

# **CURRICULUM VITAE**

## **PERSONAL INFORMATION:**

**NAME/SURNAME:** EFSTRATIOS DAVID (STRATOS DAVID)

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**BIRTH DATE:** 1978

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### **Education:**

- June 2010** University of Patras, Department of Medical Physics, postgraduate course in Medical Physics (**PhD**).
- November 2006** University of Patras, Department of Medical Physics, postgraduate course in Medical Physics (**MSc**).
- February 2004** Technological Education Institute of Athens, Department of Medical Instrumentation Technology (**BSc**).

### **Participation in scientific programs:**

European Union-Greek Ministry of Education, Research Program ARCHIMIDIS II, “Experimental investigation and simulation of radiation detection materials applied in Radiology and Nuclear Medicine systems via Monte Carlo techniques”, as researcher assistant for 2 years (01.09.2005-31.12.2006). References Professor Dr. Ioannis Kandarakis ([kandarakis@teiath.gr](mailto:kandarakis@teiath.gr)).

European Union-Greek Ministry of Education, Research program ARCHIMIDIS II “Development of membranes for optical visualization of high resolution in the near infrared” (from 1/1/2007 to 28/2/2007). References Professor Dr. E. Koudoumas ([koudoumas@stef.teiher.gr](mailto:koudoumas@stef.teiher.gr))

MEDI-TECH-NEWS, “Current Status and Future Prospects of Medical Instruments Technology: Positive Impact and Challenges for Greek Society, Academic Community and Industry” Work programme topics addressed: EPAN 2007-2013 (from 28/08/2008 to 10/12/2008). References Professor Dr. G. Loudos ([gloudos@teiath.gr](mailto:gloudos@teiath.gr))

NANOTHER, “Integration of novel NANOparticle based technology for THERapeutics and diagnosis of different types of cancer”. Type of funding scheme: Large scale integrating collaborative project. Work programme topics addressed: NMP-2007-4.0-4, Substantial innovation

in the European medical industry: development of nanotechnology-based systems for in-vivo diagnosis and therapy (in coordination with topic HEALTH-2007-2.4.1-7 and HEALTH-2007-1.2-3 in Theme 1 "Health"). (from 1/10/2008 to 31/3/2012) References Professor Dr. G. Loudos ([gloudos@teiath.gr](mailto:gloudos@teiath.gr))

European Union-Greek Ministry of Education, Research Program THALIS, "Development of a new experimental method for the determination of the Modulation Transfer Function (MTF) in tomographic systems of nuclear medicine and diagnostic radiography" References Professor Dr. [goikon@teiath.gr](mailto:goikon@teiath.gr)

European Union-Greek Ministry of Education, Research Program «Ψηφιακή Σύγκλιση» Duration: 24/2/2012 – 30/4/2013. References Professor Dr. G. Loudos ([gloudos@teiath.gr](mailto:gloudos@teiath.gr))

European Union-Greek Ministry of Education, Research Program **ΑΡΧΙΜΗΔΗΣ» III-** «*Novel applications of x-ray Dual Energy for early diagnosis in Osteoporosis, mammography and angiography*» Acronym: XDualGnosis, Duration:01/03/2012 - 30/06/2015 Research Domain 3.Biological and Medical sciences. Research Area LS7; Diagnostic tools, therapies and public health. Primary Field of Research. LS7\_1; Medical engineering and technology. References Professor Dr. George Fountos ([gfoun@teiath.gr](mailto:gfoun@teiath.gr)).

European Union-Greek Ministry of Education, Research Program **ΑΡΧΙΜΗΔΗΣ III-** «*Experimental evaluation of new co-doped Scintillator materials for use in Combined Tomographic Imaging Systems.*» Acronym: ScoDo, Duration: 01/03/2012 - 30/06/2015 Research Domain 5. Mathematics, Physics, Chemistry. Research Area LS7; Diagnostic tools, therapies and public health. Primary Field of Research. LS7\_1; Medical engineering and technology. References Professor Dr. Konstantinos Kourkoutas, ([kourkoutascd@yahoo.com](mailto:kourkoutascd@yahoo.com)).

European Union-Greek Ministry of Education, Research Program **ΑΡΧΙΜΗΔΗΣ III-** «*Development of Monte Carlo simulation tool for evaluation of nano-phosphor based X-ray imaging detectors.*» Acronym: NanoCarlo, Duration: 01/03/2012 - 30/06/2015. References Professor Dr. Ioannis Kandarakis ([kandarakis@teiath.gr](mailto:kandarakis@teiath.gr)).

European Union-Greek Ministry of Education, Research Program **Thalis** «*Multidisciplinary study of air quality with emphasis indoors*» Acronym: IndrAQ, Duration: 01/09/2011 ως 31/12/2013. References Professor Dr. Athanasios Zisos.

European Union-Greek Ministry of Education, Research Program «**Αριστεία**» Acronym: *MISCIRLU*, Title: *Medical Image SCience thRough Luminescence*. References Professor Dr Ioannis Kandarakis ([kandarakis@teiath.gr](mailto:kandarakis@teiath.gr))

Post Doctoral Scholarship: “Experimental development and evaluation of portable gamma-spectroscopy detectors” of IKY RESEARCH PROGRAMS. PostDoc Researcher: Dr. Stratos David  
Project Leader: Ioannis Kandarakis, IKY code: 12664. Duration: 2017 – 2019 (24 months).

Research program "Supporting internationalization actions of the Master program: Biomedical Engineering and Technology" of the operation "Supporting internationalization actions of the University of West Attica" MIS 5161121" and code 81127 Duration: 02/12/2022 to 31/12/2022 (2 months).

