

**PERSONAL
INFORMATION:**

Paraskevi Kavatzikidou

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Gender: Female | Date of Birth: 29 April 1977

PROFILE Passionate and goal-driven biomedical / clinical engineer of increasingly responsible experience, technical activities, highly educated-specializing in R&D in the fields of Biomaterials development and in-vitro characterization and Tissue Engineering related projects at European and National level. Experienced Engineer in developing metallic or polymeric scaffolds and coatings at micro-and nano-scale and the in-vitro materials' assessment as part of the biocompatibility evaluation of medical products specifically for orthopaedic/cartilage and nerve applications. Project management and team leadership skills obtained while working at postgraduate level on successful mainly R&D projects in University of Liverpool, UK in Giltech Ltd., Ayr, Scotland, in Stryker Orthopaedics, UK, Dept. of Physics, Aristotle University of Thessaloniki, and currently in the Institute of Electronic Structure and Laser (IESL), Foundation for Research and Technology-Hellas (F.O.R.T.H.), Greece.

EDUCATION:

- 2008** **PhD** in Clinical Engineering, BBSRC Case Studentship, Faculty of Medicine, University of Liverpool, UK in collaboration with Giltech Ltd and Stryker.
Thesis Title: "Ceramics and Metals processed by Selective Laser Melting (SLM): Biological and Physicochemical properties"
- 2001** **MSc** in Medical Engineering of the Dept. of Clinical Engineering, Faculty of Medicine, University of Liverpool, UK
Dissertation Title: A biodegradable glass / ceramic biomaterial"
- 2000** **BEng** in Medical Engineering, Dept of Mechanical Engineering, University of Bradford, UK
Undergraduate Thesis: "Evaluation of fretting wear of implants and their effect on biocompatibility"

WORK EXPERIENCE

- 2014-PRESENT** *Current Position: Postdoctoral Researcher*
Institute of Electronic Structure & Laser (IESL) - Foundation for Research and Technology Hellas (FORTH), Heraklion, Crete, Greece
My main Research activities are related with:
- Fabrication of polymeric (biodegradable and synthetic) replicas from ultrashort laser irradiated metallic structures
 - Evaluation of morphological and surface properties of the laser irradiated structures and their replicas
 - In-vitro evaluation of biological properties of materials such as cytotoxicity, cell adhesion, focal adhesion points, proliferation and differentiation with biological assays in immortalized and primary cell lines and the use of microscopes (optical and fluorescence microscopes, and Confocal Laser Microscope).
 - Evaluation of degradation properties of biodegradable polymeric materials.
- Others activities are:*
- Participation in the preparation of research proposals (writing, organizing the consortium, implementation) of National (Greek-Israeli Collaboration Calls) and European Funded Research Programs under the Horizon Framework (FET-OPEN, FET-PROACTIVE) the EuroNanomed Call.

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- Participation in the implementation and running of research projects (eg deliverables, participation in consortium & technical meetings) such as National Funding Scheme 'RESEARCH – CREATE – INNOVATE' with project code:T1EDK-02024, MIS:5030238 (EOF); Bilateral Cooperation Program Greece-Israel with project code: T5ΔΙΣ-00150 (CORI); and Horizon 2020 – European Funding with NFFA project.
 - Seeking new research activities and collaborations related with materials developed by Ultrashort laser irradiation either at National level, or European and International opportunities (eg USA and Australia).
 - Organization of Workshops or Conferences such as the 1st International Conference on Nanotechnologies and Bionanoscience (NanoBio 2018) (<https://nanobioconf.com/>).

2008-2014 *Previous Position: Postdoctoral Researcher*

Lab of "Thin Films - Nanosystems & Nanometrology (LTFN)", Physics Department, Aristotle University of Thessaloniki, Thessaloniki, Greece

My main Research activities were related with:

- Fabrication of thin films from biodegradable and synthetic polymeric materials by wet methods (spin coating, electrospinning)
- Evaluation of morphological and surface properties of biomaterial and nanostructures.
- In-vitro evaluation of biological properties of materials such as cytotoxicity, cell adhesion proliferation and differentiation with biological assays and the use of microscopes (optical and fluorescence microscopes, Scanning Electron Microscope).
- Evaluation of degradation properties of biodegradable polymeric materials.

