorithm for digital mammogram enhancement

Project Title: Quantitative imaging of beta emitters using the gamma camera
Source of Support: NIH Ioniz Rad Imag (DCT)
Role in Project: Co-Investigator (PI: LP Clarke)
Award amount (\$): 136,942 (per year)
Period covered: 01/01/93 - 12/31/95 (completed)
Effort (%): 50
Brief Description: Imaging of beta emitters and development of software for image restoration and dosimetry measurements

Project Title: SPECT at 511 keV: Use of neural network image restoration filters for collimators with weight constraints.
Source of Support: ADAC Laboratories
Role in Project: Co-Investigator (PI: LP Clarke)
Award amount (\$): 44,000 (per year)
Period covered: 11/01/94 - 10/31/95 (completed)
Effort (%): 5
Brief Description: Use a SPECT camera for positron imaging and apply restoration filters to improve image quality and quantitation

Project Title: Advanced signal processing methods applied to digital mammography and other imaging modalities.
Source of Support: NASA: Life and Microgravity Sciences and Application
Role in Project: Co-Investigator for USF Subcontract (PI: K. Cullers)
Award amount (\$): 74,970 (per year)
Period covered: 09/01/94 - 08/31/95 (completed)
Effort (%): 5
Brief Description: Investigation of wavelets and noise modeling methods to identify normal mammograms.

Project Title: Participation to the Medical Informatics Europe 1997 Congress
Source of Support: University of South Florida; Faculty International Travel Award
Role in Project: Principal Investigator
Award amount (\$): 1,500
Period covered: N/A (completed)
Effort (%): N/A

Brief Description: Participate and present paper on medical image databases to the Medical Informatics Europe Congress, Sithonia, Greece, May 25-29, 1997.

Project Title: Digital mammography: Second opinion strategy using telemedicine.
Source of Support: Susan G. Komen Breast Cancer Foundation
Role in Project: Co-investigator (PI: RA Clark)
Award amount (\$): 50,000 (per year)
Period covered: 5/01/98 - 4/30/99 (completed)
Effort (%): 5 (donated)
Brief Description: Study the feasibility of telemammography and use of CAD enhancement methods based on wavelets to standardize remote diagnosis using breast cancer screening as a clinical model.

Project Title: Digital x-ray mammogram: Multiple image display workstation for remote analysis of images.
Source of Support: GTE & H. Lee Moffitt Cancer Center and Research Institute
Role in Project: Principal Investigator
Award amount (\$): 25,000
Period covered: 07/01/1998 - 06/30/99 (completed)
Effort (%): 5 (donated)
Brief Description: This is a pilot telemammography study that aims at the development and evaluation of a workstation-user interface with two high resolution monitors for primary reading of digital mammograms.

Project Title: Digital mammography: Computed radiographic diagnosis and multisite ROC evaluation.
Source of Support: Navy Medical Research & Development, USUHS
Role in Project: Co-Investigator (PI: RA Clark)
Award amount (\$): 1,049,673
Period covered: 10/01/95 - 09/30/99 (completed)
Effort (%): 30
Brief Description: Development and clinical evaluation of CAD methods for digitized screen-film mammography; multisite ROC evaluation by USUHS and USF/Moffitt Cancer Center.

Project Title: USF Bioengineering Institute
Source of Support: USF - Infrastructure grant
Role in Project: Co-founder and member of steering committee
Award amount (\$): 80,000 per 2 years
Period covered: 06/01/1999 - 05/31/01 (completed)
Effort (%): 5 (donated)
Brief Description: The goal of this effort is the establishment of a comprehensive institute for bioengineering that will support and unite existing research and educational programs at USF dealing with all aspects of bioengineering related scientific areas.

Project Title: Computer-aided diagnosis, digital x-ray imaging, and teleradiology research initiatives: Phase I
Source of Support: Navy Medical Research & Development, USUHS
Role in Project: Co-PI (PI: RA Clark)
Award amount (\$): 1,200,000
Period covered: 10/01/99 - 06/01/01 (completed)
Effort (%): 50

Brief Description: Clinical evaluation of a full-field digital mammography system. Development and clinical evaluation of CAD methods for screen/film mammography and translation to digital mammography. Multisite ROC evaluation of screen/film CAD by USUHS and USF/Moffitt Cancer Center.

