



Curriculum Vitae
Kostas Marias
Dipl.Eng, M.Sc , Ph.D
Principal Researcher
ICS-FORTH,
Head Computational
Biomedicine Laboratory
(CBML)
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SUMMARY PROFILE AND ACHIEVEMENTS

Kostas Marias holds a Principal Researcher position in the Institute of Computer Science (ICS-FORTH) since 2006, and since 2010 he is the Head and Founder of the Computational Biomedicine Laboratory at FORTH-ICS (<http://www.ics.forth.gr/cbml/>). During 2000-2002, he worked as a Researcher at the University of Oxford and from 2003-2006 as Associated Researcher at FORTH-ICS. He was the coordinator two EC projects on image-based cancer modelling (<http://www.contracancrum.eu/> and <http://www.tumor-project.eu/>), while during 2010-2015 he actively participated in several other EC funded projects developing ICT technology focusing on medical image processing for personalized medicine. He coordinated the development of a wide range of image analysis and modelling tools (<http://biomodeling.ics.forth.gr/>) designed for the clinical setting within the wider Virtual Physiological Human (VPH) EC initiative and has published more than 120 papers in international journals, books and conference proceedings focusing on medical image processing, analysis and image-based modelling.

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PERSONAL DETAILS

Name	Kostas Marias
Date of Birth	October 29th, 1972
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Email	kmarias@ics.forth.gr
Marital Status	Married, two children
Nationality	Greek

EDUCATION

1997 - 2001	<i>University College London (UCL), London, UK</i> PhD in Medical Image Analysis, jointly with Oxford University, UK. Supervisor: Professor Sir Michael Brady FRS FREng, Professor of Information Engineering, Oxford University.
1996- 1997	<i>Imperial College of Science, Technology and Medicine, London, UK</i> M.Sc in Engineering and Physical Sciences in Medicine, specialized in Medical Image Processing.
1990-1995	<i>National Technical University of Athens (NTUA), Athens, Greece</i> Diploma in Electrical & Computer Engineering (5 year program).

PRINCIPAL PROFESSIONAL APPOINTMENTS

2010 -	Head of the Computational Biomedicine Laboratory, Institute of Computer Science (ICS), Foundation for Research and Technology – Hellas (FORTH).
2006 -	Principal Researcher in Medical Image Analysis, Institute of Computer Science (ICS), Foundation for Research and Technology – Hellas (FORTH).
2003 - 2006	Associated Researcher, Institute of Computer Science (ICS), Foundation for Research and Technology – Hellas (FORTH).
2000 -2002	Postdoctoral Fellow, Oxford University, Information Engineering Department, Wolfson Medical Vision Laboratory, Oxford UK.
2015 -	Visiting Professor, Technological Institute of Crete.
2003 - 2010	Visiting Professor, University of Crete.
2005 -	Faculty member of the "Brain and Mind" interdisciplinary graduate program of the University of Crete.

2000 – 2002	Senior Consulting Scientist, Mirada Solutions Ltd. (UK), a spin-off from the University of Oxford for commercializing key intellectual property.
1997 - 1998	Image Processing Engineer, Imperial College of Science Technology and Medicine, Bagrit Center, London, UK, working on 3D knee reconstruction.

ADMINISTRATIVE APPOINTMENTS

2010 -	Member of the Scientific Council of the Institute of Computer Science (ICS), Foundation for Research and Technology – Hellas (FORTH) since 2010.
2015 -	Member of the Interdepartmental Committee of the "Brain and Mind" interdisciplinary graduate program (University of Crete, FORTH, University Hospital of Heraklion).
2014 -	Member of the Ethics Committee of the Foundation for Research and Technology.
2015 -	Appointed member of the Medical Tourism Committee at the Region of Crete.

SERVICE

Represents Foundation for Research and Technology – Hellas (FORTH) in the Virtual Physiological Human Institute for Integrative Biomedical Research (VPH Institute) <http://www.vph-institute.org/>

Coordinated the EC Project *Clinically Oriented Translational Cancer Multilevel Modelling* (2008-2011 Contra Cancrum FP7 223979)

Coordinated the EC Project Transatlantic Tumour Model Repositories (2010-2013TUMOR FP7 247754)

Served as a delegate for the European Commission (DG INFSO) at the EC- US Workshop on Virtual Tissues (22-24 April 2009), held at the EPA North Carolina (US: EPA, DoE, NSF, NIH EC: DG Research Dir. F, DG INFSO)

Participated in several FP7 EC consultation meetings after invitation from the sector ICT for Health.

Serves regularly as a reviewer in Journals including: Medical Image Analysis, IEEE Transactions on Medical Imaging, Cancer Informatics, IEEE Transactions on Image Processing, IEEE Transactions on Biomedical Engineering, IEEE Transactions on Information Technology in Biomedicine, Journal of Computer-Assisted Radiology and Surgery.

Has served in session chair/program committees in conferences including IEEE ISBI, IEEE EMBC, BIBE, and ISBMDA.

