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Laboratory of Advanced Materials and Constructions

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AREAS OF COMPETENCE

Mechanics of Polymers and Composites, Experimental Characterization of Materials, Solid Mechanics, Biomechanics and Biomaterials; Fracture Mechanics.

EDUCATION

1. Ph.D. in Applied Mechanics (2000), Department of Mechanical and Aeronautical Engineering, University of Patras, Patras, Greece.
2. Master of Science in Applied Mechanics and Systems Simulation, Department of Civil Engineering, University of Volos, Volos, Greece.
3. Diploma in Paedagogics (1999) Ioannina Paedagogic Department, Ioannina, Greece.
4. Doctoral Fellow (1993-1994), (through National Scholarships Foundation), Vrije Universiteit Brussel, Brussels, Belgium.
5. Diploma in Mechanical Engineering (1992), Department of Mechanical Engineering, University of Patras, Patras, Greece.

PROFESSIONAL EXPERIENCE

1. Professor, (2019-today), Department of Energy Systems, University of Thessaly, Larissa, Greece.
2. Elected Vice Rector (2017-2019), Technological Educational Institute of Thessaly, Larissa, Greece.
3. Elected Member of the Board of the Academic Council (2016-2017), Technological Educational Institute of Thessaly, Larissa, Greece.
4. Elected Dean of the Faculty (2010-2014), Faculty of Applied Sciences, Technological Educational Institute of Larissa, Larissa, Greece.
5. Vice Dean of the Faculty (2007-2009), Faculty of Applied Sciences, Technological Educational Institute of Larissa, Larissa, Greece.
6. Elected Head of the Department (2008-2010), Department of Mechanical Engineering, Technological Educational Institute of Larissa, Larissa, Greece.
7. Elected Head of the Department (2006-2008), Department of Mechanical Engineering, Technological Educational Institute of Larissa, Larissa, Greece.
8. Professor of Strength of Materials (2011-today), Department of Mechanical Engineering, Technological Educational Institute of Larissa, Larissa, Greece.
9. Associate Professor of Strength of Materials (2005-2011), Department of Mechanical Engineering, Technological Educational Institute of Larissa, Larissa, Greece.
10. Teaching Associate in the Graduate Studies Program of the Department of Agriculture Crop Production and Rural Environment (2002-2006), University of Thessaly, Volos, Greece.
11. Assistant Professor (under contract) (2002-2006), Department of Agriculture Crop Production and Rural Environment, University of Thessaly, Volos, Greece.
12. Assistant Professor (under contract) (2002-2011), Department of Ichthyology and Aquatic Environment, University of Thessaly, Volos, Greece.
13. Assistant Professor (under contract), (2002-2006) Department of Mechanical Engineering, Technological Educational Institute of Larissa, Larissa, Greece.
14. Teaching assistant, in the course "Statics"(1996-2000), Department of Chemical Engineering, University of Patras, Patras, Greece.

15. Teaching assistant, in the courses “Viscoelasticity” and “Introduction in Composite materials”, (1996-1999), Department of Mechanical and Aeronautical Engineering, University of Patras, Patras, Greece.

AWARDS

1. Doctoral Fellow (1993-1994), (through National Scholarships Foundation), Vrije Universiteit Brussel, Brussels, Belgium.
2. Best Paper Award, (2009), 11th International Conference on Sustainability in Science and Engineering (SSE' 09), 1999, Timisoara, Romania.

PROFESSIONAL PARTICIPATIONS

Member of:

1. Technical Chamber of Greece
2. Hellenic Union of Mechanical Engineers
4. Hellenic Society for Biomaterials (HSB)
5. Hellenic Society of Thermal Analysis (HSTA)
6. European Society of Biomechanics (ESB)