### Professional experience:

- **Assistant Professor, Department of Biomedical Engineering, University of West Attica (from 27/05/2021 up to now)**
- Adjunct Laboratory Instructor (*lecturer*): Department of Biomedical Engineering, University of West Attica (from 01/10/2009 – 27/05/2021)
- Lecturer on MSc level program “Medical Physics” of the Medical School of University of Patras, Greece, 2010 (from 2010 up to now)
- Lecturer on MSc level program “Advanced Systems and Methods in Biomedical Engineering” of the Department of Biomedical Engineering, University of West Attica (from 2014 up to now)
- Laboratory assistant of Laboratory of Ionizing radiation of University of West Attica <http://www.teiath.gr/stef/tio/IonRadWebSite/en/tresearchactivities/index.htm>
- Laboratory Collaborator, Postdoc Researcher of Nuclear Medical Imaging group of University of West Attica [http://www.teiath.gr/stef/tio/ni/EnglishVersion/nuc\\_engl.html](http://www.teiath.gr/stef/tio/ni/EnglishVersion/nuc_engl.html)
- 07/05/2018 έως 10/05/2018 8 hours lessons via «ERASMUS+»: Università Politecnica della Marche / Dipartimento di Ingegneria Industriale e Scienze Matematiche
- 06/05/2019 έως 10/05/2019 8 hours lessons via «ERASMUS+»: Università Politecnica della Marche / Dipartimento di Ingegneria Industriale e Scienze Matematiche

### Research experience:

**Phd thesis:** ‘Experimental evaluation of single-crystal and granular scintillators in medical imaging detectors: application in an experimental prototype imaging system’ References: Rector G. Panayiotakis ([panayiot@upatras.gr](mailto:panayiot@upatras.gr))

**MSc thesis:** ‘Evaluation of physical characteristics of the  $\text{Lu}_2\text{SiO}_5:\text{Ce}^{3+}$  (LSO:Ce) scintillator in single crystal and in granular form for applications in x-ray medical imaging systems.’, postgraduate program in Medical Physics, University of Patras, Greece. References: Professor Dr. I. Kandarakis and Rector G. Panayiotakis ([kandarakis@teiath.gr](mailto:kandarakis@teiath.gr), [panayiot@upatras.gr](mailto:panayiot@upatras.gr))

**BSc thesis:** ‘Control of the  $\text{Tc}^{99\text{m}}$  radioactive isotope remainders in water with a well  $\gamma$ -counter.’, *Construction of a cheap system which adapted in the well  $\gamma$ -counter and can be check the radioactive wastes.* Department of Medical Instrumentation Technology, Technological Institute of Athens, References: Professor Dr B. Spyropoulos and Professor Dr. Ioannis Kandarakis

**Peer-reviewed  
publications in  
international scientific  
journals (with Impact  
Factor)**

- 01) D. Nikolopoulos, I. Kandarakis, D. Cavouras, I. Valais, D. Linardatos, C. Michail, **S. David**, A. Gaitanis, C. Nomicos, A. Louizi, "Investigation of radiation absorption and X-ray fluorescence properties of medical imaging scintillators by Monte Carlo methods" *Nucl. Instrum. Methods Phys. Res. A*, Vol. 565, pp. 821-832, 2006
- 02) **S. David**, C. Michail, I. Valais, D. Nikolopoulos, P. Liaparinos, N. Kalivas, I. Kalatzis, N. Efthimiou, A. Toutountzis, G. Loudos, I. Sianoudis, D. Cavouras, N. Dimitropoulos, C.D. Nomicos, I. Kandarakis and G.S. Panayiotakis, "Efficiency of  $\text{Lu}_2\text{SiO}_5:\text{Ce}$  (LSO) powder phosphor as X-ray to light converter under mammographic imaging conditions", *Nucl. Instrum. Meth. A*, Vol. 571, No. 1-2, pp.346-349, Feb. 2007.
- 03) C. Michail, **S. David**, P. Liaparinos, I. Valais, D. Nikolopoulos, N. Kalivas, A. Toutountzis, I. Sianoudis, D. Cavouras, N. Dimitropoulos, C. D. Nomicos, K. Kourkoutas, I. Kandarakis, G. S. Panayiotakis. "Evaluation of the imaging performance of LSO powder scintillator for use in x-ray mammography", *Nucl. Instrum. Meth. A*, Vol. 580, pp.558-561, 2007.
- 04) I. Valais, **S. David**, C. Michail, D. Nikolopoulos, P. Liaparinos, D. Cavouras, I. Kandarakis and G. S. Panayiotakis. "Comparative study of luminescence properties of  $\text{LuYAP}:\text{Ce}$  and  $\text{LYSO}:\text{Ce}$  single crystal scintillators for use in medical imaging", *Nucl. Instrum. Meth. A*, Vol. 550, No. 1, pp.614-616, Sep. 2007.
- 05) Ioannis G. Valais, Ioannis S. Kandarakis, Dimitris N. Nikolopoulos, Christos M. Michail, **Stratos L. David**, George K. Loudos, Dionisis A. Cavouras and George S. Panayiotakis, "Luminescence properties of  $(\text{Lu},\text{Y})_2\text{SiO}_5:\text{Ce}$  and  $\text{Gd}_2\text{SiO}_5:\text{Ce}$  single crystal scintillators under x-ray excitation, for use in medical imaging systems", *IEEE Trans. Nucl. Sci.*, Vol. 54, No. 1, Feb 2007.
- 06) Valais I, **David S**, Michail C, Konstantinidis A, Kandarakis I and Panayiotakis GS, "Investigation of luminescence properties of the  $\text{LSO}:\text{Ce}$ ,  $\text{LYSO}:\text{Ce}$  and  $\text{GSO}:\text{Ce}$  crystal scintillators under low-energy  $\gamma$ -ray excitation used in nuclear imaging", *Nucl. Instrum. Meth. A*, Vol. 581, pp. 99–102, 2007.
- 07) D. Nikolopoulos, D. Linardatos, P. Gonias, N. Bertsekas, C. Michail, **S. David**, D. Cavouras and I. Kandarakis, "MONTE CARLO VALIDATION IN THE DIAGNOSTIC RADIOLOGY RANGE", *Nucl. Instrum. Meth. A*, Vol. 571, No. 1-2, pp.267-269, Feb. 2007.
- 08) N. Efthimiou, N. Kalivas, G. Patatoukas, I. Valais, D. Nikolopoulos, A. Gaitanis, A. Konstaninidis, **S. David**, C. Michail, G., G.Loudos, D. Cavouras, K. Kourkoutas, G.S. Panayiotakis

and I. Kandarakis. "Investigation of the effect of the scintillator material on the overall X-ray detection system performance by application of analytical models", *Nucl. Instrum. Meth. A*, Vol. 571, No. 1-2, pp.270-273, Feb. 2007.

