

ΒΙΟΓΡΑΦΙΚΟ ΣΗΜΕΙΩΜΑ

ΒΑΣΙΛΕΙΟΣ Μ. ΠΑΠΑΔΑΚΗΣ, PhD

Αύγουστος 2022

Προσωπικά στοιχεία

Επίθετο:	Παπαδάκης
Όνομα	Βασίλειος
Υπηκοότητα:	Ελληνική
Ημερομηνία γέννησης:	18 Ιανουαρίου 1974
Τόπος γέννησης:	Ηράκλειο Κρήτης
Οικογενειακή κατάσταση:	Έγγαμος – 2 παιδιά
Διεύθυνση εργασίας:	Ινστιτούτο Μοριακής Βιολογίας και Βιοτεχνολογίας, Ίδρυμα Τεχνολογίας και Έρευνας, Ν. Πλαστήρα 100, 70013, Ηράκλειο Tel: +30 2810391267
Email	Vassilis.Papadakis@imbb.forth.gr

Σπουδές και επαγγελματική εμπειρία

- 04/2023 - Επίκουρος Καθηγητής «Ανάπτυξη και εφαρμογή διατάξεων και μεθόδων μη-καταστρεπτικού ελέγχου και πολυφασματικής απεικόνισης», Τμήμα Βιομηχανικής Σχεδίασης και Παραγωγής, Σχολή Μηχανικών, Πανεπιστήμιο Δυτικής Αττικής, https://www.et.gr/api/DownloadFeksApi/?fek_pdf=20230300995
- 01/2015 - Συνιδρυτής εταιρείας XppectralTEK, Porto, Portugal με αντικείμενο την ανάπτυξη διαγνωστικών συστημάτων
- 11/2016 – Συνεργαζόμενος Ερευνητής, “Spectral imaging microscopy”, Ινστιτούτο Μοριακής Βιολογίας και Βιοτεχνολογίας, Ίδρυμα Τεχνολογίας και Έρευνας
- 03/2013 - Διδακτορικό Δίπλωμα, Τμήμα Βιολογίας, Σχολή θετικών επιστημών, Πανεπιστήμιο Κρήτης, 02/2019
Τίτλος διατριβής «*Design, development and evaluation of a multi-camera computer vision system for the study of finfish behavior*»
- 07/2014 – Ερευνητής “Spectral Imaging”, Faculty Aerospace Engineering, TU Delft
10/2016
- 8/2003 – Συνεργαζόμενος Ερευνητής, Ινστιτούτο Ηλεκτρονικής Δομής και Λείζερ, Ίδρυμα 11/2014 Τεχνολογίας και Έρευνας.
- 2008 - Συνεργαζόμενος Ερευνητής, τμήμα Βιολογίας Πανεπιστημίου Κρήτης.
2014
- 2008 Διδασκαλία Π.Δ. 407/1980, τμήμα Χημείας Πανεπιστημίου Κρήτης.
- 1999- Επιστημονικός Συνεργάτης, Τμήμα Εφαρμοσμένης Πληροφορικής και Πολυμέσων, 2008 Προγράμματα Σπουδών Επιλογής, ΤΕΙ Κρήτης
- 1998- Διδακτορικό Δίπλωμα, Τμήμα Ιατρικής Σχολής, Σχολή Επιστημών Υγείας, Πανεπιστήμιο 2002 Κρήτης.
Τίτλος Διατριβής «*Ανάπτυξη Διαγνωστικού Συστήματος Απεικονιστικής Φασματοσκοπίας για τη μελέτη των παθήσεων του βυθού του οφθαλμού*».

1993- Πτυχίο του Τμήματος Φυσικής, Σχολή Θετικών Επιστημών, Πανεπιστήμιο Κρήτης, με
1998 επιπλέον εξειδίκευση στη Μικροηλεκτρονική.

Διακρίσεις

- 2020 European Innovation Council, “SME Instrument”, phase 1, 01/2020, 70KEuros, XprectralTEK, Portugal, με αντικείμενο την ανάπτυξη έξυπνου διαγνωστικού συστήματος για τις παθήσεις του βυθού του οφθαλμού
- 2018 Βραβείο καινοτομίας “ΧρεCAM”, Exame Informatica, 07/2018, Πορτογαλία
- 2018 European Innovation Council, “SME Instrument”, phase 2, 05/2018, 1.2MEuros, Signinum/XprectralTEK, Portugal, με αντικείμενο την ανάπτυξη διαγνωστικού συστήματος για τη μελέτη επιφανειών αντικειμένων πολιτιστικής κληρονομιάς
- 10/2017- Υποτροφία μεταδιδακτορικού ερευνητή, “*Niarchos Research Grant*”, 10/2017 – 09/2018, IMBB-ITE, με αντικείμενο την ανάπτυξη πειραματικής οργανολογίας μη γραμμικής μικροσκοπίας για τη μελέτη του καρκίνου του δέρματος
- 2017 Υποτροφία μεταδιδακτορικού ερευνητή, “*AXA Research Fund*”, (03-09)/2017, IMBB-ITE
- 2017 European Innovation Council, “SME Instrument” phase 1, 01/2017, Signinum, 70KEuros
- 2013 Βραβείο καλύτερης παρουσίασης, “Documentation of nasal mucosa blood supply alterations by means of a computer vision system”, 13th Πανελλήνιο σεμινάριο ριнологίας, 19-21 Απριλίου 2013, Greece. (Oral) (AWARD)
- 2012 Honorable Mention Paper Award (για μια εξαιρετική δημοσίευση το 2012 στην μηχανική υδατοκαλλιέργειών), Aquacultural Engineering Society - AES AWARD COMMITTEE, Seattle, USA, 2014 (Honorable mention paper of 2012, 3rd most cited paper)
- 2003 Μεταδιδακτορικός υπότροφος, ΙΗΔΛ-ΙΤΕ, “*Υποτροφίες επιμόρφωσης και εξειδίκευσης*”, 2003
- 1998- Υποτροφία εκπόνησης διδακτορικής διατριβής «Προγράμματα υποτροφιών εφαρμοσμένης
2001 έρευνας - ΥΠΕΡ», ΓΓΕΤ, Υπουργείο Ανάπτυξης, 1998-2001, με αντικείμενο την ανάπτυξη διαγνωστικού συστήματος απεικόνισης του βυθού του οφθαλμού βασισμένο στην απεικονιστική φασματοσκοπία.