PROJECTS AND RESEARCH GRANTS

1. *Design and Construction of New types of Composite Materials with a Controlled Fiber Matrix Interphase*, PENED 1995, 1/5/1996-30/4/1998, General Secretary of Research and Technology (GSRT). Role in the Project : **Main Researcher**.
2. *Recycling of Thermoplastic Composites*, BE 5586 Project, Contract No: BREU-CT92-0121, Task 7, Subtask 7.2, 1996, INtegrated Aerospace Science COrporation S.A., Role in the Project : **Main Researcher**.
3. *Unit of Innovation and Entrepreneurship of Technological Educational Institute of Larissa*, 2011-2014. EPEDBM, Ministry of Education LifeLong Learning and Religious Affairs, Role in the Project : **Project Coordinator**.
4. *Nanostructured Geopolymers and Calcium Phosphate based Biocements and Implants (NANO.GEO.S.CA.PHO.L.)*, Project THALIS, 2011-2015, EPEDBM, Ministry of Education LifeLong Learning and Religious Affairs, Role in the Project : **Project Coordinator**.
5. *Algal Fuel Production*, Project SYNERGASIA, 2013-2015 General Secretary of Research and Technology (GSRT). Role in the Project : **Main Researcher**.
6. *Novel Ceramics*, Project SYNERGASIA, 2013-2015, General Secretary of Research and Technology (GSRT), Role in the Project : **Team Coordinator**.
7. *Biodegradable food packaging based on essential oils embedded polymeric matrices (NANO.BIO.PACK)*, Project Special Action in “AQUACULTURE-INDUSTRIAL MATERILAS00OPEN INNOVATION IN CULTURE”, 2019-2021, General Secretary of Research and Technology (GSRT), Role in the Project: **Team Coordinator**.
8. *Materials with antifouling properties based on TiO₂ for aquaculture applications (FishNets)*, Project Special Action in “AQUACULTURE-INDUSTRIAL MATERILAS00OPEN INNOVATION IN CULTURE”, 2019-2021, General Secretary of Research and Technology (GSRT), Role in the Project: **Team Coordinator**.
9. *Improvement of Mechanical Properties of Wood Pellets*, INNOVATION VOUCHERS, 2012, General Secretary of Research and Technology (GSRT)., Role in the Project : **Project Coordinator**.
10. **Participation** or **Coordination** of various Projects in cooperation with industries or enterprises (INASCO S.A., EXALCO S.A., AIGAION. S.A., STUFF COLOUR ENERGY S.A. METALLOCK S.A. etc).

MEMBER IN CONFERENCES SCIENTIFIC COMMITTEE

1. Computational Methods in Offshore Technology- COTech2017, Nov. 30 - Dec. 1, 2017, Stavanger , Norway.
2. 7th International Conference on Structural Analysis of Advanced Materials, September 19-22, 2017, Bucharest, Romania.
3. International Conference on Experiments, Process, System Modelling, Simulation, Optimization (7th IC-EpsMsO), 2017, Athens, Greece.
4. 3rd FaBE International Conference 31 May-4 June 2017, Rhodes, Greece

5. 7th Hellenic Conference on Thermal Analysis (THERMA 2016), 2016, University of Ioannina, Ioannina, Greece.
6. 10th Anniversary Conference of the Hellenic Society of Biomaterials, 2015, National Hellenic Research Foundation, Athens, Greece.
7. 2nd FaBE International Conference 2015, 2015, Mykonos, Greece
8. 6th International Conference on Structural Analysis of Advanced Materials, ICSAAM 2015, 2015 September 8-11, Porto, Portugal.
9. 6th Hellenic Conference on Thermal Analysis (THERMA 2014), 2014, Technological Educational Institute of Thessaly, Larissa, Greece.
10. 11th International Conference in Durability Analysis of Composite Systems (DURACOSYS) , 2014, Vrije Universiteit Brussel (VUB), Tokyo, Japan.
11. 6th International Conference, from Scientific Computing to Computational Engineering (6th IC-SCCE), 2014, Athens, Greece.
12. International Conference on Experiments, Process, System Modelling, Simulation, Optimization (5th IC-EpsMsO), 2013, Athens, Greece.
13. 5th International Conference on Structural Analysis of Advanced Materials, ICSAAM 2013, 2013, Island of Kos, Greece.
14. 1st FaBE International Conference 2013, 2013, Skiathos, Greece
15. 10th International Conference in Durability Analysis of Composite Systems (DURACOSYS) , 2012, Vrije Universiteit Brussel (VUB), Brussels, Belgium.
16. 4th International Conference on Experiments, Process, System Modelling, Simulation, Optimization (4th IC-EpsMsO), 2011, Athens, Greece.
17. 8th International Conference “Standardization, Prototypes and Quality: A Means of Balkan Countries’ Collaboration, October 7- 8, 2011. Aristoteles University of Thessaloniki, Thessaloniki, Greece
18. International Conference on Structural Analysis of Advanced Materials (ICSAAM 2011), 2011, Bucarest, Romania.
19. 4th Hellenic Conference of Thermal Analysis, (THERMA 2010), 2010, University of Patras, Patras, Greece.
20. 4th International Conference, from Scientific Computing to Computational Engineering (4th IC-SCCE), 2010, Athens, Greece.
21. 9th International Conference in Durability Analysis of Composite Systems (9th DURACOSYS), 2010 University of Patras, Patras, Greece.
22. International Conference on Structural Analysis of Materials (ICSAM 2007), 2007, University of Patras, Patras, Greece.
23. 4th Mediterranean Conference on Calorimetry and Thermal Analysis, (MEDICTA ‘99), 1999, University of Patras, Patras, Greece.

