**Summary**

Materials Engineer with a strong background in Metals and Ceramics that has contributed to the development of innovative products already used in advanced space technologies for four separate European Commission framework projects (FP7/ESA), as well as other such large-scale programs. Also provides Quality Assurance and Failure Analysis services to industrial clients (ISO/ASTM Standard). Has shown leadership during collaborations with industrial and research partners, possesses strong communication skills and can adapt rapidly to new working environments while ensuring that deliverables are always met, even under tight deadlines.

**Work Experience**

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| --- | --- |
| **Jan.2016-May 2018****&****May 2020 - Present** | Post-Doctoral Researcher at Institute of Nanoscience and Nanotechnology, NCSR Demokritos* Project Heliokeramos, Operational Programme Competitiveness, Entrepreneurship and Innovation 2014-2020 (EPAnEK)
* Project “Advanced ceramics for environmental protection”, E.E. 11803
* Quality Assurance and Failure Analysis industrial services (ISO/ASTM Standards)
* Project “Advanced ceramics for environmental protection”, E.E. 11803
* Project ESA/ITI Space REGS: A resistive grid TPS recession sensor, E.E. 11988
 |
| **Nov. 2010 – Dec. 2015** | Associate Researcher at Institute of Nanoscience and Nanotechnology, NCSR Demokritos* Project EU EC/ FP7 / Space "Pulcher" (“Pulsed Chemical Rocket with Green High Performance Propellants), E.E. 11751
* Project EU FP7 / Space "Rastas Spear" ( Radiation-Shapes-Thermal Protection Investigations for High Speed Earth Re-entry), E.E. 11602
 |
| **Jan. 2009 – Aug. 2010** | Materials Engineer at Pyrogenesis S.A.* Researcher in R&D department, production and quality control of products
* Nanospraying Thermal spraying of nano-phase powders
* Thermal-sprayed SiO2 nano-structured coatings for photovoltaic ceramic tiles
* Project FP7 ATLANTIS - Aerosol technologies and hierarchical assembly/ manufacturing for advanced nano-structured porous materials
 |
| **Feb. 2008 – Oct. 2008** | Supervisor for computer certificates or computer skills at Telefos companyIntegrated eLearning Solution |
| **Feb. 2007 – Nov. 2007****&****Oct. 2008 – Dec. 2009** | Secretarial support (semi-employment) at the Vocational Training Center of KEK APΕIROTAN EPE in Bafra Ioannina |
| **June 2006 – Aug.2006** | Internship in Quality Control at Plastics Thrace Pack SA, Production and distribution of polypropylene products, Ioannina |
| **July 2004 – Sept.2004** | Internship in Power Generation at Public Power Corporation SA-Hellas, in Ptolemaida’s Electric generation power plant |

**Education**

* **2015:** Awarded PhD degree - Doctoral thesis on "Synthesis of high temperature coatings with new CAFSY method.", Department of Material Science and Engineering of the University of Ioannina, 45110, Greece
* **2010:** Awarded the MSc degree in "Chemistry and Technology of Materials" (8.38) at University of Ioannina, Dissertation on "Production and Characterization of stainless steel coatings by thermal spraying techniques 'Wire-Arc Spraying' and 'Flame Spraying'», Department of Material Science and Engineering of the University of Ioannina, 45110, Greece
* **2007:** Bachelor degree in Materials Science and Engineering (6.88), Department of material science & engineering, University of Ioannina. Research project on: “Corrosion Study of New Metallic glasses Fe- 40Ni- 20B”, Department of Material Science and Engineering, University of Ioannina, 45110, Greece

