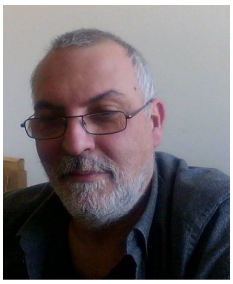
CURRICULUM VITAE



1. PERSONAL DETAILS

Name/surname: Alexander E. Karantzalis
Date of Birth: 14 June 1970
Place of Birth : Athens
Marital Status: Married, 2 children
Home Address : Zossimadon & Papaflessa St., PEDINI, Ioannina, Greece
Tel: 26510 09026 (work), 6908 673373 (Mobile)
E-Mail: akarantz@uoi.gr

2. EDUCATION & ACADEMIC TITLES

- **Diploma Metallurgy Engineering**: October 1988 - September 1993
  National Technical University of Athens, Department of Mining and Metallurgy Engineering, Athens, Hellas
  Total Mark: 8,39/10
  Diploma Thesis: Laser surface alloying of Cu coated Al by CO2 laser.
  Mark: 10/10
  Supervisor: Dr. Chris Panagopoulos
- **Master of Science (M.Sc.)** ¨Advanced Materials and Manufacturing Processes¨ October 1993 - September 1994
  University of Nottingham, Department of Materials Science and Engineering, Nottingham, United Kingdom
  Diploma Thesis: Microwave Reaction Bonded Silicon Nitride.
  Supervisor: Dr. Jon Binner
  Total MSc Mark: 67%
- **Philosophy Doctorate (Ph.D.)** Advanced Materials : October 1994 – November1997
  University of Nottingham, Department of Materials Science and Engineering, United Kingdom
  Thesis: The charasterisation of Al based MMCs manufactured by a novel stir-casting method.
  Supervisor: Dr. Andrew R. Kennedy

3. FOREIGN LANGUAGES

- English (excellent)
- French (very good)

4. PROFESSIONAL EXPERIENCE & ACTIVITY:

- **9/2019 – to date:** Associate Professor, Department of Materials Science and Engineering (D.M.S.E), University of Ioannina
- **1/2014 – 9/2019:** Assistant Professor, Department of Materials Science and Engineering (D.M.S.E), University of Ioannina
- **5/2009 – 1/2014:** Lecturer, Department of Materials Science and Engineering (D.M.S.E), University of Ioannina.

- **10/2005 – 5/2009:** Adjunct Lecturer, Department of Materials Science and Engineering, University of Ioannina.
- **12/2003 – 9/2008:** Business Consultant at the C.E.T.D (Center of Entrepreneual and Technological Development) of Western Greece Region.
- **10/2004 – 9/2005:** Laboratory collaborate, Department of Buildings Restoration, Technological Institute of Patras, Laboratory of Structural Materials.
- **3/2005 – 9/2005:** Laboratory collaborate, Department. of Materials Science, University of Patras, Materials Science I (metallography).
- **12/2001 – 12/2003:** Dept. of Research & Development Supervisor, Winterstone S.A., Diamond Cutting Tools Industry).
- **4/2001 – 12/2001:** Post Doctoral researcher at ICEHT/FORTH, GREECE, European project MEGAWIND, supervisor: Professor K.Galiotis. The project was dealing with the environmental response and is effect on the mechanical properties of fibre reinforced polymer materials.
- **1997 – 1998:** Post Doctoral researcher at Nottingham University UK and Union Miniere (Metal Powders Manufacturing Industry) Belgium, supervisor Professor J.V. Wood. The project was dealing with the development of new bond (matrix) metallic materials for the production of diamond cutting tools.

8/1992 – 10/1992: Student trainee at Firogenis S.A. solar and air conditioning

5. RESEARCH INTERESTS

- Development and characterisation of High Entropy Alloys
- Development and characterisation of Al based composite materials.
- Development and characterisation of intermetallics and intermetallic based composite materials.
- Production methods for monolithic alloys and alloy based composite materials (casting, powder metallurgy, vacuum arc melting).
- Solidification and crystal growth phenomena.
- Wear phenomena and mechanisms.
- Heat treatment of ferrous and non ferrous alloys and composites.
- Wetting phenomena.
- Grain refinement phenomena.

6. INDUSTRIAL EXPERIENCE

Sub-director of the R&D department of W.DIAMANT (ex-Winter) of the WHEELABRATOR Group of Companies.

Among the activities and the responsibilities of this position were the follows:

- Theoretical approach of the appropriate for diamond tools applications metallic alloys.
- Evaluation of metal powders (method of production, morphology, properties).
- Cold pressing behaviour of metal powders with of without the presence of diamond grains.
- Sintering behaviour of metal powders with of without the presence of diamond grains.
- Diamond grains behaviour evaluation at high temperatures.
- Diamond grains-metal matrix interface properties during sintering.
- Wear assessment of potential for cutting tools alloys.
- Wear assessment of diamond grains.
- Cutting performance evaluation of diamond tools.

- Mechanical alloying.
- Economical evaluation of diamond tool production.

During this involvement, three different metallic matrices were arisen based on the Fe-Co-Cu-W system and diamond tools of different morphologies were produced and lunched for servicing, which are still in use worldwide.

7. PARTICIPATION IN RESEARCH FUNDING PROGRAMS

- "Development and Characterisation of composite materials with crystalline and amorphous Al matrix and reinforcing phase of ceramic nanoparticles through the use of low cost techniques", JOINT RESEARCH AND TECHNOLOGY PROGRAMMES 2009 – 2011, HUNGARY – GREECE, MINISTRY FOR DEVELOPMENT **GENERAL SECRETARIAT FOR RESEARCH & TECHNOLOGY, Project Number HUN90 (budget: 15.000** €, participation as a researcher).
- Operational Program "Education and Lifelong Learning" of the National Strategic Reference Framework (NSRF) - Research Funding Program: **THALES (Code 668 or NTUA202**): Development of ceramic-matrix composite nano-materials with metallic inclusions - investigation of mechanical and physiochemical properties with experimental, theoretical and calculation methods (NAMCO). Coordination by the National Technical University of Athens. coordinator of the research group of the University of Ioannina (Total budget 521.739 €, DMSE-UOI budget 90.000 €, participation as a researcher).
- **FineSol, Project ID: 680718, Assembly of miniaturized PCBs by using low cost hyper-fine solder powders, Horizon 2020, Researcher (συνολικός προυπολογισμός 6637000 ευρώ)**
- **PROCETS, Project ID: 686135, PROtective composite Coatings via Electrodeposition and Thermal Spraying, Horizon 2020, Researcher (συνολικός προυπολογισμός 8652000 ευρώ)**

8. SUPERVISION OF PhD and MSc THESES

PhD: **A. Poulia** (2018): Development, characterization and evaluation of high entropy alloys and high entropy alloy matrix composites

Ch. Mathiou: Development and characterization of new high entropy alloy systems of dual or multiple phases

MSc: **E. Karapanou,** Manufacture and Characterisation of Fe-Al intermetallic matrix composites reinforced by VC ceramic particles (2016)

V. Gousia, Synthesis and Characterisation of Al matrix composites, reinforced by Mo-Si intermetallic phases (2016)

D. Petroglou, Mechanical Behaviour and Surface Degradation Response of MoTaNbVTi high entropy alloys (2018)

H. Ananiadis, Development and characterization of high entropy alloys within the system Al-Cr-Fe-Mn-Ni (2018)

A. Doumazios (in progress)**,** Study of sliding wear and solid particle erosion of Al-Co alloys

9. PARTICIPATION IN 3MEMBED AND 7MEMBERED COMMITTEES OF MASTER AND PhD THESES AT D.M.S.E. -UOI

1. Participation in the 7membered committee of the **PhD** thesis of **Vassiliki Kosma** ("Polymeric and composite, compact and porous membranes and fibres from fluid precursors", 2009)