MEMBER OF EDITORIAL BOARD IN INTERNATIONAL JOURNALS

1. American Journal of Materials Science and Engineering
2. Nanoscience and Nanotechnology Research
3. American Journal of Energy Engineering

REVIEWER IN INTERNATIONAL JOURNALS

1. American Journal of Materials Science and Engineering
2. International Journal of Materials Engineering
3. American Journal of Polymer Science
4. Composites Part A: Applied Science and Manufacturing
5. American Journal of Energy Engineering
6. Express Polymer Letters
7. Applied Mathematics and Computation
8. Environmental Engineering and Management Journal.
9. Journal of Polymer and Biopolymer Physics Chemistry
10. Acta Astronautica
11. Journal of Mechanics of Time Dependent Materials
12. Journal of Aerospace Technology and Management

MEMBER IN EVALUATION COMMITTEES

1. External Expert, Remote Evaluation of COST Action Proposal, COST Association, EU.
2. Certified Evaluator, General Secretariat of Research and Technology, Greek Ministry of Education, Research and Religious Affairs, Greece.
3. Scientific Expert, Technical Chamber of Greece.
4. Scientific Evaluator, School of Pedagogical and Technological Education (ASPETE), Athens.
5. Member of the committee for the evaluation of Regional Council of Research and Innovation, Thessaly Regional Administration, Thessaly, Greece.