Προσέλκυση ερευνητικών προγραμμάτων (3.467.331 € / 5.528.052 €)

- 2020 “A smart hyperspectral system for early, non-invasive diagnosis of retinal diseases - XpecFundus”, EIC, “SME Instrument”, phase 1, XpectralTEK, Portugal, (70.000), 01/2020 - Scientific and Innovation Coordinator
- 2019 “PANTHEON”, MC RISE, IMBB – FORTH, Greece (510.000/1.117.800), 2019, co-coordinator
- 2019 FRENDE Platform”, PT2020, Signinum, Portugal, (771.701), 03/2019 – Scientific and Innovation Coordinator
- 2018 “XpeCAM X02”, EIC, “SME Instrument”, phase 2, Signinum/XpectralTEK, Portugal, (1.267.125), 05/2018 - Scientific and Innovation Coordinator
- 2017 “Early diagnosis of UV-induced skin cancer, by means of nonlinear spectral imaging microscopy”, Niarchos Research Grant - ARCHERS, IMBB – FORTH, Greece, (25.000), 2017, PI
- 2017 “XpeCAM X02”, EIC, “SME Instrument” phase 1, Signinum, Portugal, (71.429), 01/2017 – Scientific and Innovation Coordinator
- 2016 “Drawing Out Rembrandt: A model for reconstructing the past, analyzing the present and predicting the future condition of Rembrandt’s ink drawings.” NICAS, NWO, Netherlands – Acquired funding for 1 FTE PhD at TU Delft on spectral imaging and visualization, (500.000), 2016, Partner
- 2016 “Gilt Leather”, NICAS, NWO, Netherlands – Seed project, (25.000), 2016, Partner
- 2010 “SYstem for Digitization and Diagnosis in ART Applications (SYDDARTA)”, FP7-ENV, EU, (197.076/1.649.997), 2010, Partner
- 2007 “Method of production of third generation optical disc (Blu-ray) stampers, by using an innovative laser setup for engraving nanostructures on advanced photosensitive polymeric materials, and the use of a three degree freedom mechatronic system.”, ESPA2007, General Secretariat of Research and Technology of Greece, (30.000), 2007, PI

Ανάπτυξη εμπορικά διαθέσιμων Διαγνωστικών Συστημάτων μη καταστρεπτικού ελέγχου

- 2022 XLoora platform: A state of the art cloud platform dedicated for the management of vineyards. It enables in situ field measurements for stress diagnostics (biotic and abiotic). Currently on beta testing phase. It is going to be commercially released early 2022.
- 2022 SensIT climatic sensor system: An IoT climatic multi sensor system for monitoring of crop fields. Currently on beta testing phase. It is going to be commercially released early 2022.
- 2022 BACO multispectral imaging system: A novel multispectral imaging system with focus on the diagnosis of the plant stresses. Currently on beta testing phase. It is going to be commercially released early 2022.
- 2021 LAMPA broad illumination source: A complete illumination solution that covers all the wavelength sensitivity range of XpeCAM X02 multispectral imaging system. In particular, it has an emission range between 360 nm and up to 1200nm.
- 2021 XpeCAM platform: A state of the art cloud platform dedicated for the conservation management of cultural heritage objects. Currently commercially available.
- 2021 XpeCAM X02 multi-spectral imaging system: The state-of-the-art of a multispectral imaging systems with application on cultural heritage objects. Currently commercially available.
- 2017 XpeCAM X01 multi-spectral imaging system: XpeCam X01 is a multispectral imaging system for cultural heritage objects. It has already sold multiple copies. More information can be found in the link: <http://www.xpectraltek.com/xpecam.php>
- 2007 - 2010 Multi-Spectral Imaging System (IRIS): A research prototype, described in journal paper “IRIS: a novel spectral imaging system for the analysis of cultural heritage objects”. Currently exists in its second version IRIS II, has sold 1 copy and is requested from 3 academic institutions. More information can be found in the following link:
<http://www.iesl.forth.gr/downloads/projects/general/IRIS.pdf>
- 2006 Ion Imaging System: A research prototype, described in journal paper “Slice imaging and velocity mapping using a single field”. More information can be found in the following link:
<http://scitation.aip.org/content/aip/journal/rsi/77/8/10.1063/1.2222084>

Διοικητική εμπειρία

- Διευθυντής Ερευνών XpectralTEK (15 άτομα προσωπικό)
- Δημιουργία ερευνητικών ομάδων: Πανεπιστήμιο Κρήτης (6 ερευνητές), Technical University of Delft (5 ερευνητές) και IMBB (4 ερευνητές).
- Συμμετοχή στην οργάνωση 12 topic specific workshops
- Συνεργασία σε περισσότερα από 30 Ευρωπαϊκά και εθνικά χρηματοδοτούμενα ερευνητικά προγράμματα
- Συνεργασία με περισσότερα από 22 ερευνητικά ινστιτούτα και 12 εταιρείες