2. Participation in the 7membered committee of the **PhD** thesis of **Dimitrios Zois** ("Development and characterization of amorphous coatings through thermal spray techniques", 2010)
3. Participation in the 3membered committee of the **PhD** thesis of **Dimitrios Sioulas** ("Corrosion of nanostructured cermet coatings ", 2011)
4. Participation in the 3membered committee of the **PhD** thesis of **Hercules Mavros** ("Development of Aluminium Matrix Composites and Evaluation of their Corrosion and Wear Behaviour",2013)
5. Participation in the 7membered committee of the **PhD** thesis A. Marinou, ("Synthesis of high temperature coatings by the new method CAFSY (Combustion-Assisted Flame Spraying)", 2015)
6. Participation in the 3membered committee of the **PhD** thesis of **Athanassios Sfikas,** : ("Systems based on Al-complex metallic alloys: Development, characterization and surface properties", in progress).
7. Participation in the 3membered committee of the **PhD** thesis of **Sofia Tsouli**, ("Corrosion of concrete reinforced with ancient member restoration metals in urban and industrially polluted environments – Inhibitor protection", in progress)
8. Participation in the 3membered committee of the **MSc** thesis of **Violetta Moulia** ("Study of toughness and wear resistance of nanostructured WC-Co-Cr thermally sprayed coatings", 2012)
9. Participation in the 3membered committee of the **MSc** thesis of **Amalia Marinou** ("Development and characterization of Co based coatings developed by thermal spraying" 2013)
10. Participation in the 3membered committee of the **MSc** thesis of **Athanassios Sfikas** ("Study of the surface degradation of cast complex Al-Co metallic alloys", 2012)
11. Participation in the 3membered committee of the **MSc** thesis of **Amalia Siatou** ("Ioannina region archaeological artifact corrosion simulation", 2013)
12. Participation in the 3membered committee of the **MSc** thesis of **A. Evagelou** (2016): Development and evaluation of composites 316L-TiC and Fe-TiC
13. Participation in the 3membered committee of the **MSc** thesis of **I. Kenanoglou** (2016): Fabrication and characterization of ceramic matrix nanocomposites (Al_2O_3-Ni)
14. Participation in the 3membered committee of the **MSc** thesis of **A. Koutsotolis** (2016): Exfoliation corrosion performance of Al alloys and composites under specific surface roughness
15. Participation in the 3membered committee of the **MSc** thesis of **Sofia Tsouli** (2015): Study of accelerated corrosion of reinforced concrete of ancient monuments restoration (reinforcement: AISI 316L stainless steel)
16. Participation in the 3membered committee of the **MSc** thesis of **Nefeli Lagopati** (2018): Natural hydroxyapatite based biomaterials for orthopaedic recreation applications.
17. Participation in the 3membered committee of the **MSc** thesis of **M. Papadimitriou**: Thermal processing of Al-7Co alloy and electrochemical corrosion study (in progress)
18. Participation in the 3membered committee of the **MSc** thesis of **Α. Μπάρμπας**: Comparison of wear behavior of Al-Co alloys before and after annealing treatments (in progress)
19. Participation in the 3membered committee of the **MSc** thesis of **A. Stamoulis**: High temperature oxidation of powder metallurgy processed Al_2O_3-Ni nanocomposites (in progress)

20. Participation in the 3membered committee of the **MSc** thesis **of K. Kalantzis**: Fabrication and surface property evaluation of Al-flying ash composites (in progress)

10. SUPERVISION OF DIPLOMA THESES

Supervision and co-supervision of more than 50 diploma theses within the Laboratory of Applied Metallurgy

11. TEACHING EXPERIENCE (UNDERGRADUATE COURSES – LABORATORY CLASSES)

5/2009 – to date: As **Lecturer DMSE-UOI**

1. Physical Metallurgy I (5^{th} semester), compulsory
2. Materials Laboratory IV (Metallurgy Laboratory), (8^{th} semester), compulsory
3. Fundamentals of Powder Metallurgy (7^{th} semester), elective
4. Metal Working, (8^{th} semester), elective
5. Introduction to Welding Technology, (8^{th} semester), elective
6. Aluminium Technology, (9^{th} semester), elective (in collaboration with M. Georgatis, Specialized Research and Teaching Personnel of Metallurgy Laboratory)

10/2005 – 5/2009: As Adjunct Lecturer DMSE-UOI

1. Physical Metallurgy I (5^{th} semester), compulsory, (in collaboration with Assoc. Professor A. Lekatou – DMSE)
2. Materials Laboratory IV (Metallurgy Laboratory), (8^{th} semester), compulsory, (in collaboration) with the other members of Metallurgy Laboratory)
3. Forming and Welding methods of Metallic Materials (metal working, powder metallurgy, welding) (7^{th} semester), elective

10/2004 – 9/2005: Laboratory Collaborate, Department of Building Restoration, Technological Institute of Patras

1. Structural Materials Technology (Laboratory),(3^{rd} semester), compulsory, 2 semesters

3/2005 – 9/2005: Laboratory Collaborate, Department of Materials Science, University of Patras

1. Materials Science I (Laboratory), (2^{nd} semester), compulsory, 1 semester.

12. TEACHING EXPERIENCE IN POSTGRADUATE COURSES OF DMSE-UOI

- Atomic structure, crystal structure, mechanical properties, non-ferrous alloys, phase diagrams -6h/y, (MSc in Chemistry & Technology of Materials, 2014-to date)
- Metal working processes – cold working – crystal imperfections – annealing -6h/y, (MSc in Advanced Materials, 2014-to date)
- Metallic Materials of High Added Value, 4w*3h/w (MSc in Advanced Materials, 2014-todate)
- Surface Degradation of Metallic Materials and Protection Measures, 5w*3h/w (MSc in Advanced Materials, 2014-todate)

13. ADMINISTRATIVE WORK AS FACULTY MEMBER OF DMSE-UOI

a) Member of the faculty General Assembly of DMSE-UOI since May 2009
b) Member of the Professional Rights committee
c) Vice member of the New Materials Science and Engineering Building committee

d) Doctoral Studies Committee
e) Evaluation Committee
f) Tutor Committee
g) Laboratory Committee
h) New Building supervisor (lighting, air conditioning, heating)
i) Student Academic Supervisor at the Training Program/U.O.I

14. SCIENTIFIC COLLABORATIONS

With other faculty members of the DMSE-UOI: Assoc. Prof. A. Lekatou, Prof. M. Karakassides, Assoc. Prof. S. Agathopoulos, Assoc. Prof. D. Gournis, Associate. Prof. N. Barkoula. Associate Prof. E. Lidorikis, Prof. Avgeropoulos
Department of Physics - UOI, Lect. A. Kaziannis, Prof. C. Kosmidis
Department fo Chemistry – UOI, Assoc. Promf M. Pordromidis, Prof. T. Vaimakis
ICEHT/FORTH: Research Director V. Burganos, Principal Scientist V. Dracopoulos.
Laboratory of Technology and Strength of Materials, University of Patras Prof. S. Pantelakis
Department of Physical Metallurgy, University of Miskolc, Hungary, Professor Z. Gacsi
Department of Nanotechnology, University of Miskolc, Hungary, Professor. G. Kaptay.
Department of Mechanical, Materials and Manufacturing Engineering, Universithy of Nottingham, Associate Professor A. R. Kennedy.
Department of Metal Science and Heat Treatment of Metals, Pryazovzkiy State Technical University, Ukraine, Prof. V.G. Efremenko.
SINTEF Research Center, Principal Researcher/Adj. Prof. S. Diplas, Norway.
Foundry Research Institute, High Temperature Division Director Prof. N. Sobczak, Poland.

