

Curriculum Vitae

VASILEIOS M. PAPADAKIS, PhD

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Personal data

Name: Dr. Vasileios Papadakis
Nationality: Born in Athens, Greece
Marital status: Married, 2 children
Work address: Institute of Molecular Biology and Biotechnology, Foundation for Research and Technology – Hellas,
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Education and Professional Experience

10/2016 - present	Research Associate “Spectral imaging microscopy”, Institute of Molecular Biology and Biotechnology, Foundation for Research and Technology – Hellas
12/2014 - present	Co-Founder, Chief Technology Officer, XpectralTEK, Porto, Portugal
07/2014 – 10/2016	Researcher of “Spectral Imaging”, Lecturer, Faculty Aerospace Engineering, Delft University of Technology
8/2003 – 11/2014	Research Associate “Novel Diagnostic Techniques”, Institute of Electronic Structure and Laser, Foundation of Research and Technology, Greece
2008 - 2014	Research Associate “Monitoring fish behavior by means of computer vision systems”, Biology Department, University of Crete (project contract based)
2008	Visiting Assistant Professor “LabView” (Π.Δ. 407/1980), Chemistry Department, University of Crete (contract based)
1999-2008	Visiting Assistant Professor “Digital Image Processing and Analysis”, Applied Informatics and Multimedia Department, Technological Educational Institute of Crete (contract based)
1998-2002	PhD, Department of Ophthalmology, Vardinoyanion Eye Institute of Crete, School of Medicine, University Crete, Greece Title: “ <i>Design and development of a novel diagnostic system based on imaging spectroscopy for the eye fundus diseases</i> ”, http://www.didaktorika.gr/eadd/handle/10442/15819
1993-1998	BSc in Physics, Specialization in Microelectronics, Physics Department, School of Sciences and Engineering, University of Crete, Greece Specialization Thesis title: “ <i>Design and development of an add-on-card oscilloscope for the computer ISA bus</i> ”

Distinctions

- Honorable Mention Paper Award (for an Outstanding paper in the 2012 publication year of Aquacultural Engineering), Aquacultural Engineering Society - AES AWARD COMMITTEE, Seattle, USA, 2014 (Honorable mention paper of 2012, 3rd most cited paper)
- Postdoctoral Fellowship, IESL – FORTH under the scheme: “*Scholarship for education and specialization*”, Greece, 2003
- Doctoral Fellowship, General Secretariat of Research and Technology, Ministry of Development, Greece under the scheme: “*Program for Scholarships of Oriented Research*”, 1998-2001

Research Grants

- “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, 230.000 - Partner
- “Gilt Leather”, NICAS, NWO, Netherlands – Seed project, 25.000 - Partner
- “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 - PI
- “SYstem for Digitization and Diagnosis in ART Applications (SYDDARTA)”, FP7-ENV, EU, 2010, 197.000 - Partner

Products Development

- Xpecam X01 multi-spectral imaging System

XpeCam X01 is the most recent development and the state-of-the-art of a multispectral imaging system. It has already sold one copy and already negotiating with commercial partners. More information can be found in the following link:

<http://www.xpectraltek.com/index.php/en/2011-07-07-10-32-55/xpecam-x01>

- Ion Imaging System

The Ion Imaging System is a research prototype, described in journal paper “Slice imaging and velocity mapping using a single field”, has sold 5 copies in laboratories around EU. More information can be found in the following link:

<http://scitation.aip.org/content/aip/journal/rsi/77/8/10.1063/1.2222084>

- Multi-Spectral Imaging System (IRIS)

The IRIS system is 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>

Management Activity

- Worked in more than 17 EU funded scientific projects
- Collaborated with more than 22 research institutions and 12 companies

Teaching Activity

2014 – 2016	Lecturer/Instructor/Tutor for the courses (AE4ASM108 “Experimental Techniques – NDT”, AE2223-I “Spectral Imaging”, AE2223-II “Image Processing”, AE1222-I “Strain Gauges”), Faculty of Aerospace Engineering, TU Delft
2008	Lecturer for “LabView” (Π.Δ. 407/1980), Chemistry Department, University of Crete (contract based)
1999 - 2008	Lecturer for “Digital Image Processing and Analysis”, Applied Informatics and Multimedia Department, Technological Educational Institute of Crete (contract based)

