

Zoi S. METAXA

International Hellenic University

PHONE: +30 693 2399656; +30 2510 462227

Agios Loukas

WEBSITE: zmetaxa

Kavala, Greece, 65404

E-MAIL: zmetaxa@chem.ihu.gr

1 CURRICULUM VITAE

CURRENT POSITION

30/09/2019 – now	Assistant Professor International Hellenic University / Department of Chemistry, Hephaestus Laboratory, Kavala, Greece
----------------------------	---

PREVIOUS POSITION(S)

10/2016 – 09/2019	Research Associate Collaborating researcher at the Hephaistos Laboratory, Department of Petroleum and Natural Gas Technology Engineering and Mechanical Engineering, T.E.I. Eastern Macedonia and Thrace, Kavala, Greece
10/2018 – 03/2019	Academic Scholar Researcher and lecturer at the Civil Engineering Department, University of West Attica, Greece
02/2014 – 09/2019	Research Associate Collaborating researcher at the Laboratory of Strength of Materials, School of Applied Mathematics and Natural Sciences, National University of Athens, Zografou, Greece
09/2013 – 12/2015	Research Associate Collaborating researcher at the Laboratory of Structural Engineering and Elements of Technical Projects, School of Agricultural Surveying Engineering, National University of Athens, Greece
09/2009 – 12/2012	Research Assistance Laboratory assistant at the Technical Engineering Laboratory, Department of Engineering, Department of Civil Engineering, Democritus University of Thrace, Xanthi, Greece
11/2007 – 10/2010	Research Assistance Visiting Predoctoral Fellow at the Center of Advanced Cement Based Materials, Robert R. McCormick School of Engineering and Applied Science, Northwestern University, Chicago, USA

EDUCATION	
2013-2015	Post-Doc Research: School of Agronomists and Topographical Engineers, National Technical University of Athens, Greece. Post-Doc Thesis title: "Development of innovative building materials with the ability to monitor their structural integrity"
2008 -2012	Ph.D.: Polytechnic School in Xanthi, Department of Civil Engineering, Democritus University of Thrace, Greece, Ph.D. Thesis title: "Mechanical Behavior and Durability of Advanced Cement Based Materials", Grade: Excellent
2006 -2007	M.S.: Polytechnic School in Xanthi, Department of Civil Engineering, Democritus University of Thrace, Greece, Master program: "New materials and technologies in reinforced concrete design", Grade: 9,45/10
2000 -2005	B.S.: Polytechnic School in Xanthi, Department of Civil Engineering, Democritus University of Thrace, Diploma thesis title: "Debonding of Sandwich Beams with Foam Core", Grade: 7.53/10