Has served in the Organizing Committee of the International Advanced Research Workshop on In Silico Oncology conference and in Special Sessions at IEEE EMBC, IEEE BIBE and MobiHealth conferences.

Organizer of the first summer school on computation oncology and co-organizer of the second (<http://www.computationaloncology.org>)

Guest Editor for Cancer Informatics journal "**Computer Simulation, Visualization, and Image Processing of Cancer Data and Processes.**"

Serves as expert evaluator for Institut National Du Cancer (Plan Cancer Inserm 2014-2019), France, and Chilean National Science and Technology Commission (FONDECYT).

PHD AND POST-DOC GRANTS AWARDED

1997-2001	UCL Fellow at Oxford, PhD grant from Cancerkin UK (full scholarship). Joint supervision from Oxford University and UCL, London.
2001-2004	Cancer Research UK Postdoc Grant, CRC-SP2580/0101, total funds awarded £139,091.00, titled: "A quantitative assessment of dense breast tissue changes from image data" for 3-year Post-Doc Research at Oxford University.

AFFILIATIONS

2003 - IEEE Member, Engineering in Medicine and Biology (IEEE) – USA

2005 - 2010 Academy of Molecular Imaging – USA (Sponsored by UCLA)

SELECTED INVITED TALKS/KEYNOTES

1. Personal Health Systems for Patient Self-management and Empowerment technologies. Invited talk in the 10th National Conference for Health Management and Policy, Athens 18-20 December, 2014
2. Computational Models and medical image analysis tools for optimizing personalized predictions of therapy outcome in cancer patients. Keynote invited talk in the 19th Hellenic Conference of Clinical Oncology, April 27 2013
3. Developing a single stop shop for the seamless processing and modelling of clinical trial clinic-genomic data, Philips Research Eindhoven (Software Architectures), Eindhoven (1/2012)
4. MRI image processing for personalized, predictive medicine, Invited talk in the University of Saarland, March 2011
5. The role of in multi-level clinically oriented modelling in cancer research. Invited talk in the US Environmental Protection Agency, Computational Toxicology Research Program, April 21, 2009 (http://www.epa.gov/comptox/virtual_tissues/agenda.html)

RESEARCH INTERESTS

Kostas Marias primary research focus has been the development and applications of Image Processing techniques such as image registration and fusion, image classification and segmentation, quantitative image analysis, image retrieval, image reconstruction and imaging biomarkers, targeted to solve clinical problems. His research on medical image analysis focuses also on developing image processing software solutions for Clinical Decision Support. He started working in the area of image registration focusing on the non-rigid registration of mammogram images which was the topic of his PhD thesis. The novel methods developed were published in the most prominent medical image processing journals while at the same time he participated in the Oxford University spin-off company Mirada Solutions where he implemented pre-

commercial imaging tools based on his PhD and post-doctoral work at the University of Oxford. As a Researcher in FORTH in the last 12 years he has worked in a number of scientific and research projects developing image processing techniques for biomedical applications as well as robust software tools for extracting imaging biomarkers mainly from MRI data as well as visualization and quantification tools for guiding therapy plans. During the last decade K. Marias was also involved in developing image-based models aiming towards a better understanding of cancer. More recently through his participation in European funded projects he has worked in the area of Personal Health Systems development encountering emerging image processing challenges such as in Facial Image Analysis for Psycho-Cognitive Assessment and Image-based heart-rate monitoring with encouraging initial results and publications. The following table summarizes the Research areas of K. Marias work stating in each one the number of publications (journal or peer reviewed conference papers) as well as the academic supervision work with MSc or PhD students.

Table I: K. Marias areas of research and academic output

<i>Application Field</i>	<i>Research Area</i>	<i>Number of Publications And Supervision of Theses</i>
MEDICAL IMAGE PROCESSING AND ANALYSIS	Image Registration and Fusion	16 publications, 1 MSc, 1 PhD thesis supervision (C. Spanakis)
	Quantitative Image Analysis	5 publications, 1 PhD Theses supervision (G. Kalaitzakis)
	Image Classification/Segmentation	11 publications, 1 MSc Thesis (C. Farmaki)
	Image Retrieval	3 publications, 2 MSc thesis supervision (S. Dimitriadis, J. Moustakas)
	Image Reconstruction	4 publications, 1 PhD thesis supervision (A. Darrell)
	Image Visualisation and Analysis	6 publications, 1 MSc thesis supervision (I. Serafeimidis)
	Image-based Biomarkers	9 publications 1MSc thesis (G. Kanli) and 2 PhD thesis (G. Manikis, E. Kontopodis)
	Microarray image processing	4 publications, 1 MSc thesis supervision (H. Stefanou)
	Image Shape Analysis	1 publication
COMPUTATIONAL MEDICINE	Image-Based Cancer Modelling	26 publications, 1 MSc thesis (M. Oraiopoulou), 1 PhD thesis supervision (A. Roniotis)
	Comp. Model Interoperability	4 publications
	Microscopic Cancer Modelling	6 publications
	In Silico Clinical Trials	5 publications
PERSONAL HEALTH SYSTEMS INFORMATICS	Personal Health Record Systems	4 publications
	Patient Empowerment Services	2 publications
	Diabetes Self-Manag. & Risk Ass.	2 publications
	Facial Image Analysis for Psycho-Cognitive Assessment	4 publications, 1 PhD thesis supervision (A. Pampouchidou)
	Image-based Heart-Rate monitoring	2 publications
	Telemedicine/smart net.sys.	2 publications