Scientific Activity

- 22 papers in refereed international journals and in 9 papers in conference proceedings
- Presented in more than 48 international scientific conferences and workshops (Invited: 8, Oral: 30, Poster: 10).
- Co-supervised 2 PhD, 3 Master and 3 BSc students
- Supervised 8 BSc students

RTD Activities

The main activity of my work is the design, development and testing of novel opto-electronic systems and methods in multiple scientific fields (physics, biology, medicine, cultural heritage, etc). Specifically, my main focus activity areas are:

Faculty of Aerospace Engineering, Delft University of Technology, Netherlands

- Research on NDT of aerospace engineering materials.
- Preparation of European project proposals and project reports.
- Preparation of scientific journals and conference presentations.
- Design, development and testing of novel imaging diagnostic systems and methods.

Institute of Electronic Structure and Lasers, Foundation of Research and Technology, Greece

- Design and development of novel opto-electronic and information systems.
- Analysis of Pigments (selective imaging through their spectral characteristics).

Department of Biology, University of Crete, Greece

- Research of fish behavioral traits
- Design and development of novel multi-camera computer vision systems for the documentation of fish behavior.
- Design and development of algorithms for the analysis of fish movement, characterization and quantification of specific fish behavioral traits.

Department of Ophthalmology, School of Medicine, University of Crete, Greece

- Design and development of a novel Hyper-Spectral imaging diagnostic system for the human retina.
- Research, Analysis, characterization of human retinal tissues and diagnosis of malignancies .

Scientific interests

- In-vivo optical, diagnostic imaging techniques (spectral imaging, optical tomography, fluorescence imaging, interferometry).
- Analysis, differentiation and characterization of pigment spectral characteristics.
- Design, analysis and development of optoelectronic information systems and computer vision techniques.
- Design and development of novel optical Computer Vision systems and methods to study the behavior of animals.
- Dynamic study of surface morphology of varying surfaces with high roughness by the use of non-destructive optical techniques.

Work experience in funded research projects

Task Assigned	Project Title and Info
RTD	<ul style="list-style-type: none"> • “Extreme”, H2020-MG-2014, Faculty of Aerospace Engineering, TU Delft, (2015-2019)
Design, Development and Testing	<ul style="list-style-type: none"> • “World Class Composite Solutions”, HTSM, Faculty of Aerospace Engineering, TU Delft, (2015-2018)
Design, Development and Testing	<ul style="list-style-type: none"> • “<i>Construction of a pre-commercial, microsecond-resolved evanescent-wave cavity ring-down ellipsometer. (BIOCARDE)</i>”, European Research Council (ERC), Proof-of-Concept (PoC) Grant, FORTH - IESL, (2011-2012)
Design, Development and Testing	<ul style="list-style-type: none"> • “<i>Time-resolved Ring-Cavity-Enhanced Polarization Spectroscopy (TRICEPS)</i>”, European Research Council (ERC) Grant, FORTH - IESL, (2009-2013)
Design, Development and Testing	<ul style="list-style-type: none"> • “<i>SYstem for Digitization and Diagnosis in ART Applications (SYDDARTA)</i>”, FP7-ENV, EU, 2010, FORTH - IESL
Research	<ul style="list-style-type: none"> • “<i>A new integrative framework for the study of fish welfare based on the concepts of allostasis, appraisal and coping styles (COPEWELL)</i>”, FP7-KBBE, EU, 2010, Biology Dept., Univ. of Crete
RTD	<ul style="list-style-type: none"> • “<i>Biotechnology for the exploitation of microalgae (BIOEXPLORE)</i>”, NSRF 2007, National Action: “Cooperation”, Biology Dept., Univ. of Crete.
RTD	<ul style="list-style-type: none"> • “<i>Networking European Spectrometric diagnosis Techniques for ART assets (NESTART)</i>”, COST Action, EU, 2010, FORTH - IESL
Design, Development and Testing	<ul style="list-style-type: none"> • “<i>Development of a microsecond and spatially resolved ellipsometer</i>”, Marie Curie Industry - Academia Partnerships and Pathways (IAPP) , EU, 2010, SOPRALAB-FORTH partnership (SOFORT)
Design, Development and Testing	<ul style="list-style-type: none"> • “<i>Imaging and Control in Chemistry (ICONIC)</i>”, Marie Curie Initial Training Network, Grant, EU, 2009, FORTH - IESL
Design, Development and Testing	<ul style="list-style-type: none"> • “<i>Assessing the causes and developing measures to prevent the escape of fish from sea-cage aquaculture (Prevent Escape)</i>”, Seventh Research Framework Program. Food, Agriculture and Fisheries and Biotechnology. Area 2.1.2, EU, 2009, Biology Dept. Univ. of Crete
Research	<ul style="list-style-type: none"> • General Secretariat of Research and Technology of Greece, Program for Scientific collaboration between Greece and the USA (2006-2008),. Collaboration IESL - FORTH – Stanford University, GSRT, 2006
Video and Image Analysis	<ul style="list-style-type: none"> • “<i>Environmentally controlled sex determination in Zebra fish Danio Rerio (Hamilton, 1822). Diversification of the reproductive and central nervous system</i>”, EΥΔ ΕΠΙΕΑΕΚ II 2004, EKT, Biology Dept. Univ. of Crete.