Project Title: Computer-aided diagnosis, digital x-ray imaging, and teleradiology research initiatives: Phase II

Source of Support: Navy Medical Research & Development, USUHS

Role in Project: Co-PI (PI: RA Clark)

Award amount (\$): 600,000

Period covered: 06/01/01 - 12/31/01 (completed)

Effort (%): 50

Brief Description: Continuing clinical evaluation of a full-field digital mammography system. Development and clinical evaluation of CAD methods for digital mammography. Computer evaluation of digital CAD on large databases.

Project Title: Computer-aided diagnosis, digital x-ray imaging, and teleradiology research initiatives: Phase III

Source of Support: Navy Medical Research & Development, USUHS

Role in Project: Co-PI (PI: RA Clark)

Award amount (\$): 230,000

Period covered: 01/01/02 - 03/31/02 (completed)

Effort (%): 50

Brief Description: The goal of this project is to translate work from 2D digital mammography to 3D tomosynthesis. In particular, the goals are to perform preliminary studies and groundwork on (a) the characteristics of 3D tomosynthesis images, and identify similarities and differences to 2D digital mammography, and (b) the requirements for translating CAD algorithms developed for 2D breast imaging to phantom and clinical data obtained with the GE digital tomosynthesis system.

Project Title: CAD for mammographic interpretation of calcifications.

Source of Support: National Institutes of Health (FIRST Award)

Role in Project: Principal Investigator

Award amount (\$): 74,148 (per year)

Period covered: 07/01/1996 - 06/30/02 (completed)

Effort (%): 50

Brief Description: Develop and evaluate a novel computer algorithm for the detection and classification of calcifications associated with breast cancer assisting radiologists in the diagnosis.

Project Title: A system for computer-aided mammogram interpretation

Source of Support: NCI/SBIR

Role in Project: PI on subcontract (PI: K. Woods of Intelligent Systems)

Award amount (\$): 6,800

Period covered: 09/01/00 - 06/30/02 (completed)

Effort (%): 2

Brief Description: The major goal of this project is to develop CAD methods for breast cancer detection from mammograms. The role of the subcontract is to provide to Intelligent Systems the necessary data. Mammograms from the mammography screening program of the H. Lee Moffitt Cancer Center & Research institute will be provided for the evaluation of the CAD algorithms developed by the company.

Project Title: Participation to the 6th International Workshop in Digital Mammography and the 16th International Congress and Exhibition of Computer Assisted Radiology and Surgery
Source of Support: University of South Florida; Faculty International Travel Award
Role in Project: Principal Investigator
Award amount (\$): 1,500 (completed)
Period covered: N/A
Effort (%): N/A
Brief Description: Participate and present papers on digital tomosynthesis at the IWDM and CARS 2002.

Project Title: Three-dimensional representation of the breast with digital mammography
Source of Support: DoD/U.S. Army/BCRP 2000 – Concept award
Role in Project: Principal Investigator
Award amount (\$): 72,500
Period covered: 07/01/01 - 6/30/03 (completed)
Effort (%): 10
Brief Description: The major goal of this project is to develop a new imaging methodology and an algorithm for the three-dimensional reconstruction of the breast using the two mammographic views and spatial markers. The outcome may have applications to physical examinations, mammography, and breast cancer treatment.

Project Title: Digital Mammography: Optimized CAD System for Mass Detection
Source of Support: ACS
Role in Project: Co-Investigator (PI: W. Qian)
Award amount (\$): 119,362/yr (2 years)
Period covered: 01/01/00 - 12/31/03(completed)
Effort (%): 5 (cost-sharing)
Brief Description: The major goal of this project is to develop and evaluate a CAD algorithm for the detection of masses in digital and digitized mammograms.

Project Title: 3D Digital Mammography -- Advanced Applications and Clinical Studies: Phase I
Source of Support: Navy Medical Research & Development, USUHS
Role in Project: Co-PI (PI: RA Clark)
Award amount (\$): 450,000 (total)
Period covered: 07/01/02 - 09/30/04 (completed)
Effort (%): 30
Brief Description: The goals of this project are to continue (a) to study and determine the characteristics of tomosynthesis images, and identify similarities and differences to 2D digital mammography, and (b) to investigate the translation of CAD algorithms developed for 2D breast imaging to phantom and clinical data obtained with the GE digital tomosynthesis system.