SELECTED PUBLICATIONS IN INTERNATIONAL PEER-REVIEWED JOURNALS

1. **S.P.Zaoutsos**, “Experimental Characterization of Creep-Fatigue Interaction Loading Modes on Carbon Fiber Reinforced Polymers”, to appear in *Plastics Rubbers and Composites*.
2. A. Kollia; L.C. Kontaxis; G.C. Papanicolaou; **S.P. Zaoutsos**, “Effect of Thermal Shock Cycling on the Quasi-Static and Dynamic Flexural Properties of Flax Fabric-Epoxy Matrix Laminates, to appear in *Applied Polymer Science*” 2019, DOI 10.1002/APP.48529.
3. A. Kollia, G.C. Papanicolaou, **S.P. Zaoutsos**, “Effect of Thermal Shock Cycling on the Dynamic Mechanical Properties of Epoxy Matrix Composites Reinforced with Natural Fiber Fabric”, *Pharmaceutical*, Volume 30, Issue 4, 2018.
4. V. Boursiaki, C. Theochari, **S.P. Zaoutsos**, E. Mente, D. Vafidis, P. Berillis, ‘Understanding the skeletal deformity of scoliosis in gilthead seabreams (*Sparus aurata*): Is it associated with changes to calcium-phosphor hydroxyapatite salts and collagen fibers’, *Water* 2019, 11(2), 257; <https://doi.org/10.3390/w11020257>.
5. D.E. Mouzakis, **S.P. Zaoutsos**, P.J. Charitidis, G.D. Stathakopoulos, D.G. Stathakopoulos, Compression after Impact Response of Carbon Fiber Reinforced Composites, *International Journal of Terraspace Science and Engineering*, Volume 9, Issue 2, August 2017.
6. J. Castritsi-Catharios **S.P. Zaoutsos**, P. Berillis, G. Zouganelis, G. Ekonomou, E. Kefalas, J. Pantelis, Kalymnos, the Island which made history in Sponge Fishery. Data On Physical Parameters, Elemental Composition and DNA Barcode Preliminary Results of the Most Common Sponge Species In Aegean Sea, *Regional Studies in Marine Science*, 13, 71-79, 2017.
7. D.E. Mouzakis, **S.P. Zaoutsos**, N. Bouropoulos, S. Rokidi, G.C. Papanicolaou, Influence of artificially induced porosity on the compressive strength of calcium phosphate bone cements, *Journal of Biomaterials Applications*, 2016 Jul;31(1):112-20. DOI: 10.1177/0885328216636762.
8. A. Bimis, D. Karalekas, N. Bouropoulos, D.E. Mouzakis, **S.P. Zaoutsos**, Monitoring of hardening and hygroscopic induced strains in a calcium phosphate bone cement using FBG sensor, *Journal of the Mechanical Behaviour of Biomaterials*, Vol. 60, 2016, pp. 195-202 DOI:10.1016/j.jmbbm.2015.12.041.
9. D. E. Mouzakis, N. Bouropoulos, S. Rokidi, **S.P. Zaoutsos**, Time Dependent Properties of Nanocomposite, Hydroxyapatite Based Bone Cements, *International Journal of Nanomedicine and Nanosurgery*, Volume: 1.2, 2015, [http:// dx.doi.org/10.16966/ijnn.105](http://dx.doi.org/10.16966/ijnn.105).
10. M. Alexopoulou, E. Mystiridou, D. Mouzakis, **S.P. Zaoutsos**, Dimitrios Fatouros, N. Bouropoulos Preparation, characterization and in vitro assessment of ibuprofen loaded calcium phosphate/gypsum bone cements, *Crystal Research & Technology*, 2016, Vol.51, Issue 1, page 41-48. DOI: 10.1002/crat.201500143.
11. V. Karayannis, G. Papapolymerou, **S.P. Zaoutsos**, S. Lamprakopoulos, K. Ntampeglitis, X. Spiliotis, Innovative Synergistic Valorization of Lignite Fly Ash and Steel Industry Scrap-soil as Secondary Resources for Compacted Ceramics, *Key Engineering Materials* Vol 660 (2015) pp 268-272, DOI:10.4028/www.scientific.net/KEM.660.268
12. G.C. Papanicolaou, L. Kontaxis, A. F. Koutsomitopoulou, **S.P. Zaoutsos**, Stress Relaxation Behaviour of of Starch Powder-Epoxy Resin Composites, , *Journal of Applied Polymer Science*, Vol. 132 (12), 2015, DOI: 10.1002/app.41697.