Διδακτικό έργο

- 202205 Προσκεκλημένος ομιλητής στο μάθημα «ΒΙΟΛ491 - Ειδικά κεφάλαια απεικονιστικής και βιοτεχνολογίας φυτών», Τμήμα Βιολογίας, Πανεπιστήμιο Κρήτης <https://pmschoulab.wordpress.com/special-topics-in-cell-biology-and-plant-biotechnology/> - 20220525
- 202105 Προσκεκλημένος ομιλητής στο μάθημα «ΒΙΟΛ491 - Ειδικά κεφάλαια απεικονιστικής και βιοτεχνολογίας φυτών», Τμήμα Βιολογίας, Πανεπιστήμιο Κρήτης <https://pmschoulab.wordpress.com/special-topics-in-cell-biology-and-plant-biotechnology/> - 20220525
- 2017 – Διδάσκων του μαθήματος “Imaging systems in Biology – Image processing and analysis”,
2021 Μεταπτυχιακό στην Βιοπληροφορική, Πανεπιστήμιο Κρήτης
- 2016 Διδάσκων AE2223-I “Experimental research and data analysis”, τμήμα αεροδιαστημικής μηχανικής, TU Delft
- 2015 Διδάσκων AE4ASM108 “Experimental Techniques – NDT”, τμήμα αεροδιαστημικής μηχανικής, TU Delft
- 2015 Διδάσκων AE2223-I “Spectral Imaging”, τμήμα αεροδιαστημικής μηχανικής, TU Delft
- 2015 Διδάσκων AE2223-II “Image Processing”, τμήμα αεροδιαστημικής μηχανικής, TU Delft
- 2015 Διδάσκων AE1222-I “Strain Gauges”, τμήμα αεροδιαστημικής μηχανικής, TU Delft
- 2014 Διδάσκων AE4ASM108 “Experimental Techniques – NDT”, τμήμα αεροδιαστημικής μηχανικής, TU Delft
- 2008 Διδάσκων στα μαθήματα “Υπολογιστική Χημεία” και “Εργαστήριο Φυσικοχημείας Ι” (Π.Δ. 407/1980), Τμήμα Χημείας, Πανεπιστήμιο Κρήτης
- 2008 Διδάσκων (Π.Δ. 407/1980) του μαθήματος: «Εισαγωγή στους Υπολογιστές», τμήμα Χημείας, Πανεπιστήμιο Κρήτης
- 2005-2008 Διδάσκων του μαθήματος «Ψηφιακή επεξεργασία εικόνας», Τμήμα Εφαρμοσμένης Πληροφορικής και Πολυμέσων, ΤΕΙ Κρήτης
- 2005 Διδασκαλία του μαθήματος “Imaging Diagnostic Techniques” και την μετέπειτα επίδειξη συστήματος απεικονιστικής φασματοσκοπίας, Marie Curie EST project (ATHENA)
- 2005 Διδασκαλία του μαθήματος “Spectral Imaging of the Retina” στο θερινό σχολείο Aegean Summer School in Visual Optics “An Interdisciplinary Approach”, Κρήτη
- 2004-2005 Διδάσκων του μαθήματος «Ψηφιακή επεξεργασία εικόνας», Τμήμα Εφαρμοσμένης Πληροφορικής και Πολυμέσων, ΤΕΙ Κρήτης
- 2004 Διδάσκων του μαθήματος «Ψηφιακή επεξεργασία ιατρικής εικόνας», Πρόγραμμα Σπουδών Επιλογής (ΠΣΕ), ΤΕΙ Κρήτης
- 2003 Διδάσκων του μαθήματος «Ψηφιακή επεξεργασία ιατρικής εικόνας», Πρόγραμμα Σπουδών Επιλογής (ΠΣΕ), ΤΕΙ Κρήτης
- 2002 Διδασκαλία του μαθήματος “Hyper-Spectral Imaging of the Retina” στο θερινό σχολείο Aegean Summer School in Visual Optics “An Interdisciplinary Approach”, Χαλκιδική
- 2001-2002 Διδάσκων του μαθήματος «Ψηφιακή επεξεργασία εικόνας», Τμήμα Εφαρμοσμένης Πληροφορικής και Πολυμέσων, ΤΕΙ Κρήτης

- 2001-2002 Διδάσκων του μαθήματος «Ψηφιακή επεξεργασία ιατρικής εικόνας», ΠΣΕ, ΤΕΙ Κρήτης
- 1999-2002 Διδάσκων του μαθήματος «Ειδικές εφαρμογές ιατρικής οργανολογίας», ΠΣΕ, ΤΕΙ Κρήτης
- 1997-1998 Βοηθός στο μάθημα «Λείζερ και μοντέρνα οπτική», Τμήμα Φυσικής, Πανεπιστήμιο Κρήτης
- 1996-1997 Βοηθός στο μάθημα «Εισαγωγή στους υπολογιστές», Τμήμα Φυσικής, Πανεπιστήμιο Κρήτης

Οργάνωση και λειτουργία εργαστηρίων:

1. Εργαστήριο ανάλυσης βιοϊατρικών δειγμάτων (www.biondt.gr) με βάση οπτικές μεθόδους μη καταστρεπτικού ελέγχου (IMBB-FORTH)
2. Εργαστήριο για τον μη καταστρεπτικό έλεγχο υλικών αεροδιαστημικής τεχνολογίας (TU Delft)
3. Εργαστήριο οπτικής διάγνωσης (IESL-FORTH)
4. Εργαστήριο για τη μελέτη της συμπεριφοράς ιχθύων (τμήμα Βιολογίας, Πανεπιστήμιο Κρήτης)

Σχεδιασμός και ανάπτυξη μαθημάτων (θεωρητικών και πειραματικών):