Others activities were:

- Participation in the preparation of research proposals (writing, organizing the consortium, implementation) and the coordination of National and European Funded Research Programs under the FP7 Framework
- Participation in the management of an International Network related with Nanosciences and Nanotechnologies (NanoNet) www.nano-net.gr
- Organization of the annual International Conference on Nanosciences and Nanotechnologies (NN) www.nanotexnology.com
- Reviewer of research related papers from conferences (proceedings) and regular papers in 3 International scientific Journals.

2010-2014 *Teaching Activities: Teaching/MSc Thesis Supervision in the Postgraduate Program on Nanosciences & Nanotechnologies (N&N)*

Dept of Physics, Aristotle University of Thessaloniki, Greece

- N&N Course on Biomedical Engineering and Biomaterials mainly focusing on Tissue Engineering, Interactions between materials and cells
- Supervisor in 6 MSc theses from the N&N course

2006 *Teaching Activities: Teaching and Practical work during the PhD*

Dept of Clinical Engineering in University of Liverpool, UK

This activity was related with the use of SEM and the in-vitro cellular based techniques and generally operation of cell lab facilities to postgraduate students (MSc level).

2002-2004 *Research Associate of Teaching Company Scheme (TCS)*

Clinical Engineering (University of Liverpool-UoL) and Giltech Ltd, Ayr, Scotland

My main Research activities were related with:

- Responsible Person for the Research Study: "Preclinical studies to develop temporary implants based biodegradable calcium phosphates for regeneration of nerve, tendon, bone, skin and temporary link."
- Collaboration with the company Giltech Ltd where all samples were developed and Clinical Engineering Department (UoL) where all the biocompatibility assessment was performed.
- Development of the samples in different physical forms.
- Training in the manufacture and production of samples and on in-vitro cell studies
- Preparation of technical files and Standard Operating Procedures (In collaboration with the Director of the Division of Quality).

- Participation in seminars for proper handling and organization of time and study / work (Project & Time Management skills).

**PUBLICATIONS,
PRESENTATIONS &
INVITED TALKS**

Publications/Chapter

1. *Novel nanostructured biomaterials: Implications for coronary stent thrombosis*
V. Karagkiozaki, P.G. Karagiannidis, N. Kalfagiannis, P.Kavatzikidou, P. Patsalas, D.Georgiou, S.Logotheidis; Int J Nanomedicine. 2012; 7: 6063–6076. [doi: 10.2147/IJN.S34320].

2. *Bioelectronics meets nanomedicine for cardiovascular implants:PEDOT- based nanocoatings for tissue regeneration*

V. Karagiozaki; P. G Karagiannidis; M. Gioti; P. Kavatzikidou; D. Georgiou; E. Georganaki; S. Logotheidis; BBA, 2013, 1830:9, 4294–4304 [doi.org/10.1016/j.bbagen.2012.12.019].

3. *Nanoscaffolds and Other Nano-Architectures for Tissue Engineering–Related Applications (Bone and Cartilage, Cardiac and Nerve)*

Paraskevi Kavatzikidou and Stergios Logotheidis, Horizons in Clinical Nanomedicine, Edited by Varvara Karagkiozaki and Stergios Logotheidis, Copyright © 2014 Pan Stanford Publishing Pte. Ltd., ISBN 978-981-4411-56-1 (Hardcover), 978-981-4411-57-8 (eBook).

4. *In-vitro immunocompatibility and characterization at nanoscale of thin films and vascular medical devices,*

M. Janjic, P. Kavatzikidou, V. Karagkiozaki, N. Kalfagiannis, P. Patsalas, M. Seitanidou, D. Georgiou, E. Pavlidou, T. CholiPapadopoulou, S. Logotheidis, International Journal of Advanced Research (IJAR), 2017, 5(10):1926-1936 [DOI10.21474/IJAR01/5720]

5. *Engineering cell adhesion and orientation via ultrafast laser fabricated microstructured substrates*

E Babaliari, E Kavatzikidou, D Angelaki, L Chaniotaki, A Siakouli, A Manousaki, A Ranella *, Emmanuel Stratakis *, The International Journal of Molecular Sciences Int J Mol Sci. 2018 Jul; 19(7): 2053 [doi: 10.3390/ijms19072053]

Presentations from Selected Conferences_Previous positions

1. *Manufacture of 3D scaffolds by means of Selective Laser Melting (SLM) of Controlled Release Glass (CRG) powders.*

P. Kavatzikidou, R. Stamp, C. Sutcliffe, E. Jones, P.J. Doherty, R. Black, D. Healy, T. Gilchrist, Poster at European Society of Biomaterials (ESB) in Nantes, France, September 2006.