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10) **S. David**, C. Michail, I. Valais, A. Toutountzis, D. Cavouras, I. Kandarakis, G. Panayiotakis "Investigation of luminescence properties of  $Lu_2SiO_5:Ce$  (LSO) powder scintillator in the X-ray radiography energy range", *IEEE Trans. Nucl. Sci.*, Vol. 55, No. 6, Dec. 2008.

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13) Ioannis G. Valais, **Stratos David**, Christos Michail, Costas D. Nomicos, George S. Panayiotakis and Ioannis S. Kandarakis, "Comparative evaluation of single crystal scintillators under X-ray imaging conditions", *JINST*, June 2009.

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Megavoltage Radiation Therapy Portal Imaging Applications" *IEEE Trans. Nucl. Sci.*, Vol. 57, Issue 1, Feb. 2010 Page(s):3-7 Digital Object Identifier 10.1109/TNS.2009.2038273

17) **S. L. David**, C. M. Michail, M. Roussou, E. Nirgianaki, A. E. Toutountzis, I. G. Valais, G. Fountos, P. F. Liaparinos, I. Kandarakis, G. Panayiotakis . "Evaluation of the luminescence efficiency of YAG:Ce powder scintillating screens for use in digital mammography detector" *IEEE Trans. Nucl. Sci.* 57(3):951-957, 2010

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20) M. Georgiou, **S. David**, G. Loudos, I. Tsougos and P. Georgoulas "[Experimental and simulation studies for the optimization of dedicated scintimammography cameras](#)", *J. Inst.* , Vol. 7, P01011, 2012 doi:[10.1088/1748-0221/7/01/P01011](https://doi.org/10.1088/1748-0221/7/01/P01011)

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23) E. Fysikopoulos, G. Loudos, M. Georgiou, **S. David** and G. Matsopoulos "[A Spartan 6 FPGA Based Data Acquisition System for Dedicated Imagers in Nuclear Medicine](#)" *Meas. Sci. Technol.* Vol. 23, 125403 (5pp), 2012 doi:[10.1088/0957-0233/23/12/125403](https://doi.org/10.1088/0957-0233/23/12/125403)

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25) C. Michail, N. Kalyvas, I. Valais, **S. David**, I. Seferis, A. Toutountzis, A. Karabotsos, P. Liaparinos, G. Fountos and I. Kandarakis "[On the response of GdAlO<sub>3</sub>:Ce powder scintillators](#)" *Journal of Luminescence*, Vol 144, pp. 45-52, 2013

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[powder/granular Gd<sub>2</sub>O<sub>2</sub>S:Pr scintillator screens in single photon counting mode under 140 keV excitation](#)”, *J. Inst.* Vol 8, P01006, 2013 doi:10.1088/1748-0221/8/01/P01006

27) **S. David**, M. Georgiou, E. Fysikopoulos, N. Belcari and G. Loudos, "[Imaging performance of silicon photomultipliers coupled to BGO and CsI:Na arrays](#)", *Journal of Instrumentation*, Vol 8, P12008, 2013

28) **David Stratos**, Georgiou Maria, Fysikopoulos Eleftherios and Loudos George “[Comparison of three Resistor Network Division Circuits for the readout of 4x4 Pixel SiPM Arrays](#)” *Nucl. Instrum. Meth. A*, Vol. 702, pp. 121–125, 2013 <http://dx.doi.org/10.1016/j.nima.2012.08.006>

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30) N. Kalyvas, I. Valais, **S. David**, Ch. Michail, G. Fountos, P. Liaparinos, and I. Kandarakis, “[Studying the energy dependence of intrinsic conversion efficiency of single crystal scintillators under x-ray excitation](#)”, *Optics and Spectroscopy*, Vol 116 (5), pp. 743-747, 2014

31) E. Fysikopoulos, M. Georgiou, N. Efthimiou, **S. David**, G. Loudos and G. Matsopoulos, “Fully Digital FPGA-Based Data Acquisition System for Dual Head PET Detectors”, *IEEE Trans. Nucl. Sci.* Vol 61, No 5, pp. 2764-2770, 2014

32) C. Michail , I. Valais , I. Seferis, N. Kalyvas , **S. David**, G. Fountos, I. Kandarakis “Measurement of the luminescence properties of Gd<sub>2</sub>O<sub>2</sub>S:Pr,Ce,F powder scintillators under X-ray radiation” *Radiation Measurements* Vol 70 pp.59-64, 2014

33) **S. David**, M. Georgiou, E. Fysikopoulos, G. Loudos “Evaluation of a SiPM array coupled to a Gd<sub>3</sub>Al<sub>2</sub>Ga<sub>3</sub>O<sub>12</sub>:Ce (GAGG:Ce) discrete scintillator” *Physica Medica* Vol 31 (7), pp. 763-766, 2015

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35) **S. David**, C. Michail, I. Seferis, I. Valais, G. Fountos, P. Liaparinos, I. Kandarakis, N. Kalyvas “Evaluation of Gd<sub>2</sub>O<sub>2</sub>S:Pr granular phosphor properties for X-ray mammography imaging” *Journal of Luminescence* Vol 169 pp. 706-710, 2016

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efficiency of Lu<sub>2</sub>O<sub>3</sub>:Eu thin screens” *Results in Physics*, Vol 7, pp. 980–981, 2017

37) Lorenzo Scalise, Luigi Montalto, Michela D’Ignazio, **Stratos David**, George Loudos, Maria Georgiou, Eleftherios Fysikopoulos "Performance evaluation of a small field of view scintigraphic camera for Tc-99m and Ga-67 molecular imaging applications" *Journal of Instrumentation* 14 T05005, <https://doi.org/10.1088/1748-0221/14/05/T05005>, 2019

