

**Βιογραφικό Σημείωμα****Κώστας Μαριάς****Διπλ. Ηλεκτρολόγος Μηχανικός,****M.Sc., Ph.D****Καθηγητής****Τμήμα Ηλεκτρολόγων****Μηχανικών και Μηχανικών****Υπολογιστών, Ελληνικό****Μεσογειακό Πανεπιστήμιο****ΣΥΝΟΠΤΙΚΟ ΠΡΟΦΙΛ ΚΑΙ ΕΠΙΣΤΗΜΟΝΙΚΑ
ΕΠΙΤΕΥΓΜΑΤΑ**

Ο Κώστας Μαριάς (PhD) είναι Καθηγητής Επεξεργασίας Ιατρικών Εικόνων στο Τμήμα Ηλεκτρολόγων Μηχανικών και Μηχανικών Υπολογιστών του Ελληνικού Μεσογειακού Πανεπιστημίου και Κοσμήτορας της Σχολής Μηχανικών του ίδιου Πανεπιστημίου. Παράλληλα είναι ιδρυτής και επικεφαλής του Εργαστηρίου Υπολογιστικής Βιοϊατρικής στο Ινστιτούτο Πληροφορικής του ΙΤΕ. Υπηρέτησε ως Κύριος Ερευνητής στο Ινστιτούτο Πληροφορικής του Ιδρύματος Τεχνολογίας και Έρευνας (ΙΤΕ-ΙΠ) από το 2006. Κατά την περίοδο 2000–2002 εργάστηκε ως Ερευνητικός Συνεργάτης στην Ανάλυση Ιατρικών Εικόνων στο Πανεπιστήμιο της Οξφόρδης και από το 2003–2006 ως Συνεργαζόμενος Ερευνητής στο ΙΤΕ-ΙΠ. Έλαβε το διδακτορικό του στην Ανάλυση Ιατρικών Εικόνων και Ιατρική Φυσική από το UCL Royal Free & University College Medical School, σε συνεργασία με το Πανεπιστήμιο της Οξφόρδης, Ηνωμένο Βασίλειο.

Έχει συντονίσει δύο ευρωπαϊκά έργα για τη μοντελοποίηση του καρκίνου (ContraCancrum και TUMOR) και έχει συμμετάσχει ενεργά σε πολλά ακόμα ευρωπαϊκά έργα για την ανάπτυξη τεχνολογιών Πληροφορικής στην Υγεία. Ο Κώστας Μαριάς είναι ενεργό μέλος του IEEE για περισσότερα από 18 χρόνια και έχει διατελέσει με ποικίλους οργανωτικούς ρόλους σε σημαντικά διεθνή συνέδρια του IEEE στους τομείς της βιοϊατρικής πληροφορικής και της απεικόνισης, όπως τα EMBC, BIBE και IST — είτε ως μέλος επιστημονικής επιτροπής, οργανωτικής επιτροπής, υπεύθυνος ειδικών συνεδριών, συμπρόεδρος προγράμματος κ.ά. Είναι συγγραφέας και συν-συγγραφέας περισσότερων από 300 δημοσιεύσεων σε διεθνή περιοδικά, βιβλία και πρακτικά συνεδρίων, με επίκεντρο την επεξεργασία και ανάλυση ιατρικών εικόνων, τη βιοϊατρική πληροφορική, τη μοντελοποίηση με βάση ιατρικές εικόνες και τις

ΠΕΡΙΕΧΟΜΕΝΑ

ΠΡΟΣΩΠΙΚΑ ΣΤΟΙΧΕΙΑ	3
ΕΚΠΑΙΔΕΥΣΗ	3
ΚΥΡΙΕΣ ΕΠΑΓΓΕΛΜΑΤΙΚΕΣ ΘΕΣΕΙΣ	3
ΔΙΟΙΚΗΤΙΚΕΣ ΘΕΣΕΙΣ	4
ΕΠΙΣΤΗΜΟΝΙΚΗ ΚΑΙ ΕΠΑΓΓΕΛΜΑΤΙΚΗ ΔΡΑΣΤΗΡΙΟΤΗΤΑ	4
ΥΠΟΤΡΟΦΙΕΣ ΔΙΔΑΚΤΟΡΙΚΩΝ ΚΑΙ ΜΕΤΑΔΙΔΑΚΤΟΡΙΚΩΝ ΣΠΟΥΔΩΝ	5
ΦΟΡΕΙΣ/ ΙΔΡΥΜΑΤΑ ΣΥΝΕΡΓΑΣΙΑΣ	5
ΕΠΙΣΤΗΜΟΝΙΚΗ ΕΠΙΜΕΛΕΙΑ – ΕΚΔΟΤΙΚΗ ΔΡΑΣΤΗΡΙΟΤΗΤΑ	5
ΕΠΙΛΕΓΜΕΝΕΣ ΠΡΟΣΚΕΚΛΗΜΕΝΕΣ ΟΜΙΛΙΕΣ / ΚΕΝΤΡΙΚΕΣ ΟΜΙΛΙΕΣ	5
ΕΡΕΥΝΗΤΙΚΑ ΕΝΔΙΑΦΕΡΟΝΤΑ	6
ΕΡΕΥΝΗΤΙΚΑ ΕΡΓΑ 2006-2025	7
ΣΥΝΟΠΤΙΚΗ ΠΑΡΟΥΣΙΑΣΗ ΕΡΕΥΝΗΤΙΚΩΝ ΔΡΑΣΤΗΡΙΟΤΗΤΩΝ	12
ΔΗΜΟΣΙΕΥΣΕΙΣ	12
ΕΡΕΥΝΗΤΙΚΑ ΠΕΡΙΟΔΙΚΑ	12
ΚΕΦΑΛΑΙΑ ΣΕ ΒΙΒΛΙΑ.....	30
ΔΙΔΑΚΤΟΡΙΚΕΣ ΔΙΑΤΡΙΒΕΣ ΚΑΙ ΜΟΝΟΓΡΑΦΙΕΣ.....	31
ΣΥΝΕΔΡΙΑ PEER REVIEWED ΔΗΜΟΣΙΕΥΣΕΙΣ	31
ΠΕΡΙΛΗΨΕΙΣ ΣΥΝΕΔΡΙΩΝ ΜΕ ΚΡΙΤΕΣ	49
ΗΛΕΚΤΡΟΝΙΚΕΣ ΔΗΜΟΣΙΕΥΣΕΙΣ.....	52
ΕΠΙΒΛΕΨΗ ΠΤΥΧΙΑΚΩΝ ΚΑΙ ΜΕΤΑΠΤΥΧΙΑΚΩΝ ΕΡΓΑΣΙΩΝ.....	52
ΜΕΛΟΣ ΤΡΙΜΕΛΟΥΣ ΣΥΜΒΟΥΛΕΥΤΙΚΗΣ ΕΠΙΤΡΟΠΗΣ ΔΙΔΑΚΤΟΡΙΚΗΣ ΔΙΑΤΡΙΒΗΣ	52
ΕΠΙΒΛΕΠΩΝ ΜΕΤΑΠΤΥΧΙΑΚΩΝ ΦΟΙΤΗΤΩΝ	54
ΕΠΙΒΛΕΠΩΝ ΠΡΟΠΤΥΧΙΑΚΩΝ ΦΟΙΤΗΤΩΝ.....	55
ΜΑΘΗΜΑΤΑ.....	56
ΔΙΠΛΩΜΑΤΑ ΕΥΡΕΣΙΤΕΧΝΙΑΣ	58
ΒΙΒΛΙΟΜΕΤΡΙΚΑ ΣΤΟΙΧΕΙΑ	58
GOOGLE SCHOLAR FOR KOSTAS MARIAS	58