15.SCIENTIFIC SOCIETY – ORGANIZATION MEMBER

- Member of the Technical Chamber of GREECE
- Member of the Hellenic Metallurgical Society

16. CONFERENCE COMMITTEE MEMBER

- Member of the Scientific and Organising Committee of the 6th Pan Hellenic Conference in Metallic Materials (December 2016, Ioannina GREECE)
- Member of the Scientific Committee of the 5th Pan Hellenic Conference in Metallic Materials (October 2013, Volos, GREECE)
- Session Chairman (C2.3) at EUROMAT 2015, 20-24 September, Warsaw, Poland
- Symposium Organizer (symposium C8) at EUROMAT 2017,17-22 September Thessaloniki, Greece

17. INTERNATIONAL JOURNAL REVIEWER

- Acta Materialia
- International Journal of Cast Metals Research
- Materials Chemistry and Physics
- Journal of Materials Engineering and Performance
- Advanced Composites Letters
- Composites Part A

- Journal of Composite Materials
- Metals

18. LECTURE NOTES

- Forming and Welding methods of Metallic Materials (2006)
- Metal Working (2007)
- Introduction to Powder Metallurgy (2008)
- Introduction to Welding Technology (2009)

19. ΔΗΜΟΣΙΕΥΣΕΙΣ ΣΕ ΠΕΡΙΟΔΙΚΑ

1. Christina Mathiou, Konstantinos Giorspyros, Emmanuel Georgatis * , Anthoula Poulia and **Alexander E. Karantzalis***, NiAl-Cr-Mo Medium Entropy Alloys: Microstructural Verification, Solidification Considerations, and Sliding Wear Response, Materials MDPI (2020), 13, 3445
2. C. Mathiou, D. Ganara, E. Georgatis, A. Poulia, K. Lentzaris, **A. E. Karantzalis*** Adjustment of Hardness of (CrFeMn)x(NiyAl)1−x, (y = 1,3 and x = 0.6,0.72,0.80) High Entropy Alloys by Deliberate Control of Intermetallic Phase Formation: Microstructural Evolution, Hardness and Dry‑Sliding Wear Response, Metals and Materials International, (2020), https://doi.org/10.1007/s12540-020-00754-1
3. **A. E. Karantzalis***, D. Sioulas, A. Poulia, C. Mathiou, E. Georgatis, A first approach on the assessment of the creep behavior of MoTaNbVxTi high entropy alloys by indentation testing, SN Applied Sciences (2020) 2:950
4. Dimitris Petroglou, Anthoula Poulia, Christina Mathiou, Emmanuel Georgatis, **Alexander E. Karantzalis***, A further examination of MoTaxNbVTi (x = 0.25, 0.50, 0.75 and 1.00 at.%) high‑entropy alloy system: microstructure, mechanical behavior and surface degradation phenomena, Applied Physics A (2020), 126:364
5. Ioannis Partheniadis, **Alexandros E. Karantzalis**, Rumit R. Shah,Nizar Al-Zoubic, Ioannis Nikolakakis,∗ Influence of compression at elevated temperature on the compactibility of thermo-mechanically processed polymers, Chemical Engineering Research and Design, (2020), 156, 64-75
6. C Mathiou, K Giorspyros, E Georgatis, **AE Karantzalis***, Microstructural verification of the theoretically predicted morphologies of the NiAl–Cr pseudo-binary alloy systems and NiAl–Cr eutectic structure modification by Mo addition, SN Applied Sciences 1 (10),(2019), 1292
7. A Poulia, C Mathiou, **A Karantzalis***. Electrochemical Study of MoTaNbVTi High Entropy Alloy in Aqueous Environments, Annales de Chimie-Science des Matériaux 43 (4),(2019) 199-205
8. E Ananiadis, K Lentzaris, E Georgatis, C Mathiou, A Poulia, **AE Karantzalis***, AlNiCrFeMn equiatomic high entropy alloy: a further insight in its microstructural evolution, mechanical and surface degradation response, Metals and Materials International, 26 (6), (2020), 793
9. E Chantziara, K Lentzaris, AG Lekatou, **AE Karantzalis**, Sliding wear and solid particle erosion response of aluminium reinforced with tungsten carbide nanoparticles and aluminide particles, Fatigue & Fracture of Engineering Materials & Structures 42 (7), (2019), 1548-1562
10. Konstantinos Tsongas, Dimitrios Tzetzis, **Alexander Karantzalis**, George Banias, Dimitrios Exarchos, Donya Ahmadkhaniha, Caterina Zanella, Theodore Matikas, Dionysis Bochtis, Microstructural, Surface Topology and Nanomechanical

Characterization of Electrodeposited Ni-P/SiC Nanocomposite Coatings, Applied Sciences 9 (14), (2019), 2901

11. A Poulia, E Georgatis, **A Karantzalis***, Evaluation of the Microstructural Aspects, Mechanical Properties and Dry Sliding Wear Response of MoTaNbVTi Refractory High Entropy Alloy, Metals and Materials International, 25 (6), (2019), 1529
12. A.G. Lekatou, N. Gkikas, V. Gousia, K. Lentzaris, and **A.E. Karantzalis**, Effects of In Situ Intermetallics on the Microstructural Array and Saline Corrosion Performance of Cast Al/WCp Composites, Journal of Materials Engineering and Performance, (2018) 27:5164–5176, https://doi.org/10.1007/s11665-018-3445-0
13. Maria G. Trachioti, **Alexandros E. Karantzalis**, Jan Hrbac, Mamas I. Prodromidis, Low-cost screen-printed sensors on-demand: Instantly prepared sparked gold nanoparticles from eutectic Au/Si alloy for the determination of arsenic at the sub-ppb level, Sensors & Actuators: B. Chemical, 281 (2019) 273–280, https://doi.org/10.1016/j.snb.2018.10.112
14. A.G. Lekatou, A. Poulia, H. Mavros, and **A.E. Karantzalis**, Thermal Treatment, Sliding Wear and Saline Corrosion of Al In Situ Reinforced with Mg2Si and Ex Situ Reinforced with TiC Particles, Journal of Materials Engineering and Performance, 2018, 10.1007/s11665-018-3213-1
15. K. Lentzaris, A. Poulia, E. Georgatis, A.G. Lekatou, and **A.E. Karantzalis***, Analysis of Microstructure and Sliding Wear Behavior of Co1.5CrFeNi1.5Ti0.5 High-Entropy Alloy, Journal of Materials Engineering and Performance, 2018, doi: 10.1007/s11665-018-3374-y
16. A. Poulia, E. Georgatis, C. Mathiou, **A.E. Karantzalis***, Phase segregation discussion in a Hf25Zr30Ti20Nb15V10 high entropy alloy: The effect of the high melting point element, Materials Chemistry and Physics 210 (2018) 251-258,
17. C. Mathiou, A. Poulia, E. Georgatis, **A.E. Karantzalis***, Microstructural features and dry - Sliding wear response of MoTaNbZrTi high entropy alloy, Materials Chemistry and Physics 210 (2018) 126-135
18. **Karantzalis AE***, Poulia A, Georgatis E, Petroglou D, Mathiou C, New MoWHfZrTi refractory high entropy alloy system: A microstructural verification of phase formation criteria approach, Research and Reports on Metals, 1:2, (2017), 1-6.
19. **A.E. Karantzalis**, A. Poulia, E. Georgatis, D. Petroglou, Phase formation criteria assessment on the microstructure of a new refractory high entropy alloy, Scripta Materialia 131 (2017) 51–54
20. A. LEKATOU, N. GKIKAS, **A.E. KARANTZALIS**, G. KAPTAY, Z. GACSI, P. BAUMLI, A. SIMON, Effect of wetting agent and carbide volume fraction on the wear response of Aluminum matrix composites reinforced by WC nanoparticles and Aluminide particles, Arch. Metall. Mater. 62 (2017), 2B, 1235-1242
21. A.G. Lekatou, A.K. Sfikas, **A.E. Karantzalis**, The influence of the fabrication route on the microstructure and surface degradation properties of Al reinforced by Al9Co2, Materials Chemistry and Physics 200 (2017) 33-49
22. K Lentzaris, AG Lekatou, A Ntoumazios, **AE Karantzalis*** and AK Sfikas (2017) Solid Particle Erosion of Aluminum In-Situ Reinforced with a Cobalt Aluminide. Mater. Sci. Eng. Adv. Res Special Issue: 19-25.
23. E Bata, K Lentzaris, AG Lekatou, NM Barkoula, A Poulia, AK Sfikas, **AE Karantzalis*** (2017) Effect of Solid Particle Erosion on the Aqueous Corrosion Behaviour of a Ti6Al4V Sheet. Mater. Sci. Eng. Adv. Res Special Issue: 26-33.
24. G Bakoulis, AG Lekatou, A Poulia, AK Sfikas, K Lentzaris and **AE Karantzalis** (2017) Al- (Al9Co2, Al13Co4) Powder Metallurgy Processed Composite