13. G.C. Papanicolaou, G.P. Lagas, **S.P. Zaoutsos**, Viscoelastic Behavior of Hybrid Building Materials, *Journal of Applied Polymer Science*, Vol. 132 (6), 2015 DOI: 10.1002/app.41429
14. D. E. Mouzakis, G. Rachiotis, **S.P. Zaoutsos**, A. Eleftheriou K. N. Malizos "Finite Element Simulation of the Mechanical Impact of Computer Work on the Carpal Tunnel Syndrome", *Journal of Biomechanics*, Vol. 47 (12), pp. 2989–2994, 2014. DOI: <http://dx.doi.org/10.1016/j.jbiomech.2014.07.004>
15. D.E. Mouzakis, D.G. Dimogiannopoulos, **S. P. Zaoutsos**, 'Damage Assessment of Carbon Fiber Reinforced Composites under Accelerated Aging and Validation via Stochastic Model-based Analysis' *International Journal of Damage Mechanics*, Vol. 23 (5) pp. 702-726, 2014. DOI: 10.1177/1056789513508798
16. M. G. Christodoulou, Apostolos Papalois, D..E. Mouzakis, **S.P. Zaoutsos**, T. Kouranos, M. Seferlis, C. Katsifotis, A. Liapis, Dynamic mechanical properties of tissue after long term implantation of collagen and polypropylene meshes in animal models, *Open Journal of Urology*, Vol.3 (3), pp. 155-159 2013 DOI: 10.4236/oju.2013.33029
17. **S.P. Zaoutsos**, "An Investigation of the Nonlinear Viscoelastic Response of Carbon Fiber Polymer Matrix Composites under Multiple Step Creep/Creep-Recovery Loading", *Plastics Rubbers and Composites*, Vol. 42 (8), pp. 315-322, 2013. DOI: <http://dx.doi.org/10.1179/1743289811Y.0000000055>.
18. **S.P. Zaoutsos**, D.E. Mouzakis, 'Aspects of Durability Analysis of CFRP's regarding the Creep-Fatigue Interactions between Different Loading Modes', *International Journal of Terraspace science and Engineering*, Vol 5(1), pp. 33-41, 2012
19. D. E. Mouzakis, **S. P. Zaoutsos**, D. G. Dimogianopoulos Accelerated Aging Assessment and Stochastic Detection of Related Damage in Carbon Fiber Reinforced Composites, *Journal of Terraspace Science and Engineering*, *International Journal of Terraspace Science and Engineering*, Vol 5(1), pp. 19-24, 2012.
20. D. E. Mouzakis, **S. P. Zaoutsos**, N. Bouropoulos, C. Bouropoulos, N. Ferakis, H. Poulis, 'Comprehensive modeling of the viscoelastic relaxation behavior of polypropylene tension free urinary incontinence tapes', *Advanced Science, Engineering and Medicine*, Vol. 3, 1–5, 2011
21. G. C. Papanicolaou, K. P. Papaefthymiou, A. F. Koutsomitopoulou, D. V. Portan, **S. P. Zaoutsos** 'Effect of dispersion of MWCNTs on the static and dynamic mechanical behaviour of epoxy matrix nanocomposites' *Journal of Materials Science* January 2012, Vol. 47, 1, pp 350–359 DOI 10.1007/10853-011-5804-1
22. **S.P. Zaoutsos**, G. C. Papanicolaou 'On the Influence of Preloading in the Nonlinear Viscoelastic Response of Carbon Epoxy Composites' *Composite Science and Technology*, 2010, Vol. 70, pp. 922-929.
23. G. C. Papanicolaou, A. G. Xepapadaki, S Pavlopoulou, **S. P Zaoutsos**, 'On the Investigation of the Stress Threshold from Linear To Nonlinear Viscoelastic Behaviour of Polymer-Matrix Particulate Composites', *Journal of the Mechanics of Time Dependent Materials*, 2009, May, Vol. 13(3), pp. 261-274.
24. G.C. Papanicolaou, A.G. Xepapadaki, K. Karagounaki, **S. P. Zaoutsos**, 'Time and Temperature Effect on the Linear-Nonlinear Viscoelastic Transition Threshold of a Polymeric System', *Journal of Applied Polymer Science*, 2008, January, Vol. 108, pp. 640-649.
25. G.C. Papanicolaou, **S. P. Zaoutsos**, E. Kontou., 'Effect of The Fiber Orientation On The Nonlinear Viscoelastic Behavior Of Fibrous Polymer Composites', *Composites Science and Technology*, 2004, December, Vol. 64 (16), pp. 2535-2545.
26. Papanicolaou, **S. P. Zaoutsos**, A.H. Cardon 'Further Development of A Data Reduction Method for the Nonlinear Viscoelastic Characterization of FRP' s', *Composites Part A : Applied Science and Manufacturing*, 1999, June, Vol. 30, No 7, pp. 838-849.
27. **S. P. Zaoutsos**, G.C. Papanicolaou, A.H. Cardon, 'Prediction of the Non-Linear Viscoelastic Behaviour Of Polymer Matrix Composites', *Composites Science and Technology*, 1999, July, Vol. 59, pp. 1311-1319.
28. Bruggeman, Q. Yang, **S. P. Zaoutsos**, F. Boulpaep, S. Dumortier, A.H. Cardon, 'Study of the Nonlinear Material Behavior Of Fibredux 920-C-TS-5-42', *Journal of the Mechanical Behavior of Materials*, 1998, Vol 9, No 1, pp. 91-96. DOI : <https://doi.org/10.1515/JMBM.1998.9.1.91>
29. **S. P. Zaoutsos**, G. C. Papanicolaou, A. H. Cardon 'On the Nonlinear Viscoelastic Behavior of Polymer Matrix Composites', *Composites Science and Technology*, 1998, July, Vol 58, No 6, pp. 883-886. DOI: [https://doi.org/10.1016/S0266-3538\(97\)00195-4](https://doi.org/10.1016/S0266-3538(97)00195-4).