38) Rita Ricci, Theodora Kostou, Konstantinos Chatzipapas, Eleftherios Fysikopoulos, George Loudos, Luigi Montalto, Lorenzo Scalise, Daniele Rinaldi and **Stratos David** "Monte Carlo Optical Simulations of a Small FoV Gamma Camera. Effect of Scintillator Thicknesses and Septa Materials” *Crystals*, 9, 398; [doi:10.3390/cryst9080398](https://doi.org/10.3390/cryst9080398), 2019

39) P. Liaparinos and **S. David** “The surface roughness effects on light beam interactions between the CsI phosphor and optical sensing materials” *Crystals*, 10, 174; [doi:10.3390/cryst10030174](https://doi.org/10.3390/cryst10030174), 2020

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**Peer-reviewed  
publications in  
international scientific  
journals (without Impact  
Factor)**

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41) **Stratos L. David**, Christos M. Michail, Ioannis G. Valais, Ioannis Seferis, George Varaboutis, Stauros Gatsos, Adrianos E. Toutountzis, George Fountos, Ioannis S. Kandarakis, George S. Panayiotakis “Luminescence Efficiency of fast Yttrium Aluminum Garnet Phosphor Screens for use in Digital Breast Tomosynthesis” *e-Journal of Science & Technology, (e-JST)*, issue 2, vol.5 pp.63-73, 2010

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T30) N. Kalyvas, C. Michail, G. Fountos, I. Valais, P. Liaparinos, **S. David**, I. Kandarakis "Experimental and theoretical study of the photoreceptor effect in indirect conversion digital detectors" BioMep 2015, Athens, Greece

T31) P. Liaparinos, N. Kalyvas, **S. David**, C. Michail, I. Valais, G. Fountos, I. Kandarakis "Study on the optical diffusion performance of granular phosphors employed in medical imaging" BioMep 2015, Athens, Greece

T32) **S. David**, I. Valais, C. Michail, N. Kalyvas, I. Kandarakis "Decay time measurements of powder scintillators used in X-ray imaging indirect detectors" BioMep 2015, Athens, Greece

T33) **S. David**, I. Valais, C. Michail, I. Kandarakis "X-ray Luminescence efficiency of GAGG:Ce single crystal scintillators for use in Tomographic Medical Imaging Systems" BioMep 2015, Athens, Greece

T34) **S. David**, I. Valais, C. Michail, N. Kalyvas, P. Liaparinos, I. Kandarakis "Absolute efficiency and statistical distribution of the light flashes emitted by the GOS:Pr powder phosphor screens under X-ray general radiography imaging conditions" BioMep 2015, Athens, Greece

T35) I. Kandarakis, I. Valais, G. Fountos, N. Kalyvas, P. Liaparinos, C. Michail, **S. David** "Medical Image Science through luminescence (MISCIRLU project)" BioMep 2015, Athens, Greece

T36) C. Michail, **S. David**, A. Toutounzis, N. Kalivas, I. Valais, G. Panayiotakis, I. Kandarakis "Theoretical and Experimental Investigation of the Detective Quantum Efficiency (DQE) of LSO:Ce Powder Scintillator for X-Ray Mammography Applications", Xth EFOMP European Federation of Organisations for Medical Physics 2007 Pisa Italy 20-22, Sep. 2007.

T37) I. Valais, C. Michail, **S. David**, A. Konstantinidis, D. Cavouras, C. Nomicos, G. Panayiotakis, I. Kandarakis, "Luminescence Efficiency of LYSO:Ce, LSO:Ce, GSO:Ce and BGO Single Crystal

Scintillators under X-Ray Imaging Conditions", Xth EFOMP European Federation of Organisations for Medical Physics, Pisa, Italy, 20-22, Sep 2007.

T38) B.Spyropoylos, A.Angelopoulos, S.Tsoboulti, **E. David**, "In vitro simulation of the procedure of Sentinel Lymph Node localization during Intraoperative Radiolymphoscintigraphy" ,4<sup>th</sup> European Symposium on Biomedical Engineering, 25<sup>th</sup> - 27<sup>th</sup> June, University of Patras Conference Centre, Patras, Greece, 2004

T39) Ioannis G. Valais, Christos Michail, **Stratos David**, Anastasios Konstantinidis, Dionysis Cavouras, Costas D. Nomicos, George S. Panayiotakis and Ioannis S. Kandarakis, "Comparative evaluation of scintillators under xray imaging conditions", 4th International Conference on Imaging Technologies in Biomedical Sciences: *From Medical Images to Clinical Information Bridging the Gap* 22 - 28 Milos Conference Center *George Eliopoulos* Milos Island, Greece, Sep. 2007.

T40) **S. David**, M. Georgiou, E. Fysikopoulos, G. Loudos, "EVALUATION OF A SIPM ARRAY COUPLED TO A  $Gd_3Al_2Ga_3O_{12}:Ce$  (GAGG:Ce) DISCRETE SCINTILLATOR", 8th European Conference on Medical Physics, 2014, Athens, Greece

T41) G. Delimani, M. Georgiou, P. Papadimitroulas, P. Papamichalis, K. Mikropoulos, **S. David**, G. Loudos, "Energy resolution of the GAGG:Ce single crystals with various thickness coupled to a SiPM", 8th European Conference on Medical Physics, 2014, Athens, Greece

T42) **S. David**, E. Fysikopoulos and N. Kalyvas "Evaluation of a small field of view sipm array detector based on a LGSO:Ce pixellated scintillator" 1<sup>st</sup> European Congress of Medical Physics September 1-4 Athens, Greece, 2016

T43) Ιωάννης Βαλαής, Δημήτριος Νικολόπουλος, Ιωάννης Σιανούδης, Αναστάσιος Γαϊτάνης, Χρήστος Μιχαήλ, **Ευστράτιος Λαυίδ**, Διονύσιος Κάβουρας, Α. Λουίζη, Κωνσταντίνος Νομικός, Γεώργιος Παναγιωτάκης και Ιωάννης Κανδαράκης "Πειραματική αξιολόγηση των μονοκρυσταλλικών σπινθηριστών  $Gd_2SiO_5:Ce$  και  $(Lu,Y)_2SiO_5:Ce$  με τεχνικές οπτικής ολοκλήρωσης σε συνθήκες διέγερσης με ακτίνες-Χ" 1<sup>ο</sup> συνέδριο ΤΕΙ ΑΘΗΝΑΣ ΕΠΕΑΕΚ ΑΡΧΙΜΗΔΗΣ 2007