Video and Image Analysis	<ul style="list-style-type: none"> • “<i>Estimation of Genetic Parameters for Seabass (Heritabolum)</i>”, Coordis, EU, 2003, Biology Dept, Univ. Crete
RTD	<ul style="list-style-type: none"> • “<i>Mechanized Ship Maintenance (MESHMAIN)</i>”, Competitive and Sustainable Growth, EU, 2003, FORTH - IESL
Research	<ul style="list-style-type: none"> • “<i>Laser Multitask nondestructive technology in conservation diagnostic procedures (LASERACT)</i>”, Energy Environment and sustainable development, EU, 2003, FORTH - IESL
RTD	<ul style="list-style-type: none"> • “<i>Laser Vibrometry Network: sYstems and Applications (LAVINIA)</i>”, Growth, EU, 2002, FORTH - IESL
RTD	<ul style="list-style-type: none"> • “<i>Development of a Sensor for NO based on a Hybrid Organic-Semiconductor Device for Detection of Asthma (SENTIMENTS)</i>”, Growth, EU, 2001, FORTH - IESL
Research	<ul style="list-style-type: none"> • “<i>Paper Restoration using Lasers (PARELA)</i>”, Craft, EU, 2001, FORTH - IESL
Design, Development and Testing	<ul style="list-style-type: none"> • “<i>Design and development of a novel Hyper-Spectral imaging diagnostic system for the human retina study</i>”, YIIEP 1997, School of Medicine, Univ. of Crete, GSRT
Design, Development and Testing	<ul style="list-style-type: none"> • “<i>Computer control electronic system for the digital imaging in various spectral bands from UV to IR</i>”, FORTH - IESL with ΕΨΙΛΟΝ com, 1997, GSRT
Testing, Research	<ul style="list-style-type: none"> • “<i>Evaluation of transportable multispectral imaging system for the in situ analysis of wall paintings</i>”, FORTH - IESL and Courtauld Institute of Art (C.I.A.), GR-UK Bilateral Collaboration (British Council-GSRT)

Students

Bachelor

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)

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

Master

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

Spyros Iasonas Petroutsos, “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)

PhD

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)

Personal Skills and Competences

Languages

Greek (Native),

English (Fluent)

Computer Skills

CorelDraw (Master)

LabView Programming Language (Master)

Originlab (Experienced)

Optics Studio (Experienced)

Social skills

Management skills – as evident from the successful completed EU projects and the two groups managed (FORTH – 4 scientific staff and 6 technical staff, UoC – 5 students)

Team work - as evidenced from the multiple collaborative projects

Teaching / mentoring skills – as evidenced from supervised students (1 phd, 2 masters, 8 undergraduate students)

Reviewing Scientific Papers – as evidenced by the multiple published papers reviewed.

Organization skills

Organization of knowledge forums:

1. “Spectral Imaging”, Bom Jesus, Braga, Portugal, 2016
2. “Spectral Imaging”, Universidade Nova, Portugal, 2014;
3. “Spectral Imaging”, IPTomar, Portugal, 2014;
4. “Spectral Imaging”, Uni Católica, Portugal, 2014;
5. “Charisma”, FORTH, Greece, 2012;
6. “Athena”, FORTH, Greece, 2005;

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

Laboratory Setups:

a) Laboratory of optical diagnostics, IESL-FORTH

b) Laboratory for the analysis of fish behavior, Biology Department, University of Crete

Curriculum Design and Development of three modules (theoretical and experimental dimensions):

a) LabView Programming Language – Chemistry Department, University of Crete

b) Digital Image Analysis and Processing– TEI of Crete

c) Digital Image Analysis and Processing in Medicine – TEI of Crete

Services

Spectral Imaging Diagnostics

Services provided to private collectors to study objects of historic value with the IRIS system. More than 7 objects have been studied and reports have been completed.