RESEARCH PROJECTS AND FUNDING 2006-2015

Kostas Marias has worked in many EC projects especially in the area of Virtual Physiological Human (VPH) which was the closest link to medical image processing in the recent years. The interdisciplinary work between image processing/ analysis and biomedicine has created significant opportunities for funding due to the high societal impact. Between 2006-2015 he actively participated in 11 EC and 2 National projects.

Before 2006, as Associate Researcher, K. Marias was the Principal Investigator at FORTH-ICS for FP6 EU Marie Curie Action “Early Stage Training site for Optical Molecular Imaging Techniques” for promoting multidisciplinary Molecular Imaging research at FORTH and also for the IKY - DAAD State Scholarship Foundation Grant “Towards Automated Manipulation of Surfaces on the Molecular and Atomic Scale” with basic objective to develop image processing tools for identifying atoms and molecules as well as complex nanostructures like carbon nanotubes (CNT).

During 2008-2011 K. Marias coordinated the EC project ContraCancrum which was the first European project to propose an integrated, individualized and clinically driven design of multi-scale models of cancer. The project managed to present integrated models for non-small cell lung cancer and glioblastoma multiforme (GBM) which were evaluated with real clinical data. Following the success of this project Kostas Marias coordinated also the EC TUMOR project (Transatlantic Tumour Model Repositories) during 2010-2013 in collaboration with MGH-Harvard. Previously K. Marias worked in the ACGT project developing image analysis technologies for optimizing physiological parameter input to cancer models. In 2010 K. Marias founded the Computational Medicine Laboratory at FORTH-ICS. The Lab gave special focus to the development of image processing and analysis tools for medical applications as well as computational medicine techniques for image-based modelling of tumors. At the same time a number of tools and technologies were developed and released as open access image processing software from the bio-modelling team of the lab (<http://biomodeling.ics.forth.gr/>) for supporting the wider effort of the VPH (Virtual Physiological Human) community.

The following table lists all the projects K. Marias has participated in the period 2006-2015 as Principal Researcher, for which he was either the Project Coordinator of the Consortium (Project Coordinator), Technical Coordinator of the Project (Technical Coordinator), the Principal Investigator for FORTH (Principal Investigator), or the CO- Principal Investigator (CO-PI usually for very large projects) as well as the FORTH-ICS funded budget received.

Table II: K. Marias research projects, role and funding

Project Name	Acronym	Start	End	Funded budget	Role
Advancing Clinico-Genomic Clinical Trials on Cancer: Open Grid Services for Improving Medical Knowledge Discovery http://eu-acgt.org/	ACGT	01/02/2006	31/01/2010	1.276.200 €	CO-PI
Clinically Oriented Translational	Contra	1/08/2008	31/07/2011	651.920 €	Project

Cancer Multilevel Modelling http://www.contracancrum.eu/	Cancrum				Coordinator
Transatlantic TUmour MOdel Repositories http://tumor-project.eu/	TUMOUR	1/4/2010	31/3/2013	396.220 €	Project Coordinator
Driving Excellence in Integrative Cancer Research through Innovative Biomedical Infrastructures http://fp7-integrate.eu/	INTEGRATE	1/2/2011	31/12/2014	818.300 €	Principal Investigator
Development of a research infrastructure for computational oncology http://yperthen.gr/	ΥΠΕΡΘΕΝ ¹	24/6/2011	23/6/2013	359.725 €	CO-PI
From data sharing and integration via VPH models to personalized medicine http://p-medicine.eu/	p-Medicine	1/2/2011	31/7/2015	1.242.435 €	CO-PI
Enabling information re-Use by linking clinical REsearch and Care http://eurecaproject.eu/	EURECA	1/1/2012	31/12/2014	865.536 €	CO-PI
A Demonstration of 4D Digital Avatar Infrastructure for Access of Complete Patient Information http://www.myhealthavatar.eu/	MyHealth Avatar	1/3/2013	29/2/2016	361.400 €	Principal Investigator
Computational Horizons in Cancer: Developing Meta- and Hyper-Multiscale Models and	CHIC	1/4/2013	31/3/2017	888.106 €	Principal Investigator

¹ Original Title in Greek: Ανάπτυξη ερευνητικής υποδομής κλινικών υπολογιστικών εργαλείων και υπηρεσιών για την καλύτερη διάγνωση και εκτίμηση της βέλτιστης εξατομικευμένης θεραπείας ογκολογικών παθήσεων