Project Title: Robust detection of masses in digitized mammograms
Source of Support: DoD/US Army
Role in Project: Co-Investigator (PI: Lihua Li)
Award amount (\$): 222,827 (direct) per 4 years
Period covered: 03/01/00-02/28/05(completed)
Effort (%): 2 (cost-sharing)
Brief Description: The major goal of this project is to develop and evaluate a robust CAD

method for mass detection in digitized mammograms. The method will include image standardization, adaptive, and multi-mode processing, and hybrid classification for improved and robust segmentation, and classification of breast tumors.

Project Title: Digital vs. Screen-Film Mammography
Source of Support: Mammography Imaging Screening Trial (DMIST) of the American College of Radiology Imaging Network (ACRIN - 6652)
Role in Project: Co-Investigator (PI: Pisano E)
Award amount (\$): \$/patient
Period covered: 04/01/02 – 03/31/05 (completed)
Effort (%): N/A
Brief Description: This was a multisite clinical trial. The goal of the project was to collect a large number of digital and corresponding screen/film mammograms to compare the two imaging modalities.

Project Title: Evaluation of flat panel displays for digital mammography.
Source of Support: National Display Systems
Role in Project: PI
Award amount (\$): \$20,000 - In-kind, equipment support
Period covered: 08/01/04 – 07/31/05 (completed)
Effort (%): 5
Brief Description: The goal of this project was to characterize and evaluate two new flat-panel, high-resolution monitors relative to standard CRTs for primary diagnosis of digitized and digital mammograms.

Project Title: Magnetic Resonance Electrical Impedance Mammography
Source of Support: NIH/NCI-STTR – Phase I
Role in Project: PI / Consultant to Moffitt Cancer Center & Wollin Ventures, Inc.
Award amount (\$): 100,000 (direct)
Period covered: 04/01/2005 – 03/31/07 (completed)
Effort (%): N/A
Brief Description: The major goal of this project is to implement, test, and evaluate the development of a new technique for breast cancer imaging that incorporates electrical impedance principles in MRI.

Project Title: Computerized Analysis and Detection of Missed Cancer in Screening Mammogram
Source of Support: BCRP US Army MRM 2002
Role in Project: Co-Investigator (PI: Lihua Li)
Award amount (\$): 490,000 (direct)
Period covered: 03/01/03 - 2/28/07 (completed)
Effort (%): 10 (volunteered)
Brief Description: The goals of this project are to perform an analysis of the missed cancer cases in screening mammography, and develop new CAD algorithms for the detection and diagnosis of early breast cancer signs to significantly reduce perception errors.

Project Title: Pre-clinical and clinical evaluation of high resolution, mobile gamma camera and positron imaging devices
Source of Support: DOD – US Army - Subcontract
Role in Project: Co-Investigator (PI: David Gilland - UF; PI Subcontract: Claudia G. Berman - USF)

Award amount (\$): 75,000 (total)
Period covered: 05/13/05 – 05/12/06 (completed)
Effort (%): 5
Brief Description: The goal of this project is to design, build and evaluate a compact and mobile gamma and positron imaging camera for the diagnosis, staging, and treatment of cancer and heart disease.

Project Title: Computer aided diagnosis in breast MRI
Source of Support: NIH/NCI-Mentored Quantitative Research Career Award
Role in Project: Co-Mentor (PI: Anke Meyer-Baese – FSU)
Award amount (\$): 35,000
Period covered: 04/01/06-03/31/08 (completed)
Effort (%): N/A
Brief Description: The major goal of this project is the development of computer algorithms for breast MRI. It is a career transition award for Dr. Meyer-Baese. I am co-mentor to Dr. Meyer-Baese for this work.