PUBLICATIONS	
1.	Dimou, A.E., Metaxa, Z.S., Kourkoulis, S.K., Alexopoulos, N.D., Piezoresistive properties of natural hydraulic lime binary pastes with incorporated carbon-based nanomaterials under cyclic compressive loadings. <i>Nanomaterials</i> 12 (20), 3695 (2022). https://doi.org/10.3390/nano12203695
2.	Patrinou, A., Tziviloglou, E., Varoutoglou, A., Favvas, E., Kyzas, G.Z., Metaxa, Z.S., Cement Composites with Graphene Nanoplatelets and Recycled Milled Carbon Fibers Dispersed in Air Nanobubble Water. <i>Nanomaterials</i> 12 (16), 2786 (2022). https://doi.org/10.3390/nano12162786
3.	Dimou, A.E., Asimakopoulos, G., Karatasios, I., Gournis, D., Metaxa, Z.S., Kourkoulis, S.K., Alexopoulos, N.D., Self-diagnostic lime-pozzolan-cement restoration nanocomposites: Effect of graphene modification and cyclic loading level under compression. <i>Developments in the Built Environment</i> 10, pp. 100068 (2022). https://doi.org/10.1016/j.dibe.2022.100068
4.	Metaxa, Z.S., Boutsoukou, S., Amenta, M., Favvas, E.P., Kourkoulis, S.K., Alexopoulos, N.D., Dispersion of Multi-Walled Carbon Nanotubes into White Cement Mortars: The Effect of Concentration and Surfactants. <i>Nanomaterials</i> 12(6), pp. 1031 (2022). https://doi.org/10.3390/nano12061031
5.	Dimou, A.E., Metaxa, Z.S., Kourkoulis, S.K., Karatasios, I., Alexopoulos, N.D., Tailoring the binder matrix of lime-based binders for restoration interventions with regard to mechanical compatibility Construction and Building Materials 315, pp. 125717 (2022). https://doi.org/10.1016/j.conbuildmat.2021.125717
6.	Dimou, A.-E., Metaxa, Z.S., Alexopoulos, N.D., Kourkoulis, S.K., Assessing the potential of nano-reinforced blended lime-cement pastes as self-sensing materials for restoration applications. <i>Materials Today: Proceedings</i> 62, pp. 2482-2487 (2022). https://doi.org/10.1016/j.matpr.2022.02.623
7.	Amenta, M., Metaxa, Z.S., Papaioannou, S., Katsiotis, M.S., Kilikoglou, V., Kourkoulis, S.K., Karatasios, I., Quantitative evaluation of self-healing capacity in cementitious materials. <i>Material Design and Processing Communications</i> 152, pp. 1-7 (2021). https://doi.org/10.1002/mdp2.152
8.	Metaxa, Z.S., Tolkou, A.K., Efstathiou, S., Rahdar, A., Favvas, E.P., Mitropoulos, A.C., Kyzas, G.Z., Nanomaterials in Cementitious Composites: An Update. <i>Molecules</i> 26(5), pp.1430 (2021). https://doi.org/10.3390/molecules26051430
9.	Anastopoulos, S., Givannaki, F., Papanikos, P., Metaxa, Z.S., Alexopoulos, N.D., Calculation of a composite material's modulus of elasticity: Comparison of results using fixed angles orientation and RVE with those using random orientation tensor and multi-step homogenization. <i>Procedia Structural Integrity</i> 28, pp. 2132-2141 (2020). https://doi.org/10.1016/j.prostr.2020.11.040