Repositories for In Silico
Oncology

<http://www.chic-vph.eu/>

Development of Interdisciplinary Research Activities for Systems Biology	ΚΡΗΠΙΣ- ΒΙΟΣΥΣ ²	1/7/2013	30/7/2015	70.000 €	Principal Investigator
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Regional Anaesthesia Simulator and Assistant	RASimAS	1/11/2013	31/10/2016	227.757 €	Principal Investigator
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<http://www.rasimas.eu/>

iManageCancer - Empowering patients and strengthening self- management in cancer diseases	iManage Cancer	2/2015	1/7/2018	747.500	Principal Investigator
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<http://imanagecancer.eu/>

Multi-channel biometrics combining acoustic and machine vision analysis of speech, lip movement and face	SpeechXRays	1/5/2015-	30/4/2018	303.750	CO-PI
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http://cordis.europa.eu/project/rcn/194884_en.html

² Original Title in Greek: Ανάπτυξη Διεπιστημονικών Ερευνητικών Δραστηριοτήτων στην Κατεύθυνση της Βιολογίας Συστημάτων

INTERNATIONAL COLLABORATIONS

The following Strategic International Collaborations have played an important role both in enhancing research work and in attracting EC funding in FP6, FP7 and Horizons 2020 calls:

Period	Institution	Collaborators	Description/Outcome
2010-present	Universitat Pompeu Fabra – UPF, Department of Information and Communication Technologies, Spain	Professor Miguel A. Gonzalez Ballester ICREA, Head Image Analysis Group	Long standing collaboration in EC proposals, medical image analysis, 2 collaborative research papers, collaborated in the ContraCancrum project
2008-present	University of Bern, Institute for Surgical Technology & Biomechanics	Philippe Büchler, Grouphead, Computational Bioengineering	Currently Collaborate in 3 ongoing EC projects on medical image analysis and have co-authored 3 scientific papers
2004-present	Harvard University (2004-2006) National Institutes of Health, Radiology and Imaging Sciences (2007-2011) Children's National Medical Center, George Washington University, National Institutes of Health (2011-present)	Marius George Linguraru, Principal Investigator at Children's National Medical Center - Associate Professor at George Washington University	Long standing collaboration in several aspects of Medical Imaging, Currently working in several EC-US proposals on paediatric image analysis, modelling and therapy optimisation techniques. 4 joint publications
2006-present	Philips Research, Eindhoven, the Netherlands	Dr. Anca Bucur Senior Scientist at Philips Research, Information Technology and Services	Collaboration in 5 EC projects (4 active) Creation of the Integrate European Institute
2006-present	Saarland University	Professor Dr. Norbert Graf Director of the	Collaboration in 6 EC projects (4 active), 21 Joint publications and co-

		Department for Pediatric Oncology and Hematology	organisation of special sessions and educational activities
2007-present	The University of Sheffield	Professor Marco Viceconti, Professor of Biomechanics, Department of Mechanical Engineering, Director of VPH Institute	Worked together in different aspects of the VPH FP7 calls and collaborated in the VPH Institute Currently collaborating in the CHIC EC project
2007-present	Fraunhofer-Institut Biomedizinische Technik (IBMT)	Stephan Kiefer, Group Manager, Health Information Systems	Collaborated in preparing and submitting many proposals since 2007 and Currently work together in 3 EC projects
2006-present	UPM, Madrid, Artificial Intelligence Lab	Victor Maojo, MD, Professor and Director Biomedical Informatics Group	Collaborated closely in FP6, FP7 and Horizons 2020 projects.
2004-2006	Universitaet Hamburg FB Informatik (Department of Informatics)	Prof. Dr. Jianwei Zhang H. Siegfried Stiehl, Prof. Dr.-Ing. Dekan (Dean)	2 EU project proposals 1 joint IKY-DAAD State Scholarship for Scientific exchange
2000-2012	Department of Engineering Science, Oxford University	Professor Sir Michael Brady FRS FREng	25 joint publications, 1 PhD student co-supervision (Alex Darrell, PhD Molecular Imaging, Oxford University – FORTH)
2004-2007	MGH / Harvard Medical School	Prof. Vasilis Ntziachristos	2 joint publications and collaborative work on 3D, multi-modal molecular imaging involving 1 ICS FORTH fellow

PUBLICATIONS

SCIENTIFIC JOURNALS [J]