Publications in Scientific Journals (Corresponding author is underlined)

1. **V.M. Papadakis**, R.M. Groves, E. Ribes-Gomez, “Design and development of a novel 3D-hyper-spectral imaging system to study the deterioration of works of art”, Strain, in preparation
2. L.M. Dingemans, **V.M. Papadakis**, P. Liu, A.J.L. Adam, R.M. Groves, “Quantitative coating thickness determination using a hyperspectral coefficient-independent scattering model”, Optics and laser technology, in preparation
3. **Vassilis M. Papadakis**, “Development and evaluation of a multi-camera computer vision system to analyze fish behavior”, Computers and electronics in agriculture, submitted
4. Glaropoulos, **V.M. Papadakis**, **M. Kentouri**, “Behavioural differences in tank-confined European sea bass under dark/light environment”, Journal of Aquaculture Report, submitted
5. Roger M. Groves, **Vassilis M. Papadakis**, Martine Posthuma de Boer, Tigran Mkhoyan, Bianca van Velzen, Kate Seymour, “Spectral Imaging of Dutch Gilt Leather for Improved Conservation Strategies”, Proceedings of Lacona 11 Conference, accepted
6. **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 9899, 9899-31, 04/2016 , Brussels, Belgium
7. **V.M. Papadakis**, B. Muller, M. Hagenbeek, J. Sinke, R.M. Groves, “Monitoring chemical degradation of glass fibre composites using hyper-spectral imaging”, SPIE 9804, 9804-28 03/2016, Las Vegas, USA
<http://proceedings.spiedigitallibrary.org/proceeding.aspx?articleid=2513658>
8. Eleftheria Vazgiouraki, **Vassilis Papadakis**, Paschalis Efstathopoulos, Iakovos Lazaridis, Ioannis Charalampopoulos, Costas Fotakis, Achille Gravanis, , “A spectral imaging method depicts neuronal myelin loss, without tissue labelling”, 2015, Microscopy, 1-10.
<http://jmicro.oxfordjournals.org/content/early/2015/10/27/jmicro.dfv349.abstract>
9. L.M. Dingemans, **V.M. Papadakis**, P. Liu, A.J.L. Adam, R.M. Groves, “Optical coherence tomography complemented by hyperspectral imaging for the study of protective wood coatings”, Proc. SPIE 9527, 952708 (June 30, 2015); doi:10.1117/12.2184716
<http://proceedings.spiedigitallibrary.org/proceeding.aspx?articleid=2383885>
10. **V.M. Papadakis**, **A. Glaropoulos**, M. Alvanopoulou, M. Kentouri, “A behavioural approach of dominance establishment in tank-held sea bream under different feeding conditions”, 2015, Aquaculture Research, available online for early view
<http://onlinelibrary.wiley.com/doi/10.1111/are.12854/abstract>
11. **V.M. Papadakis**, A. Glaropoulos, M. Kentouri, “Sub-second analysis of fish behavior using a novel computer-vision system”, 2014, Aquacultural Engineering, 62: 36-41.
<http://www.sciencedirect.com/science/article/pii/S0144860914000570>
12. Glaropoulos, **V.M. Papadakis**, I.E. Papadakis, A. Georgara, **M. Kentouri**, “Sea bream interactions towards the aquaculture net due to the presence of micro-fouling”, 2014, Aquaculture International, 22: 1203-1214.
<http://link.springer.com/article/10.1007%2Fs10499-013-9741-7>
13. Jean-Louis Stehle, **Petros Samartzis**, Katerina Stamataki, Jean-Philippe Piel, George E Katsoprinakis, **Vassilis Papadakis**, Xavier Schimowski, Peter T Rakitzis, Benoit Loppinet, “Multi-pass Spectroscopic Ellipsometry”, 2014, Thin Solid Films, 555:143-147.
<http://www.sciencedirect.com/science/article/pii/S0040609013010109>