ΠΡΟΣΩΠΙΚΑ ΣΤΟΙΧΕΙΑ

Ονοματεπώνυμο:	Κώστας Μαριάς
Ημερομηνία γέννησης:	29 Οκτωβρίου 1972
Διεύθυνση επικοινωνίας:	Αγάκου Μετόχι, Αγ. Θεόδωροι, Ηράκλειο 71414, Κρήτη, Ελλάδα
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Οικογενειακή κατάσταση:	Έγγαμος, δύο παιδιά
Υπηκοότητα:	Ελληνική

ΕΚΠΑΙΔΕΥΣΗ

1997 - 2001	Διδακτορικό (Ph.D.) στην Ανάλυση Ιατρικών Εικόνων και στην Ιατρική Φυσική, University College London (UCL) – Royal Free & University College Medical School, σε συνεργασία με το Πανεπιστήμιο της Οξφόρδης, Ηνωμένο Βασίλειο. Επιβλέπων: Καθηγητής Sir Michael Brady FRS FREng, Καθηγητής Μηχανικής Πληροφορικής, Πανεπιστήμιο Οξφόρδης
1996- 1997	Μεταπτυχιακό Δίπλωμα (M.Sc.) στην Μηχανική και τις Φυσικές Επιστήμες στην Ιατρική, Imperial College of Science, Technology and Medicine, Τμήμα Βιοϊατρικής Τεχνολογίας, Ηνωμένο Βασίλειο
1990-1995	Δίπλωμα Ηλεκτρολόγου Μηχανικού και Μηχανικού Υπολογιστών (πενταετές πρόγραμμα), Εθνικό Μετσόβιο Πολυτεχνείο (ΕΜΠ), Αθήνα, Ελλάδα

ΚΥΡΙΕΣ ΕΠΑΓΓΕΛΜΑΤΙΚΕΣ ΘΕΣΕΙΣ

2022 -	Καθηγητής Επεξεργασίας Εικόνας με έμφαση στην Ιατρική Απεικόνιση και Υπολογιστική Ιατρική, Τμήμα Ηλεκτρολόγων Μηχανικών και Μηχανικών Υπολογιστών, Ελληνικό Μεσογειακό Πανεπιστήμιο
2017 - 2022	Αναπληρωτής Καθηγητής, Τμήμα Ηλεκτρολόγων Μηχανικών και Μηχανικών Υπολογιστών, Ελληνικό Μεσογειακό Πανεπιστήμιο
2010 -	Επικεφαλής του Εργαστηρίου Υπολογιστικής Βιοϊατρικής (Computational Biomedicine Laboratory), Ινστιτούτο Πληροφορικής (ΙΠ), Ίδρυμα Τεχνολογίας και Έρευνας – Ελλάς (ΙΤΕ)
2006 - 2017	Κύριος Ερευνητής, Ινστιτούτο Πληροφορικής (ΙΠ), Ίδρυμα Τεχνολογίας και Έρευνας – Ελλάς (ΙΤΕ)
2003 - 2006	Συνεργαζόμενος Ερευνητής, Ινστιτούτο Πληροφορικής (ΙΠ), Ίδρυμα Τεχνολογίας και Έρευνας – Ελλάς (ΙΤΕ)
2000 -2002	Μεταδιδακτορικός Ερευνητής, Πανεπιστήμιο Οξφόρδης, Τμήμα Μηχανικής Πληροφορικής, Wolfson Medical Vision Laboratory, Ηνωμένο Βασίλειο
2015 -	Επισκέπτης Καθηγητής, Τεχνολογικό Εκπαιδευτικό Ίδρυμα Κρήτης
2003 - 2010	Επισκέπτης Καθηγητής, Πανεπιστήμιο Κρήτης
2005 -	Μέλος ΔΕΠ του Διεπιστημονικού Μεταπτυχιακού Προγράμματος «Εγκέφαλος και Νους» του Πανεπιστημίου Κρήτης

2000 – 2002	Επιστημονικός Σύμβουλος, Mirada Solutions Ltd. (Ηνωμένο Βασίλειο), spin-off του Πανεπιστημίου της Οξφόρδης για την εμπορική αξιοποίηση πνευματικής ιδιοκτησίας
1997 - 1998	Μηχανικός Επεξεργασίας Ιατρικών Εικόνων, Imperial College of Science, Technology and Medicine, Bagrit Center, Λονδίνο, Ηνωμένο Βασίλειο

ΔΙΟΙΚΗΤΙΚΕΣ ΘΕΣΕΙΣ

2022-2025	Προεδρος Επιτροπής Βιοηθικής, Ελληνικό Μεσογειακό Πανεπιστήμιο
2020-2022	Αναπληρωτής Προϊστάμενος του Τμήματος Ηλεκτρολόγων Μηχανικών και Μηχανικών Υπολογιστών, Ελληνικό Μεσογειακό Πανεπιστήμιο
2017-2019	Αναπληρωτής Προϊστάμενος Τμήματος Μηχανικών Πληροφορικής, Σχολή Τεχνολογικών Εφαρμογών, ΤΕΙ Κρήτης
2017-	Μέλος της Επιτροπής Μεταπτυχιακών Σπουδών του Προγράμματος MSc στην Πληροφορική και Πολυμέσα, Τμήμα Μηχανικών Πληροφορικής, ΤΕΙ Κρήτης
2017 -	Γραμματέας του ελληνικού παραρτήματος της IEEE Engineering in Medicine and Biology Society (EMBS)
2010 - 2017	Μέλος του Επιστημονικού Συμβουλίου του Ινστιτούτου Πληροφορικής (ΙΠ), Ίδρυμα Τεχνολογίας και Έρευνας – Ελλάς (ΙΤΕ), από το 2010
2015 – 2017	Μέλος της Διδρυματικής Επιτροπής του Διεπιστημονικού Μεταπτυχιακού Προγράμματος «Εγκέφαλος και Νους», Πανεπιστήμιο Κρήτης – ΙΤΕ – Πανεπιστημιακό Νοσοκομείο Ηρακλείου
2014 - 2018	Μέλος της Επιτροπής Ηθικής και Δεοντολογίας του Ιδρύματος Τεχνολογίας και Έρευνας
2015 - 2017	Ορισμένος εκπρόσωπος στην Επιτροπή Ιατρικού Τουρισμού της Περιφέρειας Κρήτης