1. Behrenbruch, C.P., **Marias, K.**, Armitage, P.A., Yam, M., Moore, N.R., English, R.E., Clarke, J., & Brady, M.J. (2003). *Fusion of contrast-enhanced breast MR and mammographic imaging data*. **Medical image analysis**. 7(3), (311-340), England (1361-8415; 1361-8415). **IF 4.087**
2. Behrenbruch, C.P., **Marias, K.**, Armitage, P.A., Yam, M., Moore, N.R., English, R.E., Clarke, P.J., Leong, F.J., & Brady, M.J. (2004). *Fusion of contrast-enhanced breast MR and mammographic imaging data*. **The British journal of radiology**. 77 Spec No 2, (S201-8), England (0007-1285; 0007-1285). **IF 1.217**
3. **Marias, K.**, Behrenbruch, C.P., Highnam, R., Parbhoo, S., Seifalian, A., & Brady, M.J. (2004). *A mammographic image analysis method to detect and measure changes in breast density*. **European Journal of Radiology**. 52(3), (276-282), (0720048X). **IF 2.645**
4. **Marias, K.**, Ripoll, J., Meyer, H., Ntziachristos, V., & Orphanoudakis, S.C. (2005). *Image analysis for assessing molecular activity changes in time-dependent geometries*. **IEEE Transactions on Medical Imaging**. 24(7), (894-900), (02780062). **IF 4.027**
5. **Marias, K.**, Behrenbruch, C.P., Parbhoo, S., Seifalian, A., & Brady, M.J. (2005). *A registration framework for the comparison of mammogram sequences*. **IEEE Transactions on Medical Imaging**. 24(6), (782-790), (02780062). **IF 4.027**
6. Linguraru, M.G., **Marias, K.**, English, R.E., & Brady, M.J. (2006). *A biologically inspired algorithm for microcalcification cluster detection*. **Medical Image Analysis**. 10(6), (850-862), (13618415). **IF 4.087**
7. Dimitriadis, S., **Marias, K.**, & Orphanoudakis, S.C. (2007). *A multi-agent platform for content-based image retrieval*. **Multimedia Tools and Applications**. 33(1), (57-72), Hingham, MA, USA: Kluwer Academic Publishers (1380-7501). **IF 1.346**
8. Darrell, A., Meyer, H., **Marias, K.**, Brady, M.J., & Ripoll, J. (2008). *Weighted filtered backprojection for quantitative fluorescence optical projection tomography*. **Physics in Medicine and Biology**. 53(14), (3863-3881), (00319155). **IF 2.781 - highest for any journal focused on medical physics.**
9. Farmaki, C., **Marias, K.**, Sakkalis, V., & Graf, N. (2010). *Spatially adaptive active contours: A semi-automatic tumor segmentation technique*. **International Journal of Computer Assisted Radiology And Surgery**. 5(4), (369-84). **IF 1.707**
10. Skounakis, E., Farmaki, C., Sakkalis, V., Roniotis, A., Banitsas, K., Graf, N., & **Marias, K.** (2010). *DoctorEye: A clinically driven multifunctional platform, for accurate processing of tumors in medical images*. Special Issue: *Intelligent signal and image processing in eHealth*. **The Open Medical Informatics Journal**. 4, (105-115).
11. Roniotis, A., **Marias, K.**, Sakkalis, V., & Zervakis, M.E. (2010). *Diffusive Modelling of Glioma Evolution: A review*. **Journal of Biomedical Science and Engineering, Scientific Research**. 3(5), (501-508).