1. BC-308 “Συστήματα απεικόνισης βιολογικών δεδομένων: Ανάλυση και επεξεργασία εικόνας - Biological Imaging Systems, Analysis and Image Processing”
2. AE4ASM108 “Experimental Techniques – NDT”
3. AE2223-I “Spectral Imaging”
4. AE2223-II “Image Processing”
5. AE1222-I “Strain Gauges”), Faculty of Aerospace Engineering, TU Delft
6. Εισαγωγή στους Υπολογιστές – Chemistry Department, University of Crete
7. Ψηφιακή Επεξεργασία Εικόνας – ΕΠΠ, ΤΕΙ Κρήτης
8. Ψηφιακή Επεξεργασία Ιατρικής Εικόνας – ΠΣΕ, ΤΕΙ Κρήτης

Επίβλεψη φοιτητικών εργασιών

Πρακτικές

Eleni Apostolaki, «Βελτιστοποίηση αλγορίθμων επεξεργασίας βιοϊατρικών σημάτων στην γλώσσα προγραμματισμού Python. Ειδικότερα η πρακτική άσκηση θα εστιαστεί σε δεδομένα που προέρχονται από βιολογικά δείγματα με τη χρήση τεχνικών φασματικής απεικόνισης.», IMBB – FORTH, 2021

Vaggelis Psillakis, “Βελτιστοποίηση αλγορίθμων επεξεργασίας βιοϊατρικών σημάτων στην γλώσσα προγραμματισμού Python. Ειδικότερα η πρακτική άσκηση θα εστιαστεί σε δεδομένα που προέρχονται από κύτταρα και τομές ιστών με τη χρήση μικροσκοπίου Ράμαν.», IMBB – FORTH, 2020

Giorgos Manios, “Βελτιστοποίηση αλγορίθμων επεξεργασίας βιοιατρικών σημάτων στην γλώσσα προγραμματισμού Python. Ειδικότερα η πρακτική άσκηση θα εστιαστεί σε δεδομένα που προέρχονται από κύτταρα και τομές ιστών με τη χρήση μικροσκοπίου Ράμαν.»), IMBB – FORTH, 2020

Elvira Timothera, “3D Hyper-Spectral Imaging System”, Faculty of Aerospace Engineering, TU Delft, 2016 (supervisor)

Tigran Mkhoyan, “Development of a 3D scanner for large object imaging”, Faculty of Aerospace Engineering, TU Delft, 2016 (supervisor)

Rogier Colijn, “TIPP – TU Delft Image Processing Platform”, Faculty of Aerospace Engineering, TU Delft, 2015 (supervisor)

Jonne Goedhart, “TIPP – TU Delft Image Processing Platform”, Faculty of Aerospace Engineering, TU Delft, 2015 (supervisor)

Προπτυχιακές εργασίες

Vaggelis Psillakis, “Καταγραφή των μεταβολών της αιμάτωσης της κάτω ρινικής κόγχης, με τη χρήση τεχνικών υπολογιστικής όρασης- Documentation of nasal mucosa blood supply alterations by means of a computer vision system», University of Thessaly - IMBB-FORTH, in progress

Jonne Goedhart, “Application of autoencoders on the analysis of Raman Hyperspectral Imagery with splitting Raman and photoluminescence signal components”, Faculty of Aerospace Engineering, Faculty of science, University of Amsterdam, 2020 (supervisor)

Angeliki Antonakaki, “Sea bream larvae foraging behavior under different rearing mediums:”, Biology Dept, University of Crete, 2014 (co-supervisor)

Marsela Alvanopoulou, “Establishment of dominance on juvenile sea bream (*Sparus aurata*, L. 1758) due to food supply; an experimental approach”, Biology Dept., University of Crete, 2014 (co-supervisor)

Arnau Panisello Rosello, “Establishment of dominance of sea bream due to food supply”, Biology Dept, University of Crete, 2011 (co-supervisor)

Albanis Agorastos, “Database development for the recoding of the acquisition parameters and results of works of art with holographic methods”, Department of Informatics Engineering, TEIC, Crete, 2007 (supervisor)

Saridakis Manousos, “Morphometric Analysis of the myocardium nuclei for the diagnosis of early myocardial in unfiltered incidents (pilot measurements)”, PSE, TEIC, 2006 (supervisor)

Giannakopoulos Pavlos, “Colour Image analysis of important works of art – paintings”, PSE, TEIC, 2006 (supervisor)

Keramitsis George, Vlastaris Vangelis, Kostaras Charis, “Development of Multicast & Video On Demand technologies on Education”, Department of Informatics Engineering, TEIC, 2005 (supervisor)

Kafousi Maria, “Image Analysis and Processing of objects of historic importance – Marbles”, Department of Informatics Engineering, TEIC, 2005 (supervisor)

Μεταπτυχιακές Εργασίες

Kristiani Thimo, “Methodology development for tissue characterization by means of spectral imaging techniques = Ανάπτυξη μεθοδολογίας χαρακτηρισμού ιστών με χρήση τεχνικών απεικονιστικής φασματοσκοπίας”, Bioinformatics, University of Crete – FORTH, in progress (co-supervisor)

Jonne Goedhart, “Unsupervised learning for Raman hyperspectral imaging”, University of Amsterdam, MSc Thesis, in progress, (co-supervisor)

Ali Sadi Kamalabadi, “Design and development of a calibration method to transform the pixel dimensions in physical dimensions in a camera system.”, Master of Mechatronic Engineering, University of Minho, 08/2021 (co-supervisor)

Klytaimnitra Katsara, “Study of lymphoma cell lines before and after Nutlin-3a induced wild type (wt) p53-activation by Raman spectroscopy”, Chemistry Dept, University of Crete, 2018 (co-supervisor)