10. Dimou, A.-E., Charalampidou, C.-M., Metaxa, Z.S., Kourkoulis, S.K., Karatasios, I., Asimakopoulos, G., Alexopoulos, N.D., Mechanical and electrical properties of hydraulic lime pastes reinforced with carbon nanomaterials. *Procedia Structural Integrity* 28, pp. 1694–1701 (2020). <https://doi.org/10.1016/j.prostr.2020.10.144>
11. Metaxa, Z.S., Kourkoulis, S.K., Dispersion of graphene nanoplatelets reinforcing type II cement paste. *Procedia Structural Integrity* 13, pp. 2011–2016 (2018). <https://doi.org/10.1016/j.prostr.2018.12.215>
12. Metaxa, Z.S., Neri, W., Poulin, P., Alexopoulos, N.D., Strain monitoring of cement-based materials with embedded polyvinyl alcohol - carbon nanotube (PVA-CNT) fibers. *Frattura ed Integrità Strutturale* 40, pp. 61-73 (2017). <http://dx.doi.org/10.3221/IGF-ESIS.40.06>
13. Z. S. Metaxa, E. D. Pasiou, I. Dakanali, I. Stavrakas, D. Triantis, S. K. Kourkoulis, Carbon nanotube reinforced mortar as a sensor to monitor the structural integrity of restored marble epistyles under shear. *Procedia Structural Integrity*, 2, 2833-2840 (2016). <https://doi.org/10.1016/j.prostr.2016.06.354>
14. Z. S. Metaxa, Exfoliated graphene nanoplatelet cement based nanocomposites as piezoresistive sensors - influence of nanoreinforcement lateral size on monitoring capability. *Ciência & Tecnologia dos Materiais*, 28, 73-79 (2016). <https://doi.org/10.1016/j.ctmat.2015.12.001>
15. Z. S. Metaxa, Polycarboxylate based superplasticizers as dispersant agents for exfoliated graphene nanoplatelets reinforcing cement based materials *Journal of Engineering Science and Technology Review* 8, pp. 1-5 (2015).
16. Z. S. Metaxa, M. S. Konsta-Gdoutos, S. P. Shah, Carbon nanofiber cementitious composites: effect of debulking procedure on dispersion and reinforcing efficiency. *Cement and Concrete Composites*, 36, 25-32 (2013). <https://doi.org/10.1016/j.cemconcomp.2012.10.009>
17. Z. S. Metaxa, J.-W.T. Seo, M. S. Konsta-Gdoutos, M. C. Hersam, S. P. Shah, Highly Concentrated Carbon Nanotube Suspensions for Cementitious Materials. *Cement and Concrete Composites*, 34, 612-617 (2012). <https://doi.org/10.1016/j.cemconcomp.2012.01.006>
18. Z. S. Metaxa, M.S. Konsta-Gdoutos, S.P. Shah, Carbon nanofiber-reinforced cement-based materials *Transportation Research Record: Journal of the Transportation Research Board* 2142, pp. 114-118 (2010). <https://doi.org/10.3141/2142-17>
19. M. S. Konsta-Gdoutos, Z. S. Metaxa, S. P. Shah, Multi-scale Mechanical and Fracture Characteristics and Early-age Strain Capacity of High Performance Carbon Nanotube/Cement Nanocomposites. *Cement and Concrete Composites*, 32, 110-115 (2010). <https://doi.org/10.1016/j.cemconcomp.2009.10.007>
20. M. S. Konsta-Gdoutos, Z. S. Metaxa, S. P. Shah SP, Highly Dispersed Carbon Nanotube Reinforced Cement Based Materials. *Cement and Concrete Research*, 40, 1052-1059 (2010). <https://doi.org/10.1016/j.cemconres.2010.02.015>