12. Roniotis, A., Manikis, G., Sakkalis, V., Zervakis, M.E., Karatzanis, I., & **Marias, K.** (2011). *High grade glioma diffusive modeling using statistical tissue information and diffusion tensors extracted from atlases. IEEE Transactions on Information Technology in Biomedicine.* 16(2), (255-263). **IF 2.072**
13. **Marias, K.**, Dionysiou, D.D., Sakkalis, V., Graf, N., Bohle, R., Coveney, P.V., Wan, S., Folarin, A., Büchler, P., Reyes, M., Clapworthy, G., Liu, E., Sabczynski, J., Bily, T., Roniotis, A., & Tsiknakis, M.N. (2011). *Clinically-Driven Design of Multiscale Cancer Models: the Contra Cancrum Project Paradigm. Journal of the Royal Society Interface Focus.* 1, (450-461). **IF 3.917**
14. Roniotis, A., **Marias, K.**, Sakkalis, V., Manikis, G., & Zervakis, M.E. (2012). *Simulating radiotherapy effect in high grade glioma by using diffusive modeling and brain atlases. Journal of Biomedicine and Biotechnology.* V2012: 9. **IF 2.706**
15. Roniotis, A., Sakkalis, V., Karatzanis, I., Zervakis, M.E., & **Marias, K.** (2012). *In-depth analysis and evaluation of diffusive glioma models. IEEE Transactions on Information Technology in Biomedicine.* 2012. 16(3), (299-307). **IF 2.072**
16. Georgios Stamatakos, Dimitra Dionysiou, Aran Lunzer, Robert Belleman, Eleni Kolokotroni, Eleni Georgiadi, Marius Erdt, Juliusz Pukacki, Stefan Rueping, Stavroula Giatili, Alberto d'Onofrio, Stelios Sfakianakis, **Kostas Marias**, Christine Desmedt, Manolis Tsiknakis, Norbert Graf. (1013). *The Technologically Integrated Oncosimulator: Combining Multiscale Cancer Modeling with Information Technology in the In Silico Oncology Context. IEEE journal of biomedical and health informatics.* 18(3):840-54. DOI:10.1109/JBHI.2013.2284276. **IF 2.706**
17. David Johnson, Steve McKeever, Georgios Stamatakos, Dimitra Dionysiou, Norbert Graf, Vangelis Sakkalis, **Konstantinos Marias**, Zihui Wang, Thomas S Deisboec. (1013). *Dealing with Diversity in Computational Cancer Modeling. Cancer informatics* 05/2013; 12:115-124. **IF 1.64**
18. Irimi Genitsaridi, Haridimos Kondylakis, Lefteris Koumakis, **Kostas Marias**, Manolis Tsiknakis. (2013). *Evaluation of personal health record systems through the lenses of EC research projects. Computers in biology and medicine.* 59:175-85. **IF 1.48**
19. Irimi Genitsaridi, Haridimos Kondylakis, Lefteris Koumakis, **Kostas Marias**, Manolis Tsiknakis. (2013). *Towards Intelligent Personal Health Record Systems: Review, Criteria and Extensions, Procedia Computer Science,* 21: 327 – 334
20. Haridimos Kondylakis, Eleni Kazantzaki, Lefteris Koumakis, Irimi Genitsaridi, **Kostas Marias**, Alessandra Gorini, Ketti Mazzocco, Gabriella Pravettoni, Danny Burke, Gordon McVie and Manolis Tsiknakis. (2014). *Development of Interactive Empowerment services in support of personalized medicine. eCancer Medical Science Journal.* 8:400 DOI: 10.3332/ecancer.2014.400. **IF 1.20**
21. Sakkalis, V., Sfakianakis, S., Tzamali, E., **Marias, K.**, Stamatakos, G., Misichroni, F., Ouzounoglou, E., Kolokotroni, E., Dionysiou, D., Johnson, D., McKeever, S., Graf, N. (2014). *Web-based Workflow Planning Platform Supporting the Design and Execution of Complex Multiscale Cancer Models. IEEE Journal of Biomedical and Health Informatics.* 2014/3/1, DOI 10.1109/JBHI.2013.2297167 **IF 2.706**
22. EG Spanakis, V Sakkalis, **K Marias**, A Traganitis (2014). *Cross Layer Interference Management in Wireless Biomedical Networks. Entropy* 16 (4), 2085-2104 **IF 1.57**

23. Tzamali E, Grekas G, **Marias K**, Sakkalis V. (2014). *Exploring the Competition between Proliferative and Invasive Cancer Phenotypes in a Continuous Spatial Model*. **PLoS ONE**. 9(8): e103191. doi:10.1371/journal.pone.0103191 **IF 3.54**
24. M Spanakis, **K Marias**. (2014). *In silico evaluation of gadofosveset pharmacokinetics in different population groups using the Simcyp® simulator platform*, **In Silico Pharmacology 2:2**, 2014
25. D. Chourmouzi, E. Papadopoulou, **K. Marias**, A. Drevelegas. (2014). *Imaging of Brain Tumors*. **Surgical Oncology Clinics of North America**. 23:629–684, doi:10.1016/j.soc.2014.07.004. **IF 1.674**
26. Doenja M.J. Lambregts, Milou H. Martens, Raymond C.W. Quah, Katerina Nikiforaki, Luc A. Heijnen, Cornelis H.C. Dejong, Geerard L. Beets, **Kostas Marias**, Nickolas Papanikolaou and Regina G.H. Beets-Tan. (2015). *Whole-liver diffusion-weighted MRI histogram analysis: effect of the presence of colorectal hepatic metastases on the remaining liver parenchyma*. **European Journal of Gastroenterology & Hepatology**. 27:399–404. **IF 2.2**
27. Lagani, V., Chiarugi, F., Manousos, D., Verma, V., Fursse, J., **Marias, K.** & Tsamardinos, I. (2015). *Realization of a service for the long-term risk assessment of diabetes-related complications*. **Journal of Diabetes and Its Complications**. 29:691–698. **IF 2.684**
28. Sabine Müller, Ruslan David, **Kostas Marias** and Norbert Graf (2015). *The Standardized Histogram Shift of T2 Magnetic Resonance Image (MRI) Signal Intensities of Nephroblastoma Does Not Predict Histopathological Diagnostic Information*. **Cancer Informatics: Computer Simulation, Visualization, and Image Processing of Cancer Data and Processes**. 2015:14(S1) 1–5 **IF 1.674**
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75. S. Petroudi, I. Constantinou, M. Pattichis, C. Tziakouri, **K. Marias**, C. Pattichis, "Evaluation of Spatial Dependence Matrices on Multiscale Instantaneous Amplitude for Mammogram Classification", **6th European Conference of the International Federation for Medical and Biological Engineering**, Springer International Publishing, p. 156-159, 2015.
76. Haridimos Kondylakis, Manolis Spanakis, Stelios Sfakianakis, Vangelis Sakkalis, Manolis Tsiknakis, Kostas Marias, Zhao Xia, Hong Qing Yu, Feng Dong: "Digital Patient: Personalized and Translational Data Management through the MyHealthAvatar EU Project", **International Conference of the IEEE Engineering in Medicine and Biology Society of the IEEE Engineering in Medicine and Biology Society (EMBC)**, , Milan, Italy, 2015.