SELECTED PUBLICATIONS IN INTERNATIONAL PEER-REVIEWED CONFERENCES PROCEEDINGS

1. A.H. Cardon, D. Van Hemelrijck, F. Boulpaep, M. Bruggeman and **S. P. Zaoutsos**, "Influence of the Interactions Between Loading Modes on the Long Term Behavior of Polymer Based Composite Systems", Proceedings of the 1994 SEM Spring Conference and Exhibits, Publ. by the Society for the Experimental Mechanics, Pages 265-266, June 6-8 1994, Baltimore, Maryland, USA.
2. A.H. Cardon, M. Bruggeman, D. Van Hemelrijck, **S. P. Zaoutsos**, Y. Mitropoulos and R. Guedes, "Prediction of Long-Term Safe Structural Behavior of Polymer-Based Composites Systems", Proceedings of the International Conference on Composite Materials and Energy, Pages 229-234, May 8-10, 1995, Montreal, Quebec, Canada.
3. Bruggeman, Q. Yang, **S. P. Zaoutsos**, F. Boulpaep, S. Dumortier, A.H. Cardon, "Studies of the Nonlinear Material Behavior Of Fibredux 920-C-TS-5-42", Proceedings of the 1st International Conference on Mechanics of Time Dependent Materials, Pages 167-171, September 11-13, Ljubljana, Slovenia.
4. A.H. Cardon, M Bruggeman, **S.P Zaoutsos**., Y. Mitropoulos, "Thermomechanical Characterization of Polymer Based Composite Systems for the Evaluation of Long Term Behaviour", Proceedings of the SEM Spring Conference on Experimental Mechanics, pp 318-328, 1995.
5. A.H. Cardon, M. Bruggeman, **S. P. Zaoutsos**, Y. Mitropoulos, R. Guedes, Q. Yan, "Specific Aspects of Time Dependent Behavior of Polymer Matrix Composites", Proceedings of the 4th European Conference on Advanced Materials and Processes, Pages 363-369, September 25-28 1995, Padua, Venice, Italy.
6. **S. P. Zaoutsos**, J.D. Bakos, G.C. Papanicolaou "A new Method for the Determination of the Mode-I Delamination Fracture Toughness of Advanced Laminated FRP", Proceedings of the 1st National Conference of Composite Materials and Structures, July 5-7, 1997, Xanti, Greece.
7. G.C. Papanicolaou, **S. P. Zaoutsos**. "A Predictive Model for the Nonlinear Viscoelastic Characterization of Carbon/Epoxy Fibre-Composites", Proceedings of the 3rd International Conference on Progress in Durability Analysis of Composite Systems, Pages September 14-17 1997, Virginia Polytechnic Institute, Blacksburg, Virginia, USA.
8. A.H. Cardon, Q. Yang, **S. P. Zaoutsos**, G.C. Papanicolaou, R.Guedes, "Some Aspects of Durability Analysis of Polymer Based Composite Systems", Proceedings of the 25th Silver Jubilee Midwestern Mechanics Conference, September 21-27, 1997, Rapid City, South Dacota, USA.
9. **S. P. Zaoutsos**, G.C. Papanicolaou,. "The Effect of Fiber Orientation on the Nonlinear Viscoelastic Behaviour of Continuous Fiber Polymer Composites", Proceedings of the 4rd International Conference on Progress in Durability Analysis of Composite Systems, Pages, July 11-14 1999, Vrije Universiteit Brussel, Brussels, Belgium.
10. **S. P. Zaoutsos**, "Nonlinear Viscoelastic-Viscoplastic Response of Composites under Multistep Loading", Proceedings of the 1st International Conference, from Scientific Computing to Computational Engineering, September 8-10, 2004, Athens, Greece.
11. G.C. Papanicolaou, K. Karagounaki, S.V. Kosmidou, **S. P. Zaoutsos**, Time and Temperature Dependence of the Viscoelastic Non Linearity Threshold of an Epoxy Resin, Proceedings of the 3rd International Conference on Times of Polymers (TOP) and Composites, June 18-22, 2006, Ischia, Italy.
12. **S. P. Zaoutsos**, G.C.Papanicolaou, A.H. Cardon, "The Effect of Preloading in the Nonlinear Viscoelastic-Viscoplastic Behaviour of Carbon Epoxy Composites", Proceedings of the International Conference on Structural Analysis of Advanced Materials (ICSAM), September 2-6, Patras, 2007, Greece.
13. G.C.Papanicolaou, A.G. Xepapadaki, S.Pavlopoulou, **S. P. Zaoutsos**, "Stress Threshold from Linear to Nonlinear Viscoelastic Behaviour of Polymer-Matrix Particulate Composites", Duracosys 2008, 16-18 July, 2008, Porto, Portugal.
14. **S. P. Zaoutsos**, "Study of the Influence of Multiple Step Creep/Creep-Recovery Loading on the Nonlinear Viscoelastic Response of Carbon Fiber Polymer Matrix Composites", Proceedings of the 11th International Conference in Sustainability in Energy and Engineering, May 27-29, 2009, Timisoara, Romania.
15. V. Iakovakis, **S. P. Zaoutsos**, "An Experimental and 3-D Numerical Investigation of the Wallis Interspinus Implant", 14th European Conference on Composite Materials (ECCM-14), 7-10 June 2010, Budapest, Hungary.
16. **S. P. Zaoutsos**, "Prediction of Viscoelastic-Viscoplastic Response of Polymer Matrix Composites Under Relaxation Loading Mode" 4th International Conference from Scientific Computing to Computational Engineering (IC_SCCE), July 7-10, 2010, Athens, Greece.