CONFERENCES/WORKSHOPS/etc

1. Z. S. Metaxa, A. Rafailidis, D. Papaevaggelou, E. Christodoulou, A. Ekmektsis, A. Mitropoulos, Cementitious demonstrator with graphene nanoplatelets for smart de-icing pavement applications, in Proceedings of the 38 Danubia-Adria Symposium on Advances in Experimental Mechanics, Poros, Greece, 2022.
2. A. Patrino, E. Tziviloglou, Z. S. Metaxa, Graphene nanoplatelets and recycled milled carbon fibers hybrid composites for multi scale cement paste reinforcement, in Proceedings of the 38 Danubia-Adria Symposium on Advances in Experimental Mechanics, Poros, Greece, 2022.
3. Prokopiou, V., Z. S. Metaxa, Micro-oxidation of wine in ceramic vessels with CNTs, in Proceedings of the 38 Danubia-Adria Symposium on Advances in Experimental Mechanics, Poros, Greece, 2022

4. E. Christodoulou, E. Karamfyllidou, G. Z. Kyzas, A. C. Mitropoulos, Z. S. Metaxa, Carbon based nanomaterials from food waste as reinforcement in cement-based materials, in Proceedings of the ECF23, European Conference on Fracture 2022, Madeira, Portugal, 2022.
5. A. Ekmektsis, A. Rafailidis, A. C. Mitropoulos, Z. S. Metaxa, Carbon based cementitious nanocomposites for de-icing applications, in Proceedings of the ECF23, European Conference on Fracture 2022, Madeira, Portugal, 2022.
6. E. Christodoulou, M. Amenta, Z. S. Metaxa, D. Papaevaggelou, S. K. Kourkoulis, A. Ekmektsis, A. C. Mitropoulos, Use of marble crushed sand in cementitious materials, in Proceedings of the 2nd Mediterranean Conference on Fracture and Structural Integrity, MedFract2, February 2022.
7. Z. S. Metaxa, E. P. Favvas, A. C. Mitropoulos, Dispersing Carbon Nanomaterials facilitating aqueous air nanobubble solutions for use in cement based materials, in Proceedings of the 1st Virtual European Conference on Fracture (VECF1), June 2020.
8. E. Christodoulou, Z. S. Metaxa, O. Theocharidis, A. Ekmektsis, A. C. Mitropoulos, Partial replacement of cement by waste marble slurry, in Proceedings of the 1st Virtual European Conference on Fracture (VECF1), June 2020.
9. Z. S. Metaxa, S. Boutsoukou, Multi-Walled Carbon Nanotube White Cement-Based Mortars for the Restoration of Cultural Heritage Monuments, in Proceedings of the 1st International Conference of the GREEK SOCIETY OF EXPERIMENTAL MECHANICS OF MATERIALS Athens, Greece, May 10-12, 2018, pp. 153-154.
10. Z. S. Metaxa, S. K. Kourkoulis, Electrical Resistance Change as a health Monitoring Tool in Graphene Cementitious Nanocomposites, in Proceedings of the ICEM2018: 18TH INTERNATIONAL CONFERENCE ON EXPERIMENTAL MECHANICS, Brussels, Belgium, July, 2018.
11. Z. S. Metaxa, S. K. Kourkoulis, Cement Based Nanocomposites with Self-Diagnostic Characteristics, in Proceedings of the 21st International Conference on Composite Materials, Xi'an, 20-25th August 2017.
12. Z. S. Metaxa, Structural Health Monitoring of Cement Based Materials Reinforced with Graphene Nanoplatelets, In Proceedings of the 20th International Conference on Composite Materials, Copenhagen, Denmark, 19-24 July 2015.
13. N.D. Alexopoulos, S. Boutsoukou, F. Giannakopoulou, Z. S. Metaxa, S.K. Kourkoulis, "Reinforcement at the nanoscale of cementitious materials made from white cement with multiwall carbon nanotubes", In Proceedings from the 6th International Conference on Mechanics and Materials in Design (M2D2015), Azores, Portugal, 26-30 July 2015.
14. Z. S. Metaxa, S. Boutsoukou, S. Nitodas, S. K. Kourkoulis, Nano-additions of multiwall carbon nanotubes in white cement for restoration of monuments of Cultural Heritage, In Proceedings from the International Conference of Science in Technology (SCinTE2015), Volume 1 / Topic A: Applied Mechanics, Civil and Energy Engineering, ISBN: 978-618-5208-01-1, pp. 133-135.
15. S. F. Nitodas, S. K. Kourkoulis, Z. S. Metaxa, N. D. Alexopoulos, S. Boutsoukou, P. Mimigianni, Use of Multi-Wall Carbon Nanotubes in Cement-Based Materials for the Real-Time Monitoring of Smart Structures, in Proceedings of the 2015 AIChE Annual Meeting, November, 2015, Salt Lake City, UT, USA.
16. Z. S. Metaxa, Structural Health Monitoring of Cement Based Materials Reinforced with Graphene Nanoplatelets, In Proceedings of the 20th International Conference on Composite Materials, Copenhagen, Denmark, 19-24 July 2015.
17. N.D. Alexopoulos, S. Boutsoukou, F. Giannakopoulou, Z. S. Metaxa, S.K. Kourkoulis, "Reinforcement at the nanoscale of cementitious materials made from white cement with multiwall carbon nanotubes", In Proceedings from the 6th International Conference on Mechanics and Materials in Design (M2D2015), Azores, Portugal, 26-30 July 2015.
18. Z. S. Metaxa, S. Boutsoukou, S. Nitodas, S. K. Kourkoulis, Nano-additions of multiwall carbon nanotubes in white cement for restoration of monuments of Cultural Heritage, In Proceedings from the