**Skills**

* **Languages:** Greek (native speaker), English (Proficiency MSU-CELP, level C2)
* **Computer:** Word, Excel, Power Point, Internet, Outlook, Access (ICT Europe), origin, autocad, grapher,
* **Laboratory:** Measurements of mechanical properties with INSTRON machines, Scanning electron microscopy (SEM), X-ray Diffraction (XRD), Self-propagating High-temperature Synthesis (SHS) and Solution Combustion Synthesis (SCS), especially for catalysts, Thermal treatments of materials, metal casting and hardening, Gas chromatography, Porosimetry measurements: specific surface area of ​​porous materials, Measurements of catalytic properties of materials, Metallographic sample preparation (cutting, grinding, polishing),, Optical Microscopy (LEICA DMLM, LEICA MW), Hardness and microhardness measurements (Buehler Micromet 2100 series), Surface roughness measurements (TIME TR200), Resistance Adhesion (Elcometer 110 PATTI), Thermal expansion, electrical properties, Salt spray (Votsch SC 450), Corrosion in various aqueous environments using galvanostat company ACM model GillAC, Critical Pitting Temperature, Thermal spraying (Flame 5P & 14E, Wire Arc, Pyrogenesis Plasma Minigun, HVOF 2700DJ), Catalytic studies: CO oxidation, diesel soot oxidation, Chemical analysis measurements (coil analysis, PH analysis, etc.), Creep resistance, ABS and PLA extruder, polymers 3D printing (creality)
* **Personal:** Collaboration talent, Communication, Time management, Leadership experience, Problem solving, Organization and prioritization, Accuracy and attention to detail, Adaptability and flexibility, transferable skills in lab

**Research Skills**

* Innovative research for space and industry
* Implementation and reporting of experimental results
* Project management, documentations (deliverables, milestones)
* Writing of scientific publication and reports
* Advanced techniques for metals, alloys and ceramics and characterization
* New metallurgical technologies
* High temperature processes in metals and alloys
* Advanced coatings (metal-ceramic, carbides, nanostructured)
* Quality Assurance and Failure analysis (ISO/ASTM Standard)
* Experience in polymers processing and nanomaterials

**Publications**

* G. Vekinis, A.Marinou, A sensor for real-time monitoring of the recession of ablative heat shields of space capsules, Journal of Sensors, under review
* A. Marinou, A. Lekatou, G. Xanthopoulou, G. Vekinis Electrochemical behaviour of Ni-Al coatings produced by CAFSY method in 3.5%NaCl aqueous solution, submitted at Journal of Corrosion Science and Engineering, under review
* G. Xanthopoulou, A. Marinou, K. Karanasios, G. Vekinis, Combustion Synthesis during Flame Spraying (“CAFSY”) for the Production of Catalysts on substrates, Coatings 2017, 7(1), 14
* K. Triantou, B. Perez, A. Marinou, S. Florez, K. Mergia, G. Vekinis, J. Barcena, W. Rotärmel, C. Zuber, Àgnes de Montbrun, Performance of cork and ceramic matrix composite joints for re-entry thermal protection structures, Journal of Composites Part B (Elsevier), Volume 108, 1 January 2017, Pages 270–278
* A. Marinou, G. Xanthopoulou, G.Vekinis, A. Lekatou, M. Vardavoulias, Synthesis and Heat Treatment of Sprayed High-Temperature NiAl-Ni3Al Coatings by In- Flight Combustion Synthesis (CAFSY), Int. J. Self-Propag. High-Temp. Synth., October 2015, Vol. 24, No. 4, pp. 192–201
* Jorge Barcena, Sonia Florez, Beatriz Perez, Gregory Pinaud, Jean-Marc Bouilly, Wolfgnag Fischer, Agnes de Montbrun, Christian Zuber, Waldermar Rotaerme, Hermann Hald, Celeste Pereira, Konstantina Mergia, Kostoula Triantou, George Vekinis, A. Marinou, Cristina Ban, Adriana Stefan, Vincent Leroy, Dominque Bernard, Bartomeu Massuti and Georg Herdrich, HYBRID ABLATIVE/CERAMIC THERMAL PROTECTION SYSTEM: MISSION, MATERIALS SELECTION, INTERFACE DEVELOPMENT AND VERIFICATION APPROACH, 13th International Symposium on Materials in the Space Environment, 22-26 June 2015, Pau, France, p. 256-265
* K. Triantou, K. Mergia, A. Marinou, G. Vekinis, J. Barcena, S. Florez, B. Perez, G. Pinaud, J.-M. Bouilly, W. P. P. Fischer, Novel Hybrid Ablative/Ceramic Layered Composite for Earth Re-entry Thermal Protection: Microstructural and Mechanical Performance, Journal of Materials Engineering and Performance, Volume 24(4), April 2015, p. 1452-1461
* G. Xanthopoulou, A.Marinou, G.Vekinis, A. Lekatou, M. Vardavoulias, Ni-Al and NiO-Al Composite Coatings by Combustion-Assisted Flame Spraying, Coatings 2014, 4, p. 231-252
* A. Lekatou, A. Marinou, P.A. Patsalas, M.A. Karakassides, Aqueous Corrosion Behaviour of Fe-Ni-B Metal -Glasses, Journal of Alloys and Compounds, Volume 483, Issues 1-2, 26 August 2009, Pages 514-518

