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Academy of Athens
Mathematics Research Center
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 <https://orcid.org/0000-0002-1283-0883>

 <https://www.scopus.com/authid/detail.uri?authorId=6601986817>

 <https://scholar.google.gr/citations?user=5zvypmcAAAAJ&hl=en>

 <https://gr.linkedin.com/in/georgekastis>

 https://www.researchgate.net/profile/George_Kastis

CURRENT POSITION

Academy of Athens
Mathematics Research Center (MaRC)
Researcher – Professor Level
Acting Director of the Center

Athens, Greece

2019–Present

2009–Present

EDUCATIONAL BACKGROUND

THE UNIVERSITY OF ARIZONA

PhD, Optical Sciences, **GPA: 3.83**

Dissertation Title: “Multi-Modality Imaging of Small-Animals”

Advisor: Dr. Harrison H. Barrett, Regents Professor

Tucson, AZ, USA

2002

THE UNIVERSITY OF ARIZONA

MS, Optical Sciences, **GPA: 3.75**

Tucson, AZ, USA

1997

UNIVERSITY OF CALIFORNIA IRVINE (UCI)

BS, Physics, *Magna Cum Laude* (2nd in the Physical Sciences Department), *Honors in Physics*, Minor in Mathematics, Sigma Pi Sigma, **GPA: 3.92**

Honors Senior Thesis: “Time-Resolved Measurements of Shock-Waves and Cavitation Bubbles Generated by Femtosecond Laser Pulses in Bovine Cornea and Water”

Irvine, CA, USA

1994

HONORS and AWARDS

- **Best Abstract Award** 2025
12th Balkan Congress and 17th National Congress of Nuclear Medicine
- **1st Poster Award** 2024
2nd Panhellenic Congress in Medical Physics 2024
- **Scientific Publications Expenses Coverage Assistance Program 2016** 2016
“Alexander S. Onassis” Public Benefit Foundation
- **Best Scientific Work Award** 2016
5th Balkan Congress and 13th National Congress of Nuclear Medicine
- **Best Poster Presentation** 2007
16th Annual Panhellenic Congress on Chest Diseases
- **“Vasil and Karmen Konstantakopoulos” Scholarship** 2006
Thorax Foundation, Research Centre of Intensive and Emergency Thoracic Medicine
- **Greek Research Scholarship in Pneumology** 2005

<i>GlaxoSmithKline</i>	
• Michael B. Merickel Best Student Paper Award (co-author) <i>SPIE Medical Imaging 2003</i>	2003
• 2nd Place Award for Basic Science Investigations (co-author) <i>The Journal of Nuclear Medicine</i>	2002
• Young Investigator Award (Honorable mention) <i>45th Annual Meeting of the Society of Nuclear Medicine</i>	1998
• Three-year Graduate Fellowship <i>“Alexander S. Onassis” Public Benefit Foundation</i>	1997
• AHEPA Scholarship <i>The American Hellenic Educational Progressive Association (AHEPA), Arizona Chapter 275</i>	1997
• Research Associateship <i>Department of Radiology, The University of Arizona</i>	1997–2002
• Teaching Assistantship <i>Optical Sciences Center, The University of Arizona</i>	1997
• Research Assistantship <i>Department of Radiology, The University of Arizona</i>	1995–1997
• Full-year Graduate Fellowship <i>Optical Sciences Center, The University of Arizona</i>	1994
• B.S. in Physics with Magna Cum Laude <i>University of California Irvine</i>	1994
• Honors in Physics <i>University of California Irvine</i>	1994
• Nominated for the Presidential Award of the University of California by the School of Physical Sciences <i>University of California Irvine</i>	1994
• Outstanding Undergraduate Researcher <i>University of California Irvine</i>	1994
• Herbert H. Chen Award (Best junior student) <i>University of California Irvine</i>	1993