2. *Manufacture of 3D scaffolds by means of Selective Laser Melting (SLM) of Controlled Release Glass (CRG) powders.*

P. Kavatzikidou, P.J. Doherty, R. Black, D. Healy, T. Gilchrist, Poster at European Society of Biomaterials (ESB) in Nantes, France, UK Centre for Tissue Engineering (UKCTE) meeting in Manchester, February 2007

3. *Initial Stages of Biological Evaluation of Titanium Diboride Thin Films: Cytotoxicity, Cell Adhesion and Blood Plasma Protein Adsorption Analysis*

P. Kavatzikidou, S. Lousinian, N. Kalfagiannis, S. Logotheidis, E. Pavlidou, T. Choli-Papadopoulou; Poster Presentation in 6th International Conference on Nanosciences and Nanotechnologies (NN09), July 2009

4. *Cytotoxicity of biomedical coatings*

P. Kavatzikidou, SS-NN09 Lecturer in the Nanobiotechnology and Nanomedicine Session in 3rd International Summer School on Nanosciences and Nanotechnologies (SS-NN09)

5. *Evaluation of the cytotoxicity of amorphous hydrogenated carbon thin films developed by PECVD*

P. Kavatzikidou, S. Lousinian, S. Logotheidis, P. Patsalas, T. Choli-Papadopoulou, E. Pavlidou; Poster Presentation of the 1st Conference of the Hellenic Society of Biomaterials and the Dept of Orthopaedic Research (EEXOT), 27-29 November 2009, Athens, Greece

6. *Biological Evaluation of Nanocoatings: Analysis of Cytotoxicity and Proliferation*

P. Kavatzikidou, S. Kassavetis, S. Logothetidis, E. Pavlidou, P. Patsalas; Oral Presentation in E-MRS 2010, Strasbourg, France

7. *Biological Evaluation of Nanocoatings: Analysis of Cytotoxicity and Proliferation*

P. Kavatzikidou, S. Kassavetis, S. Logothetidis, P. Patsalas, E. Pavlidou, T. Choli-Papadopoulou; Poster Presentation at Workshop 3: Nanomedicine in 7th International Conference on Nanosciences and Nanotechnologies (NN10), July 2010, Thessaloniki, Greece

8. *In-vitro Biological Evaluation of Nanocoatings: Analysis of Cytocompatibility and co-relation with Physical and Morphological Properties*

P. Kavatzikidou, K.G. Sakellariou, V. Karagkiozaki, S. Kassavetis, N.Kalfagiannis, D. Georgiou, P. Karagiannidis, E. Pavlidou, N.T. Panagiotopoulos, P. Patsalas, S. Logothetidis; Oral Presentation in E-MRS Spring Meeting Strasbourg (France), May 14-18, 2012, Symposium G: Functional Biomaterials.

9. *In-vitro Cytotoxicity and Cytocompatibility of nanocoatings*

P. Kavatzikidou, ISSON12 Lecturers at the Summer School: Nanomedicine in 6th International Summer School on Nanosciences and Nanotechnologies: Organic Electronics & Nanomedicine, (ISSON12), 30 June – 7 July 2012

10. *Nanofibrous scaffolds for Cartilage Regeneration: Scaffold Parameters at Nanoscale that affect Cell Function*,

Kavatzikidou P., Kotziapashi T, Karagkiozaki V, Karagiannidis P, Georgiou D, Kalfagiannis N, Pavlidou E, Logothetidis S, EMRS (European Materials Research Society) Conference 2013 Spring Meeting, SPRING 13 R: Nano-engineered bioactive interfaces, Strasbourg, France 27-31 May 2013

11. *Development of bioactive & biodegradable nanofibrous scaffolds for Tissue Regeneration*