Materials: Analysis of Microstructure, Sliding Wear and Aqueous Corrosion. Mater. Sci. Eng. Adv. Res Special Issue: 53-60.

25. AG Lekatou, I Kenanoglou, K Kalantzis**, AE Karantzalis**, D Sioulas, et al. (2017) Surface Degradation of Composites Prepared by Al2O3 and Ni Nanopowders. Mater. Sci. Eng. Adv. Res Special Issue: 7-18.
26. Karapanou, AG Lekatou, AK Sfikas, E Georgatis, K Lentzaris and **AE Karantzalis*** (2017) Vacuum Arc Melting Processed Fe-Al Matrix Based Intermetallic Composites, Reinforced with VC Phases: Assessment of Microstructure, Sliding Wear and Aqueous Corrosion Response. Mater. Sci.Eng. Adv. Res Special Issue: 1-6.
27. V.G. Efremenko, Yu G. Chabak, K. Shimizu, A.G. Lekatou, V.I. Zurnadzhy, **A.E. Karantzalis**, H. Halfa, V.A. Mazur, B.V. Efremenko, Structure refinement of high-Cr cast iron by plasma surface melting and post-heat treatment, Materials & Design 126 (2017) 278–290
28. Daniel Riman, Konstantinos Spyrou, **Alexandros E. Karantzalis**, Jan Hrbac, Mamas I. Prodromidis, Glucose sensing on graphite screen-printed electrode modified by sparking of copper nickel alloys, Talanta 165 (2017) 466–473
29. A. Poulia, E. Georgatis, A. Lekatou, **A. E. Karantzalis***, Dry-Sliding Wear Response of MoTaWNbV High Entropy Alloy, Advanced Engineering Materials, 2016, DOI: 10.1002/adem.201600535
30. A. Lekatou, A.K. Sfikas, Ch. Petsa, **A.E. Karantzalis**, Al-Co alloys prepared by vacuum arc melting: Correlating microstructure evolution and aqueous corrosion behavior with Co content, Metals 2016, 6(3), 46; doi:10.3390/met6030046, Special issue: Oxidation of metals.
31. A. Poulia, E. Georgatis, A. Lekatou, **A.E. Karantzalis***, Microstructure and wear behavior of a refractory high entropy alloy, Int. Journal of Refractory Metals and Hard Materials, 2016, 57, 50–63.
32. D. Spasopoulos, S. Kaziannis, **A. E. Karantzalis**, E. Lidorikis, A. Ikiades & C. Kosmidis, Tailored Aggregate-Free Au Nanoparticle Decorations with Sharp Plasmonic Peaks on a U-Type Optical Fiber Sensor by Nanosecond Laser Irradiation, Plasmonics DOI 10.1007/s11468-016-0295-1, 2016
33. V. Efremenko, Y.G. Chabak, A. Lekatou, **A. Karantzalis**, A. Efremenko, High-temperature oxidation and decarburization of 14.55 wt pct Cr-cast iron in dry air atmosphere, Metallurgical & Materials Transactions A, 2016, 47 (4), 1529-1543
34. V.Gousia, A. Tsioukis, A. Lekatou, **A.E. Karantzalis***, Al-MoSi2 Composite Materials: Analysis of Microstructure, Sliding Wear, Solid Particle Erosion and Aqueous Corrosion, J. Materials Engineering & Performance, 2016, 25 (8), 3107-3120.
35. **A.E. Karantzalis***, Z. Arni, K. Tsirka, A. Evangelou, A. Lekatou, V. Dracopoulos, Fabrication of TiC reinforced composites by Vacuum Arc Melting: TiC mode of re-precipitation in different molten metals and alloys, J. Materials Engineering & Performance, 2016, 25 (8), 3161-3172.
36. V.G. Efremenko, Yu.G. Chabak, A. Lekatou, **A.E. Karantzalis**, K. Shimizu, V.I. Fedun, A.Yu. Azarkhov, A.V. Efremenko, Pulsed plasma deposition of Fe-C-Cr-W coating on high-Cr-cast iron: Effect of layered morphology and heat treatment on the microstructure and hardness, Surface & Coatings Technology, 2016, 304, 293-305.
37. S. Kassavetis, S. Kaziannis, N. Pliatsikas, A. Avgeropoulos, **A.E. Karantzalis**,C. Kosmidis, E. Lidorikis, P. Patsalas, Formation of plasmonic colloidal silver for flexible and printedelectronics using laser ablation, Applied Surface Science 336