RESEARCH GRANTS

• Optimized Road Awareness for Last-Mile Delivery and Critical Logistics Efficiency Role: Principal Investigator , Funded by: Programme Competitiveness (co-funded by the European Union).	2026-2029
• Magnetic Particle Imaging for next-generation theranostics and medical research (NexMPI) - COST Action CA23132 Role: Grant Holder Scientific Representative, Management Committee Member , Funded by: COST Association – European Cooperation in Science and Technology.	2024-2028
• Applications of Artificial Intelligence in Medicine and Biotechnology Role: Principal Investigator , Funded by: National Development Program (NDP) 2021-25 (OΠΣ 5223471).	2024-2025
• Development and Validation of reconstruction algorithms in Magnetic Particle Imaging (MPI) Role: Principal Investigator , Funded by: National Development Program (NDP) 2021-25 (OΠΣ 5223471).	2024-2025
• Statistical Analysis in Medical Imaging Role: Research Associate , Funded by: National Development Program (NDP) 2021-25 (OΠΣ 5223471).	2024-2025

- **Radiogenomic analysis diagnostic and therapeutic potential of cancer**
Role: Research Associate, Funded by: National Development Program (NDP) 2021-25 (ΟΠΣ 5223471).

2024-2025
- **The Unified Transform Method for Solving Partial Differential Equations**
Role: Research Associate, Funded by: National Development Program (NDP) 2021-25 (ΟΠΣ 5223471).

2024-2025
- **Algorithms for Electroencephalography and Magnetoencephalography**
Role: Principal Investigator, Funded by: Research Committee of the Academy of Athens.

2022-2025
- **Development of a therapeutic molecule for the treatment and diagnosis of glioblastoma**
Role: Research Associate, Funded by: RESEARCH – CREATE – INNOVATE (Next Generation EU).

2022–2025
- **The Unified Transfer Method for Solving Partial Differential Equations**
Role: Research Associate, Funded by: Research Committee of the Academy of Athens.

2021–2023
- **Radiogenomic analysis for the evaluation of the therapeutic potential of a new nanoparticle-based brachytherapy technique**
Role: Research Associate, Funded by: Research Committee of the Academy of Athens.

2021–2023
- **Development and Evaluation of MR-SRT, a new reconstruction algorithm for MRI**
Role: Principal Investigator, Funded by: Research Committee of the Academy of Athens.

2020–2022
- **Development and Evaluation of a new 3D image reconstruction algorithm for PET**
Role: Principal Investigator, Funded by: Research Committee of the Academy of Athens.

2018–2021
- **Inverse Problems and Medical Imaging**
Role: Research Associate, Funded by: Research Committee of the Academy of Athens.

2014–2023
- **Real-Data Implementation and Evaluation of an Analytic Reconstruction Algorithm: Comparison with FBP and OSEM**
Role: Principal Investigator, Funded by: Onassis Foundation.

2015–2017
- **Workshop on Small-Animal SPECT**
Role: Principal Investigator, Funded by: National Institute of Biomedical Imaging and Bioengineering, USA.

2003
- **Southwest Small Animal Imaging Resource**
Role: Research Associate, Funded by: National Cancer Institute, USA.

1999–2003
- **Center for Gamma-Ray Imaging**
Role: Research Associate, Funded by: National Institute of Biomedical Imaging And Bioengineering, USA.

1999–2003
- **Semiconductor Detector Arrays for Nuclear Medicine**
Role: Research Associate, Funded by: National Cancer Institute, USA.

1997–2000
- **SPECT Imaging and Parallel Computing**
Role: Research Associate, Funded by: National Institute of Biomedical Imaging And Bioengineering, USA.

1995–2000
- **Improved Imaging in Nuclear Medicine**
Role: Research Assistant, Funded by: National Cancer Institute, USA.