T44) Ι. ΒΑΛΑΗΣ, **Ε. ΔΑΥΙΔ**, Ε. ΦΥΣΙΚΟΠΟΥΛΟΣ, Χ. ΜΙΧΑΗΛ, Μ. ΓΕΩΡΓΙΟΥ, Ν. ΚΑΛΥΒΑΣ, Γ. ΦΟΥΝΤΟΣ, Π. ΛΙΑΠΑΡΙΝΟΣ, Γ. ΛΟΥΝΤΟΣ, Ι. ΚΑΝΔΑΡΑΚΗΣ, Α. ΓΕΚΤΙΝ, Κ. ΚΟΥΡΚΟΥΤΑΣ: "Νέα υλικά σπινθηρισμού για ανιχνευτές ιατρικής απεικόνισης" Ημερίδα Η έρευνα στο ΤΕΙ Αθήνας, 11 Ιουνίου 2014

T45) ΚΑΛΥΒΑΣ, Π. ΛΙΑΠΑΡΙΝΟΣ, Ι. ΒΑΛΑΗΣ, Γ.ΦΟΥΝΤΟΣ, Χ. ΜΙΧΑΗΛ, **Σ.ΔΑΥΙΔ**, Ι.ΚΑΝΔΑΡΑΚΗΣ "ΣΠΙΝΘΗΡΙΣΤΕΣ ΣΤΗΝ ΑΠΕΙΚΟΝΙΣΗ ΜΕ ΑΚΤΙΝΟΒΟΛΙΑ Χ: ΤΟ ΠΡΟΓΡΑΜΜΑ MISCIRLU" Ημερίδα Η έρευνα στο ΤΕΙ Αθήνας, 11 Ιουνίου 2014

T46) Μ. Γεωργίου, **Ε. Δαβίδ**, Ε. Φυσικόπουλος, Π. Γεωργούλιας, Γ. Λούντος, “Απεικόνιση Του Καρκίνου Του Μαστού Με Εξειδικευμένη γ-Κάμερα” 15ο Πανελλήνιο Συνέδριο Ογκολογίας, Divani Caravel, 13 – 15 Νοεμβρίου 2009

T47) Eleftherios Kefalidis, Kandarakis Ioannis, **Stratos David** "Development of a submillimeter portable gamma-ray imaging detector, based on a GAGG:Ce - silicon photomultiplier array" Engineering of Scintillation Materials and Radiation Technologies" (ISMART 2018) from 9 to 12 October 2018 in Minsk, Belarusian State University (Minsk, Belarus)

T48) Konstantinos Adamis, Alexander Metallinos, Ioannis Kandarakis, **Stratos David** "Evaluation of a small field of view personal Gamma Spectrometer under  $^{137}\text{Cs}$  irradiation conditions" Engineering of Scintillation Materials and Radiation Technologies" (ISMART 2018) from 9 to 12 October 2018 in Minsk, Belarusian State University (Minsk, Belarus).

T49) **S. David** "Evaluation of a small Gamma Spectrometer under  $^{137}\text{Cs}$  irradiation conditions for homeland security applications" 5th FAST annual Meeting of EU COST program Marousi Attica September 2018

T50) **S. David** "Novel Nuclear Medicine Imaging Detectors" Series of Seminars on: SCINTILLATOR DETECTORS: from Theory to Applications (Medicine, Security, High Energy Physics and Engineering) Università Politecnica delle Marche, Ancona, Italy, 2018

T51) **S. David**, C. Michail, I. Seferis, I. Valais, G. Fountos, P. Liaparinos, I. Kandarakis and N. Kalyvas,, “Evaluation of  $\text{Gd}_2\text{O}_2\text{S}:\text{Pr}$  granular phosphor properties for x-ray mammographic imaging”, 17th international conference on luminescence and optical spectroscopy of condensed matter (ICL2014), Wroclaw, 13-18 July, 2014.

T52) **S. David**, "Dedicated Nuclear Medicine planar detectors: From radiation detection to the final image" Series of Seminars on: Scintillator Detectors: from Theory to Applications (Medicine, Security, High Energy Physics and Engineering). May 7th 2019, Università Politecnica delle Marche, Ancona, Italy, 2019

T53) Spyridon Mitropoulos, Andrews Amerikanos, **Stratos David**, Ioannis Sianoudis, Katerina Skouroliahou, "Blue light reducing software applications for mobile phone screens: Measurement of spectral characteristics and biological parameters", International Conference on Radiation Applications (RAP 2019), 16–19 September, Belgrade, Serbia, 2019

T54) A. Kaloudi., **S. David**, N. Kalyvas, D. Rimpas, A. Skouroliahou, "Infrared imaging of venipuncture sites: An evaluation of effectiveness on vein visualisation", International Conference on Radiation Applications (RAP 2022), 6-10 June, Thessaloniki, Greece, 2022

T55) K. Kyrikos, **S. David**, I. Kalatzis, T. Chrysikos, A. Skouroliakou "Infrared thermography as a measure of emotion response", International Conference on Radiation Applications (RAP 2022), 6-10 June, Thessaloniki, Greece, 2022

T56) Potiriadis Nikolaos, Georgy A. Dosovitskiy, Iliia Komendo, Stoggianos Marios, Liaparinos Panagiotis, Skouroliakou Aikaterini, David Stratos, "Spectral matching factors calculations among (Gd,Y)3(Al,Ga)5O<sup>12</sup> fluorescent screens with varying activators and photodetectors used in Medical Imaging.", International Conference on Radiation Applications (RAP 2023), 29 May-2 June, Anavyssos, Attica, Greece, 2023

T57) Agathi Kaloudi, David Stratos, Nektarios Kalyvas, Ioannis Kalatzis, Aikaterini Skouroliakou "Infrared thermographic imaging of the human lower limb.", International Conference on Radiation Applications (RAP 2023), 29 May-2 June, Anavyssos, Attica, Greece, 2023