(2015) 262–266

38. A. Lekatou, D. Sioulas, **A.E. Karantzalis**, D. Grimanelis, A comparative study on the microstructure and surface property evaluation of coatings produced from nanostructured and conventional WC–Co powders HVOF-sprayed on Al7075, Surface & Coatings Technology, 2015, 276, 539–556.
39. A. Simon, D. Lipusz, P. Baumli, P. Balint, G. Kaptay, G. Gergely, A. Sfikas, A. Lekatou, **A. Karantzalis**, Z. Gacsi, Microstructure and mechanical properties of Al-WC composites, Archives of Metallurgy and Materials, 2015, 60(2), 1517-1521.
40. Somlyai-Sipos L. - Baumli P. - Kaptay G. - Bálint P. - Dezső A. - Simon A. - Gácsi Z. - Lekatou, A. - Sfikas, T. - **Karantzalis, A**., Volfrám-karbid szemcsékkel erősített alumínium mátrixú kompozit fejlesztése (Development of tungsten carbide particle reinforced aluminum matrix composites), Bányászati és kohászati lapok (Mining and Metallurgical Pages). Kohászat (Metallurgy), 2015, 148(2), 34-39, in Hungarian.
41. A. Lekatou, **A.E. Karantzalis**, A. Evangelou, V. Gousia, G. Kaptay, Z. Gacsi, P. Baumli, A. Simon, Aluminium reinforced by WC and TiC nanoparticles (ex-situ) and aluminide particles (in-situ): Microstructure, wear and corrosion behaviour, Materials & Design, 2015, 65(1), 1121-1135.
42. **Karantzalis, A.E*.**, Letatou, A.,Evaggelidou, M. Microstructure and sliding wear assessment of Co-TiC composite materials, International Journal of Cast Metals Research, 2014, vol. 27, no. 2, p. 73-79
43. Grana, E., Katsigiannopoulos, D.,**Karantzalis, A.E.**, Baikousi, M.,Avgeropoulos, A. "Synthesis and molecular characterization of polythiophene and polystyrene copolymers: Simultaneous preparation of diblock and miktoarm copolymers", European Polymer Journal, 2013, vol. 49, No. 5, p. 1089-1097.
44. E. Georgatis, A. Lekatou, **A.E. Karantzalis**, H. Petropoulos, S. Katsamakis, and A. Poulia, "Development of a Cast Al-Mg_2Si-Si In Situ Composite: Microstructure, Heat Treatment, and Mechanical Properties", J. of Materials Engineering and Perfrormance, 2013, vol. 22, no. 3, p. 729-741.
45. H. Mavros, **A.E. Karantzalis*,** A. Lekatou, "Solidification observations and sliding wear behaviour of cast TiC particulate-reinforced AlMgSi matrix composites", Journal of Composites Materials, 2013, vol. 47, No. 17, p. 2149-2162.
46. A. Lekatou, A.K. Sfikas, **A.E. Karantzalis**, D.Sioulas, "Microstructure and corrosion performance of Al-32%Co alloys", Corrosion Science, vol. 63, 2012, p. 193-209.
47. **A.E. Karantzalis***, A. Lekatou, K. Tsirka, "Solidification observations and sliding wear behaviour of arc melting processed Ni-Al-TiC composites", Materials Characterization, 2012, vol. 69, p. 97-107.
48. **A.E. Karantzalis***, A. Kapoglou, H. Mavros, A. Lekatou*, V. Dracopoulos, "Phase transformations and microstructural observations during sub-critical heat treatment of a high chromium cast iron", J. Materials Engineering and Performance. Vol. 21, (6), 2012, p. 1030-1039.
49. **Karantzalis, A.E*.**, Lekatou, A.,Georgatis, E., Arni, Z., Dracopoulos, V., "Solidification observations of vacuum arc melting processed Fe-Al-TiC composites: TiC precipitation mechanisms", Materials Characterization 62 (12) , 2011, pp. 1196-1204.
50. Zois, D., Lekatou, A., Vardavoulias, M.,Vaimakis, T., **Karantzalis, A.E.**, "Partially amorphous stainless steel coatings: Microstructure, annealing behavior

and statistical optimization of spray parameters", Surface and Coatings Technology, vol. 206, 2011 , pp. 1469-1483.

51. **A.E. Karantzalis**, A. Lekatou, E. Georgatis, V. Poulas, H. Mavros, "Casting-based Production of Al-TiC-AlB_2 Composite Material through the Use of KBF_4 Salt" J. Materials Engineering and Performance, 20 (2), 2011, pp. 198-202
52. A.Lekatou, D. Zois, **A.E. Karantzalis**, D. Grimanelis, "Analysis of the electrochemical behaviour of cermet coatings with a bond coat on Al7075: pseudopassivity, localized corrosion and galvanic effect considerartions in a saline environment", Corrosion Science, 52 (8), 2010, pp. 2616-2635.
53. **A.E. Karantzalis**, A. Lekatou , E. Georgatis, Th. Tsiligiannis, H. Mavros, "Solidification Observations of Dendritic Cast Al-alloys Reinforced with TiC particles", J. Materials Engineering and Performance, 19 (9), 2010, pp. 1268-1275.
54. **A.E. Karantzalis***, A. Lekatou, E. Georgatis, H. Mavros, "Solidification behaviour of ceramic particle reinforced al – alloy matrices", J. Materials Science, vol.45, no.8, 2010, p. 2165-2173.
55. **A.E. Karantzalis***, A. Lekatou*, E. Diavati, "Effect of destabilization heat treatments on the microstructure of high-chromium cast iron: a microscopy examination approach", J. Materials Engineering and Performance, 18(8), 2009, p. 1078-1085.
56. **A.E. Karantzalis***, A. Lekatou, E. Georgatis, V. Poulas, H. Mavros, "Microstructural observations of cast Al-Si-Cu-TiC composite material, J. Materials Engineering and Performance vol. 19, no.4, 2010, p. 585-590.
57. **A.E. Karantzalis**, A. Lekatou, H. Mavros, «High chromium white irons, microstructure, carbide precipitation, sub-critical heat treatment, austenite destabilization», Intern. J. Cast Metals Research, 2009, 22(6), 448-456.
58. **A.E. Karantzalis***, A. Lekatou* and H. Mavros*, "Microstructural Modifications of As-Cast High-Chromium White Iron by Heat Treatment, Journal of Materials Engineering and Performance, vol.18, No. 2, 2009, p. 174-181.
59. Lekatou A., Regoutas E., **Karantzalis A.E**. "Corrosion behaviour of cermet-based coatings with a bond coat in 0.5M H_2SO_4", Corrosion Science, 50 (12), 2008, p.3389-3400.
60. A.R.Kennedy and **A.E.Karantzalis**, "The Incorporation of Ceramic Particles into Molten Aluminium and the relationship to Contact Angle data", Materials Science and Engineering, A264, 1999, pp 122-129
61. A.R.Kennedy, **A.E.Karantzalis** and S.M.Wyatt, "The Microstructure and the Mechanical Properties of TiC and TiB2 reinforced Cast Metal Matrix Composites", Journal of Materials Science, 34, 1999, pp 933-940
62. **A.E.Karantzalis** and A.R.Kennedy, "Nucleation Behaviour of TiB2 Particles in Pure Aluminium and the Effect of Elemental Additions", Materials Science and Technology, 14, 1998, pp 1092-1096
63. **A.E.Karantzalis**, S.M.Wyatt and A.R.Kennedy, "The Mechanical Properties of Al – TiC Metal Matrix Composites Fabricated by a Flux – Casting Technique", Materials Science and Engineering, A237, 1997, pp 200-206
64. A.R.Kennedy and **A.E.Karantzalis**, "The Grain Refining Action of TiB_2 and TiC Particles added to Al by a Stir-Casting Method" Materials Science Forum, 217-222, 1996, pp 253-258.

(*) Corresponding Author

20. ΕΥΡΕΣΙΤΕΧΝΙΕΣ

1. A.R Kennedy, **A.E.Karantzalis**, J.V.Wood, J.D.Ellis, J.L.F.Kellie, "Metal Matrix Composites" UK Patent, GB 2316092A, 1998, International Publication Number WO98/06880.