14. Dimitris Sofikitis, Katerina Stamataki, Michael A Everest, **Vassilis Papadakis**, Jean-Louis Stehle, Benoit Loppinet, T Peter Rakitzis, "Sensitivity enhancement for evanescent-wave sensing using cavity-ring-down ellipsometry", 2013, Optics Letters, 38(8):1224-6.
<http://www.opticsinfobase.org/ol/abstract.cfm?uri=ol-38-8-1224>
15. K. Stamataki, **V. Papadakis**, M.A. Everest, S. Tzortzakis, B. Loppinet, T.P. Rakitzis, "Monitoring adsorption and sedimentation using evanescent-wave cavity ring-down ellipsometry", Applied Optics 52, 1086 (2013).
<https://www.osapublishing.org/ao/abstract.cfm?uri=ao-52-5-1086>
16. Luís Granero-Montagud, Cristina Portalés, Begoña Pastor-Carbonell, Emilio Ribes-Gómez, Antonio Gutiérrez-Lucas, Vivi Tornari, **Vassilis Papadakis**, Roger M. Groves, Beril Sirmacek, Alessandra Bonazza, [.....], Matthias Förster, Petra Aswendt, Albert Borreman, Jon D. Ward, António Cardoso, Luís Aguiar, Filipa Alves, Polonca Ropret, José María Luzón-Nogué, Christian Dietz, "Deterioration estimation of paintings by means of combined 3D and hyperspectral data analysis", Proc. SPIE 8790, Optics for Arts, Architecture, and Archaeology IV, 879008 (30 May 2013); doi: 10.1117/12.2020336
<http://spie.org/Publications/Proceedings/Paper/10.1117/12.2020336>
17. Luís Granero-Montagud, Cristina Portalés, Begoña Pastor-Carbonell, Emilio Ribes-Gómez, Antonio Gutiérrez-Lucas, Vivi Tornari, **Vassilis Papadakis**, Roger M. Groves, Beril Sirmacek, Alessandra Bonazza, [.....], Matthias Förster, Petra Aswendt, Albert Borreman, Jon D. Ward, António Cardoso, Luís Aguiar, Filipa Alves, Polonca Ropret, José María Luzón-Nogué, Christian Dietz, "SYDDARTA: new methodology for digitization of deterioration estimation in paintings", Proc. SPIE 8790, Optics for Arts, Architecture, and Archaeology IV, 879011 (May 30, 2013); doi:10.1117/12.2020333
<http://proceedings.spiedigitallibrary.org/proceeding.aspx?articleid=1693244>
18. Papadakis Ioannis, **Papadakis Vassilis**, Glaropoulos Alexios, Lamprianidou Fani, Kentouri Maroudio, "Escape behavior of juvenile Gilthead sea bream (*Sparus aurata*) versus rearing density in experimental conditions", 04/2013, Journal of Biological Research.
<http://www.jbr.gr/main/papers20132/04-Papadakis%20et%20al.BIOLOGICAL%20RESEARCH%2020.pdf>
19. I.E. Papadakis, **V.M. Papadakis**, A. Glaropoulos, S.I. Petroutsos, L. PNG Gonzalez, M. Kentouri, "Do the visual conditions at the point of escape affect European sea bass escape behavior?", Med. Mar. Science. 2013, DOI: 10.12681/mms.360, <http://www.medit-mar-sc.net/index.php/marine/article/view/360>
20. Glaropoulos, **V. M. Papadakis**, I. E. Papadakis, M. Kentouri, "Escape-related behavior and coping ability of sea bream due to food supply", October 2012, Aquaculture International, Volume 20, Issue 5, pp 965-979, <http://link.springer.com/article/10.1007%2Fs10499-012-9521-9>
21. M. Neofytou, S. Somrakis, **V. Papadakis**, P. Divanach, A. Sterioti and M. Kentouri, "Effect of temperature, stocking density, feeding conditions and experimental day on the horizontal and vertical distribution of sea bass fry *Dicentrarchus labrax* (Linnaeus, 1758)", J.Biol.Res.-Thessalon., 2013, 19:99-10
<http://www.imbbc.hcmr.gr/content/effect-temperature-stocking-density-feeding-conditions-and-experimental-day-horizontal-and-v>
22. **V.M. Papadakis**, I.E. Papadakis, F. Lambrianidou, A. Glaropoulos, M. Kentouri, "A Computer-Vision System and methodology for the Analysis of Fish Behavior", Aqua. Eng.