João André Lopes Dias, “XpecEye X01: Desenvolvimento de ferramentas de processamento e análise de imagem multispectral”, Escola Superior de Tecnologia, IPCA, Portugal, 2017 (co-supervisor)
<http://ciencipca.ipca.pt/jspui/handle/11110/1322>

Liesbeth Dingemans, “Spectral Analysis and Imaging of Paint Layers”, Imaging Physics, Applied Sciences, TU Delft, 2015 (co-supervisor)

Spyros Iasonas Petroustos, “Behavioural studies of European sea bass in laboratory scale experiments”, Biology Dept., University of Crete, 2012 (co-supervisor)

Angelos Kalitzeos, “The use of contrast agents for the visualization of ocular blood flow by means of dopler ultrasound”, Medical School, University of Crete, 2003 (co-supervisor)

Διδακτορικές διατριβές

Alexios Glaropoulos, “Behavioural pattern of the main Mediterranean farmed species – Gilthead sea bream (*Sparus aurata*) and European sea bass (*Dicentrarchus labrax*), with specialization on the escape-related behaviour”, Biology Dept., University of Crete, 2013 (co-supervisor)

Vazgiouraki Eleftheria, “Development and comparative study of methods for the non-invasive characterization and analysis of normal and diseased neural tissues”, School of Medicine, University of Crete, Greece, 2016 (grade 10) (co-supervisor)

Ερευνητική Δραστηριότητα - Επαγγελματική εμπειρία σε χρηματοδοτούμενα ερευνητικά προγράμματα

Αντικείμενο Τίτλος Προγράμματος

Σχεδιασμός / Ανάπτυξη “A smart hyperspectral system for early, non-invasive diagnosis of retinal diseases - XpecFundus”, EIC, “SME Instrument”, phase 1, XpectralTEK, Portugal, 01/2020

Έρευνα “BioImaging-GR, (MIS 5002755) implemented under “Action for Strengthening Research and Innovation Infrastructures,” funded by the Operational Programme “Competitiveness, Entrepreneurship and Innovation” (NSRF 2014–2020) and co-financed by Greece and the European Union (European Regional Development Fund)

Συντονιστής “Novel approaches for plant health monitoring - PANTHEON”, MC RISE, IMBB – FORTH, Greece, 11/2019

Σχεδιασμός / Ανάπτυξη «Καινοτομία υλικά για δίκτυα ιχθυοκαλλιέργειας με περιβαλλοντικά φιλική αντιρρυπαντική δράση», Υπουργείο Αγροτικής Ανάπτυξης και Τροφίμων, ΕΣΠΑ 2018, FORTH

Σχεδιασμός / Ανάπτυξη «Προηγμένες Ερευνητικές Δραστηριότητες στη Βιοϊατρική Τεχνολογία και Αγροδιατροφή – ΒΙΤΑΔ», GSRT 2018, IMBB - FORTH

Έρευνα “Early diagnosis of UV-induced skin cancer, by means of nonlinear spectral imaging microscopy”, Niarchos Research Grant – ARCHERS 2017, IMBB – FORTH

Συντονιστής Επιστήμης και Καινοτομίας “FRIEND”, PT2020, Signinum/XpectralTEK, Portugal, 03/2019, με αντικείμενο την ανάπτυξη καινοτόμου οργανολογίας για την μελέτη του στρες φυτών βασισμένη στην φασματική απεικόνιση και των μεθόδων καταγραφής, επεξεργασίας και ανάλυσης των δεδομένων.

- Συντονιστής
Επιστήμης
και
Καινοτομίας “XpeCAM X02”, EIC, “SME Instrument”, phase 2, Signinum/XpectralTEK, Portugal, 05/2018, με αντικείμενο την ανάπτυξη καινοτόμου διαγνωστικής οργανολογίας για την μελέτη επιφανειών στατικών αντικειμένων πολιτιστικής κληρονομιάς
- Συντονιστής
Επιστήμης
και
Καινοτομίας “XpeCAM X02”, EIC, “SME Instrument”, phase 1, Signinum/XpectralTEK, Portugal, 01/2017, με αντικείμενο την ανάπτυξη καινοτόμου διαγνωστικής οργανολογίας για την μελέτη επιφανειών στατικών αντικειμένων πολιτιστικής κληρονομιάς
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Ερευνητική Δραστηριότητα – Παρουσιάσεις (ως προσκεκλημένος ομιλητής)

- 2016 **Vassilis Papadakis** and Martine Posthuma de Boer “Spectral Imaging of gilt leather.”, 03/2016, Bonnefanten Museum and Stichting Restauratie Atelier Limburg (SRAL), Maastricht, Netherlands
- 2015 **Vassilis Papadakis**, “Spectral Imaging theory and applications”, 11/2015, Real Academia de Bellas Artes de San Fernando, Madrid, Spain
- 2014 **Vassilis Papadakis**, Roger M Groves, Emilio Ribes-Gómez, Vivi Tornari, Cristina Portalés, Albert Borreman, Jan Vermeiren, Jon D Ward, “A novel 3D-hyperspectral imaging device for artwork inspection and deterioration estimation – the SYDDARTA project”, 15-16/10/2014, Hyper Spectral Imaging and Applications Conference, Coventry, UK
- 2014 Roger M. Groves, **Vassilis Papadakis**, Emilio Ribes-Gómez, “Monitoring of Mechanical and Chemical Deterioration of Artworks using Fringe Projection and Hyperspectral Imaging”, 09/2014, Photon14, Imperial College London, UK
- 2013 Stylianos Velegrakis, **Vassilios Papadakis**, Heinrich Iro, Emmanuel Prokopakis, “Documentation of nasal mucosa blood supply alterations by means of a computer vision system”, 13th Greek Seminar in Rhinology, 19-21 April 2013, Greece. (**AWARD**)
- 2011 **V.M. Papadakis**, M.A.Everest, K. Stamataki, S. Tzortzakis, B. Loppinet, T.P.Rakitzis, “Development of Cavity Ring-down Ellipsometry with spectral and sub-microsecond time resolution”, SPIE Optics and Photonics, 2011, San Diego, USA
- 2005 **V.M. Papadakis**, “Spectral Imaging of the Retina”, 4th summer school in Visual Optics, 01 July 2005, Crete, Greece
- 2002 **V. M. Papadakis**, M.P. Karavella, M. Tsilimbaris, C. Balas, I.G Pallikaris, “Hyper-spectral imaging of the retina”, 1st Aegean Summer School in Visual Optics, June 1-5 2002, Chalkidiki, Greece
- 2001 M.P. Karavella, **V.M.Papadakis**, M. Tsilimbaris, C. Balas, I.G Pallikaris, Hyper Spectral Imaging of Retina Features: Potential in Clinical Research and Diagnostics, Aegean Retina VII, July 6-8, 2001, Crete, Greece