ΕΠΙΣΤΗΜΟΝΙΚΗ ΚΑΙ ΕΠΑΓΓΕΛΜΑΤΙΚΗ ΔΡΑΣΤΗΡΙΟΤΗΤΑ

Εκπρόσωπος στο Virtual Physiological Human Institute for Integrative Biomedical Research (VPH Institute) – <http://www.vph-institute.org/>

Συντόνισε το ευρωπαϊκό έργο Clinically Oriented Translational Cancer Multilevel Modelling (2008–2011, Contra Cancrum FP7 223979)

Συντόνισε το ευρωπαϊκό έργο Transatlantic Tumour Model Repositories (2010–2013, TUMOR FP7 247754)

Υπήρξε εκπρόσωπος της Ευρωπαϊκής Επιτροπής (DG INFSO) στο εργαστήριο EC–US Workshop on Virtual Tissues (22–24 Απριλίου 2009), που πραγματοποιήθηκε στο EPA North Carolina (ΗΠΑ: EPA, DoE, NSF, NIH – ΕΕ: DG Research Dir. F, DG INFSO)

Συμμετείχε σε συναντήσεις διαβούλευσης της Ευρωπαϊκής Επιτροπής στο πλαίσιο του FP7, κατόπιν πρόσκλησης από τον τομέα ICT for Health

Συμμετέχει τακτικά ως κριτής σε επιστημονικά περιοδικά όπως: 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

Έχει συμμετάσχει στην Οργανωτική Επιτροπή του International Advanced Research Workshop on In Silico Oncology και σε ειδικές συνεδρίες των συνεδρίων IEEE EMBC, IEEE BIBE και MobiHealth

Έχει διατελέσει πρόεδρος συνεδρίων ή μέλος επιτροπών προγράμματος σε συνέδρια όπως IEEE ISBI (2023

World Liaison Chair), IEEE EMBC, BIBE και ISBMDA. Πρόσφατα υπηρέτησε ως co-chair και υπεύθυνος για τα workshops στο EAI International Conference on Personal, Pervasive and Mobile Health (14–15 Ιουνίου 2016, Βουδαπέστη) και ήταν μέλος της τοπικής οργανωτικής επιτροπής του IST 2016 (IEEE International Conference on Imaging Systems and Techniques – <http://ist2016.ieee-ims.org>), Χανιά, καθώς και του eHealth Forum (2015–2018)

Οργανωτής του πρώτου θερινού σχολείου στην Υπολογιστική Ογκολογία και συνδιοργανωτής του δεύτερου – <http://www.computationaloncology.org>

ΥΠΟΤΡΟΦΙΕΣ ΔΙΔΑΚΤΟΡΙΚΩΝ ΚΑΙ ΜΕΤΑΔΙΔΑΚΤΟΡΙΚΩΝ ΣΠΟΥΔΩΝ

1997-2001	UCL Fellow στο Πανεπιστήμιο της Οξφόρδης (υποτροφία διδακτορικών σπουδών, πλήρης χρηματοδότηση από κοινού από το Πανεπιστήμιο της Οξφόρδης και το UCL, Λονδίνο)
2001-2004	Ερευνητική υποτροφία μεταδιδακτορικού επιπέδου από το Cancer Research UK, με κωδικό CRC-SP2580/0101 και συνολικό ποσό χρηματοδότησης £139.091,00, με τίτλο: «Ποσοτική αξιολόγηση των αλλαγών σε πυκνούς ιστούς του μαστού»

ΦΟΡΕΙΣ/ ΙΔΡΥΜΑΤΑ ΣΥΝΕΡΓΑΣΙΑΣ

2003 -	Senior Member IEEE – Engineering in Medicine and Biology Society (ΗΠΑ)
2005 - 2010	Μέλος της Academy of Molecular Imaging – ΗΠΑ (με υποστήριξη από το UCLA)

ΕΠΙΣΤΗΜΟΝΙΚΗ ΕΠΙΜΕΛΕΙΑ – ΕΚΔΟΤΙΚΗ ΔΡΑΣΤΗΡΙΟΤΗΤΑ

2018 -2023	Αναπληρωτής Επιμελητής (Associate Editor) στο IET Image Processing http://digital-library.theiet.org/journals/iet-ipr/editorial-board
2019 -	Αναπληρωτής Επιμελητής (Associate Editor) στο IEEE Journal of Biomedical and Health Informatics, https://www.embs.org/jbhi/associate-editors/
2021 -	Αναπληρωτής Επιμελητής (Associate Editor) στο Journal of Imaging https://www.mdpi.com/journal/jimaging/editors

ΕΠΙΛΕΓΜΕΝΕΣ ΠΡΟΣΚΕΚΛΗΜΕΝΕΣ ΟΜΙΛΙΕΣ / ΚΕΝΤΡΙΚΕΣ ΟΜΙΛΙΕΣ

1. Keynote Speaker: Κώστας Μαριάς, Τεχνητή Νοημοσύνη στην Ιατρική: Μύθοι και πραγματικότητα, 34^ο Πολυθεματικό Ιατρικό Συνέδριο 251 ΓΝΑ «Τεχνητή Νοημοσύνη: Άνθρωπος και Ιατρική», 20-21 Φεβρουαρίου 2024.
2. Keynote Speaker: Κώστας Μαριάς, Η Ιατρική Απεικόνιση (ΙΑ) στην εποχή της Τεχνητής Νοημοσύνης (AI), 23ο Πανελλήνιο Ακτινολογικό Συνέδριο, 7 - 10 Δεκεμβρίου 2023, Ελληνική Ακτινολογική Εταιρεία.
3. Προσκεκλημένη Ομιλία: Κώστας Μαριάς, Using “Artificial” Intelligence to Achieve “Real” Improvements in Cancer Care, Συνέδριο Κλινικής και Μεταφραστικής Ογκολογίας, 14-17 Νοεμβρίου 2024
4. Προσκεκλημένη Ομιλία: Kostas Marias, Assessing the trustworthiness of saliency maps as a tool to increase clinical explainability of AI radiology models, European Congress of Radiology held from February 28-March 3, 2024