- (2011), 46 (2012) 53– 59 (AWARDED “Honorable mention paper 2012”)
<http://www.sciencedirect.com/science/article/pii/S014486091100080X>
23. **V.M. Papadakis**, M.A.Everest, K. Stamataki, S. Tzortzakis, B. Loppinet, T.P.Rakitzis, “Development of Cavity Ring-down Ellipsometry with spectral and submicrosecond time resolution”, Proc SPIE (2011), Vol. 8105, 81050L-1
<http://proceedings.spiedigitallibrary.org/proceeding.aspx?articleid=1272803>
 24. M.A.Everest, **V.M. Papadakis**, K. Stamataki, S. Tzortzakis, B. Loppinet, T.P.Rakitzis, “Evanescent-Wave Cavity Ring-Down Ellipsometry”, J. Phys. Chem. Lett. 2011, 2, 1324–1327
<http://pubs.acs.org/doi/abs/10.1021/jz200515d>
 25. Khedr, **V. M. Papadakis**, P. Pouli, D. Anglos, M. A. Harith, “The potential use of plume imaging for real-time monitoring of laser ablation cleaning of stonework”, Appl Phys B, 2011, DOI 10.1007/s00340-011-4492-5
<http://link.springer.com/article/10.1007%2Fs00340-011-4492-5>
 26. **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”, Proc. SPIE 8084, 80840W (2011); doi:10.1117/12.889510
<http://spie.org/Publications/Proceedings/Paper/10.1117/12.889510>
 27. **V. Papadakis**, A. Loukaiti, P. Pouli, “A spectral imaging methodology for determining on-line the optimum cleaning level of stonework”, J. Cult. Heritage, 2010, 11, 325-328.
<http://www.sciencedirect.com/science/article/pii/S1296207410000191>
 28. Karaïskou, **V. Papadakis**, B. Loppinet, T. P. Rakitzis, “Cavity Ring-down Ellipsometry”, J. Chem. Physics, 2009, 131, 12, Art. No. 121101
<http://scitation.aip.org/content/aip/journal/jcp/131/12/10.1063/1.3236819>
 29. **V. M. Papadakis**, A. Stassinopoulos, D. Anglos, S. H. Anastasiadis, E. P. Giannelis, D. G. Papazoglou, “Single shot temporal coherence measurements of random lasing media”, J. Opt. Soc. Am. B, 2007, Vol 24, No 1, 31-36
<http://dx.doi.org/10.1364/JOSAB.24.000031>
 30. **V. Papadakis**, T. N. Kitsopoulos, “Slice imaging and velocity mapping using a single field”, Rev. Sci. Instruments, 2006, 77, 083101-4
<http://scitation.aip.org/content/aip/journal/rsi/77/8/10.1063/1.2222084>
 31. D. Papazoglou, **V. Papadakis**, D. Anglos,” In situ interferometric depth and topography monitoring in LIBS elemental profiling of multi-layer structures”, JAAS, 2004, 19, 483-488
<http://pubs.rsc.org/en/Content/ArticleLanding/2004/JA/B315657E#!divAbstract>
 32. Karaïskou, C. Vallance, **V. Papadakis**, I.M. Vardavas, T. P. Rakitzis, “Absolute absorption cross-section measurements of CO₂ in the ultraviolet from 200 to 206 nm at 295 and 373 K”, Chemical Physics Letters, 2004, 400, 30-34
<http://www.sciencedirect.com/science/article/pii/S0009261404016616>
 33. Costas Balas, **Vassilis Papadakis**, Nicolas Papadakis, Antonis Papadakis, Eleftheria Vazgiouraki, George Themelis, “A Novel Hyper-Spectral Imaging Apparatus for the Non-Destructive Analysis of Objects of Artistic and Historic Value”, J. of Cultural Heritage, 2003, 4, 330-337
<http://www.sciencedirect.com/science/article/pii/S1296207402012165>
 34. **Papadakis V**, Karavellas MP, Tsilimbaris MK, Balas C, Pallikaris IG, “A hyper spectral imaging fundus camera for the detection and characterization of retinal lesions”, Invest Ophth

35. K. Melessanaki, **V. Papadakis**, C. Balas, D. Anglos, "Laser induced breakdown spectroscopy (LIBS) and Hyper-spectral imaging analysis of pigments on an illuminated manuscript", *Spectrochimica Acta Part B*, 56, 2337-2346, 2001
<http://www.sciencedirect.com/science/article/pii/S0584854701003020>