1995–1997

RESEARCH EXPERIENCE

Academy of Athens	Athens, Greece
Mathematics Research Center	
Researcher – Professor Level	2019–Present
Researcher – Associate Professor Level	2014–2019
Researcher – Assistant Professor Level	2009–2014
Acting Director of the Center	2009–Present

National Center for Scientific Research "DEMOKRITOS"	Athens, Greece
Institute for Nuclear and Radiological Sciences, Technology, Energy and Safety	
Affiliated Researcher	2016–Present

University of Southern California	Los Angeles, CA, USA
USC Viterbi School of Engineering,	
Ming Hsieh Department of Electrical and Computer Engineering	
Visiting Scholar	04/2017–09/2017

Thorax Foundation	Athens, Greece
Research Centre of Intensive and Emergency Thoracic Medicine	
Postdoctoral Researcher	2005–2008

National and Kapodistrian University of Athens	Athens, Greece
First Department of Pulmonary and Critical Care, Evangelismos Hospital	
Postdoctoral Researcher	2006–2007

The University of Arizona	Tucson, AZ, USA
Center for Gamma-Ray Imaging	
Postdoctoral Research Associate	2002–2003

The University of Arizona	Tucson, AZ, USA
Department of Radiology	
Graduate Research Associate	1997–2002
I employed semiconductor detectors to construct the <i>first</i> dual modality SPECT/CT scanner for small animals with a resolution of 380 μm .	

The University of Arizona	Tucson, AZ, USA
Department of Radiology	
Graduate Research Assistant	1995–1997

The University of California Irvine	Irvine, CA, USA
Department of Physics	
Honors Program Researcher	1993–1994
My Honor's thesis led to an article titled "Time-Resolved Measurements of Shock-Waves and Cavitation Bubbles Generated by Femtosecond Laser Pulses in Bovine Cornea and Water" which was published in Lasers in Surgery and Medicine and has acquired more than 300 citations. This seminal work (which is referenced in more than 18 US patents) led to the <u>development of the LenSx Femtosecond Laser System</u> which introduced femtosecond lasers for lens fragmentation and revolutionized cataract surgery.	

TEACHING EXPERIENCE

Technical NCO Academy (Air Force)	Dekeleia, Greece
Instructor	2005–2011
<ul style="list-style-type: none">Instructor – Wave Propagation, Transmission / Reception Technology	

Hellenic Air-Force Academy	Dekeleia, Greece
<ul style="list-style-type: none">Instructor – Lecturer Level, Electronics Laboratory	2008–2009

Merchant Marine Academy of Aspropyrgos	Aspropyrgos, Greece
Instructor – General Physics	2005–2006

The University of Arizona
Optical Sciences Center
Graduate Teaching Assistant – Physical Optics

Tucson, AZ, USA

Spring 1997

ADMINISTRATIVE EXPERIENCE

- **Acting Director**, Mathematics Research Center 2009– Present
- **Vice-President**, Scientific Council of the Research Centers of the Academy of Athens (E.S.E.K.A.A.) 2017– Present

AREA OF COMPETENCE

Multi-modality medical imaging including PET, SPECT, MRI, MPI, CT; image reconstruction; inverse problems; molecular imaging; small-animal imaging; biomedical engineering; mathematics and artificial intelligence; medical physics; semiconductor detectors, scintillation cameras.

COMPUTER SKILLS

Operating Systems:	Windows, UNIX/Linux
Program Languages:	MatLab, C++, FORTRAN, Labview
Medical Imaging Software:	STIR, Amide, ImageJ
Scientific Computing & Data Analysis:	Mathcad, Mathematica, Origin, Statistica, SigmaPlot
Image Processing & Visualization	LIFEx, 3D Slicer
Typesetting & Technical Documentation	LaTeX

CONTINUING EDUCATION (Short-courses attended)

- Biostatistics and Epidemiology Seminar, Hellenic National School of Public Health, Athens, Greece, March 31, 2007.
- “Multi-Modality Imaging Devices,” Instructors: B. Hasegawa and S. R. Cherry, *IEEE Nuclear Science Symposium and Medical Imaging Conference*, Norfolk, VA, USA, November 10–16, 2002.
- “Theory and Practice of Modular Scintillation Cameras,” Instructor: H. H. Barrett, *IEEE Nuclear Science Symposium and Medical Imaging Conference*, San Diego, CA, USA, November 4–10, 2001.