T58) Dimitris Glotsos, Emmanouil Athanasiadis, Efstratios David, Panagiotis Liaparinos, Spiros Kostopoulos "Bringing education closer to the labor-market: The biomedical engineering example.", 7th International Conference on Advanced Research in Education, Teaching, and Learning (ARETL), 17-19 March 2023, Berlin, Germany

### Invited Lectures

At International Exhibition of Medical & Hospital Machinery & Equipment, Consumptions and Services, Athens, Greece

- *MEDICEXPO 15-18 March 2006*
- *MEDICEXPO 15-18 March 2007*
- *MEDICEXPO 27-30 March 2008*
- *MEDICEXPO 3-5 April 2009*
  
- Invited speaker on 8th European Conference on Medical Physics (ECMP2014), Athens, Greece, September, Workshop on Biomedical Instrumentation and Related Engineering and Physical Sciences, Saturday September 13th, 2014. Presentation title: Novel Nuclear Medicine Imaging Detectors.
  
- Invited speaker of the seminar: Scintillator Detectors: from Theory to Applications (Medicine, Security, High Energy Physics and Engineering). Università Politecnica delle Marche, Italy, 2018.
  
- Invited speaker of the seminar: 5th FAST annual Meeting of EU COST program. Presentation title: "Evaluation of a small Gamma Spectrometer under 137Cs irradiation conditions for homeland security applications" Marousi Attica September 2018
  
- Invited speaker of the seminar: Scintillator Detectors: from Theory to Applications (Medicine, Security, High Energy Physics and Engineering). "Dedicated Nuclear Medicine planar detectors: From radiation detection to the final image". May 7th 2019, Università Politecnica delle Marche, Italy 2019

### Referee

- External evaluator of the Phd Thesis of Pier Paolo Natali with title: Methods and Measurement Systems in Photoelastic Analysis of Scintillating Crystals. PWO and LYSO Crystals του Università Politecnica delle Marche Dipartimento di Ingegneria Civile, Ambientale, Edile e Architettura - Ancona, Italy.
- Guest Editor (Special Issue) "Scintillators for Medical Imaging Applications" του περιοδικού Crystals (IF:2.016), 2020
- Guest Editor (Special Issue) "Scintillator & Phosphor Materials" του περιοδικού Crystals

- (IF:2.589). Guest Editors: David Stratos, Kandarakis Ioannis & Prof. Dr. Jung-Yeol Yeom
- Guest Editor του ειδικού τεύχους (Special Issue) "Luminescence Properties of Crystalline Materials" του περιοδικού Crystals (IF: 2.670). Guest Editor: David Stratos
  - Editorial Board of the Journal: [Engineering, Technology & Applied Science Research \(ETASR\)](#)
  - Member of the scientific committee of the Conference: [Bio-Medical Instrumentation and related Engineering and Physical Sciences \(BIOMEPE\)](#), Department of Medical Instruments Technology, TEI of Athens, June 21-22, 2013
  - Member of the scientific committee of the Conference: [Bio-Medical Instrumentation and related Engineering and Physical Sciences \(BIOMEPE\)](#), Department of Medical Instruments Technology, TEI of Athens, June 18-20, 2015
  - **Session Chairman** 'Workshop on Bio-Medical Instrumentation and related Engineering And Physical Sciences Technological Educational Institute of Athens, Friday 6 July 2012'
  - **Session Chairperson** 'BIOMEPE 2015- Conference on Bio-Medical Instrumentation and related Engineering and Physical Sciences 2015'
  - Member of the organizing and scientific committee of the international Advances in Biomedical Sciences, Engineering and Technology conference (ABSET 2023), Department of Biomedical Engineering, University of West Attica, June 10-11, 2023

#### Scientific Journals

- IEEE Sensors
- Journal of Alloys and Compounds (JALCOM)
- Physica Medica (European Journal of Medical Physics)
- Physics in Medicine and Biology
- Radiation Measurements –RADMEAS
- Radiation Physics and Chemistry
- Engineering, Technology & Applied Science Research (ETASR)
- IEEE Transaction on Nuclear Science – TNS
- Merit Research Journal of Medicine and Medical Sciences
- International Journal of Applied Ceramic Technology
- e-Journal of Science & Technology, (*e-JST*)
- Journal of Applied Ceramic Technology of American Ceramic Society
- Journal of Imaging (J Imaging)

#### Scientific conferences

- International Conference on Physics, Mathematics and Statistics
- Journal of Physics Conference Series
- University of West Attica, Biomedical Engineering Department on BIOMEPE Conferences

#### Collaborations

- Institute of Radioisotopes & Radiodiagnostic Products, National Center for Scientific Research "Demokritos"
- Medical School, University of Patras
- Institute of Radioisotopes and Radiodiagnostic Products» of «Demokritos» N.C.S.R
- Medical School of University of Thessalia
- Radiotherapy department of Metropolitan Hospital,
- Nuclear Medicine Department of Evangelismos Hospital
- Università Politecnica delle Marche, Ancona (Italy)
- University of Rome "La Sapienza" (Italy)

#### Grants // Excellence

**Trainee Grant 2011** (500 €) IEEE Nuclear Science Symposium and Medical Imaging Conference Workshop on Room Temperature Semiconductor X-Ray and Gamma-Ray Detectors for the work entitled "Initial results on SiPM array based on a symmetric resistive voltage division readout"

**Trainee Grant 2013** (350 \$) IEEE, Nuclear Science Symposium, Medical Imaging Conference, Seoul Oct 27 - Nov 2, Korea, 2013 for the work: E. Fysikopoulos, M. Georgiou, N. Efthimiou, S. David, G. Loudos, G. Matsopoulos, "FPGA Electronics for Dual Head PET Detectors"

**Academic and Scientific Excellence** of the Secretary General of the Ministry of Education for contributing to the distinguished scientific work in **“Evaluation of Medical Imaging Detectors. Effect of fluorescent materials on detector performance”**

**Academic and Scientific Excellence** of the Secretary General of the Ministry of Education for contributing to the distinguished scientific work in **“Molecular Imaging Technology and Applications in Medicine”**

### Languages

- Greek (mother language)
- English

### Research interests

- Single crystal scintillators/ Phosphor screens
- X-ray/ Gamma ray imaging / Small animal imaging
- Instrumentation of dedicated imaging systems based on PSPMTs and SiPMs
- Gamma-spectroscopy detectors

### Free time activities

- Chess-player: Member of the team T.I.F.O.N, N.Iraklio, Athens, Greece.
- Photography: Participation in exhibitions (1997-1999), Vila Stella gallery, Athens, Greece.
- Travels, music, literature, philosophy.