Ερευνητική Δραστηριότητα – Παρουσιάσεις σε διεθνή συνέδρια

1. Sophia Hayes, Kyriaki Koumenidou, Sri Harish Kumar Paleti, Derya Baran, Sotirios Christodoulou, Andreas Othonos, Klyto Katsara, **Vassilis Papadakis**, “Dissecting the Role of Molecular Structure and Film Morphology in Photophysical Processes in Ternary Blends of Organic Polymeric Semiconductors with Non-fullerene Acceptors”, Proceedings of Materials for Sustainable Development Conference (MAT-SUS) (NFM22), nanoGe Fall Meeting, Barcelona, Spain, 2022 October 24th - 28th
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2. **Vassilis M. Papadakis**, Marlene Machado, Jani dos Santos, ”XpeCAM: The Complete Solution for Artwork Documentation and Analysis”, Heri-Tech 2022, Florence, 16-18/05/2022.

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3. Kate Seymour, Jani Santos, **Vassilis M. Papadakis**, Betlem Alaponte, Alzbeta Prochazkova, Valentine Gatto, Alice Limb, Nalini Biluka, Luuk Hoogstede, “Visualising artworks: translating the invisible into diagnostic data for identifying and quantifying paint surfaces”, Heri-Tech 2022, Florence, 16-18/05/2022
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5. Jani dos Santos, Alexandre Fernandes, Sara Martins, Luís Aguiar, **Vassilis Papadakis**, António Cardoso, “A shining new light for monitoring processes: multispectral imaging solutions in a set of sculptures from sanctuary of bom jesus do monte”, ICOM-CC SPAD, 9-10/05/2019, Tomar, Portugal
6. Klytaimnistra Katsara, Konstantina Psatha, **Vassilis Papadakis**, Michalis Aivaliotis, “Study of lymphoma cell lines after Nutlin-3a induced wild type (wt) p53-activation by Raman spectroscopy “, 69th Panhellenic Conference of the Hellenic society for biochemistry and molecular biology, 25/11/2018, Larissa, Greece (Poster)
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9. **V.M. Papadakis**, S. Teixeira de Freitas, R.M. Colijn, J.J. Goedhart, J.A. Poulis, R.M. Groves, “Monitoring surface contamination of composites in adhesion strength tests using hyper-spectral imaging”, SPIE Optical Sensing and Detection, 04/2016 , Brussels, Belgium (Oral)
10. **V.M. Papadakis**, B. Muller, M. Hagenbeek, J. Sinke, R.M. Groves, “Monitoring chemical degradation of glass fibre composites using hyper-spectral imaging”, SPIE Smart Structures/NDE, 03/2016, Las Vegas, USA (Oral)
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13. **Vassilis Papadakis**, Roger M. Groves, Vivi Tornari, Cristina Portalés, Albert Borreman, Jan Vermeiren, Jon D. Ward, Emilio Ribes-Gómez, “Deterioration estimation of Artworks by means of a