21. ΔΗΜΟΣΙΕΥΣΕΙΣ ΣΕ ΠΡΑΚΤΙΚΑ ΔΙΕΘΝΩΝ ΣΥΝΕΔΡΙΩΝ ΜΕ ΚΡΙΤΕΣ (ICPS)

1. Lekatou A.G.. Mpalanou M., Lentzaris K., **Karantzalis A.E**, Microstructure and surface degradation properties of Al reinforced by AlxW intermetallic compounds via different fabrication routes, , ICEAF V, 5th International Conference of Engineering Against Fracture, 20-22 June, Chios Island, Greece.
2. Chantziara E Lentzaris K., Lekatou A.G., **Karantzalis A.E**, Solid particle erosion response of aluminum reinforced with tungsten carbide nanoparticles and aluminide particles, ICEAF V, 5th International Conference of Engineering Against Fracture, 20-22 June, Chios Island, Greece.
3. DA Exarchos, PT Dalla, D Tzetzis, **AE Karantzalis**, D Bochtis, TE Matikas, Towards miniaturization of electronics by developing and characterizing hyperfine solder powders used in printed circuit boards, Proceedings Volume 10601, Smart Materials and Nondestructive Evaluation for Energy Systems IV;106010U (2018) https://doi.org/10.1117/12.2323278, SPIE Smart Structures and Materials + Nondestructive Evaluation and Health Monitoring, 2018, Denver, Colorado, United States
4. D. A. Exarchos; P. T. Dalla; D. Tzetzis; **A. E. Karantzalis**; D. Bochtis; T. E. Matikas, Characterization of Ni-P-SiC protective coating nanocomposites produced by electrodeposition and thermal spraying via infrared thermography and scanning acoustic microscopy, Proceedings Volume 10601, Smart Materials and Nondestructive Evaluation for Energy Systems IV;106010U (2018) https://doi.org/10.1117/12.2323278, SPIE Smart Structures and Materials + Nondestructive Evaluation and Health Monitoring, 2018, Denver, Colorado, United States
5. A. Lekatou, **A.E. Karantzalis**, I. Kenanoglou, A.K. Sfikas, K. Lentzaris, D. Sioulas, *Corrosion and wear behaviour of Al_2O_3-Ni nanocomposites*, 17th Int. Conf. on Experimental Mechanics (ICEM 17) July 3-7, 2016, Rhodes, Greece
6. A.K. Sfikas, A. Lekatou**, A.E. Karantzalis**, *Sliding wear behaviour of rapidly solidified Al-Co alloys*, 17th Int. Conf. on Experimental Mechanics (ICEM 17) July 3-7, 2016, Rhodes, Greece
7. A. Lekatou, N. Gkikas, V. Gousia, A. Evaggelou, **A.E. Karantzalis**, G. Kaptay, Z. Gacsi, P. Baumli, A. Simon, *Effect of wetting agent and carbide volume fraction on the surface properties of aluminium matrix composites ex-situ reinforced by WC nanoparticles and in-situ reinforced by aluminide particles*, 14th Int. Symp. on Novel and Nano Materials (ISNNM-2016), Budapest, 3-8 July 2016, Hungary.
8. A. Poulia, Petroglou, A. Lekatou, **A. E. Karantzalis***, *Development and characterization of new refractory high entropy alloys*, 14th Int. Symp. on Novel and Nano Materials (ISNNM-2016), Budapest, 3-8 July 2016, Hungary.
9. A. K. Sfikas, A. Lekatou, **A. E. Karantzalis**, Ch. Petsa, *Effect of Co content on the corrosion resistance of rapidly solidified Al-Co alloys,* ICEAF-IV, 4th Int. Conf. Engineering against Failure, Skiathos, 24-26 June 2015, Greece, p. 441-448, ISBN: 978-960-88104-5-7

10. H. Mavros, A.E. Karantzalis, **A. Lekatou***, *Comparative study of Al – based ceramic particulate reinforced composite materials: Sliding wear and aqueous corrosion assessment*, ICEAF-IV, ibid, p. 424-432, ISBN: 978-960-88104-5-7
11. A. Simon, D. Lipusz, P. Baumli, G. Kaptay, A. Lekatou, **A. Karantzalis**, Z. Gacsi, *Development and characterization of Al matrix composites reinforced with ceramic particles*, Proc. 13th Int. Symp. on Novel and Nano Materials-ISNNM 2014, 30/06-04/07 2014, Krakow.
12. A. K. Sfikas, A. Lekatou, **A. E. Karantzalis**, D. Sioulas, *Microstructure and corrosion resistance of aluminum alloys containing complex metallic alloy phases,* Proc. ICEAF –III, 3rd Int. Conf. on Engineering against Failure, Kos, 26-28 June 2013, Greece, p. 194-203, ISBN: 978-960-88104-3-3
13. **A.E. Karantzalis**, A. Lekatou, A. Evangelou, V. Gousia, C. Miskaki, A. Sfikas, D. Sioulas, Z. Gacsi, P. Baumli, G. Kaptay, A. Simon, *Microstructure, corrosion and wear resistance evaluation of aluminium matrix composites reinforced by TiC and WC nanoparticles,* ICEAF –III, ibid, p. 214-222, ISBN: 978-960-88104-3-3
14. A. Poulia, **A.E. Karantzalis**, A. Lekatou, *Evaluation of Al-Mg_2Si in-situ composites, further reinforced by TiC particles after solution and aging heat treatments*, 9th Int. Conf. on Composite Science and Technology, 24-26 April 2013 - Sorrento, Italy, ed. Michele Meo, Destech Pub, 677-689, ISBN: 978-1-60595-113-3.
15. **A.E. Karantzalis**, A. Lekatou, V. Gousia, A. Evangelou, Z. Gacsi, P. Baumli, G. Kaptay, A. Simon, *Flux assisted casting preparation and surface property evaluation of aluminium matrix composites reinforced with carbide nanoparticles*, 9th Int. Conf. on Composite Science and Technology, ibid., ed. Michele Meo, Destech Pub, 690-701, ISBN: 978-1-60595-113-3.
16. **A.E. Karantzalis**, A. Lekatou, A. Evangelou, V. Gousia, C. Miskaki, A. Sfikas, D. Sioulas, Z. Gacsi, P. Baumli, G. Kaptay, A. Makszimus, "Microstructure, corrosion and wear resistance evaluation of aluminium matrix composites reinforced by TiC and WC nanoparticles", ICEAF –III, 3rd Intern. Conf. Engineering against Fracture, Kos, 26-28 June 2013, Greece.
17. D. Zois, A. Lekatou, M. Vardavoulias, **A.E. Karantzalis**, A. Vazdirvanidis, "Deposition and characterization of thermally sprayed coatings prepared by a nanostructured Martensitic Steel Powder", 2012 Int. Thermal Spray Conf., 21-25 May 2012, Houston, Texas.
18. Siatou A., A. Lekatou, **A.E. Karantzalis**, D. Sioulas, "Corrosion of archaeological bronze in non-hostile burial environment", Int. Symp: History, Technology and Conservation of Ancient Metal, Glasses and Enamels", 16-19 November 2011, Cotsen Hall, The American School of Classical Studies at Athens, Athens, Greece.
19. D. Sioulas, A. Lekatou, D. Grimanelis, **A.E. Karantzalis**, Corrosion and Wear Resistance of HVOF Micro- and Nano- Cermet Coatings on Al 7075, 2nd International Conference of Engineering Against Fracture (ICEAF II), 22-24 June 2011, Mykonos, GREECE.
20. **A.E. Karantzalis***, A. Lekatou, K. Leontaris, *"Synthesis and Characterization of Al-based MMCs Reinforced with Ceramic Nanoparticles",* Cast Composites 2009, 11-14 Oct. 2009, Krakow, Poland
21. Ch. I. Sarafoglou, D.I. Pantelis, **A. Karantzalis**, «Surface treatments of valves materials and their effects on surface characteristics», 2nd International Conference in Manufacturing Engineering, Kassandra,-Chalkidiki, Greece, 5-7 October 2005, p. 443-452.