INVITED TALKS

1. 29th Summer School Dynamical Systems and Complexity, “Analytic reconstruction methods for PET”, Athens, Greece, July 17–26, 2023.
2. 28th Summer School Dynamical Systems and Complexity, “Analytic reconstruction methods for Positron Emission Tomography”, Chania, Greece, July 18–26, 2022.
3. RADIOMAG Training School (COST Action TD 1402), “Multifunctional Nanoparticles for Magnetic Hyperthermia and Indirect Radiation Therapy”, Athens, Greece, November 21–24, 2017.
4. IST 2014, IEEE International Conference on Imaging Systems & Techniques, Santorini, Greece, October 14–17, 2014.
5. ECMP2014, 8th European Conference on Medical Physics, Athens, Greece, September 11–13, 2014.
6. Research Center of Astronomy and Applied Mathematics, Academy of Athens, February 2010.
7. Department of Biomedical Engineering, University of California Davis, Dr. Simon Cherry’s Group, March 2003.
8. National Center for Scientific Research "Demokritos", Institute of Nuclear and Particle Physics, Athens, Greece, January 2003.
9. 23rd Annual Industrial Affiliates Workshop, Optical Sciences Center, Tucson, Arizona, USA, February 2002.
10. Campuswide Undergraduate Research Symposium, University of California Irvine, Irvine, California, USA, Μάιος 1994.

INTERNATIONAL CONFERENCE PARTICIPATION

1. "Partial Differential Equations in Applied Mathematics: a hybrid conference in honour of Ioannis Stratis" Athens, Greece, 4–5 July, 2023.
2. IEEE BIBE 2019, Athens, Greece, 28–30 October, 2019.
3. BIOMEPP 2017, International Conference on Bio-Medical Instrumentation and related Engineering and Physical Sciences, Athens, Greece, 12–13 October, 2017.
4. 2016 *IEEE Nuclear Science Symposium and Medical Imaging Conference*, Strasbourg, France, October 29–November 5, 2016.

5. 1st European Congress of Medical Physics, Athens, Greece, September 1–4, 2016.
6. IC-MSQUARE 2016, 5th International Conference on Mathematical Modeling in Physical Sciences, Athens, Greece, May 23–26, 2016.
7. 1st Hellenic Workshop on Gallium-68: From Isotope Production to PET Imaging, Athens, Greece, November 15, 2014.
8. IST, 2014 IEEE International Conference on Imaging Systems & Techniques, Santorini, Greece, October 14–17, 2014.
9. ECMP2014, 8th European Conference on Medical Physics, Athens, Greece, September 11–13, 2014.
10. NUMAN 2014, 6th International Conference on Numerical Analysis, Recent Approaches to Numerical Analysis: Theory, Methods and Applications, Chania, Crete, Greece, September 2–5, 2014.
11. 1st Hellenic Workshop on PET/MRI: “Sharing experience with experts”, Athens, Greece, February 23, 2013.
12. Annual Congress of the European Association of Nuclear Medicine EANM 2010, Vienna, Austria, October 9–13, 2010.
13. The Brain: Function, Imaging & Repair, 2nd International Workshop, Kifissia, Athens, Greece, October 19–21, 2009.
14. 12th State-of-the-Art Interdisciplinary Review Course on Pulmonary Diseases, Critical Care, Emergency Medicine & Nursing Care, Athens, Greece, April 11–13, 2008.
15. 16th Annual Panhellenic Congress on Chest Diseases, Athens, Greece, December 6–9, 2007.
16. 11th State-of-the-Art Interdisciplinary Review Course on Pulmonary Diseases, Critical Care, Emergency Medicine & Nursing Care, Athens, Greece, April 20–22, 2007.
17. 15th Annual Panhellenic Congress on Chest Diseases, Irakleio, Greece, November 2–5, 2006.
18. 19th Annual Congress of the European Association of Nuclear Medicine, Athens, Greece, September 30–October 4, 2006.
19. “Clinical PET/CT in a Cost-conscious Healthcare Society: A symposium on Clinical Utility and Governmental Approval, Athens, Greece, September 29, 2006.
20. 10th State-of-the-Art Interdisciplinary Review Course on Pulmonary Diseases, Critical Care, Emergency Medicine & Nursing Care, Athens, Greece, April 6–9, 2006.
21. 14th Annual Panhellenic Congress on Chest Diseases, Thessalonica, Greece, December 1–4, 2005.
22. 8th State-of-the-Art Interdisciplinary Review Course on Pulmonary Diseases, Critical Care, Emergency Medicine & Nursing Care, Athens, Greece, May 7–9, 2004.
23. 2nd International Conference on Imaging Technologies in Biomedical Sciences, Athens & Milos, Greece, May 26–30, 2003.
24. 2002 IEEE Nuclear Science Symposium and Medical Imaging Conference, Norfolk, VA, USA, November 10–16, 2002.
25. The 2002 Annual Academy of Molecular Imaging (AMI) Conference,” San Diego, CA, USA, October 23–27, 2002.
26. 49th Annual Meeting of the Society of Nuclear Medicine, Los Angeles, CA, June 15–19, 2002.
27. 2001 IEEE Nuclear Science Symposium and Medical Imaging Conference, San Diego, CA, USA, November 4–10, 2001.
28. High Resolution Imaging in Small Animals: Instrumentation, Applications and Animal Handling, Rockville, MD, USA, September 9–11, 2001.
29. 2000 IEEE Nuclear Science Symposium and Medical Imaging Conference, Lyon, France, October 15–20, 2000.
30. High Resolution Imaging in Small Animals with PET, MR, and other Modalities, Amsterdam, The Netherlands, September 27–29, 1999.
31. 45th Annual Meeting of The Society of Nuclear Medicine, Toronto, Ontario, Canada, June 7–11, 1998.