Invited Presentations

1. **Vassilis Papadakis**, "Spectral Imaging theory and applications", 11/2015, Real Academia de Bellas Artes de San Fernando, Madrid, Spain
2. **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
3. 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
4. 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**)
5. **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
6. **V.M. Papadakis**, "Spectral Imaging of the Retina", 4th summer school in Visual Optics, 01 July 2005, Crete, Greece
7. **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
8. 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

Presentations in International Conferences

1. Roger M. Groves, **Vassilis M. Papadakis**, Martine Posthuma de Boer, Tigran Mkhoyan, Bianca van Velzen, Kate Seymour, "Spectral imaging of Dutch gilt leather for improved conservation strategies", Lacona XI, 21/09/2016, Krakow, Poland (Oral)
2. **V.M. Papadakis**, S. Teixeira de Freitas, R.M. Colijn, J.J. Goedhart, J.A. Poullis, 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)

3. **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)
4. L.M. Dingemans, **V.M. Papadakis**, P. Liu, A.J.L. Adam, R.M. Groves, "Signal processing and optimization of optical coherence tomography measurements of wood coatings", SPIE Optical Metrology, 06/2015, Munich, Germany (Oral)
5. L.M. Dingemans, P. Liu, **V. Papadakis**, R.M. Groves, A.J.L. Adam, "Optical coherence tomography for analysis of coatings on wood", PhotoMechanics 2015, 05/2015, Delft, Netherlands, DOI: 10.13140/RG.2.1.3614.0247 (Oral)
6. **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 novel 3D-Hyperspectral Imaging System", Technart, 04/2015, Catania, Italy, DOI: 10.13140/RG.2.1.1791.3042 (Poster)
7. **V.M. Papadakis**, A. Glaropoulos, M. Kentouri "Photonics for Marine Biology – Computer Vision Systems". In Proceedings of European Aquaculture Society, 14-17/10, 2014, Donostia, San Sebastian, Spain (Poster)
8. M. Alvanopoulou, A. Glaropoulos, **V.M. Papadakis**, I.E., Papadakis, M. Kentouri "Establishment of dominance on juvenile sea bream (*Sparus aurata*) due to food supply". In Proceedings of European Aquaculture Society, 14-17/10, 2014, Donostia, San Sebastian, Spain (Oral)
9. E. Katopodi, V. Argyropoulos, M. Florou, K. Melessanaki, A. Filippidis, **V. Papadakis**, P. Siozos, P. Pouli, "Laser technology for the analysis and conservation of painted metal objects", LACONA X, Sharjah, UAE (Poster)
10. A. Glaropoulos, **V.M. Papadakis**, M. Kentouri "The escape behaviour of sea bream and sea bass in the Mediterranean Aquaculture". In Proceedings of World Aquaculture Society, 07-11/06, 2014, Adelaide, South Australia (Oral)
11. 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, Aguiar L, Ferreira A, Ropret P, Luzon-Nogue JM, "A Aplicação do Sistema Syddarta na Conservação Preventiva", 2013, Jornadas de Arte e Ciência, Porto (Oral)
12. A. Glaropoulos, M. Alvanopoulou, **V.M. Papadakis**, A. Panisello-Rosello, I.E. Papadakis, M. Kentouri, "Social Hierarchy of Gilthead sea bream (*Sparus aurata* L.) under Experimental Conditions. A Behavioral Approach of Dominance." In Proceedings on Aquaculture conference: To the Next 40 Years of Sustainable Global Aquaculture, 03-07/11, 2013, Gran Canaria, Spain. (Oral)
13. **V.M. Papadakis**, A. Antonakaki, A. Glaropoulos, M. Kentouri "A Methodology for the Analysis of sea bream Larvae Behaviour in Aquaculture." In Proceedings on Aquaculture conference: To the Next 40 Years of Sustainable Global Aquaculture, 03-07/11, 2013, Gran Canaria, Spain. (Oral)
14. Luís Granero-Montagud, Cristina Portalés, Begoña Pastor-Carbonell, Emilio Ribes-Gómez, Antonio Gutiérrez-Lucas, Vivi Tornari, **Vassilis Papadakis**, Roger M. Groves, Beril Sirmacek, Alessandra Bonazza, [.....], Matthias Förster, Petra Aswendt, Albert Borreman, Jon D. Ward, António Cardoso, Luís Aguiar, Filipa Alves, Polonca Ropret, José María Luzón-Nogué, Christian Dietz, "Deterioration estimation of paintings by means of combined 3D and

hyperspectral data analysis”, 05/2013, Optics for Arts, Architecture, and Archaeology IV, Munich (Oral)