22. A.R.Kennedy and **A.E.Karantzalis**, "The Incorporation and Redistribution Behaviour of ceramic Particles in Liquid Aluminium and the Relation to their Wetting Characteristics", proc. "The Second International Conference on High Temperature Capillarity", Krakow, June 1997, ed. N.Eustathopoulos and N.Sobczack, pp 328-333.

22. ΔΗΜΟΣΙΕΥΣΕΙΣ ΣΕ ΕΘΝΙΚΑ ΣΥΝΕΔΡΙΑ (NCPS)

1. A. K. Sfikas, A. Kanterakis, A. Barmpas, A.G. Lekatou, **A. E. Karantzalis**, Corrosion performance of new Al-Co alloys manufactured by rapid solidification, 6th Pan-Hellenic Conference in Metallic Materials, Ioannina, 7-9 Dec. 2016, 415-420, ISBN: 978-960-418-664-8.
2. S. Tsouli, A.G. Lekatou, S. Kleftakis, **A. E. Karantzalis**, A. K. Sfikas, Study of accelerated corrosion of 316L concrete reinforcing rods in concrete simulating environments for application to restoration works of ancient members, 263-268, ibid.
3. A. Fefekos, A.G. Lekatou, **A.E. Karantzalis**, Preparation of Al-W alloys by vacuum arc melting and characterization, 367-372, ibid.
4. K. Lentzaris, A.G. Lekatou, **A. E. Karantzalis**, E. Antonakis, High temperature oxidation behavior of heat treated cast austenitic stainless steel, 89-94, ibid.
5. A. K. Sfikas, A.G. Lekatou, **A. E. Karantzalis**, Sliding wear performance of Al in situ reinforced by Al_9Co_2: a comparative study with commercial Al alloys, 287-292, ibid.
6. A.G. Lekatou, I. Kenanoglou, K. Kalantzis, **A.E. Karantzalis**, D. Sioulas, K. Lentzaris, A.K. Sfikas, A. E. Karantzalis, Surface degradation of composites prepared by Al_2O_3 and Ni nanopowders, 427-432, ibid.
7. G. Bakoulis, A. Lekatou, A. Poulia, A. K. Sfikas, **A. E. Karantzalis***, Fabrication, sliding wear and aqueous corrosion behaviour of Al - (Al_9Co_2, $Al_{13}Co_4$) composites using a powder metallurgy route, 391-396, ibid.
8. E. Karapanou, A. Lekatou, A. K. Sfikas, **A. E. Karantzalis***, Vacuum Arc Melting processed Fe-Al Matrix Based Intermetallic Composites, Reinforced with VC phases: Assessment of microstructure, sliding wear and aqueous corrosion response, 469-474, ibid.
9. K. Lentzaris, A. Ntoumazios, A. Barmpas, A.K. Sfikas, A. Poulia, **A.E. Karantzalis**, A. Lekatou, Sliding wear and solid particle erosion behaviour of Al-Co Alloys, 475-480, ibid.
10. M. Piritzaus, A. Lekatou, A. Poulia, **A.E. Karantzalis***, Development and characterization of novel Al-Mo based intermetallic – quasicrystal alloys, 379-384, ibid.
11. K. Lentzaris, Ch. Papaspyrou, V. Gousia, A.K. Sfikas, **A.E. Karantzalis**, A. Lekatou, Development and evaluation of $MoSi_2$ aluminum – matrix composites, 433-438, ibid.
12. **A.E.Karantzalis***, Z. Arni, K. Tsirka, A. Evaggelou, A. Lekatou, V. Drakopoulos, Fabrication of TiC-reinforced composites: Reprecipitation mechanisms in different metallic melts, 361-366, ibid.
13. P. Triantafyllou, A. Lekatou, A. K. Sfikas, E. Georgatis, **A.E. Karantzalis***, Vacuum Arc Melting processed Fe-Al matrix based intermetallic composites, reinforced with TiC phases: Assessment of microstructure, sliding wear and aqueous corrosion response, 481-486, ibid.

14. V. Gousia, A. Tsioukis, A. Lekatou, K. Lentzaris, **A.E. Karantzalis***, Al-$MoSi_2$ composites: Microstructure, sliding wear resistance, solid particle erosion and aqueous corrosion, 457-462, ibid.
15. K. Chatziara, K. Lentzaris, A.G Lekatou, N.M. Barkoula, A. Poulia, **A.E. Karantzalis***, Al – based submicron WC particulate reinforced composites: Production, microstructure characterisation and sliding wear, solid particle erosion behaviour assessment, 463-468, ibid.
16. A. Poulia, D. Petroglou, E. Georgatis, A. Lekatou, **A.E. Karantzalis***, Development and characterization of refractory high entropy alloys, 299-304, ibid.
17. E. E. Bata, K. Lentzaris, A. Lekatou, N. Barkoula**, A.E. Karantzalis***, Effect of solid particle erosion of Ti6Al4V sheet: Effect on surface characteristics and aqueous corrosion behaviour, 445-450, ibid.
18. Maria Petridou1, Dimitris Exarchos1, **Alexandros Karantzalis**2, Konstantinos Dassios1,Theodore E. Matikas1, Nektaria-Marianthi Barkoula1*, "Effect of solid particle erosion on the residual tensile properties of Al1050/H16", 439-444, ibid.
19. A. Poulia, D. Petroglou, E. Georgatis, A. Lekatou, **A.E. Karantzalis***, Microstructural features and primary thermal analysis investigation of a refractory high entropy MoTaWNbV alloy, 7th Panhellenic Conf. on Thermal Analysis-Therma 2016, 27-29 May 2016, Ioannina, Greece ¥
20. A. K. Sfikas, A. Lekatou, **A.E. Karantzalis**. D. Sioulas, "The role of complex metallic alloys on the electrochemical behaviour of the Al-Co system", 5th Pan Hellenic Conference in Metallic Materials, Volos, 21-22 November, 2014.
21. A. Lekatou, A.K. Sfikas, **A.E. Karantzalis**, "The effect of heat treatment on the corrosion resistance of Al-Co alloys", 5th Pan Hellenic Conference in Metallic Materials, Volos, 21-22 November, 2014.
22. A. Lekatou, **A.E. Karantzalis,** A. Koleti, V. Moulia, D. Sioulas, D. Grimanelis, "Study of the nanostructured cermet coating fracture toughness", 5th Pan Hellenic Conference in Metallic Materials, Volos, 21-22 November, 2014.
23. **A.E. Karantzalis*,** A. Lekatou, A. Evangelou, V. Gousia, Z. Gacsi, P. Baumli, G. Kaptay, A. Makszimus, "Microstructure of composite materials with Al matrix reinforced by carbide nanoparticles: evaluation of corrosion and wear resistance", 5th Pan Hellenic Conference in Metallic Materials, Volos, 21-22 November, 2014.
24. **A. E. Karantzalis,** A. Lekatou, Ch. Miskaki, A. Evangelou, V. Gousia, Z. Gacsi. P. Baumli, G. Kaptay, A Makszimus, "Microstructure and corrosion resistance of Al matrix composites reinforced by TiC and WC nanoparticles produced by powder metallurgy method", 5th Pan Hellenic Conference in Metallic Materials, Volos, 21-22 November, 2014.
25. A. Poulia, A. Lekatou, **A.E. Karantzalis**, E. Georgatis, "Heat treatment and wear/corrosion properties of AlMgSi Alloy", 5th Pan Hellenic Conference in Metallic Materials, Volos, 21-22 November, 2014.
26. D. Sioulas, A. Lekatou, D. Grimanelis, **A.E. Karantzalis**, "Corrosion and wear behaviour of nanostructured and conventional WC-Co-Cr coating", 5th Pan Hellenic Conference in Metallic Materials, Volos, 21-22 November, 2014.
27. H. Mavros, **A.E. Karantzalis***, A. Lekatou, "Al matrix composites reinforced by ceramic particulates: a comparative wear and corrosion resistance study", 5th Pan Hellenic Conference in Metallic Materials, Volos, 21-22 November, 2014.
28. **A.E. Karantzalis*,** A. Lekatou, E. Georgatis, E. Mpaltagiannis, "Synthesis and study fo the aqueous corrosion and wear behaviour of Fe-Al aluminides reinforced by TiB2 particulates", 5th Pan Hellenic Conference in Metallic Materials, Volos, 21-22 November, 2014.