Conference Committees

14 th International Conference on Mathematical Modeling in Physical Sciences, October 20-23, 2025	Program Committee
BIOMEPP 2017, International Conference on Bio-Medical Instrumentation and related Engineering and Physical Sciences, Athens, Greece, October 12–13, 2017	Scientific Committee
Onassis Health Day, February 11, 2019	Scientific Committee

PROFESSIONAL ACTIVITIES

- Guest Editor for the Special Issue “Computational Methods for Computer Vision and Medical Image Analysis” of the journal *Mathematics* (IF: 2.3, MDPI)

- Topic Editor for the topic “Mathematical Modeling in Physical Sciences” of the MDPI journals *Algorithms* (IF: 2.6), *Entropy* (IF: 2.1), *Fractal and Fractional* (IF: 3.5), *Mathematics* (IF: 2.3), *Physics* (IF: 1.4)
- Guest Editor for the Special Issue “Mathematical Modeling of the COVID-19 Pandemic” of the journal *Viruses* (IF: 3.8, MDPI)
- Guest Editor for the Special Issue “SPECT and PET Imaging of Small Animals” of the *Journal of Imaging* (IF: 3.8, MDPI)
- Guest Editor for the Special Issue “SPECT and PET Imaging of Small Animals Volume 2nd Edition” of the *Journal of Imaging* (IF: 3.8, MDPI)
- Reviewer for the scientific journals: *Sensors* (MDPI), *Medical Image Analysis* (Elsevier), *Computers in Biology and Medicine* (Elsevier), *Methods* (Elsevier), *Physics in Medicine and Biology* (IOP), *Medical Physics* (Wiley), *EJNMMI Research* (Springer), *IET Image Processing* (IET), *Applied Numerical Mathematics* (Elsevier), *Nuclear Science and Techniques* (Springer), *Biomedical Physics and Engineering Express* (IOP), *Molecular Imaging* (Hindawi), *Contrast Media & Molecular Imaging* (Hindawi), *Current Medical Imaging Reviews* (Bentham Science), *Biomedical Engineering/Biomedizinische Technik* (de Gruyter)
- Reviewer for the scientific website *Scholarpedia.org*
- External Reviewer of the Natural Sciences and Engineering Research Council (NSERC), Canada.
- Certifier for the verification of the implementation of the physical object, HFRI - Hellenic Foundation for Research & Innovation, 2022.
- Reviewer for Research programs from the General Secretariat of Research and Technology (GSRT), Greece.
- Reviewer for the Conference “*International Conference on Mathematical Modeling in Physical Sciences*”, Prague, Czech Republic, Sept. 1–5, 2013.
- Reviewer for the Conference BIOMEPP 2017, International Conference on Bio-Medical Instrumentation and related Engineering and Physical Sciences, Athens, Greece, 12–13 October, 2017.
- Scholarship Reviewer for the *State Scholarships Foundation (IKY)*
- Scholarship Reviewer for the Academy of Athens
- Evaluator for the procurement of medical diagnostic imaging equipment for the Onassis National Transplant Center.