Kavatzikidou P., Kotziapashi T, Karagkiozaki V, Karagiannidis P, Georgiou D, Gioti M, Georganaki E, Pavlidou E, Logothetidis S, ESB (European Society Of Biomechanics), Patras, Greece, 25-28 August 2013

12. *Nanostructured polymer scaffolds: "How physicochemical properties influence cell behavior*

Kotziapashi T, Kavatzikidou P., Karagkiozaki V, Ioakeimidis A, Paspali A, Pavlidou E, Logothetidis S, 10th International Conference on Nanosciences & Nanotechnologies (NN13), Thessaloniki, Greece, 9-12 July 2013

Presentations from Selected Conferences_Current position

13. *Nerve cellular behavior (adhesion, orientation/migration and differentiation) on micropatterned structures fabricated via ultrashort pulsed laser irradiation;*

P. Kavatzikidou, Ch. Simitzi, X. Yannakou, K. Karali, D. Angelaki, S. Aslanoglou, I.Charalampopoulos, C. Fotakis, A. Ranella, A. Gravanis, E. Stratakis; EMRS 2015 Spring Meeting, 11-15 May 2015, Symposium V: Bioinspired and Biointegrated Materials as Frontiers Nanomaterials At Congress Center (Grand Palais) in Lille.

14. *Nerve cellular behavior (adhesion, orientation/migration and differentiation) on micropatterned structures fabricated via ultrashort pulsed laser irradiation;*

P.Kavatzikidou*, A. Ranella¹, C. Simitzi¹, D. Angelaki^{1,2}, K. Karali^{1,2}, S. Aslanoglou¹, X. Yannakou¹, S. Spanou¹, I. Charalampopoulos², A.Gravanis^{1,2}, C. Fotakis^{1,2}, E. Stratakis¹, EU INFRASTRUCTURE project - QualityNano Conference and Training Workshop, 15th July – 17th July 2015, Heraklion, Crete, Greece

15. *The effect of micropatterned structures fabricated via ultrashort pulsed laser irradiation on Neuronal Stem Cells;*

P. Kavatzikidou, D. Angelaki, Ch. Simitzi, K. Karali, X. Yannakou, S. Aslanoglou, I.Charalampopoulos, C. Fotakis, A. Ranella, A. Gravanis, E. Stratakis, COST MP1301: Workshop COST Action MP1301 NEWGEN-New generation biomimetic and customized implants for bone engineering, 13-14 October 2015, Sofia, Bulgaria.

16. *Cellular responses on replicas of micropatterned structures fabricated via ultrashort pulsed laser irradiation;*

P.Kavatzikidou, D. Angelaki, E. Babaliari, C. Simitzi, K. Karali, A. Ranella, C. Fotakis, E. Stratakis, Summer School on Regenerative Nano-Medicine: From Advanced Delivery Systems to Electronic-Based Devices, 19-23 June, 2016 at Tel Aviv University, Israel.

17. *Cellular responses on replicas of micropatterned structures fabricated via ultrashort pulsed laser irradiation ;*

P.Kavatzikidou1*, D. Angelaki1,2, E. Babaliari1,2, C. Simitzi1, K. Karali1,2, A. Ranella1, E. Stratakis1,2 Affiliations: 1.IESL / FORTH; 2.UoC, ETPN 2016, 12-14 October 2016, Heraklion, Crete, Greece

18. *Effect of topography and chemical cues of biodegradable polymeric microstructured replicas on cellular alignment and proliferation* ;

Paraskevi Kavatzikidou1, Despina Angelaki1,2, Lefki Chaniotaki1,3, Eleftheria Babaliari1,3, Anthi Ranella1, Emmanuel Stratakis1,2, Affiliations: 1.IESL / FORTH; 2 & 3.UoC, 4th International Conference on Biomedical Polymers & Polymeric Biomaterials | 15-18 July 2018, Kraków, POLAND

19. *Influence of micro/nano-patterned surfaces on neuronal cell response*

Papadimitriou Lina1*, Karali Kanelina1, Angelaki Despoina1, 2, Lanara Christina 1, 2, Kapaj Gentjan1, Kavatzikidou Paraskevi1, Stratakis Emmanuel1, 2, Ranella Anthi1 Affiliations: 1.IESL / FORTH; 2 & 3.UoC, 1st NanoBio Conference Heraklion, 24-28, September 2018