International Conference of Science in Technology (SCinTE2015), Volume 1 / Topic A: Applied Mechanics, Civil and Energy Engineering, ISBN: 978-618-5208-01-1, pp. 133-135.
19. Z.S. Metaxa, E.P. Favvas, C. Mercader, F. Poulin and N.D. Alexopoulos, "A preliminary study on the development of graphene/cement based nanocomposites", In CD-ROM Proceedings of the 39th Solid Mechanics Conference (SOLMECH) Zakopane, Poland, 1-5 September 2014, P130.
20. Z.S. Metaxa, N.D. Alexopoulos, P. Papanikos, C. Stergiou, "Tensile mechanical behaviour of aeronautical 2024 and 2198 aluminum alloys after corrosion exposure", In Proceedings of the 4th International Conference on Integrity, Reliability and Failure, Funchal, Portugal, 23-27 June 2013, p. 237.
21. Z. S. Metaxa, M. S. Konsta-Gdoutos, S. P. Shah, "Carbon nanofiber cementitious composites: effect of debulking procedure on dispersion and reinforcing efficiency," In: Konsta-Gdoutos MS, editor. Proceedings of the 4th International Symposium on Nanotechnology in Construction, NICOM4, May 20 – 22, Agios Nicolaos, Greece.
22. Z. S. Metaxa, S. Boutsoukou, S. Nitodas, S. K. Kourkoulis, Nano-additions of multiwall carbon nanotubes in white cement for restoration of monuments of Cultural Heritage, In Proceedings from the International Conference of Science in Technology (SCinTE2015), Volume 1 / Topic A: Applied Mechanics, Civil and Energy Engineering, ISBN: 978-618-5208-01-1, pp. 133-135.
23. S. P. Shah, M. S. Konsta-Gdoutos, Z. S. Metaxa, Advanced Cement Based Nanocomposites, In: Kounadis AN, Gdoutos EE, editors. Recent Advances in Mechanics, Springer, pp. 313-327.
24. Shah, S.P., Konsta-Gdoutos, M.S., and Metaxa, Z.S., Fiber Reinforced Concrete: from Macro to Nanoscale, Proceedings of the 9th International Symposium on High Performance Concrete, August 9-11, 2011, New Zealand.
25. M. S. Konsta-Gdoutos, Z. S. Metaxa, Mechanical and Fracture Properties of Cementitious Materials Reinforced at the Nano and Microscale, In: Panasyuk VV, Gdoutos EE, Bobalo YuYa, editors. Proceedings of the Second Ukrainian-Greek Symposium on Fracture Mechanics of Materials and Structures, pp. 87-88.
26. Z. S. Metaxa, Fracture Characteristics of Cementitious Materials Reinforced with Carbon Nanoscale Fibers, In: Gdoutos EE, Konsta-Gdoutos MS, editors. Proceedings of the First Greek – Russian Symposium on Advanced Solid and Fracture Mechanics October 10 – 13, Xanthi, Greece (2011).
27. Z. S. Metaxa, M. S. Konsta-Gdoutos, S. P. Shah, Mechanical Properties and Nanostructure of Cement Based Materials Reinforced with Carbon Nanofibers and PVA Microfibers, ACI Special Publication 270: Advances in the Material Science of Concrete, SP-270-10, 115-124.
28. S. P. Shah, M. S. Konsta-Gdoutos, Z. S. Metaxa, Exploration of Fracture Characteristics, Nanoscale Properties and Nanostructure of Cementitious Matrices with Carbon Nanotubes and Carbon Nanofibers, Proceedings of the 7th International Conference on Fracture Mechanics of Concrete and Concrete Structures, FramCos-7, May 23-28, 2010 Jeju, Korea.
29. M. S. Konsta-Gdoutos, Z. S. Metaxa, S. P. Shah, Multiscale Fracture Characteristics of Cement Based, Materials Reinforced with Carbon Nanofibers, Proceedings of the International Conference: 18th European Conference of Fracture, ECF18, edited by V. Mechtherine, Dresden, Germany
30. Z. S. Metaxa, M. S. Konsta-Gdoutos, S. P. Shah, Mechanical Properties and Nanostructure of Cement Based Materials Reinforced with Carbon Nanofibers and PVA Microfibers, ACI Special Publication 270: Advances in the Material Science of Concrete, SP-270-10, 115-124.
31. S. P. Shah, M. S. Konsta-Gdoutos, Z. S. Metaxa, P. Mondal, Nanoscale modification of cementitious materials, In: Bittnar Z, Bartos PJM, Nemecek J, Smilauer V, Zeman J, editors. Nanotechnology in construction 3. Springer, pp. 125-130.
32. Z. S. Metaxa, M. S. Konsta-Gdoutos, S. P. Shah, Carbon Nanotubes Reinforced Concrete, ACI Special Publication on Nanotechnology of Concrete: The Next Big Thing is Small, SP-267-2, 2009, pp. 11-20.

33. S. P. Shah, M. S. Konsta-Gdoutos, Z. S. Metaxa, P. Mondal, Nanoscale modification of cementitious materials, In: Bittnar Z, Bartos PJM, Nemecek J, Smilauer V, Zeman J, editors. Nanotechnology in construction 3. Springer, 2009, pp. 125-130.
34. M. S. Konsta-Gdoutos, Z. S. Metaxa, S. P. Shah, Nanoimaging of Highly Dispersed Carbon Nanotube Reinforced Cement Based Materials, In: Gettu R., editor. Proceedings of the Seventh International RILEM Symposium on Fiber Reinforced Concrete: Design and Applications, RILEM Publications S.A.R.L., 2008, pp. 125-131
35. E. E. Gdoutos, Z. S. Metaxa, Kinking of an Interfacial Crack in Sandwich Beams, Proceedings of the SEM Annual Conference and Exposition on Experimental and Applied Mechanics 3, 2007, pp. 1431-1439.
36. M. S. Konsta-Gdoutos, I. M. Daniel, Z. S. Metaxa, J. Cho, Thermo-Mechanical Characterization of Epoxy/Silica Nanocomposites, Experimental Analysis of Nano and Engineering Materials and Structures, Proc. 13th International Conference on Experimental Mechanics, Alexandroupolis, Greece, edited by E. E. Gdoutos, Springer, Netherlands, 2007, pp. 43-44.