AFFILIATIONS

European Association of Nuclear Medicine	2010–2016
IEEE – Institute of Electrical and Electronics Engineers, Inc.	1999–2003
AMI – Academy of Molecular Imaging	2000–2003
Sigma Pi Sigma Physics Honors Society	1994–2003

LANGUAGES

Fluent in English and Greek (native language)
Knowledge of French

THESES AND DISSERTATIONS

Dissertations Co-supervised

- Protonotarios Nikolaos, “The Radon transform, its generalization and their applications in PET and SPECT medical imaging”, National Technical University of Athens (NTUA), School of Applied Mathematical and Physical Sciences, 2019.

Doctoral Advisory Committee Member

- Terzi Athina-Marina, University of West Attica, School of Engineering, Department of Biomedical Engineering, 2025–.
- Nikolakis-Plytzanopoulos Antonios, National and Kapodistrian University of Athens, School of Science, Department of Physics, 2025–.
- Konstantinidi Nikoletta, National and Kapodistrian University of Athens, School of Health Sciences, School of Medicine, 2024–.
- Choudalakis Stamatis, National and Kapodistrian University of Athens, School of Health Sciences, School of Medicine, 2024–.

- Sideri Athina, National and Kapodistrian University of Athens, School of Science, Department of Physics, 2022–.
- Mikeli Maria, National and Kapodistrian University of Athens, School of Science, Department of Physics, 2023–.
- Vrachliotis Alexandros, “Evaluation of an analytical image reconstruction algorithm in dynamic small animal positron emission tomography”, University of Patras, School of Health Sciences, Department of Medicine, 2025.
- Economakis Emmanouil, “New clustering algorithm and applications”, University of Patras, School of Natural Sciences, Department of Mathematics, 2021.

Doctoral Exams Committee Member

- Kafouris Pavlos, “Design and development of a computational intelligence system for risk assessment in diseases related to the cardiovascular system”, National and Kapodistrian University of Athens, School of Science, Department of Informatics and Telecommunications, 2021.

Master’s Theses Co-supervised

- Preka Georgia, “Advancements in magnetic particle imaging”, National and Kapodistrian University of Athens, School of Science, Department of Mathematics, 2025.
- Terzi Athina-Marina, “Radiogenomic Analysis of Lung Cancer”, University of West Attica, School of Engineering, Department of Biomedical Engineering, 2025.
- Konstantinidi Nikoletta, “Quantitative analysis of ^{68}Ga DOTATOC-PET/CT uptake, in the pituitary and adrenal glands using textural features and SUV indices”, National and Kapodistrian University of Athens, School of Health Sciences, School of Medicine, 2024.
- Choudalakis Stamatis, “Network Graphs of Cancer Mutations”, National and Kapodistrian University of Athens, School of Science, Department of Mathematics, 2022.
- Tzampazidou Evaggelia, “Performance evaluation of the Mediso NanoScan small-animal PET/CT scanner using GATE Monte-Carlo simulation”, University of Patras, School of Health Sciences, Department of Medicine, Medical Physics Program, 2017.
- Kyriakopoulou Demetra, “Comparison of PET algorithms”, National and Kapodistrian University of Athens, School of Science, Department of Mathematics, 2013.

Master’s Theses Examiner

- Menis Ioannis, “Convergence and Quality of Reconstruction Algorithms for Tomographic Images with Iterative Procedures”, National and Kapodistrian University of Athens, School of Science, Department of Physics, 2017.
- Eleftheriou Aphrodite, “Effect of the magnetic field on positron annihilation”, National and Kapodistrian University of Athens, School of Science, Department of Physics, 2016.