17. **S.P. Zaoutsos**, “Recent Advances in the Nonlinear Viscoelastic-Viscoplastic Response of Polymers and Polymer Composites:Techniques-Modelling-Analysis” keynote lecture in DURACOSYS 2010, 12-15 September, Patras, Greece.
18. **S.P. Zaoutsos**, “Experimental Investigation of Nonlinear Viscoelastic Response of PMC’ s under relaxation mode”, Duracosys 2010, 12-15 September, 2010, Patras, Greece.
19. H. Petrescu, A. Hadar, **S.P. Zaoutsos**, D.E. Mouzakis, “Residual Strength After Impact Regarding The Compressive Behaviour Of Honeycomb Sandwich” DFC11&SI5, 13-15 April 2011, Cambridge, UK.
20. D.E. Mouzakis, **S.P. Zaoutsos**, “Influence of Accelerated Aging on the Mechanical Response of Carbon Fiber Reinforced Composites”, DFC11&SI5, 13-15 April, 2011, Cambridge, UK.
21. K.P. Papaefthymiou, E.D. Drakopoulos, A.F. Koutsomitopoulou, D.V. Portan, **S.P. Zaoutsos**, G.C. Papanicolaou, “Dynamic Mechanical Behavior of Epoxy Matrix-MWCNT Nanocomposites”, DFC11&SI5, 13-15, April 2011, Cambridge, UK.
22. **S.P. Zaoutsos**, “Nonlinear Relaxation Behavior of Carbon Epoxy Composites Under Multistep Loading Mode”, 4th International Conference on Experiments/Process/System Modeling/Simulation/Optimization 4th IC-EpsMsO. July 6-8, 2011, Athens, Greece.
23. **S.P. Zaoutsos**, D.E. Mouzakis, “Experimental Characterization Of Mechanical Properties Degradation Of UHMW-PE Using Dynamic Mechanical Analysis”, MEDICTA 2011 – 10th Mediterranean Conference on Calorimetry and Thermal Analysis which will be held at Porto, Portugal, July 24-27, 2011.
24. M. G. Christodoulou, D.E. Mouzakis, A. Papalois, C. Katsifotis, P. Bakas, C. Kleanthi, A. Zervas, A. Liapis, **S.P. Zaoutsos**, “Dynamic Mechanical Analysis Of Rabbit Abdominal Tissue After Long Term Implantation Of Biologic And Synthetic Hernia Meshes”, MEDICTA 2011 – 10th Mediterranean Conference on Calorimetry and Thermal Analysis which will be held at Porto, Portugal, July 24-27, 2011.
25. **S.P. Zaoutsos**, D.E. Mouzakis, “Experimental Characterization Of Mechanical Properties Degradation Of Uhmw-Pe Using Dynamic Mechanical Analysis”, MEDICTA 2011 – 10th Mediterranean Conference on Calorimetry and Thermal Analysis which will be held at Porto, Portugal, July 24-27, 2011.
26. **S.P. Zaoutsos**, “Progress in the Nonlinear Viscoelastic-Viscoplastic Behaviour of Fibre Reinforced Polymer Composites: From Experiment and Data Reduction Methods to Modelling”, Proceedings of the International Conference on Structural Analysis of Advanced Materials ICSAAM 2011, September 7-10, 2011, Bucharest, Romania.
27. **S. P. Zaoutsos**, “Characterization of the Mechanical Degradation and Durability of UHMWPE used in Orthopedic Applications”, 5th International Conference from Scientific Computing to Computational Engineering (IC_SCCE), July 7-10, 2012, Athens, Greece.
28. **S. P. Zaoutsos**, “Effect of Hygrothermal aging on the Long term Mechanical Response of Carbon Epoxy Composites”, 5th International Conference from Scientific Computing to Computational Engineering (IC_SCCE), July 7-10, 2012, Athens, Greece.
29. **S.P Zaoutsos**, D.E. Mouzakis, “Durability Analysis of MWNT Nanocomposites through Dynamic Mechanical Testing”, 15th European Conference in Composite Materials, ECCM 15, June 24-28, 2012, Venice, Italy.
30. D. E. Mouzakis, **S.P. Zaoutsos**, “Accelerated Aging Dynamic Mechanical Analysis of Carbon Fiber Reinforced Composites”, 15th European Conference n Composite Materials, ECCM 15, June 24-28, 2012, Venice, Italy.
31. D.E. Mouzakis, D.G. Dimogiannopoulos, **S. P. Zaoutsos**, “Stochastic modeling of damage, as acquired by magnetoelastic sensors, in fiber reinforced composites”, 14th International Congress on Mesomechanics, Hungarian Academy of Sciences, KFKI Atomic Energy Research Institute (AEKI), Budapest, Hungary, Sept.25-28, 2012.
32. **S.P. Zaoutsos**, D.E. Mouzakis, “Aspects of Durability Analysis of CFRP's regarding the Creep-Fatigue Interactions between Different Loading Modes”, 14th International Congress on Mesomechanics, Hungarian Academy of Sciences, KFKI Atomic Energy Research Institute (AEKI), Budapest, Hungary, Sept.25-28, 2012.
33. **S.P. Zaoutsos**, D.J. Zachos, Parametric Study of Influence of the Pelletizing Process Parameters on the Mechanical Properties of Wood Pellets, FaBe 2013 International Conference, Skiathos, Greece, 30 May-2 June, 2013.
34. D. E. Mouzakis, **S P. Zaoutsos**, “Time Temperature Superposition Analysis in Carbon Fiber Reinforced Composite Plates subjected to Accelerated Environmental Aging”, MEDICTA 2013, 11th Mediterranean Conference on Calorimetry and Thermal Analysis, 12-15 June 2013.