5. ISBI 2024 Workshop Presentation, Kostas Marias, PROC-AI: integrating imaging data and AI models for supporting precision care through prostate cancer's continuum
6. ESR Master Class in AI: Kostas Marias, The Next Frontier: Autonomous AI, 2023
7. Προσκεκλημένη Ομιλία: Κ. Μαριάς, Τεχνητή Νοημοσύνη στην Ογκολογική Απεικόνιση: Που βρισκόμαστε;, «ΤΡΕΧΟΥΣΕΣ ΕΞΕΛΙΞΕΙΣ ΣΤΗΝ ΑΚΤΙΝΟΛΟΓΙΑ Ελληνική Ακτινολογική Εταιρία, 9-11 Δεκεμβρίου 2022
8. Keynote Speaker: Kostas Marias IST 2019 - IEEE International Conference on Imaging Systems and Techniques, <https://ist2019.ieee-ims.org/keynote-speakers.html>
9. Τεχνητή Νοημοσύνη στην Ογκολογική Απεικόνιση: Που βρισκόμαστε; Ανάλυση ιατρικών εικόνων MRI με ποσοτικά μοντέλα και μηχανική μάθηση στον καρκίνο του ορθού, προσκεκλημένη ομιλία, 8ο Συμπόσιο Colorectal Games, Ηράκλειο, 2018
10. Πρόβλεψη αποτελεσματικής προσαρμογής στον καρκίνο του μαστού, προσκεκλημένη ομιλία στο eHealth Forum 2017 – Digital Health Conference, 19–22 Οκτωβρίου, Αθήνα
https://www.youtube.com/watch?v=m_DCeAU6eDM
11. Προσωπικό ηλεκτρονικό αρχείο υγείας iManageCancer, προσκεκλημένη ομιλία στο eHealth Forum 2016 – Προώθηση της ψηφιακής ενσωμάτωσης στην υγεία για ισότιμη πρόσβαση και βιώσιμο μέλλον
12. Προσωπικά συστήματα υγείας για αυτοδιαχείριση και τεχνολογίες ενδυνάμωσης του ασθενή, προσκεκλημένη ομιλία στο 10ο Πανελλήνιο Συνέδριο για τη Διοίκηση και Πολιτική Υγείας, Αθήνα, 18–20 Δεκεμβρίου 2014
13. Υπολογιστικά μοντέλα και εργαλεία ανάλυσης ιατρικών εικόνων για βελτιστοποίηση προσωποποιημένων προβλέψεων στην ανταπόκριση θεραπείας σε ογκολογικούς ασθενείς, κεντρική προσκεκλημένη ομιλία στο 19ο Πανελλήνιο Συνέδριο Κλινικής Ογκολογίας, 27 Απριλίου 2013
14. Κλινικά προσανατολισμένη πολυεπίπεδη μοντελοποίηση στην έρευνα καρκίνου, προσκεκλημένη ομιλία στην Υπηρεσία Προστασίας Περιβάλλοντος των ΗΠΑ (EPA), Ερευνητικό Πρόγραμμα Υπολογιστικής Τοξικολογίας, 21 Απριλίου 2009

ΕΡΕΥΝΗΤΙΚΑ ΕΝΔΙΑΦΕΡΟΝΤΑ

ΕΠΕΞΕΡΓΑΣΙΑ ΚΑΙ ΑΝΑΛΥΣΗ ΙΑΤΡΙΚΩΝ ΕΙΚΟΝΩΝ

Ποσοτική ανάλυση εικόνων
Ταξινόμηση και τμηματοποίηση εικόνων
Βιοδείκτες βασισμένοι σε εικόνες

ΥΠΟΛΟΓΙΣΤΙΚΗ ΙΑΤΡΙΚΗ

Μακροσκοπική μοντελοποίηση καρκίνου με βάση εικόνες
Ανάλυση χαρακτηριστικών radiomics και radiogenomics
Εφαρμογές τεχνητής νοημοσύνης στην ανάλυση ιατρικών εικόνων

ΠΡΟΣΩΠΙΚΑ ΠΛΗΡΟΦΟΡΙΑΚΑ ΣΥΣΤΗΜΑΤΑ ΥΓΕΙΑΣ

Υπηρεσίες ενδυνάμωσης του ασθενή
Αυτοδιαχείριση διαβήτη και εκτίμηση κινδύνου
Ανάλυση Βιοσημάτων για προσωποποιημένη Ιατρική

ΕΡΕΥΝΗΤΙΚΑ ΕΡΓΑ 2006-2025

Ο παρακάτω πίνακας παραθέτει όλα τα έργα στα οποία συμμετείχε ο Κώστας Μαριάς κατά την περίοδο 2006–2025 (ως επικεφαλής του Εργαστηρίου Υπολογιστικής Ιατρικής), στα οποία είχε τον ρόλο του Συντονιστή του Ερευνητικού Σχήματος (PC), του Τεχνικού Υπευθύνου του Έργου (TC), του Κύριου Ερευνητή για το ΙΤΕ (PI) ή του Συνερευνητή (CO-PI – ενεργός συμμετοχή δίπλα στον PI).

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 Cancer Multilevel Modelling http://www.contracancrum.eu/	Contra Cancrum	1/08/2008	31/07/2011	651.920 €	PC
Transatlantic TUmour MOdel Repositories	TUMOUR	1/4/2010	31/3/2013	396.220 €	PC
Driving Excellence in Integrative Cancer Research through Innovative Biomedical Infrastructures	INTEGRATE	1/2/2011	31/1/2014	818.300 €	CO-PI
Development of a research infrastructure for computational oncology	ΥΠΕΡΘΕΝ¹	24/6/2011	23/6/2013	359.725 €	CO-PI
From data sharing and integration via VPH models to personalized medicine	p-Medicine	1/2/2011	31/1/2015	1.242.435 €	CO-PI
Enabling information re-Use by linking clinical REsearch and	EURECA	1/1/2012	31/12/2014	865.536 €	CO-PI

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

CAre					
A Demonstration of 4D Digital Avatar Infrastructure for Access of Complete Patient Information	MyHealth Avatar	1/3/2013	29/2/2016	361.400 €	PI
Computational Horizons in Cancer: Developing Meta- and Hyper-Multiscale Models and Repositories for In Silico Oncology	CHIC	1/4/2013	31/3/2017	888.106 €	PI
Development of Interdisciplinary Research Activities for Systems Biology	ΚΡΗΠΙΣ-ΒΙΟΣΥΣ²	1/7/2013	30/7/2015	70.000 €	PI
Regional Anaesthesia Simulator and Assistant	RASimAS	1/11/2013	31/10/2016	227.757 €	PI
Multi-channel biometrics combining acoustic and machine vision analysis of speech, lip movement and face	SpeechXRays	1/05/2015	30/4/2018	303.750 €	CO-PI
iManageCancer - Empowering patients and strengthening self-management in cancer diseases	iManage Cancer (HORIZON2020)	1/2/2015	1/7/2018	747.500	PI, TC
Predicting Effective Adaptation to Breast Cancer to Help Women to BOUNCE Back	BOUNCE (HORIZON2020)	1/11/2017	31/10/2021	726.875	CO-PI
HARMONization and integrative analysis of regional, national and international Cohorts on primary Sjögren's Syndrome (pSS) towards improved stratification, treatment and health policy making	HarmonicSS (HORIZON2020) TEI CRETE	2018	2021	215.000	CO-PI