Practical Training Supervisor

- Philippis Luiza, National and Kapodistrian University of Athens, School of Science, Department of Physics, 2015.

OTHER ACTIVITIES

- | | |
|--|---------------|
| • Member, Research Committee of the Academy of Athens | 2020– Present |
| • Vice-President of the Scientific Council of the Research Centers of the Academy of Athens (E.S.E.K.A.A.) | 2017– Present |
| • President, Gender Equality Committee, Academy of Athens | 2023–2025 |
| • President, Academy of Athens Research Staff Association (S.E.P.A.A.) | 2014–2016 |
| | 2017–2018 |
| • Member of the Board (Vice-President), Scholar’s Association of the Alexander S. Onassis Public Benefit Foundation. | 2017–2019 |
| • Member of the Board (Treasurer), Scholar’s Association of the Alexander S. Onassis Public Benefit Foundation. | 2015–2017 |

PUBLICATIONS

BOOKS or BOOK CHAPTERS (5)

1. N. E. Protonotarios, V. Marinakis, N. Dikaio, **G. A. Kastis**, “Chebyshev polynomials of the first kind and applications in tomography,” chapter in *Mathematical Analysis, Differential Equations and Applications*, ed. T.M. Rassias and P. Pardalos, World Scientific, pp. 711-730, 2024. (doi: [10.1142/9789811267048_0024](https://doi.org/10.1142/9789811267048_0024))

Book Citations: 1

2. N. E. Protonotarios, **G. A. Kastis**, N. Dikaio and A. S. Fokas, “Piecewise Polynomial Inversion of the Radon Transform in Three Space Dimensions via Plane Integration and Applications in Positron Emission Tomography” chapter in *Nonlinear Analysis, Differential Equations, and Applications*, ed. T.M. Rassias, Springer, pp. 381-396, 2021. (doi: [10.1007/978-3-030-72563-1_17](https://doi.org/10.1007/978-3-030-72563-1_17))

Book Citations: 4

3. N. E. Protonotarios, **G. A. Kastis** and A. S. Fokas, “A New Approach for the Inversion of the Attenuated Radon Transform,” chapter in *Mathematical Analysis and Applications*, eds T.M. Rassias and P.M. Pardalos, Springer, pp. 433-457, 2019. (doi: [10.1007/978-3-030-31339-5_16](https://doi.org/10.1007/978-3-030-31339-5_16))

Book Citations: 14

4. A. S. Fokas and **G. A. Kastis**, “Mathematical Methods in PET and SPECT Imaging” chapter in *Handbook of Mathematical Methods of Imaging*, Springer, pp. 903-936, 2015. (doi: [10.1007/978-1-4939-0790-8_45](https://doi.org/10.1007/978-1-4939-0790-8_45))

Book Citations: 549

5. **G. A. Kastis**, “Multi-Modality Imaging of Small-Animals”, Ph. D. Thesis, UMI Press, Michigan, USA, 2002.

Book Citations: 6

PEER-REVIEWED JOURNALS (43)

1. A. Terzi, N. Dikaio, N. E. Protonotarios, E. Athanasiadis, **G. A. Kastis**, “Evaluation of Radiomic, Genomic, and Radiogenomic Machine Learning Models for NSCLC Subtype Classification,” *Journal of Medical Imaging*, 2026. (submitted)

IF:

Citations:

2. N. Konstantinidi, N. Dikaio, P. Karaikos, S. N. Chatziioannou, M. Metaxas, **G. A. Kastis**, “Quantitative radiomic analysis of ⁶⁸Ga-DOTATOC PET/CT uptake in the pituitary and adrenal glands,” *Reports of Practical Oncology and Radiotherapy*, 2026. (accepted)

IF:

Citations:

3. N. E. Protonotarios, S. Messinis, **G. A. Kastis**, N. Dikaio, A. S. Fokas, “From the Radon Transform to Deep Learning in Medical Image Reconstruction,” *Mathematics*, vol. 14, no. 19, 3501, 2026. doi: [10.3390/math14193501](https://doi.org/10.3390/math14193501)