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19. Pastor-Carbonell P, Ribes-Gomez E, Gutierrez-Lucas A, Tornari V, **Papadakis V**, Groves RM, Bonazza A, Ozga I, Vermeiren J, Zanden K van der, Foster M, Aswendt P, Borreman A, Ward JD, Cardoso A, Aguir L, Ferreira A, Ropret P, Luzon-Nogue JM, “A Aplicação do Sistema Syddarta na Conservação Preventiva”, 2013, Jornadas de Arte e Ciência, Porto (Oral)
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25. **V.M. Papadakis**, I.E. Papadakis, A. Glaropoulos, M. Kentouri, "Time dependent description of bite and escape pattern of sea bream under experimental conditions." In Proceedings on Aqua, 01-06/09, 2012, Prague, Czech Republic (Oral)
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28. **VM. Papadakis**, I.E. Papadakis, A. Glaropoulos, M. Kentouri, "Computer Vision aided System for Behavioural Analysis of Fish", EAS 2011, Rhodes, Greece (Oral)
29. A. Glaropoulos, I.E. Papadakis, **V.M. Papadakis**, M. Kentouri, "Escape Behavior and Coping Ability of *sparus aurata* due to Food Supply", EAS 2011, Rhodes, Greece (Oral)
30. I.E. Papadakis, **V.M. Papadakis**, S.I. Petroutsos, A. Glaropoulos, M. Kentouri, "Evaluation of Escape Behavior and Learning Ability of *D. Labrax*", EAS 2011, Rhodes, Greece (Oral)
31. I.E. Papadakis, **V.M. Papadakis**, A. Georgara, A. Glaropoulos, M. Kentouri, "The Effect of the Biofouling Presence on the Behavior of *sparus aurata* Towards the Aquaculture Net", EAS 2011, Rhodes, Greece (Oral)
32. **V. M. Papadakis**, Y. Orphanos, S. Kogou, K. Melessanaki, P. Pouli, "A high spatial and spectral resolution imaging system for the analysis of Cultural Heritage objects", LACONA IX, 09/2011, London, UK (Poster)
33. **V. M. Papadakis**, Y. Orphanos, S. Kogou, K. Melessanaki, P. Pouli and C. Fotakis, "IRIS: a novel spectral imaging system for the analysis of cultural heritage objects", SPIE Optical Metrology, 2011, Munich, Germany (Poster)
34. Glaropoulos, A. **Papadakis, V.M.**, Papadakis, I.E., Kentouri, M. "Computer vision aided system for behavioural analysis of fish". AquaMedit, 2010, Greece. (Oral)
35. Papadakis, I.E., Labrianidou, F.V., **Papadakis, V.M.**, Kentouri, M., "The escape behaviour of sea bream (*Sparus aurata* L.) in relation with the stocking density". AquaMedit, 2010, Greece. (Oral)
36. F. Labrianidou, I.E. Papadakis, **VM. Papadakis**, M. Kentouri, "The effect of stocking density on the escape behavior of gilthead sea bream *sparus aurata* L.", Aquaculture Europe, 2010, Portugal (Oral)
37. **V. Papadakis**, A. Loukaiti, P. Pouli, "A spectral imaging methodology for determining in-situ the optimum cleaning level of stonework", Lacona VIII, Bucharest, Romania, 09/2009 (Poster)
38. **V. Papadakis**, A. Loukaiti, P. Pouli, "Spectral imaging methodology for determining in-situ the optimum cleaning level of stonework", SPIE Europe, Optical Metrology Symposium 2009, 17/06/2009, Munich, Germany (Poster)

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40. Aliki Karoussou, **Vassilis M. Papadakis**, Maroudio Kentouri, "Study Of The Behavioral Response Of European Sea Bass *Dicentrarchus Labrax* To A Sound Stimulus : Preliminary Results.", AQUA 2006, May 9-13, 2006, Firenze Italy (Poster)
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42. **V.M. Papadakis**, M. Karavellas, M. Tsilibaris, C. Balas, I. G. Pallikaris, "Hyper-spectral imaging of the retinal tissues", AegeanRetina VIII, 5-13 July 2003, Santorini, Greece (Oral)
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45. E. M. Vazgiouraki, A. D. Tosca, **V. M. Papadakis**, A. E. Papadakis, J. G. Panayotidis, D. Ioannidou, S. Kruger, C. J. Balas, "A new diagnostic method using a novel Hyper Spectral Imaging System for the in-vivo assessment of melanin pigmented skin lesions" BIOPHOTONICS, FO.R.T.H. IESL, 2002, October 18 – 20, 2002, Heraklion, Greece (Oral)
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47. C. Balas, **V. Papadakis**, N. Papadakis, A. Papadakis, E. Vazgiouraki, G. Themelis, "A Novel Hyper-Spectral Imaging Apparatus for the Non-Destructive Analysis of Objects of Artistic and Historic Value" Paris, LACONA 2001 (Oral)
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49. C. Balas, **V. Papadakis**, N. Papadakis, A. Papadakis, G. Tsairis, E. Vazgiouraki, C. Fotakis, "A Novel Hyper-Spectral Imaging Apparatus for the Non-Destructive Analysis of Objects of Artistic and Historic Value", LACONA IV, 2000 (Oral)
50. M. Tsilibaris, **V. Papadakis**, C. Balas, I. Pallikaris, "A multiband and color imaging system for the early detection and characterization of retinal lesions", ARVO 1999 Annual Meeting, Fort Lauderdale, Florida, USA (Poster)

51. **V. Papadakis**, N. Papadakis, G. Themelis, C. Balas, “Multi-Spectral Imaging system for the in-situ non destructive analysis of artworks”, IB’ Symposium of History and Art, 1999 (Oral)
52. N. Papadakis, M. Velegrakis, J. Orfanos, G. Themelis, A. Papadakis, A. Dimoka, **V. Papadakis**, C. Balas, “Imaging Spectroscopy system for the in-vivo optical analysis of tissue alterations”, 1st Greek Conference of Biomedical Technology, 1998 (Oral)

Ερευνητική δραστηριότητα – Τομείς Ερευνητικής ενασχόλησης

Ινστιτούτο Μοριακής Βιολογίας και Βιοτεχνολογίας, Ίδρυμα Τεχνολογίας και Έρευνας

- Έρευνα πάνω σε βιοιατρικά δείγματα και τρόφιμα (DNA, RNA, ζωντανά κύτταρα, σταθεροποιημένα κύτταρα, ιστούς).
- Σχεδίαση και ανάπτυξη πρότυπων διαγνωστικών τεχνικών.
- Προετοιμασία επιστημονικών δημοσιεύσεων και αναφορών.

Τμήμα Αεροδιαστημικής Μηχανικής, Delft University of Technology, Netherlands

- Μηχανική λογισμικού ειδικού τύπου *TIPP* για την συγχώνευση δεδομένων από πολλές αναλυτικές διαγνωστικές τεχνικές. Επεξεργασία και ανάλυση των δεδομένων αυτών. (www.tipp.gr)
- Σχεδιασμός και ανάπτυξη πρότυπων διαγνωστικών απεικονιστικών τεχνικών
- Εφαρμογή απεικονιστικών διαγνωστικών τεχνικών σε υλικά αεροδιαστημικής τεχνολογίας.