² Ανάπτυξη Διεπιστημονικών Ερευνητικών Δραστηριοτήτων στην Κατεύθυνση της Βιολογίας Συστημάτων

Fostering Palliative Care of Adults and Children with Cancer through Advanced Patient Reported Outcome Systems, GA 825872, H2020-SC1-BHC-2018-2020.	MyPal (HORIZON2020)	01/01/2019	30/06/2022	293.500	PI
Ανάπτυξη αυτοματοποιημένων τεχνικών ποσοτικοποίησης σιδήρου σε παρεγχυματικά όργανα για διαγνωστικούς σκοπούς.	ΑΠΟΣΙΔΙ (ΕΣΠΑ2014-2020 ΕΡΕΥΝΩ- ΚΑΙΝΟΤΟΜΩ- ΔΗΜΙΟΥΡΓΩ)	16/6/2020	15/12/2022	264.340	PI
Ευφυές ψηφιακό αποθετήριο τοποθεσιών για κινηματογράφηση εμπλουτισμένο με τεχνικές βαθιάς μάθησης για πολυτροπική αυτοματοποιημένη αποθήκευση, αναζήτηση και ανάκτηση.	LoockMe (ΕΣΠΑ2014-2020 ΕΡΕΥΝΩ- ΚΑΙΝΟΤΟΜΩ- ΔΗΜΙΟΥΡΓΩ)	16/6/2020	15/12/2022	329.000	CO-PI
Leveraging AI based technology to transform the future of health care delivery in Leading Hospitals in Europe, GA101017331	ODIN (H2020-DT-2018-2020)	01/03/2021	31/08/2024	495.000	CO-PI
A patient-centered early risk prediction, prevention, and intervention platform to support the continuum of care in coronary artery disease (CAD) using eHealth and artificial intelligence' — G101017424, H2020 - SC1-DTH-2020-1	TIMELY (H2020-DT-2018-2020)	01/01/2021	30/09/2024	226.562	PI
Genomics and Personalized Medicine for all through Artificial Intelligence in Haematological Diseases,	GENOMED 4ALL (H2020)	01/01/2021	31/12/2024	396.000	PI

GA101017549					
An AI Platform integrating imaging data and models, supporting precision care through prostate cancer's continuum, GA952159, H2020 - SC1-FA-DTS-2019-1 AI for Health Imaging.	ProCAncer-I (H2020)	01/10/2020	30/09/2024	1.372.000	CO-PI
Cardiocare: An Interdisciplinary Approach for The Management of The Elderly Multimorbid Patient with Breast Cancer Therapy Induced Cardiac Toxicity Ga945175, H2020, H2020 - Sc1-Bhc-24-2020	Cardiocare (H2020)	01/07/2021	30/06/2025	314.875	PI
LETHE – A personalized prediction and intervention model for early detection and reduction of risk factors causing dementia, based on AI and distributed Machine Learning, H2020 - SC1-DTH-2020-1	LETHE (H2020)	01/01/2021	30/06/2025	244.375	CO-PI
Improve Safety in Polymedication by Managing Drug-Drug-Gene Interactions (SafePolyMed), HORIZON-HLTH-2021-CARE-05-01	SafePolyMed (H2020)	01/06/2022	31/11/2025	600.000	CO-PI
Radioval: International Clinical Validation of Radiomics Artificial Intelligence for Breast Cancer Treatment Planning, 101057699, H2020, HORIZON-HLTH-2021-DISEASE-04-04	Radioval (H2020)	09/01/2022	08/31/2026	250.625	PI
European Federation for Cancer Images, DIGITAL-2022-CLOUD-AI-02-CANCER-IMAGE	EUCAIM (Digital Europe)	01/03/2023	31/12/2026	902.994	CO-PI

The Development of Preterm Infants from Low Socio-economic Status Families: The Combined Effects of Melatonin, Autonomic Nervous System Maturation and Psychosocial Factors, ΕΛΙΔΕΚ	PROMOTE (ΕΛΙΔΕΚ)	10/10/2023	09/10/2025	13.585	CO-PI
Fostering Artificial Intelligence Trust for Humans towards the optimization of trustworthiness through large-scale pilots in critical domains, HORIZON-CL4-2023-HUMAN-01-02	FAITH (H2023)	01/01/2024	31/03/2028	1.253.921,5	CO-PI
AI Engineering Suite to support Agile Efficient Software Engineering, HORIZON-CL4-2024-DIGITAL-EMERGING-01	AI4SWEng (H2024)	01/12/2024	31/05/2028	192.688,82	CO-PI
Propelling the shift toward the future of circular, safe and sustainable packaging and single use device ecoDesigned solutions through healthcare environments, HORIZON-JU-IHI-2023-04-two-stage	ENKORE (H2023)	01/01/2025	31/12/2028	206.875	CO-PI
Clinical Decision Support System for Abdominal Aortic Aneurysm Disease based on Artificial Intelligence models, Greece 2.0 – National Recovery and Resilience Plan	SAFE AORTA	02/08/2023	01/12/2025	267.594,50 HMU budget	CO-PI
A Smart Scenario to 3D Animation Generation System	SMARTANIMA	15/4/2025	30/6/2026	360.000 HMU budget	CO-PI

ΣΥΝΟΠΤΙΚΗ ΠΑΡΟΥΣΙΑΣΗ ΕΡΕΥΝΗΤΙΚΩΝ ΔΡΑΣΤΗΡΙΟΤΗΤΩΝ

Επεξεργασία Ιατρικών Εικόνων: Η ερευνητική δραστηριότητα του Κώστα Μαρίας στον τομέα της ανάλυσης ιατρικών εικόνων επικεντρώνεται στην ανάπτυξη λογισμικών για την υποστήριξη κλινικών αποφάσεων, προσφέροντας αξιόπιστα εργαλεία εξαγωγής απεικονιστικών βιοδεικτών, κυρίως από δεδομένα μαγνητικής τομογραφίας (MRI), καθώς και εργαλεία οπτικοποίησης και ποσοτικοποίησης για την καθοδήγηση θεραπευτικών στρατηγικών. Το έργο του περιλαμβάνει μετρήσεις δυναμικής ενισχυμένης μαγνητικής τομογραφίας αιμάτωσης (Dynamic Contrast-Enhanced Perfusion MRI) και υπολογισμό φαρμακοκινητικών παραμέτρων σχετιζόμενων με τη διαπερατότητα (K_{trans} , K_{ep} , V_e), για την παρακολούθηση της αποτελεσματικότητας νεοεπικουρικών θεραπειών, καθώς και τεχνικές χαρακτηρισμού όγκων με βάση την MRI διάχυσης (diffusion-weighted MRI) και την απεικόνιση ADC (ADC-mapping), οι οποίες αντικατοπτρίζουν την κυτταροβρίθεια του όγκου. Η δραστηριότητα αυτή έχει πρόσφατα οδηγήσει σε δύο αιτήσεις διπλωμάτων ευρεσιτεχνίας για προηγμένες τεχνικές ανάλυσης MRI διάχυσης και αιμάτωσης, για τις οποίες υπάρχει ενδιαφέρον εμπορικής αξιοποίησης.