MEMBERSHIPS & REVIEWING ACTIVITIES	
MEMBERSHIPS:	
2010 - now	American Concrete Institute (ACI)
2012 – now	ACI Technical Committee 236-D Material Science-Nanotechnology of Concrete
2012 - now	American Nano-Society
2017 - now	European Structural Integrity Society
2018 - now	Greek Society of Experimental Mechanics of Materials
2006 - now	Technical Chamber of Greece
REVIEWING ACTIVITIES	
Construction and Building Materials (Elsevier)	
Cement and Concrete Composites (Elsevier)	
Cement and Concrete Research (Elsevier)	
Composites Science and Technology (Elsevier)	
Journal of Composite Materials (SAGE)	
KSCE Journal of Civil Engineering (Springer)	
Materials and Design (Elsevier)	
Materials (MDPI)	
Polymers (MDPI)	
Environmental Science and Pollution Research (Springer)	
International Journal of Structural Integrity (Emerald)	

TEACHING ACTIVITIES	
10/2019 – now	<p><i>Undergraduate courses at:</i></p> <p>Chemistry Department:</p> <ul style="list-style-type: none"> • Strength of materials (theory+laboratory) • Materials Characterization (theory+laboratory) • Inorganic Materials Chemistry • Chemistry Terminology in a Foreign Language <p>Department of Petroleum, Natural Gas Technology and Mechanical Engineering:</p> <ul style="list-style-type: none"> • Strength of Materials • Materials Technology • Vehicle Engineering • Computer-aided design (laboratory) • English (Technical terminology) (theory-laboratory) <p><i>Postgraduate courses at:</i></p> <p>MPhil in Nanotechnology:</p> <ul style="list-style-type: none"> • Research Methodology • Nanotechnology – Nanomaterials <p>MSc in Oil and Gas Technology:</p> <ul style="list-style-type: none"> • Risk Analysis and Manufacturing Cost • Oil Well Cementing
2018 – 2019	Strength of Materials course at the Department of Civil Engineering, University of West Attica
2018 – 2019	Structural Materials course (laboratory) in the Department of Civil Engineering, University of West Attica
2012– 2013	Tutorial exercises Structural Engineering II course, School of Architectural Engineering, National Technical University of Athens
2006– 2007 2010– 2013	Tutorial exercises Solid Body Mechanics I course, Department of Civil Engineering, Democritus University of Thrace
2012– 2013	Tutorial exercises Solid Body Engineering II course, Department of Civil Engineering, Democritus University of Thrace
2010– 2012	Tutoring exercises postgraduate course Experimental Engineering, Department of Civil Engineering, Democritus University of Thrace

SUPERVISION OF GRADUATE STUDENTS & POSTDOCTORAL FELLOWS	
10/2019 - now	<p>9 Master Students (Liourmpas N./ Solomou G./ Soutanides Th. / Patrino A. / Karamfyllidou E. / Rafailidis A. / Prokopiou V. / Georgiadis L. / Iliadou E.)</p> <p>Chemistry Department/International Hellenic University/Greece</p>

FELLOWSHIPS and AWARDS	
2015-2016	Scholarship: Eastern Macedonia and Thrace Institute of Technology fellowships for assisting young scientists in prototyping innovative products by using cutting-edge technology, with the exclusive support of Stavros Niarchos Foundation
2013-2015	Scholarship of the Foundation of State Scholarships (I.KY.) for the preparation of post-doctoral research in Greece. Title: Development of innovative building materials with the ability to monitor their structural integrity
2009-2011	Pericles S. Theohari Scholarship
2016	Award: European Conference o Fracture - ECF21, ESIS Support for Researchers Award.
2018	Award: 18th International Conference on Experimental Mechanics - ICEM2018, EURASEM - ICEM18 Conference attendance award 2018.