IF: 2.3

Citations:

4. N. Dikaio, **G. A. Kastis**, N. E. Protonotarios, “Brain-inspired learning and the dynamic interplay between neuroscience and computer science,” *IEEE IT Professional*, vol. 28, no. 1, pp. 20-25, 2026. doi: [10.1109/MITP.2025.3635775](https://doi.org/10.1109/MITP.2025.3635775)

IF: 2.6

Citations:

5. S. Messinis, I. Rallis, N. Temenos, D. Kalogeras, **G. A. Kastis**, N. Doulamis, N. E. Protonotarios, “Quantum neural networks meet federated learning for DNA mutation prediction,” *Computational and Structural Biotechnology Journal*, vol. 30, pp. 122-133, 2025. (doi: [10.1016/j.csbj.2025.09.036](https://doi.org/10.1016/j.csbj.2025.09.036))

IF: 4.8

Citations: 2

6. A. Ankolekar, S. Boie, M. Abdollahyan, E. Gadaleta, S. A. Hasheminasab, G. Yang, C. Beauville, N. Dikaio, **G. A. Kastis**, M. Bussmann, C. Chelala, S. Khalid, H. Kruger, P. Lambin, G. Papanastasiou, “Advancing breast, lung and prostate cancer research with federated learning. A systematic review,” *npj Digital Medicine*, vol. 8, no. 1, pp. 1-12, 2025. (doi: [10.1038/s41746-025-01591-5](https://doi.org/10.1038/s41746-025-01591-5))

IF: 18

Citations: 41

7. D. Toumpanakis, K. Karagiannis, P. Paredi, A. Bikov, M. Bonifazi, H. K. Lota, H. Kalsi, C. Minelli, N. Dikaio, **G. A. Kastis**, P. J. Barnes, A. U. Wells, O. S. Usmani, “Contribution of Peripheral Airways Dysfunction to Poor Quality of Life in Sarcoidosis,” *Chest*, vol 168, no. 2, pp.423-434, 2025. (doi: [10.1016/j.chest.2025.02.036](https://doi.org/10.1016/j.chest.2025.02.036))

IF: 9.8 Citations: 10

8. S. Choudalakis, **G. A. Kastis**, and N. Dikaio. "Intra-clustering analysis reveals tissue-specific mutational patterns," *Computer Methods and Programs in Biomedicine*, vol. 263, 108681, 2025 108681. (doi: [10.1016/j.cmpb.2025.108681](https://doi.org/10.1016/j.cmpb.2025.108681))

IF: 6.4 Citations: 3

9. A. M. Ganai, E. I. Vrettos, S. G. Kyrkou, V. Zoi, T. K. Pathan, R. Karpoormath, P. Bouziotis, G. A. Alexiou, **G. A. Kastis**, N. E. Protonotarios and A. G. Tzakos, "Design Principles and Applications of Fluorescent Kinase Inhibitors for Simultaneous Cancer Bioimaging and Therapy," *Cancers*, vol 16, no. 21, 3667, 2024. (doi: [10.3390/cancers16213667](https://doi.org/10.3390/cancers16213667))

IF: 4.8 Citations: 8

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9. N. Konstantinidi, M. Metaxas, N. Dikaos, **G. Kastis**, Quantitative analysis of [68]GaDOTATOC-PET/CT uptake in the pituitary and adrenal glands using textural features and SUV indices, Panhellenic Conference on Medical Physics, Athens, Greece, Oct 4-6, 2024. **Best Abstract Award**
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11. M. Papachristou, P. Bouziotis, **G. A. Kastis**, I. Datseris, “Επισημασμένη Μεθοτρεξάτη με 99mTc ως ιχνηθέτης φλεγμονών σε ασθενείς με ρευματοειδή αρθρίτιδα – Προκλινικά αποτελέσματα,” 44ο Ετήσιο Πανελλήνιο Ιατρικό Συνέδριο, Αθήνα, Ελλάδα, 9-12 Μαΐου, 2018.
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