Υπολογιστική Ιατρική: Την τελευταία δεκαετία, ο Κώστας Μαρίας έχει εμπλακεί εντατικά στην ανάπτυξη εξατομικευμένων πολυεπίπεδων υπολογιστικών μοντέλων (in silico), με στόχο την καλύτερη κατανόηση της φυσιολογίας και παθολογίας ανθρωπίνων οργάνων, με ιδιαίτερη έμφαση στον καρκίνο. Ένα από τα κύρια ζητήματα στην κλινική πράξη και στη θεραπεία απειλητικών για τη ζωή νόσων, όπως ο καρκίνος, είναι η όσο το δυνατόν ταχύτερη μεταφορά επιστημονικών ανακαλύψεων από διάφορους επιστημονικούς τομείς (π.χ. εργαστηριακή έρευνα, κλινικές και πληθυσμιακές μελέτες, υπολογιστικά μοντέλα πρόγνωσης σταδίου νόσου) στην κλινική εφαρμογή, με σκοπό τη μείωση της επίπτωσης, της νοσηρότητας και της θνησιμότητας. Οι υπολογιστικές προσεγγίσεις που χρησιμοποιεί εστιάζουν στην ανάπτυξη προηγμένων μαθηματικών μοντέλων καρκίνου για τη δοκιμή εναλλακτικών θεραπευτικών σχημάτων, αναζητώντας τη βέλτιστη θεραπεία για κάθε ασθενή ξεχωριστά (precision medicine).

Βιοϊατρική Πληροφορική: Μέσω της συμμετοχής του σε πολυάριθμα ευρωπαϊκά έργα, ο Κώστας Μαρίας έχει επικεντρωθεί στην ανάπτυξη εξατομικευμένων υπηρεσιών ΤΠΕ για τη διαχείριση κλινικών δεδομένων και την υποστήριξη αποφάσεων, καθώς και στη μεταφορά καινοτόμων τεχνολογιών στο κλινικό περιβάλλον. Πρόσφατα ασχολείται ενεργά με έργα στον τομέα της ψηφιακής υγείας (e-health) και της κινητής υγείας (m-health), δίνοντας έμφαση στην έρευνα για τα Προσωπικά Ηλεκτρονικά Αρχεία Υγείας, στο πλαίσιο έργων που σχετίζονται με τη διαχείριση χρόνιων νοσημάτων, όπως ο διαβήτης και ο καρκίνος.

ΔΗΜΟΣΙΕΥΣΕΙΣ

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ΔΙΔΑΚΤΟΡΙΚΕΣ ΔΙΑΤΡΙΒΕΣ ΚΑΙ ΜΟΝΟΓΡΑΦΙΕΣ

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ΕΠΙΒΛΕΨΗ ΠΤΥΧΙΑΚΩΝ ΚΑΙ ΜΕΤΑΠΤΥΧΙΑΚΩΝ ΕΡΓΑΣΙΩΝ

ΜΕΛΟΣ ΤΡΙΜΕΛΟΥΣ ΣΥΜΒΟΥΛΕΥΤΙΚΗΣ ΕΠΙΤΡΟΠΗΣ ΔΙΔΑΚΤΟΡΙΚΗΣ ΔΙΑΤΡΙΒΗΣ

- 2024 -** *Konstantina Giouroukou*, PhD Student, PhD Title: “Generation of Synthetic Prostate MRI Images: Applications to Diagnosis and Monitoring of Prostate Cancer”, joint supervision with Prof. Michalis Klontzas and Prof. Emmanouil Tsiknakis, University of Crete, Medical School.

- 2024 -** *Eystathios Kyriazis*, PhD Student, PhD Title: “Automatic segmentation of glioblastomas using multi-modal brain MR images.”, *Dept. of Electrical & Computer Engineering at the Hellenic Mediterranean University*.
- 2023 -** *Aikaterini Dovrou*, PhD Candidate in Machine/Deep Learning in Medicine, joint supervision with Prof. Sofia Aggelaki, University of Crete, Medical School.
- 2022 -** *Emmanouil Koutoulakis*, PhD Title: “Advanced deep learning techniques for detection, segmentation, and classification of lung nodules”, Technical University of Crete, Electronic and Computer Engineer Department.
- 2022 -** *Emmanouil Markodimitrakis*, PhD Title: “Adapting Federated Learning to medical applications by utilizing distributed resources across distant nodes”, Technical University of Crete, Electronic and Computer Engineer Department.
- 2021 -** *Avtantil Dimitriadis*, PhD Title: “Advanced Artificial intelligence techniques focused on medical imaging for improving prostate cancer management”, Technical University of Crete, Electronic and Computer Engineer Department.
- 2019 -** *Ioannis Stefanis*, PhD Student, Technical University of Crete, Electronic and Computer Engineer Department.
- 2019 - 2024** *Eleftherios Trivizakis*, PhD Title: “Prediction of clinical outcome in patients with non-small cell lung cancer undergoing immunotherapy using artificial intelligence techniques”, joint supervision with Prof. Apostolos Karantanias, Chairman of Medical Imaging, University of Crete Medical School.
- 2016 -** *Anastasia Pentari*, PhD Title: “optimal reconstruction of Diffusion-Weighted MRI signal and Dynamic Contrast-Enhanced MRI study with Compressed Sensing Techniques”, joint supervision with Prof. P. Tsakalides, Computer Science Department, University of Crete.
- 2015 - 2020** *Georgios Ioannidis*, PhD Title: “Qualitative evaluation of perfusion studies with non-ionizing (MRI) and low dose radiation (CT) protocols”, joint supervision with Prof. Perisinakis Kostas, Faculty of Medicine, University of Crete.
- 2015 - 2020** *Constantinos Spanakis*, PhD Title: “Information theory and its application to image alignment”, Science Department, jointly with Ass. Prof. E. Mathioudakis, Technical University of Crete.
- 2016 - 2020** *Katerina Nikiforaki*, PhD Title: “Multi Parametric MR Imaging of Soft Tissue Sarcomas”, joint supervision with Prof. Apostolos Karantanias, Chairman of Medical Imaging, University of Crete Medical School.
- 2015 - 2020** *Irini Genitsaridi*, PhD Title: “Temporal Probabilistic Reasoning on Longitudinal Patient Trajectories to enhance Outcome Prediction and Decision Making: A Recommendation System applied in Rheumatoid Arthritis Treatment.”, with Prof. P. Sidiropoulos (University of Crete Medical School) and Prof. D. Plexousakis, Computer Science Department, University of Crete.