Project Title: Automated three-dimensional techniques for treatment monitoring in oncology (ATMO)
Source of Support: European Union (European Social Fund – ESF) and Greek national funds through the Operational Program "Education and Lifelong Learning" of the National Strategic Reference Framework (NSRF) - Research Funding Program: ARCHIMEDES III. Investing in knowledge society through the European Social Fund

Role in Project: Principal investigator
Award amount (€): 100,000
Period covered: 01/01/2012 - 30/06/2015 (completed)
Effort (%): 13 (7 calendar months total)
Brief Description: Evaluation of PET/CT for treatment monitoring of cancers and development of algorithms for the automated analysis and measurement of tumors as a function of treatment and time in three dimensions.

Project Title: Software and hardware development for ensuring continuity of care between primary hospitals and at-home care in Greece
Source of Support: European Union (European Social Fund – ESF) and Greek national funds through the Operational Program "Education and Lifelong Learning" of the National Strategic Reference Framework (NSRF) - Research Funding Program: ARCHIMEDES III. Investing in knowledge society through the European Social Fund

Role in Project: Co-Investigator (P.I. B. Spyropoulos, Ph.D.)
Award amount (€): 100,000
Period covered: 01/01/2012 - 30/09/2015 (completed)
Effort (%): 13 (7 calendar months total)
Brief Description: The purpose of this project is the development of new software and hardware that will ensure the continuation of care between primary health care facilities and home after a patient is dismissed while conforming with Greek National, European, and International regulations and standards.

Project Title: Electronic textbook design, development, and editing on hospital organization
Source of Support: European Union (European Social Fund – ESF) and Greek national funds through the Operational Program "Education and Lifelong Learning" of the

National Strategic Reference Framework (NSRF) – Funding Program:
Kallipos
Role in Project: Reviewer (P.I. B. Spyropoulos, Ph.D.)
Award amount (€): 10,000
Period covered: 01/1/2015 - 30/11/2015 (completed)
Effort (%): 5
Brief Description: The purpose of this project is the development of new electronic textbooks for undergraduate and graduate courses.

11. APPENDIX

11.1. Supervised SENIOR THESES/INTEGRATED MS projects (2009-today)

(Original in Greek or English)

1. Mantadakis E and Menichtas D. *Teleradiology Applications*. Department of Medical Instruments Technology, Technological Educational Institute of Athens. June 4, 2009.
2. Markopoulos A and Tsilis K. *Survey of the quality of screen/film mammography systems in Greece*. Department of Medical Instruments Technology, Technological Educational Institute of Athens. July 6, 2009.
3. Farsaris M and Skopelitis M. *Cost comparison of full field digital mammography and screen film mammography*. Department of Medical Instruments Technology, Technological Educational Institute of Athens. May 2010.
4. Kontili M and Kiriazi N. *Single view v. two- view CAD performance in full field digital mammography*. Department of Medical Instruments Technology, Technological Educational Institute of Athens. July 2011.
5. Mpakogiannis N. *X-ray applications in medicine and industry: Comparison of the Philips duo DIAGNOST radiography system and the airport security x-ray inspection unit Smiths Heimann 6040i*. Department of Medical Instruments Technology, Technological Educational Institute of Athens. March 2011.
6. Stratikopoulos I. *Automated noise monitoring system in neonatal care units*. Department of Medical Instruments Technology, Technological Educational Institute of Athens. March 2011.
7. Kleftogianni L and Mathioudi E. *Visually lossless wavelet compression of full field digital mammograms*. Department of Medical Instruments Technology, Technological Educational Institute of Athens (in collaboration with the Department of Mathematics, Purdue University, USA). December 2011.
8. Roussos S and Tzimas A. *PET/CT for thyroid cancer: standard and automated tumor volume measurements*. Department of Medical Instruments Technology, Technological Educational Institute of Athens. May 2012.
9. Theopoulou C. *New applications of bioluminescence and fluorescence imaging*. Department of Medical Instruments Technology, Technological Educational Institute of Athens. May 2012.
10. Papoutsis V. *Health sector personnel evaluation: Comparison of a public and a private hospital*. Department of Medical Instruments Technology, Technological Educational Institute of Athens. May 2013.
11. Fanourakis S. *Design of a quality control program for a large, urban hospital*. Department of Biomedical Engineering, Technological Educational Institute of Athens. April 2014.
12. Pappa A and Lamprou I. *Backup power system using photovoltaic panels and fuel cells in the intensive care unit of the general hospital of Lamia*. Department of Biomedical Engineering, Technological Educational Institute of Athens. January 2014.
13. Velmahos I and Zekio M. *Robotic knee model*. Department of Biomedical Engineering, Technological Educational Institute of Athens. May 2014.
14. Kouzas G and Kotsianidis V. *PET/CT systems: Market review and applications*. Department of Biomedical Engineering, Technological Educational Institute of Athens. May 2014.
15. Papathanasiou D. *Financial and technical analysis for the purchase and installation of Cyberknife*. Department of Biomedical Engineering, Technological Educational Institute of Athens. December 2014.
16. Golfinoopoulou A, Gremos A, and Preppa Ch. *FFDM and Breast Tomosynthesis: Impact on personnel, workflow, and digital infrastructure*. Department of Biomedical Engineering, Technological Educational Institute of Athens. December 2014.
17. Risto S. *Modelling and Simulation of the Knee Joint*. Department of Biomedical Engineering, Technological Educational Institute of Athens. May 2015.
18. Georgiou Th. *Modelling patient height from PET and CT data*. Department of Biomedical Engineering, Technological Educational Institute of Athens. October 2015.