## APPENDIX OF CITATIONS

<b>CITATIONS FROM OTHER RESEARCHERS</b> <b>According to Scopus Citation Index και Google Scholar.</b>	
All	<b>644</b> (Scopus) / <b>960</b> (Google Scholar)
h index Scopus	<b>15</b> (Exclude self citations)

1) D. Nikolopoulos, I. Kandarakis, D. Cavouras, I. Valais, D. Linardatos, C. Michail, **S. David**, A. Gaitanis, C. Nomicos, A. Louizi, "Investigation of radiation absorption and X-ray fluorescence properties of medical imaging scintillators by Monte Carlo methods" *Nucl. Instrum. Methods Phys. Res. A*, Vol. 565, pp. 821-832, 2006.

### **(Αναφορές: 7)**

- 1) Research progress of (Y, Gd)<sub>2</sub>O<sub>3</sub>:Eu scintillator Shen, S.-F., Ma, W.-M., Wen, L., Guo, Y.-F., Yin, K., Wang, H.-D. 2009 Rengong Jingti Xuebao/Journal of Synthetic Crystals 38 (2), pp. 465-470
- 2) D. Nikolopoulos, N. Kalyvas, I. Valais, X. Argyriou, E. Vlamakis, T. Sevvos and I. Kandarakis, A semi-empirical Monte Carlo based model of the Detector Optical Gain of Nuclear Imaging scintillators, (2012) JINST 7 P11021.
- 3) A GATE Simulation Study of the Siemens Biograph DUO PET/CT System, Dimitrios Nikolopoulos, Sofia Kottou, Nikolaos Chatzisavvas, Xenophon Argyriou, Emannouel Vlamakis, Panayiotis Yannakopoulos, Anna Louizi, OJRAd> Vol.3 No.2, 2013, 56-65 DOI: 10.4236/ojrad.2013.32009
- 4) D. Nikolopoulos, C. Michail, I. Valais, P. Yannakopoulos, S. Kottou, G. Karpetas, G. Panayiotakis, GATE Simulation of the Biograph 2 PET/CT Scanner, (2014) J Nucl Med Radiat Ther 5:201.
- 5) Bhatia Navnina, Tisseur David, Valton Solene, Létang Jean Michel, Separable scatter model of the detector and object contributions using continuously thickness-adapted kernels in CBCT, Journal: Journal of X-Ray Science and Technology, pp. 1-10, 2016, DOI: 10.3233/XST-160583.
- 6) N Bhatia: Scattering correction in cone beam tomography using continuously thickness-adapted kernels
- 7) Panayotis H. Yannakopoulos, D. Nikolopoulos, E. Petraki, D. Tseles «Digital Radiation Sensors and Nanosensory Systems» *Nuclear Radiation Nanosensors and Nanosensory Systems* pp 9-18

02) **S. David**, C. Michail, I. Valais, D. Nikolopoulos, P. Liaparinis, N. Kalivas, I. Kalatzis, N. Efthimiou, A. Toutountzis, G. Loudos, I. Sianoudis, D. Cavouras, N. Dimitropoulos, C.D. Nomicos, I. Kandarakis and G.S. Panayiotakis, "Efficiency of Lu<sub>2</sub>SiO<sub>5</sub>:Ce (LSO) powder phosphor as X-ray to light converter under mammographic imaging conditions", *Nucl. Instrum. Meth. A*, Vol. 571, No. 1-2, pp.346-349, Feb. 2007.

### **(Αναφορές: 7)**

- 1) Adrianos Toutountzis, Nikolaos Stathonikos, Giorgos Fountos, Giorgos Nikiforidis, Ioannis Kandarakis, Dual energy mammography: evaluation of scintillators for x-ray detectors using a signal to noise ratio model, e-Journal of Science & Technology (e-JST), 2009 4(1), 1-9
- 2) Investigation of optical and imaging characteristics of fluorescent screens for use in digital imaging detectors suitable for telemedicine Michail C. PhD Thesis, University of Patras, Greece, 2010
- 3) C. Michail, I. Valais, I. Seferis, N. Kalyvas, G. Fountos and I. Kandarakis, Experimental Measurement of a High Resolution CMOS Detector Coupled to CsI Scintillators under X-ray Radiation, (2015) Radiat Meas.74:39-46
- 4) C. Michail, I. Valais, N.Martini, V.Koukou, N. Kalyvas, A. Bakas, I. Kandarakis and G. Fountos, Determination of the Detective Quantum Efficiency (DQE) of CMOS/CsI Imaging Detectors following the novel IEC 62220-1-1:2015 International Standard (2016) Radiat Meas.
- 5) Panayotis H. Yannakopoulos, D. Nikolopoulos, E. Petraki, and D. Tseles, Digital Radiation Sensors and Nanosensory Systems, Nuclear Radiation Nanosensors and Nanosensory Systems, Chapter 2, (2016) P.J. Kervalishvili, P.H. Yannakopoulos (eds.), DOI 10.1007/978-94-017-7468-0\_2
- 6) Toutountzis, A. E., Stathonikos, N., Fountos, G. P., Nikiforidis, G. C. & Kandarakis. I.S. (2009) Dual energy mammography: evaluation of scintillators for X-ray detectors using a signal to noise ratio model. "e-Journal of Science & Technology".