29. **A.E. Karantzalis*,** A. Lekatou, D. Mpatsouli, E. Georgatis, V. Drakopoulos, "Effect of heat treatment on the corrosion and wear resistance of Fe-Al aluminides, reinforced by TiB2", 5th Pan Hellenic Conference in Metallic Materials, Volos, 21-22 November, 2014.
30. **A.E. Karantzalis*,** A. Lekatou, E. Karapanou, E. Georgatis, "Production and behaviour of Fe-Al aluminides reinforced by VC in aqueous corrosion and wear", 5th Pan Hellenic Conference in Metallic Materials, Volos, 21-22 November, 2014.
31. K. Leontaris, A. Agathopoulos, **A.E. Karantzalis***, A. Lekatou, "Power metallurgy produced and mechanical properties of Al matrix composites reinforced by WC nanoparticles", 5th Pan Hellenic Conference in Metallic Materials, Volos, 21-22 November, 2014.
32. K. Leontaris, S. Petousi, A. Lekatou, **A.E. Karantzalis*** "Reinfrocement of Al with nano-TiC through casting and powder metallurgy methods", 4th Pan Hellenic Conference in Metallic Materials, Thessaloniki, 4-5 November, 2010.
33. A. Sfikas, A. Lekatou, **A.E. Karantzalis**, D. Sioulas, "Manufacture and characterization of binary Al-Co alloy", 4th Pan Hellenic Conference in Metallic Materials, Thessaloniki, 4-5 November, 2010.
34. H. Mavros, A. Lekatou, **A.E. Karantzalis***, V. Poulas, E. Georgatis, "Production of Al-TiC-AlB_2 composite material through the use of KBF_4 salts", 4th Pan Hellenic Conference in Metallic Materials, Thessaloniki, 4-5 November, 2010.
35. A. Siatou, A. Lekatou, **A.E. Karantzalis**, "Corrosion of copper and ferrous archeological artifacts form the Region of Ipirus", 4th Pan Hellenic Conference in Metallic Materials, Thessaloniki, 4-5 November, 2010.
36. A. Serafis, A. Lekatou, D. Sioulas, **A.E. Karantzalis**, "Behaviour of cast hyperaustenitic steel at high temperature oxidation" 4th Pan Hellenic Conference in Metallic Materials, Thessaloniki, 4-5 November, 2010.
37. D. Sioulas, A. Lekatou, D. Grimanelis, **A.E. Karantzalis**, "Behaviour of nanocrystalline ceramometallic coatings in wear and exposure to acid rain simulated environment", 4th Pan Hellenic Conference in Metallic Materials, Thessaloniki, 4-5 November, 2010.
38. A. Marinou, A. Lekatou, A. Poulaki, M. Vardavoulias, **A.E. Karantzalis**, D. Sioulas, H. Mavros, "Comparative study of austenitic stainless coatings with thermal spraying technique", 4th Pan Hellenic Conference in Metallic Materials, Thessaloniki, 4-5 November, 2010.
39. D. Zois, A. Lekatou, M. Vardavoulias, A. Vazdirbanidis, **A. Karantzalis,** "Effect of partially amorphous ferrous alloy thermal spray parameter on the coating corrosion behaviour"**,** 4th Pan Hellenic Conference in Metallic Materials, Thessaloniki, 4-5 November, 2010.
40. Lekatou A., Sioulas D. Grimanelis D., Karanika A., **Karantzalis A.E**., "Nanocrystalline ceramometallic coating corrosion resistance in sea environment", 5th Pan Hellenic Conference in Ceramic Materials, 22-23 October 2009, Athens.
41. **A. E. Karantzalis*,** A.E. Lekatou, P. Logothetis, "Study of the heat treatment effect on the microstructure, mechanical behaviour and corrosion resistance of Al bronze Cu-9Al-1Ti", 3rd Pan Hellenic Conference in Metallic Materials, Patras, 6-7 December, 2007.
42. **A.E. Karantzalis,** A. Lekatou, H. Mavros, G. Karamanis, "Study of the effect of heat treatment and alloying additions on the microstructure and mechanical behaviour of high chromium white cast irons", 3rd Pan Hellenic Conference in Metallic Materials, Patras, 6-7 December, 2007.

43. N. Zouvelou, X. Mantzouris, **A.E. Karantzalis**, P. Nikolopoulos, "Determination of interfacial properties in oxide ceramic systems in contact with molten metals" 5th Pan Hellenic Chemical Engineering Conference, 26-28 May, Thessaloniki, 2005.
44. N. Zouvelou, **A.E. Karantzalis**, P. Nikolopoulos, "Contact angles and interfacial parameters in oxide ceramic systems in contact with molten metals", 2nd Pan Hellenic Conference in Metallic Materials, 25-26 November, Athens, 2004.

23. ΣΥΜΜΕΤΟΧΕΣ ΣΕ ΣΥΝΔΡΙΑ ΧΩΡΙΣ ΔΗΜΟΣΙΕΥΣΗ

▪ Ε. Γεωργάτης, Α. Πούλια, **Α.Ε. Καράντζαλης**, A proposed solidification sequence theory based on experimental and parametric modeling data for various refractory high entropy alloys, EUROMAT17, 17-22 Σεπτεμβρίου 2017, Θεσσαλονίκη, Ελλάδα (παρουσίαση)

▪ Α. Πούλια, Ε. Γεωργάτης, **Α.Ε. Καράντζαλης**, Solidification behaviour of MoTaNbVTi high entropy alloys with different Mo content, EUROMAT17, 17-22 Σεπτεμβρίου 2017, Θεσσαλονίκη, Ελλάδα (παρουσίαση)

▪ Α. Πούλια, Δ. Πέτρογλου, Ε. Γεωργάτης, Α. Λεκάτου, **Α.Ε. Καράντζαλης**, Microstructural features and primary thermal analysis investigation of a Refractory High Entropy MoTaWNbV Alloy, 7ο Πανελλήνιο Συνέδριο Θερμικής Ανάλυσης και Θερμιδομετρίας, 27-29 Μαΐου 2016, Ιωάννινα, Ελλάδα (αφίσσα)