**Conferences**

* A. Marinou, O. Thoda, G. Xanthopoulou, G. Vekinis, Ni-based catalytic coatings synthesized by in-flight SCS during flame spraying, XIV International Symposium on SHS, p. 292-295, September 25-28, 2017, Tbilisi, Georgia
* K. Papadopoulos, A. Marinou, G. Xanthopoulou, G. Vekinis, M. Karakasidis, Soot oxidation using chromium-based SCS catalysts applied on a magnesia-spinel carrier by flame spraying, XIV International Symposium on SHS, p. 304-307, September 25-28, 2017, Tbilisi, Georgia
* A. Marinou, G. Vekinis, Multi-layered ceramic composites for a small rocket combustion chamber, Euromat 2017, Symposium A.6, A6-O-FRI-PM1, September 17-22, 2017, Thessaloniki, Greece
* K. Papadopoulos, A. Marinou, G. Xanthopoulou, G. Vekinis, Flame-sprayed nano-structured coatings using powders produced by Solution Combustion Synthesis, Euromat 2017, Symposium A.7, A7-I-P-TUE-P1-13, September 17-22, 2017, Thessaloniki, Greece
* A. Marinou, G. Vekinis, The new ReGS TPS recession sensor, 14th International Planetary Probe Workshop, June 12–16, 2017/ The Hague, The Netherlands
* B. Massuti-Ballester, A.S. Pagan, G. Herdrich, G. Vekinis, A. Marinou, Ch. Zuber, H. Ritter, Experimental evaluation of an in-flight surface recession sensor for ablative thermal protection systems, 14th International Planetary Probe Workshop, June 12–16, 2017/ The Hague, The Netherlands
* G. Georgiopoulos, A. Marinou and G. Vekinis, A simple FEA model of the recession of a ZURAM ablator containing an embedded ReGS sensor, 14th International Planetary Probe Workshop, June 12–16, 2017/ The Hague, The Netherlands
* K. Papadopoulos, A. Marinou, G. Xanthopoulou, G. Vekinis, M.Karakasidis, Soot oxidation using chromium-based SCS catalysts applied on a magnesia-spinel carrier by flame spraying, [XIV International Symposium on Self-Propagating High Temperature Synthesis (SHS)](http://mmi.ge/shs2017/), September 25 – 28, 2017, Tbilisi, Georgia
* A. Marinou, O. Thoda, G. Xanthopoulou, G. Vekinis, Ni-based catalytic coatings synthezised by in-flight SCS during flame spraying, [XIV International Symposium on Self-Propagating High Temperature Synthesis (SHS)](http://mmi.ge/shs2017/), September 25 – 28, 2017, Tbilisi, Georgia
* Α. Μαρίνου, Α. Λεκάτου, Γκ. Ξανθοπούλου, Γ. Βεκίνης, Μ. Βαρδαβούλιας, Σύνθεση επικαλύψεων Ni-Al με τη νέα μέθοδο CAFSY και η ηλεκτροχημική συμπεριφορά σε υδατικό διάλυμα 3.5% NaCl, 6ο Πανελλήνιο Συνέδριο μεταλλικών υλικών, 503-504
* G. Xanthopoulou, A. Marinou, K. Karanasios and G. Vekinis, Study of catalytic activity of coatings produced by CAFSY method in dry reforming of methane , International Symposium of SHS, 12-15 October 2015, Antalia, Turkey, p. 187-188
* A. Marinou, K. Karanasios, G. Xanthopoulou, G. Vekinis, D. Vrel, Influence of mechanochemical treatment of Ni+Al powder mixtures on physical and catalytic properties of coatings produced by “CAFSY” method, International Symposium of SHS, 12-15 October 2015, Antalia, Turkey, p.186-187
* A. Marinou, G. Xanthopoulou and G. Vekinis, High quality intermetallic coatings produced by Combustion-Assisted Flame SpraYing (“CAFSY”) of base metal powders, EuroMat2015, 20-24 September 2015, Warsaw, Poland