- 7) Exploring the processing parameters for the preparation of luminescent lutetium oxyorthosilicate polycrystalline ceramics for gamma-ray detection. Pearson, Brett S. University of Nevada, Reno, ProQuest Dissertations Publishing, 2008. 1460769.
- 03) C. Michail, **S. David**, P. Liaparinis, I. Valais, D. Nikolopoulos, N. Kalivas, A. Toutountzis, I. Sianoudis, D. Cavouras, N. Dimitropoulos, C. D. Nomicos, K. Kourkoutas, I. Kandarakis, G. S. Panayiotakis. "Evaluation of the imaging performance of LSO powder scintillator for use in x-ray mammography", *Nucl. Instrum. Meth. A*, Vol. 580, pp.558-561, 2007.

**(Αναφορές: 17)**

- 1) Adrianos Toutountzis, Nikolaos Stathonikos, Giorgos Fountos, Giorgos Nikiforidis, Ioannis Kandarakis, Dual energy mammography: evaluation of scintillators for x-ray detectors using a signal to noise ratio model, *e-Journal of Science & Technology (e-JST)*, 2009 4(1), 1-9
- 2) Investigation of optical and imaging characteristics of fluorescent screens for use in digital imaging detectors suitable for telemedicine Michail C. PhD Thesis, University of Patras, Greece, 2010.
- 3) C. M. Michail, G. P. Fountos, I. G. Valais, N. Kalyvas, P. Liaparinis, I. S. Kandarakis, G. S. Panayiotakis (2011) Evaluation of the red emitting Gd<sub>2</sub>O<sub>2</sub>S:Eu powder scintillator for use in indirect X-ray digital mammography detectors, *IEEE Trans. Nucl. Sci.* 58(5):2503-2511.
- 4) R.K. Gartia a, Th. Tejkumar Singh a, Th. Basanta Singh Optically stimulated luminescence (OSL) of Lu<sub>2</sub>SiO<sub>5</sub>:Ce powder: A preliminary study, *Nuclear Instruments and Methods in Physics Research B* 269 (2011) 30-33
- 5) Investigation and imaging characteristics of a CMOS sensor based digital detector coupled to a red emitting fluorescent screen, Seferis I, MSc Thesis, University of Patras, Greece, 2013.
- 6) Simulation of image formation in nuclear medicine imaging systems using Monte Carlo methods, Georgios E. Karpetas, PhD Thesis, University of Patras, Greece, 2013
- 7) Christos M. Michail, Nektarios E. Kalyvas, Ioannis G. Valais, Ioannis P. Fudos, George P. Fountos, Nikos Dimitropoulos, Grigorios Koulouras, Dionisis Kandris, Maria Samarakou, and Ioannis S. Kandarakis, Figure of Image Quality and Information Capacity in Digital Mammography, *Biomed Research International* (2014).
- 8) G E Karpetas, C M Michail, G P Fountos, N I Kalyvas, I G Valais, I S Kandarakis, G S Panayiotakis, A Novel Method for the Image Quality assessment of PET Scanners by Monte Carlo simulations: Effect of the scintillator, *Journal of Physics: Conference Series (JPCS)* (2014).
- 9) I Valais, C Michail, D Nikolopoulos, C Fountzoula, A Bakas, P Yannakopoulos, G Fountos, G Panayiotakis and I Kandarakis, Effect of the Concentration on the X-ray Luminescence Efficiency of a Cadmium Selenide/Zinc Sulfide (CdSe/ZnS) Quantum Dot Nanoparticle Solution, (2015) *J. Phys.: Conf. Ser.* 637 012031.
- 10) C M Michail, I E Seferis, T Sideras, I G Valais, G P Fountos, A Bakas, G S Panayiotakis and I S Kandarakis, Image Quality Assessment of a CMOS/Gd<sub>2</sub>O<sub>2</sub>S:Pr,Ce,F X-ray Sensor, (2015) *J. Phys.: Conf. Ser.* 637 012018
- 11) D. Nikolopoulos, I. Valais, Panayotis H. Yannakopoulos, C. Michail, C. Fountzoula, A. Bakas, I. Kandarakis, G. Panayiotakis, Luminescence Efficiency of Cadmium Selenide/Zinc Sulfide (CdSe/ZnS) Quantum Dot Nanoparticle Sensors Under X-Ray Excitation, *Nuclear Radiation Nanosensors and Nanosensory Systems*, Chapter 2, (2016) P.J. Kervalishvili, P.H. Yannakopoulos (eds.), DOI 10.1007/978-94-017-7468-0\_5
- 12) Panayotis H. Yannakopoulos, D. Nikolopoulos, E. Petraki, and D. Tseles, Digital Radiation Sensors and Nanosensory Systems, *Nuclear Radiation Nanosensors and Nanosensory Systems*, Chapter 2, (2016) P.J. Kervalishvili, P.H. Yannakopoulos (eds.), DOI 10.1007/978-94-017-7468-0\_2
- 13) D. Nikolopoulos, I. Valais, C. Michail, A. Bakas, C. Fountzoula, D. Cantzos, D. Bhattacharyya, I. Sianoudis, G. Fountos, P. Yannakopoulos, G. Panayiotakis and I. Kandarakis, Radioluminescence properties of the CdSe/ZnS Quantum Dot nanocrystals with analysis of long-memory trends. (2016) accepted *Radiat Meas.* 92, pp. 19-31, 2016
- 14) Michail, C. , Karpetas, G. , Kalyvas, N. Information capacity of positron emission tomography scanners (2018) *Crystals*
- 15) Saatsakis, G. , Valais, I. , Michail, C. Preliminary Study of ZnS:Mn<sup>2+</sup> Quantum Dots Response under UV and X-Ray Irradiation (2017) *Journal of Physics: Conference Series*
- 16) Saatsakis, G. , Valais, I. , Michail, C. Preliminary Study of ZnS:Mn<sup>2+</sup> Quantum Dots Response under UV and X-Ray Irradiation (2017) *Journal of Physics: Conference Series*
- 17) Michail, C., Karpetas, G.E., Fountos, G.P., (...), Kandarakis, L.S., Panayiotakis, G.S. A novel method for the optimization of positron emission tomography scanners imaging performance *Hellenic Journal of Nuclear Medicine* 19(3), pp. 231-240

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