15. Luís Granero-Montagud, Cristina Portalés, Begoña Pastor-Carbonell, Emilio Ribes-Gómez, Antonio Gutiérrez-Lucas, Vivi Tornari, **Vassilis Papadakis**, Roger M. Groves, Beril Sirmacek, Alessandra Bonazza, [.....], Matthias Förster, Petra Aswendt, Albert Borreman, Jon D. Ward, António Cardoso, Luís Aguiar, Filipa Alves, Polonca Ropret, José María Luzón-Nogué, Christian Dietz, “SYDDARTA: new methodology for digitization of deterioration estimation in paintings”, 05/2013, Optics for Arts, Architecture, and Archaeology IV, Munich (Oral)
16. A. Glaropoulos, I.E. Papadakis, **V.M. Papadakis**, M. Kentouri, "Escape-related behavior of sea bream due to stocking density, food supply and biofouling presence." In Proceedings on Aqua, 01-06/09, 2012, Prague, Czech Republic (Oral)
17. **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)
18. A. Glaropoulos, I.E. Papadakis, A.P. Rosello, **V.M. Papadakis**, M. Kentouri, "Dominance behaviour due to food supply in juveniles *Sparus aurata*." In Proceedings on the Aquaculture America, 29/02-04/03, 2012, Las Vegas, USA (Poster)
19. I.E. Papadakis, **V.M. Papadakis**, A. Glaropoulos, S.I. Petroutsos, M. Kentouri, "Evolution of a Computer Vision System for the analysis of fish behaviour." In Proceedings on the Aquaculture America, 29/02-04/03, 2012, Las Vegas, USA (Poster)
20. **VM. Papadakis**, I.E. Papadakis, A. Glaropoulos, M. Kentouri, “Computer Vision aided System for Behavioural Analysis of Fish”, EAS 2011, Rhodes, Greece (Oral)
21. 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)
22. 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)
23. 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)
24. **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)
25. **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)
26. Glaropoulos, A. **Papadakis, V.M.**, Papadakis, I.E., Kentouri, M. “Computer vision aided system for behavioural analysis of fish”. AquaMedit, 2010, Greece. (Oral)
27. 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)
28. 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)

29. **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)
30. **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)
31. A. Loukaiti, **V. Papadakis**, P. Pouli, "A new spectral imaging approach for the in-situ assessment of the cleaning intervention on stonework", TechnArt 2009, Athens, Greece (Poster)
32. 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)
33. Aliki Karoussou, **Vassilis M. Papadakis**, Maroudio Kentouri, "Study Of The Behavioral Response in sound stimuli for (*Pagrus pagrus*, L. 1758): Preliminary Results.", 12^o Greek Conference of Aquaculture, 13-16 October 2005, Greece (Oral)
34. **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)
35. D. G. Papazoglou, **V. Papadakis**, D. Anglos, "On-line interferometric depth monitoring in LIBS elemental profiling of multi-layer structures", EMSLIBS-II, 30 September – 3 October 2003, Hersonissos, Crete, Greece (Oral)
36. E. M. Vazgiouraki, **V. M. Papadakis**, J. G. Panayotidis, D. Ioannidou, S. Kruger, C. J. Balas, A. D. Tosca, "Use of a novel Hyper-Spectral imaging and spectroscopy method, for the in-vivo, non-invasive optical characterization and analysis of skin lesions", 11^o Cretan Medical Conference, 1-3 November, 2002, Chania, Greece (Oral)
37. 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)
38. **V. Papadakis**, M. Karavellas, M. Tsilimbaris, C. Balas, I. Pallikaris, "An advanced Hyper-Spectral Imaging Fundus Camera for the investigation of retinal diseases", ARVO 2002 Annual Meeting, Fort Lauderdale, Florida, USA (Poster)
39. 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)
40. C. J. Balas, A. E. Papadakis, G. C. Themelis, E. Vazgiouraki, **V. M. Papadakis**, E. Koumantakis, A. Tosca, E. S. Helidonis, "A novel Spectral Imaging System for the in-vivo early detection, quantitative staging and mapping of dysplasias and malignancies of cervix and larynx," Multi-modal & Automated Computational Methods for Pre-surgical Visualization of Tissue Structure. Amsterdam, Ebios 2000 (Oral)
41. 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)
42. M. Tsilimbaris, **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)

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44. 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)