- 2014 - 2018** *Mari Venianaki*, PhD title: “Cancer tissue classification from DCE-MRI data using pattern recognition techniques”, IMT School for advance studies, Lucca, Italy (joint supervision with Prof. Ovidio Salvetti).
- 2014 - 2020** *Georgios Kalaitzakis*, PhD Title: “Quantitative T2* MRI image analysis algorithms”, University of Crete Medical School.
- 2014 - 2020** *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 modelling”, joint supervision with Prof. Apostolos Karantanis, Chairman of Medical Imaging, University of Crete Medical School.
- 2014 - 2019** *Anastasia Pampouchidou*, Title: Clinically-driven Facial Image Analysis for Emotion Recognition, co- supervision with Prof. Mériaudeau Fabrice Université de Bourgogne
- 2014 - 2017** *Carlos Hernandez Matas*, Title: Retinal image registration through 3D eye modelling and pose estimation, University of Crete, Computer Science department, (member of PhD tribunal with Prof. A. Argyros).
- <https://www.didaktorika.gr/eadd/handle/10442/42160>
- 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)
- <https://www.didaktorika.gr/eadd/handle/10442/34885>
- 2005 -2009** *Alex Darrell*, PhD in Molecular Image Analysis (joint supervision with Mike Brady University of Oxford)

ΕΠΙΒΛΕΠΩΝ ΜΕΤΑΠΤΥΧΙΑΚΩΝ ΦΟΙΤΗΤΩΝ

- 2022 - 2023** *Konstantina Giouroukou*, “Development of a Computational Male Pelvis Phantom for the Generation of Multiseries MRI Synthetic Data in Support of Image Analytic Processes”, School of Medicine, University of Crete, Postgraduate Program “Biomedical Engineering”
- 2020 - 2021** *Dimitrios Theodoropoulos*, “Semantic Segmentation of Diabetic Retinopathy Lesions, using a UNET with Pretrained Encoder”, Department of Electrical and Computer Engineering, Postgraduate Program “Informatics Engineering”
- 2017 -** *Konstantinos Tsagkarakis*, Department of Informatics Engineering, Technological Educational Institute of Crete, MSC IN INFORMATICS & MULTIMEDIA.
- 2017 - 2018** *Eleftherios Trivizakis*, Department of Informatics Engineering, Technological Educational Institute of Crete, MSC IN INFORMATICS & MULTIMEDIA.
- 2015 – 2016** *Iosif Serafeimidis*, “Texture Analysis on DCE-MR and DW-MR Images”, Department of Informatics Engineering, Technological Educational Institute of Crete, MSC IN INFORMATICS & MULTIMEDIA.

- 2013-2015** Georgios Ioannidis, *“Diffusion Magnetic Resonance Imaging Techniques: Applications in Brain and Human Body”* MSc in Applied Mathematics, University of Crete
- 2013 – 2015** Kanli Georgia, MSc in Computational Physics at SU & KTH, Sweden (working for her thesis full time at the CML Lab FORTH)
- 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”*
- 2005 - 2007** Hara Stefanou, MSc in CSD, University of Crete jointly with Prof. P. Tsakalides
- 2004 - 2005** Eleftherios Garyfalidis, Brain and Mind MSc Program, University of Crete
- 2003 - 2005** Socrates Dimitriades, MSc in CSD, University of Crete with Prof. S. C. Orphanoudakis
- 2003 - 2004** John Moustakas, MSc in CSD, University of Crete with Prof. S. C. Orphanoudakis

ΕΠΙΒΛΕΠΩΝ ΠΡΟΠΤΥΧΙΑΚΩΝ ΦΟΙΤΗΤΩΝ

- 2019-2021** Nikolas Pediaditis, *“Medical image analysis using Wavelet Packet Transform and Machine Learning for histopathology image classification”*, Department of Electrical and Computer Engineering, Hellenic Mediterranean University.
- 2020-2021** Stylianos Papagiannakis, *“Signal quantification from fluorescent histopathological images and machine learning applications for their categorization”*, Department of Electrical and Computer Engineering, Hellenic Mediterranean University."
- 2018 -2019** Stefanos Gkikas, *“Identity verification by combining video, image and sound”*, Department of Informatics Engineering, Technological Educational Institute of Crete.
- 2018 - 2019** Avtadil Dimitriadis, *“Identity verification by combining video, image and sound”*, Department of Informatics Engineering, Technological Educational Institute of Crete.
- 2018 - 2019** Vasilios Melisianos, *“Bag of words techniques for differentiating tissue classes in medical images”*, Department of Informatics Engineering, Technological Educational Institute of Crete.
- 2017 - 2018** Iraklis Skepasianos, *“Gabor Filters and texture analysis for DCE-MRI data”*, Department of Informatics Engineering, Technological Educational Institute of Crete.

ΜΑΘΗΜΑΤΑ

2004–2008: Πανεπιστήμιο Κρήτης (HY-571)

2005–σήμερα: Διατμηματικό Μεταπτυχιακό Πρόγραμμα
Εγκέφαλος και Νους

Μάθημα: Ανάλυση και Επεξεργασία Ιατρικών Εικόνων
(Διδάσκων)

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

Περιγραφή: Συστήματα ιατρικής απεικόνισης και φυσικές αρχές των απεικονιστικών μεθόδων, από το κυτταρικό έως το επιπέδο των ιστών. Μέθοδοι ανασύνθεσης ιατρικών εικόνων, καθώς και επεξεργασία 2D και 3D ιατρικών εικόνων. Τεχνικές επεξεργασίας

εικόνας: ευθυγράμμιση (registration), συγχώνευση δεδομένων (data fusion), τμηματοποίηση (segmentation) και κανονικοποίηση (normalization). Αλγόριθμοι για την περιγραφή και ανάκτηση ιατρικών εικόνων βάσει περιεχομένου. Συστήματα αρχειοθέτησης και επικοινωνίας ιατρικών εικόνων (PACS). Εισαγωγή στην ανάλυση δεδομένων γονιδιακής έκφρασης.

2004–2008: Πανεπιστήμιο Κρήτης, Τμήμα Επιστήμης
Υπολογιστών (HY-528)

2005–σήμερα: Διατμηματικό Μεταπτυχιακό Πρόγραμμα
Εγκέφαλος και Νους

Μάθημα: Βιοϊατρική Τεχνολογία και Ανάλυση Σημάτων
(Διδάσκων)

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

Περιγραφή: Βασική εισαγωγή στη φυσιολογία για μηχανικούς και επιστήμονες υπολογιστών. Εισαγωγή στη δυναμική των κυττάρων και το δυναμικό ηρεμίας. Περιγραφή των δυναμικών ενεργείας. Βασικές αρχές του καρδιαγγειακού συστήματος: αρτηριακή

πίεση, μέτρηση ροής και όγκου αίματος. Ψηφιακή επεξεργασία σήματος και αλγόριθμοι για ανάλυση βιοϊατρικών σημάτων. Υπολογιστική ανάλυση για ECG και EEG: ανάπτυξη αλγορίθμων και λογισμικού για διαγνωστικούς και ερευνητικούς σκοπούς..