20. *Engineering cell adhesion and orientation via ultrafast laser fabricated microstructured substrates under static and dynamic conditions*

Eleftheria Babaliari1,2*, Paraskevi Kavatzikidou1, Despoina Angelaki1,3, Anna Mitraki1,2, Anthi Ranella1, Emmanuel Stratakis1,2, Affiliations: 1.IESL / FORTH; 2 & 3.UoC, 1st NanoBio Conference, Heraklion, 24-28, September 2018

HONORS AND AWARDS

2015 Best Conference Poster Award at the EU INFRASTRUCTURE project - QualityNano Conference and Training Workshop, 15th July – 17th July 2015, Heraklion, Crete, Greece

2009 Young Reseracher/Scientist Award for the best poster presentation in Poster in 6th International Conference on Nanosciences and Nanotechnologies (NN09), July 2009

2004 BBSRC Case Scholarship for the PhD course in the Clinical Engineering, University of Liverpool

2001 Scholarship for the MSc in the Clinical Engineering, University of Liverpool

SUPERVISION OF STUDENTS

6 postgraduate students_MSc Thesis (1 year), Department of Physics, Aristotle University of Thessaloniki, Thessaloniki, Greece, 2010-2014

ORGANIZATION OF CONFERENCES, WORKSHOPS, EVENTS

Current Position: Main Role: Participation in the Coordination and Organisation

- 1st International Conference on Nanotechnologies and Bionanoscience “NanoBio 2018”, (<https://nanobioconf.com>), 24-28th September 2018, Heraklion, Crete, Greece
- 2nd Israel-Greece Joint Meeting on Nanotechnology and BioNanoscience, 25-28 October 2016, FORTH, Greece

Previous Position: Main Role: Overall Organisation & Coordination of the NN Conference

8th International Conference on Nanosciences & Nanotechnologies (NN10), Thessaloniki, Greece, 12-15 July 2011

9th International Conference on Nanosciences & Nanotechnologies (NN11), Thessaloniki, Greece, 3-6 July 2012

10th International Conference on Nanosciences & Nanotechnologies (NN13), Thessaloniki, Greece, 9-12 July 2013

11th International Conference on Nanosciences & Nanotechnologies (NN14), Thessaloniki, Greece, 8-11 July 2014

COLLABORATIONS

[1] NanoArthroChondros: Nanomaterials with bioactive agents for cartilage regeneration and treatment of Osteoarthritis, NATIONAL ACTION:«COOPERATION» SUB-ACTION I:«Small Scale Cooperative Projects» (2011-2014)

[2] Under the frame of Nanosciences Foundries & Fine Analysis-NFFA Europe Infrastructure, GrantAgreement N. 654360 (2015-2019) (www.nffa.eu)

ID 201- Biologic and morphologic characterization of electrospun nanofibers for tissue regeneration purposes, University of Parma, Italy and IESL-FORTH, January 2017

PREVIOUS PROJECTS *Previous Position*

[1] NanoArthroChondros: Nanomaterials with bioactive agents for cartilage regeneration and treatment of Osteoarthritis, NATIONAL ACTION:«COOPERATION» SUB-ACTION I:«Small Scale Cooperative Projects» (2011-2014)

Current Position

[2] NANoREG: A common European approach to the regulatory testing of Manufactured Nanomaterials-assisted generation of functionalized metallic nanoparticles, European Union Seventh Framework Programme (FP7/2007-2013) under grant agreement n° 310584 (2016-2017) (www.nanoreg.eu)

[3] NanoReg2: New Framework for Safer Materials, European Union's Horizon 2020 research and innovation programme under grant agreement 646221 (2016-2019) (www.nanoreg2.eu) (Ongoing)

[4] Nanosciences Foundries & Fine Analysis-NFFA Europe Infrastructure, Grant Agreement N. 654360 (2015-2019) (www.nffa.eu) –ID 201 with University of Parma, Italy, ID 619 with University of Belgrade, Serbia

[5] National Funding Scheme 'RESEARCH – CREATE – INNOVATE' with project code:T1EDK-02024, MIS:5030238 (EOF) (Ongoing)

[6] Bilateral Cooperation Program Greece-Israel with project code: T5ΔΙΣ-00150 (CORI) (Ongoing)