19. Charonitakis E and Savvoglou Ch. *Robotic nurse*. Completed December 2015.
20. Politis N. *Three-dimensional metrics for quantitative monitoring of treatment effects with PET/CT*. Completed June 2016.
21. Saitis P and Orologas F. *Algorithm for the quantitative estimate of lung sarcoidosis on PET/CT*. Completed November 2016.
22. Zotou F. *The position of the application specialist in biomedical technology in contemporary Greece*. Completed March 2017.
23. Manousaki D and Panagiotopoulou A. *Mapping the breast ductal system with automated breast ultrasound*. Completed May 2017.
24. Lagou G. *Radiopharmaceutical production and use in Greece*. Completed May 2018.
25. Katomeris K and Pirintzos G. *A public database for breast cancer research*. Completed May 2018.
26. Katiou A and Isaakidis I. *Comparison of laparoscopic, robotic, and open surgery procedures for total prostatectomy*. Completed May 2018.
27. Theofanous R. *Correlation of imaging and genetic data for the prognosis of Alzheimer's disease*. Completed November 2018.
28. Kovatsou Z. *Greek hospital pharmacy: Framework of operation and optimization plan*. Completed November 2018.
29. Foti A. *Semi-automated calculation of the metabolic volume of brown fat in PET/CT imaging using ImageJ and PET CT Viewer*. Completed November 2018.
30. Tsitomena L. *Study of a "service robot" for hospital applications*. Completed November 2018.
31. Fetsis E. *Study of a "service robot" for personal, patient-oriented applications*. Completed November 2018.
32. Kolokotronis N. *Design, implementation, and evaluation of a smart phone app to record and report daily exercise patterns in patients with psychological disorders*. Completed December 2018.
33. Skondra I. *Brown adipose tissue imaging in mice with μ PET/CT*. Completed March 2019.
34. Loizidis A. *Variability of external quality control of biochemical analyzers*. Completed April 2019.
35. Vassilopoulos G. *Study of the effectiveness of the various radiation treatments on nasopharyngeal cancer*. Completed October 2019.
36. Kourmadia K. *Small cyclotron units for nuclear medicine radionuclide production: Technological advances and economic analysis*. Completed October 2019.
37. Triantafillou V. *Accuracy and reproducibility of over-the-counter kits for urinary tract infection diagnosis*. Completed March 2020.
38. Theofanous Th. *A kinematic and dynamic model of human upper extremity*. Completed March 2020.
39. Antoniadou G. *Differences in upper extremity extension capabilities between young and elder population*. Completed March 2020.
40. Ouzounis S. *Smart-phone application for at-home INR measurements: Hardware requirements*. Completed July 2020.
41. Glezakos K. *Hospital applications of antibacterial Copper*. Completed November 2020.
42. Stamos L. *Strategic marketing of ICU ventilators*. Completed November 2020.
43. Zakou L. *Comparison of ^{18}F -FDG and ^{68}Ga -DOTATATE PET/CT for neuroendocrine tumors of the liver*. Completed March 2021.