2015–2017: Τεχνολογικό Εκπαιδευτικό Ίδρυμα (ΤΕΙ) Κρήτης
(ΤΠ60Λ4)

Μάθημα: Βιοπληροφορική και Μοντελοποίηση Φυσιολογικών
Συστημάτων

Περιγραφή: Ανάλυση εικόνων μικροσυστοιχιών (microarrays) με χρήση εργαλείων επεξεργασίας εικόνας και στατιστικής ανάλυσης. Εισαγωγή στη Βιοπληροφορική: βάσεις

δεδομένων, εργαλεία και λογισμικό ανοικτού κώδικα. Εφαρμογές της Βιοπληροφορικής στη συστημική βιολογία, τη φαρμακογονιδιωματική και την εξατομικευμένη ιατρική. Βασικές αρχές μοντελοποίησης και μέθοδοι για τη μοντελοποίηση φυσιολογικών συστημάτων (PS). Χρήση του Simulink για ανάλυση και προσομοίωση φυσιολογικών συστημάτων. Αρχές λειτουργίας του καρδιαγγειακού συστήματος και παραδείγματα μοντελοποίησης με το Simulink. Αρχές λειτουργίας του νευρικού συστήματος και παραδείγματα μοντελοποίησης της νευρωνικής λειτουργίας με ηλεκτρικά κυκλώματα. Εισαγωγή στη

Φαρμακοκινητική και Φαρμακογονιδιωματική με εφαρμογές στην ανάλυση εικόνων μαγνητικής τομογραφίας (MRI).

2016–σήμερα: Τεχνολογικό Εκπαιδευτικό Ίδρυμα (ΤΕΙ) Κρήτης (ΤΡ320)

Μάθημα: Ψηφιακή Επεξεργασία Εικόνας

Περίληψη: Εισαγωγή στην Ψηφιακή Επεξεργασία Εικόνας. Χωρικό φιλτράρισμα και

τελεστές γειτονικών pixels. Βελτίωση εικόνας με τελεστές σημειακής επεξεργασίας, μετασχηματισμούς φωτεινότητας και ισοστάθμιση ιστογράμματος. Ανάλυση Fourier, Διακριτός Μετασχηματισμός Fourier και βελτίωση εικόνας στο πεδίο της συχνότητας. Βελτίωση εικόνας και απομάκρυνση περιοδικού θορύβου στο πεδίο της συχνότητας με χρήση φίλτρων. Αποκατάσταση και όξυνση εικόνας στο χωρικό και συχνοτικό πεδίο. Μορφολογική επεξεργασία εικόνας.

2016–σήμερα: Τεχνολογικό Εκπαιδευτικό Ίδρυμα (ΤΕΙ) Κρήτης (ΤΠ60Λ4)

Μάθημα: Προηγμένες Μέθοδοι Ψηφιακής Απεικόνισης και Υπολογιστικής Όρασης

Περίληψη: Η απεικόνιση και η υπολογιστική όραση είναι δύο συγγενείς ερευνητικές περιοχές που έχουν προσελκύσει σημαντικό ενδιαφέρον τα τελευταία χρόνια. Το μάθημα αυτό

εστιάζει στην ανάλυση προτύπων σε οπτικές εικόνες με στόχο την κατανόηση των αντικειμένων και των διαδικασιών του πραγματικού κόσμου που τις παράγουν. Πρόκειται για ένα διεπιστημονικό πεδίο που αντλεί γνώσεις από τα μαθηματικά και τη στατιστική, τη φυσική, την οπτική, τη φυσιολογία, τη θεωρία της πληροφορίας, καθώς και την επιστήμη υπολογιστών. Οι εφαρμογές του είναι ευρύτατες, περιλαμβάνοντας τη δορυφορική τηλεπισκόπηση, τα πολυμέσα, την επιτήρηση, τη ρομποτική, την ιατρική απεικόνιση και την αλληλεπίδραση ανθρώπου-υπολογιστή. Τα βασικά θέματα περιλαμβάνουν: οπτική, αναπαράσταση εικόνας, εξαγωγή χαρακτηριστικών, επεξεργασία και ανάλυση εικόνας, αναγνώριση αντικειμένων, εκτίμηση κίνησης, 3D και πολυπροβολική απεικόνιση. Έμφαση δίνεται τόσο στην εκμάθηση των μαθηματικών εννοιών και τεχνικών, όσο και στην πρακτική υλοποίησή τους (σε περιβάλλον Matlab) για την επίλυση πραγματικών προβλημάτων όρασης και απεικόνισης.

2016–σήμερα: Τεχνολογικό Εκπαιδευτικό Ίδρυμα (ΤΕΙ) Κρήτης (ΤΡ282)

Μάθημα: Υπολογιστική Όραση

Περιγραφή: Το μάθημα στοχεύει στην παροχή θεωρητικής και πρακτικής γνώσης βασικών εννοιών της μηχανικής όρασης.

Περιλαμβάνει τεχνικές για τον υπολογισμό συνδεδεμένων συνιστωσών, την ανάλυση σχημάτων, την τοπολογία και τη μορφολογία εικόνας, την ανίχνευση ακμών και σημείων ενδιαφέροντος (μέθοδος Harris, μετασχηματισμός Hough), την ευθυγράμμιση εικόνων (image registration), την τμηματοποίηση εικόνας και την αναγνώριση αντικειμένων.

2020–σήμερα: Διατμηματικό Μεταπτυχιακό Πρόγραμμα Βιοϊατρική Μηχανική, Πανεπιστήμιο Κρήτης (BME15)

Μάθημα: Ανάλυση Ιατρικών Εικόνων

Περιγραφή: Βασικές αρχές ανάλυσης ιατρικών εικόνων με έμφαση τόσο σε κλασικές προσεγγίσεις, όπως η

τμηματοποίηση, η ευθυγράμμιση (registration), η ποσοτικοποίηση, η ανάλυση υφής και το φιλτράρισμα, όσο και σε μεθόδους τεχνητής νοημοσύνης, περιλαμβανομένων των radiomics και της βαθιάς μάθησης (deep learning), για την ανάπτυξη διαγνωστικών και προγνωστικών μοντέλων.

ΔΙΠΛΩΜΑΤΑ ΕΥΡΕΣΙΤΕΧΝΙΑΣ

Georgios Manikis, Eleftherios Kontopodis, Konstantinos Marias: Apparatuses, methods and systems for estimating water diffusivity and microcirculation of blood using dw-mri data.

US 20160139226 A1

<https://www.google.com/patents/US20160139226>

ΒΙΒΛΙΟΜΕΤΡΙΚΑ ΣΤΟΙΧΕΙΑ

GOOGLE SCHOLAR FOR KOSTAS MARIAS

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

<i>Citation indices</i>	<i>All</i>	<i>Since 2020</i>
Citations	7244	5001
h-index	42	34
i10-index	158	105

Τελευταία Ανανέωση Ιούλιος 2025.