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78. M. Pediaditis, G. Giannakakis, F. Chiarugi, D. Manousos, A. Pampouchidou, E. Christinaki, G. Iatraki, E. Kazantzaki, P. Simos, **K. Marias**, and M. Tsiknakis, "Extraction of facial features as indicators of stress and anxiety" **In Proceedings of the 37th Annual International Conference of the IEEE Engineering in Medicine and Biology**, Milano, Italy, 25-29 August 2015.
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2. Behrenbruch, C.P., Moore, N., **Marias, K.**, Armitage, P., Brady, M., English, R., Clarke, J., "Multimodal Data Fusion in Breast Imaging", ECR (European Congress of Radiology), B-0305, Vienna, Austria, March 2001.
3. Socrates Dimitriadis, **Kostas Marias** and Stelios Orphanoudakis, Retrieval of Images based on Visual Content: A Biologically Inspired Multi-Agent Architecture, ERCIM News No. 53, Special Theme: Cognitive Systems, PP.18-19, April 2003.
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5. John Moustakas, Socrates Dimitriadis and **Kostas Marias**," A Cognitive Architecture for Semantically Based Medical Image Retrieval", ERCIM News No. 62, Special Theme: Multimedia Informatics, pp. 28-29, July 2005.
6. Thanasis Margaritis, Kostas Marias, Manolis Tsiknakis and Dimitris Kafetzopoulos, "Biomedical Imaging for Enhanced Genetic Data Analysis", ERCIM News No. 60, Special Theme: Biomedical Informatics, pp.54-55, January 2005.
7. Alex Darrell, Jim Swoger, Laura Quintana, James Sharpe, Kostas Marias, Michael Brady, and Jorge Ripoll, "Improved fluorescence optical projection tomography reconstruction", Biomedical Optics & Medical Imaging, SPIE Newsroom. DOI: 10.1117/2.1200810.1329, 6 November 2008.
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- 

ACADEMIC SUPERVISION

Undergraduate Supervision

2012-2013 *Georgios Ioannidis*, BSc in Applied Mathematics, University of Crete. Final Year Project “*Application of Information Theory in Image Transformations and Alignment*”

MSc Students Supervisor³

2014- *Iosif Serafeimidis*. MSc in Computer Vision, Technological Educational Institute of Crete and University of Burgundy. Thesis title: “*Texture analysis on DCE-MR and DW-MR Images*”

2013- *Georgios Ioannidis*. MSc in Applied Mathematics, University of Crete. Thesis title “*Optimised-Boundaries fitting for Quantitative Analysis for Diffusion-Weighted MRI Image data*”

2013-2015 *Kanli Georgia*. MSc in Computational Physics at SU & KTH, Sweden (working for her thesis full time at the CML Lab FORTH). Thesis title: “*A novel Method for the classification of brain cancer treatments responsiveness via image parameters of DCE-MRI data*”

2013-2015 *Marilena Oraiopoulou*. Brain and Mind MSc Program, University of Crete. Thesis title: “*Magnetic Resonance Imaging in Human Brain Cancers*”

2011-2013 *Constantinos Spanakis*. MSc Technical University of Crete. Thesis title “*Numerical modeling of tumor growth using level set method*”

2008-2010 *Christina Farmaki*. MSc in CSD, University of Crete. Thesis title: “*An extended Spatially Adaptive Active Contours method for Segmenting Tumors from MRI Images*”

2005-2007 *Hara Stefanou*. MSc in CSD, University of Crete with Prof. P. Tsakalides. Thesis title “*Image Processing for optimized Microarray Image Segmentation*”

2004-2005 *Eleftherios Garyfalidis*. Brain and Mind MSc Program, University of Crete

2003-2005 *Socrates Dimitriadis*. MSc in CSD, University of Crete with Prof. S. C. Orphanoudakis. Thesis title “*A Versatile Image-Retrieval Platform based on a Multi-Agent Architecture*”.

John Moustakas. MSc in CSD, University of Crete with Prof. S. C. Orphanoudakis. Thesis title “*A two-level Content-Based Image Retrieval Platform with Application to Brain MRI Data*”.