RESEARCH GRANTS			
Project Title	Funding source	Period	Role of the PI
Nanoreinforced concrete for pavement deicing – NEA ODOS	Project RESEARCH - CREATE - INNOVATE	2018-now	Technical coordinator, responsible for: nanocomposites development and characterization / pilot application / proposal submission
Utilization of marble byproducts to enhance cement based materials - MARMAROTSIMENTO	Investment innovation plans for research and development companies in the quarrying sector	2018-2022	Associate Principal Investigator (PI) responsible for: marble byproducts characterization, composites development and characterization
Self-healing and self-sensing nano-composite conservation mortars - AKEISTHAI	Project RESEARCH - CREATE - INNOVATE	2018-2022	Responsible for: nanocomposites development and characterization
Real time non-destructive structural health monitoring and damage assessment of concrete structures using smart self-sensing cement based hybrid nanocomposites – Nano cement sensor	Eastern Macedonia and Thrace Institute of Technology fellowships for assisting young scientists in prototyping innovative products by using cutting-edge technology	2016-2018	Principal Investigator (PI), responsible for project implementation, development of sensor made from cementitious matrix and graphene nanoplatelets (GnPs)
Monitoring of the structural integrity of restored structural parts in ancient monuments of cultural heritage by employing hybrid materials reinforced with carbon nanotubes	Support new companies for research and development actions	2014-2015	Technical coordinator, responsible for: nanocomposites development and characterization / pilot application
Development of innovative cement based nanocomposites with stress/strain sensing capabilities	IKY fellowships of excellence for postgraduate studies in Greece–Siemens Program	2013-2015	Principle Investigator (PI) responsible for project implementation, development and study of the electrical and piezoresistive properties of cementitious nanocomposites with GnPs

Experimental and theoretical investigation of mechanical properties degradation of the aeronautical aluminum alloy 2024 due to corrosion	Research Program EPEAEK - Archimedes III	2013-2015	Researcher, responsible for: alluminum alloys artificial aging and corrosion
Center for Multifunctional Nanocomposite Construction Materials	THALIS Project	2012-2015	Researcher, responsible for the development and characterization of cement-based nanocomposites with carbon nanotubes (CNTs) and nanofibers
Production and mechanical characterization of nanocomposite materials	Democritus university of Thrace	2011	Researcher, measurement of the piezoresistive properties of CNT/cement nanocomposites
Pericles S. Theohari Scholarship	Pericles S. Theohari Foundation	2009-2011	Researcher, perform PhD thesis research
Crack free concrete made with nanofiber reinforcement	Northwestern University, Transportation research board	2007-2010	Researcher responsible for the implementation of the project

2 SCIENTIFIC ACHIEVEMENTS

- ✓ 19 publications in peer-reviewed international **journals** (1533 citations with excluded self-citations with an Hirsch index (**h-index**) = **10**, as searched in 10/10/2022 with Scopus engine) Scopus Author ID: 22980975400 <https://www.scopus.com/authid/detail.uri?authorId=22980975400>
- ✓ <https://www.researchgate.net/profile/Zoi-Metaxa>
- ✓ <https://orcid.org/my-orcid?orcid=0000-0001-6588-4298>
- ✓ 34 presentations at International and National scientific **conferences**

Granted patents

1. "Highly dispersed carbon nanotube reinforced cement based materials", by S.P. Shah, M.S. Konsta-Gdoutos and Z.S. Metaxa, US Patent and Trademark Office, Patent US9365456 B2.
2. "Highly Concentrated Carbon Nanotube Suspensions for Cementitious Materials and Method of Reinforcing Such Materials", by M. C. Hersam, J.-W.T. Seo, S. P. Shah, M. S. Konsta-Gdoutos and Z. S. Metaxa, US Patent and Trademark Office, Patent US8865107 B2
3. "Sensors made of cement-based nanocomposite materials for continuous and non-destructive testing of the structural integrity of concrete structures in real time", by Z.S. Metaxa, S.K. Kourkoulis, E.P., Favvas, A.C. Mitropoulos, Hellenic Industrial Property Organization, 20170100137.

Awards

- European Conference o Fracture - ECF21, ESIS Support for Researchers Award
- 18th International Conference on Experimental Mechanics - ICEM2018, EURASEM - ICEM18 Conference attendance award 2018