* A. Marinou, G. Vekinis, G. Xanthopoulou, “A multilayered radiatively cooled rocket combustion chamber”, METECH14 Metallurgical Materials and Structures Conference, November 2014, Istanbul
* A. Marinou, G. Xanthopoulou, G. Vekinis, A. Lekatou, “Aqueous corrosion of Ni-Al Composite Coatings by Combustion-Assisted Flame Spraying”, 30th Panhellenic Conference on Solid-State Physics and Materials Science , 21-24 September 2014, Heraklion, Greece
* G. Vekinis, G. Xanthopoulou and A. Marinou, ”Novel Ultra High Temperature Composites for Extreme Space Applications”, 30th Panhellenic Conference on Solid-State Physics and Materials Science , 21-24 September 2014, Heraklion, Greece
* A. Marinou, G. Xanthopoulou, G. Vekinis, A. Lekatou, M. Vardavoulias*”*Optimization of parameters for NiAl composite coatings produced CAFSY method*”* , SHS2013, 21-24 October 2013, South Padre Island,TX,USA
* G. Xanthopoulou, A.Marinou,K.Karanasios, G.Vekinis “Catalytic activity of NiAl composite coatings produced by in-flight SHS during thermal spraying”,SHS2013, 21-24 October 2013, South Padre Island,TX,USA
* A. Marinou, G. Xanthopoulou, G. Vekinis, A. Lekatou, M. Vardavoulias “Influence of thermal treatment of novel NiAl coatings produced by in-flight Combustion Synthesis”, Euromat, Seville 8-13 Sept., Spain, 2013
* G. Vekinis, A. Marinou, J.M. Bouilly, Overview of the TPS activities within “RASTAS SPEAR” project, 7th European Workshop on thermal protection systems and hot structures, 8-10April 2013, ESA-ASTEC, Noordiwijk, Netherland
* A. Marinou, G. Xanthopoulou, G. Vekinis, A. Lekatou, M. Vardavoulias, Ni-Al Composite Coatings by SHS-activated Thermal Spraying, European Workshop New Approaches to HighTemperature Coatings, 15-17 October 2012, Costa de Teguise, Lanzarote, Spain ,p.29-30
* G. Vekinis, A. Marinou, Mechanical behavior of adhesively bonded Asterm ablative TPS after Plasma-jet testing, 9th International Planetary Probe, Workshop IPPW9, 18-22 June 2012, Toulouse, France
* A. Marinou, G. Xanthopoulou, G. Vekinis, A. Lekatou, M. Vardavoulias, Ni-Al and NiO Composite Coatings by In- flight SHS during Thermal Spraying , XI International Symposium on Self-Propagating High Temperature Synthesis, 5-9 September 2011, Attica, Greece
* A. Lekatou, P. Patsalas, A. Marinou, D. Sioulas, Passivity, pseudopassivity and pit corrosion in Fe-Ni-B Metal Glasses, 9th ESG Conference “Glass- The Challenge for the 21st Century”, Trenčin- Slovakia, 22-26 June 2008
* A. Lekatou, P. Patsalas, A. Marinou, D. Sioulas, Aqueous Corrosion Behavior of Fe-Ni-B Metal Glasses, International Symposium on Metastable and Nano Materials (ISMANAM), 26-30 August 2007, Corfu Island, Greece
* A. Lekatou, P. Patsalas, A. Marinou, D. Sioulas, A. Enotiadis, Aqueous Corrosion Behaviour of Fe-Ni-B Nanostructured Alloys, European Materials Research Society (E- MRS Fall Meeting), Warsaw University of Technology, 4-8 September 2006, Poland ([*http://www.science24.com/paper/8332*](http://www.science24.com/paper/8332)*)*

**Seminars**

* **06/02/2008 - 25/06/2008**: "Technical Support and Sales Executives Computers and Networks Specializing in Computer Maintenance and Assembling of Computers and Wide-Range Networks " at KEK DELTA SA, with a duration of 250 hours