³ MSc students working full time in the Computational Biomedicine Lab under the supervision of Kostas Marias

PhD Supervision⁴

- 2015-** *Constantinos Spanakis*. PhD Title: “Information theory and its application to image alignment”, Science Department, jointly, Technical University of Crete (member of PhD tribunal with Prof. E. Mathioudakis).
- 2015-** *E. Kontopodis*. PhD Title: “Image Analysis and Modelling of brain MRI image data of Multiple Sclerosis patients”, University of Crete Medical School (member of PhD tribunal with Ass. Prof. E. Papadaki).
- 2014-** *Georgios Kalaitzakis*. PhD Title: “Quantitative T2* MRI algorithms”, University of Crete Medical School (member of PhD tribunal with Prof. T. Maris).
- 2014 -** *George Manikis*. PhD Title: Novel MRI imaging techniques and analysis of articular cartilage and bone marrow oedema in the knee joint and MRI markers-based image modelling, joint supervision with Prof. Apostolos Karantanas, Chairman of Medical Imaging, University of Crete Medical School (member of PhD tribunal).
- 2013 -** *Carlos Hernandez Matas*. Early Stage Researcher for the Retinal Vascular Modelling, Measurement and Diagnosis (REVAMMAD) EC project. PhD Thesis: “Detection and diagnosis of hypertension by automatic image processing and analysis of retinal images”, Computer Science Department, University of Crete (member of PhD tribunal).
- 2013 -** *Anastasia Pampouchidou*. Title: Clinically-driven Facial Image Analysis for Emotion Recognition, joint supervision with Prof. Mériaudeau Fabrice Université de Bourgogne.
- 2009-2013** *Alexandros E. Roniotis*. Thesis title: Glioma growth Modelling, Technical University of Crete, Electronic and Computer Engineer Department (member of PhD tribunal with Prof. M. Zervakis).
- 2005 -2009** *Alex Darrell*. PhD in Molecular Image Analysis (joint supervision with Mike Brady University of Oxford).

PostDoctoral Supervision

- 2013-** *Alexandros Roniotis*, Ph.D. Postdoctoral Researcher in Medical Image Processing and Image-based modelling.
- 2014-** *Marios Spanakis*, Ph.D. Postdoctoral Researcher in Computational Pharmacology and In Silico Modelling applications.

⁴ PhD students working full time in the Computational Biomedicine Lab under the supervision of Kostas Marias except Carlos Matas who is supervised by Dr. X. Zamboulis

COURSES TAUGHT

2004-2008: University of Crete (HY-571)

2005-present: Brain and Mind (Interdisciplinary MSc course)

Course: Medical Image Analysis (Instructor)

<http://www.csd.uoc.gr/~hy571/>

Description: Medical imaging systems and physical principles of medical imaging modalities from the cellular to the tissue level. Medical image reconstruction methods, as well as 2D and 3D medical image processing. Image Processing Techniques: Registration, Data-

Fusion, Segmentation and Normalization. Algorithms for the description and retrieval of medical images by content. Picture archiving and communication systems (PACS). Introduction to the analysis of gene-expression data.

2004-2008: University of Crete CSD (HY-528)

2005-present: Brain and Mind (Interdisciplinary MSc course)

Course: Biomedical Engineering and Signal Analysis (Instructor)

<http://www.csd.uoc.gr/~hy528/>

Description: Basic introduction to physiology for engineers and computer scientists. Introduction to cellular dynamics and resting potential. Description of action potentials. Basic principles of the cardiovascular system: blood pressure, measurement of blood flow

and volume. Digital signal processing and algorithms for biomedical signal analysis. Computer analysis for ECG and EEG: algorithms and software development for diagnosis and research.

2015-: Technological Educational Institute of Crete (ΤΠ60Λ4)

Course: Bioinformatics and Physiological Systems Modelling

Description: Analysis of microarray images with image processing and statistical analysis tools. Introduction to Bioinformatics: databases, tools and open source software. Bioinformatics

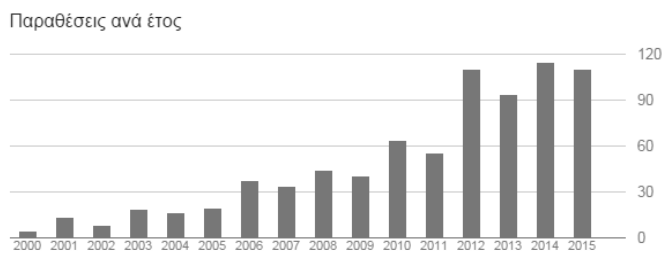
applications in systems biology, pharmacogenomics and personalized medicine. Basic principles of modelling and methods for modelling physiological systems (PS). Use of Simulink for analysis and simulation of PS. Principles of cardiovascular system and modelling examples with Simulink. Principles of nervous system and modelling examples of neural function with electrical circuits. Introduction to Pharmacokinetics and Pharmacogenomics with application in image analysis of MRI data.

BIBLIOMETRIC DATA

GOOGLE SCHOLAR DATA FOR KOSTAS MARIAS

Webpage: https://scholar.google.gr/citations?hl=en&user=2Lx7a7QAAAAJ&view_op=list_works

<i>Citation indices</i>	<i>All</i>	<i>Since 2010</i>
Citations	797	553
h-index	16	13
i10-index	30	17



RESEARCH GATE DATA FOR KOSTAS MARIAS

Webpage: https://www.researchgate.net/profile/Kostas_Marias

RG Score: 28,37

Publications: 132

Views: 12k

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