Ινστιτούτο Ηλεκτρονικής Δομής και Λείζερ - Ίδρυμα Τεχνολογίας και Έρευνας

- Σχεδιασμός και ανάπτυξη πρότυπων διαγνωστικών συστημάτων (εξοπλισμού και λογισμικού) και τεχνικών απεικονιστικής φασματοσκοπίας
- Ανάπτυξη αλγορίθμων ανάλυσης χρωστικών για τη διαφοροποίηση και ταυτοποίηση αυτών μέσω των φασματικών χαρακτηριστικών τους.
- In situ μελέτη του βάθους και του προφίλ του κρατήρα που δημιουργείται με την αναλυτική τεχνική LIBS σε πολύστρωματικές δομές με χρήση τεχνικών συμβολομετρίας λευκού φωτός

Τμήμα Ιατρικής, Πανεπιστήμιο Κρήτης

- Σχεδιασμός και ανάπτυξη πρότυπων συστημάτων απεικονιστικής φασματοσκοπίας για τη μελέτη των παθήσεων του βυθού του οφθαλμού
- Ανάλυση, χαρακτηρισμός και διαφοροποίηση των χρωστικών του βυθού του οφθαλμού
- Φασματοσκοπία και χρωματομετρία της δομής των ιστών του βυθού του οφθαλμού

Τμήμα Βιολογίας, Πανεπιστήμιο Κρήτης

- Σχεδιασμός και ανάπτυξη πρότυπων συστημάτων παρατήρησης της συμπεριφοράς ιχθύων.
- Ανάλυση κίνησης ιχθύων από εικόνα, χαρακτηρισμός και ποσοτικοποίηση βιολογικών ερωτημάτων συμπεριφοράς των ιχθύων.

Δεξιότητες και ικανότητες

<u>Γλώσσες</u>	Ελληνικά (Native), English (Fluent)
<u>Ικανότητες στην πληροφορική</u>	MS Office CorelDraw (Master) LabView Programming Language (Master) Python (Experienced) Originlab (Experienced)
<u>Κοινωνικές Δεξιότητες</u>	Οργανωτικές δεξιότητες – όπως αποδεικνύονται από τα επιτυχώς ολοκληρωμένα Ευρωπαϊκά προγράμματα και τις ερευνητικές ομάδες (TUD – 2 ερευνητές and 3 φοιτητές, ΙΤΕ – 4 επιστημονικοί συνεργάτες και 6 τεχνικοί, Πανεπιστήμιο Κρήτης – 5 φοιτητές, XrectralTEK – 10 μηχανικοί, 1 επικοινωνιολόγος, 1 μάρκετινγκ, 2 επιστήμονες εφαρμογών) Ομαδικό πνεύμα εργασίας – Όπως αποδεικνύεται από τα πολλά συνεργαζόμενα προγράμματα Διδακτικές δεξιότητες – όπως αποδεικνύεται από την επίβλεψη φοιτητών (2 διδακτορικά, 6 μεταπτυχιακά, 10 προπτυχιακά) Δεξιότητες αξιολόγησης επιστημονικών εργασιών – όπως αποδεικνύεται από την παρουσία μου ως κριτής σε αρκετά διεθνή περιοδικά.

Οργανωτικές
Δεξιότητες

Οργάνωση συμποσίων μεταφοράς γνώσης:

1. “Spectral Imaging theory and applications on cultural heritage objects”, Workshop at the Arc’ Antique, Nantes, France (7 May 2019)
2. “Spectral Imaging in Art conservation”, SHAKE in conservation, Liege, Belgium (8 Oct 2018)
3. “Spectral Imaging theory and applications on easel paintings”, Workshop at the The Courtauld Institute of Art, London (7 Jan 2018)
4. “Spectral Imaging theory and applications on painted surfaces”, Workshop at the École de Condé – Patrimoine, Paris (25 Jan 2018)
5. “Spectral Imaging application on cultural heritage objects”, Workshop at the Cultural Heritage Conservation and Restoration Centre "La Venaria Reale,, Turim, Italy (14 Nov 2017)
6. “Spectral Imaging application on cultural heritage objects”, Risorgimento Museum, Milan, Italy (13 Nov 2017)
7. “Spectral Imaging application on cultural heritage objects”, Gothenburg Museum of Art, Gothenburg, Sweden (05 Oct 2017)
8. “Spectral Imaging application on cultural heritage objects”, Institut de papyrologie de la Sorbonne, Paris, France (15 Sept 2017)
9. “Spectral Imaging application on cultural heritage objects”, National museum, Stockholm, Sweden (09 May 2017)
10. “Spectral Imaging application on cultural heritage objects”, Northumbria University, Newcastle, UK (29 Mar 2017)
11. “Symposium improved conservation strategies for gilt leather”, Maastricht, Netherlands, (2016)
12. “Spectral Imaging”, Bom Jesus, Braga, Portugal, (2016)
13. “Spectral Imaging”, Universidade Nova, Portugal, (2014);
14. “Spectral Imaging”, IPTomar, Portugal, (2014);
15. “Spectral Imaging”, Uni Católica, Portugal, (2014);
16. “Charisma”, FORTH, Greece, (2012);
17. “Athena”, FORTH, Greece, (2005);

<http://www.iesl.forth.gr/research/courses.aspx>

Υπηρεσίες

Spectral Imaging Diagnostics

Παροχή Υπηρεσιών διάγνωσης με βάση την φασματική απεικόνιση και την επεξεργασία αποτελεσμάτων σε ιδιωτικές συλλογές και Μουσεία για αντικείμενα ιστορικής αξίας. Έχουν ολοκληρωθεί οι μελέτες σε περισσότερα από 7 σημαντικά αντικείμενα (π.χ. Δίσκος Φαιστού)..

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