35. **S.P. Zaoutsos**, “Residual Strength of CFRPs after combined Creep-Fatigue Loading Modes”, 3rd International Conference of Engineering against Failure, Kos, Greece, 26-28 June 2013.
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61. **S P Zaoutsos**, Influence of Extreme Low Temperature Conditions on the Dynamic Mechanical Properties of Carbon Fiber Reinforced Polymers, 1st Conference on Computational methods in Offshore Technology CoTech 2017, November 30th-December 1st, 2017, Stavanger, Norway.
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63. **S P Zaoutsos** Mechanical Properties of Sandwich Structures under low temperatures conditions, *To appear in 2nd Conference on Computational methods in Offshore Technology, CoTech 2019, November 27-29, 2019, Stavanger, Norway.*

CHAPTERS IN COLLECTIVE VOLUMES

1. G.C. Papanicolaou, **S. P. Zaoutsos**, 'Chapter 1- Viscoelastic Constitutive Modeling of Polymer Matrix Composites and Experimental Characterization' in Creep And Fatigue in Polymer Matrix Composites, Woodhead Publishing Ltd, Cambridge, UK.
2. **S. P. Zaoutsos** G.C. Papanicolaou, Th. V. Kosmidou, 'Describing Nonlinearities in the Mechanical Viscoelastic Behaviour of Polymers and Polymer Matrix Composites', Paper published in "Modern Problems of Deformable Bodies Mechanics : Collection of Papers", published by resolutions of the Academic Councils of the Institute of Mechanics Problems of Academy of Sciences, Russia, National Technical University of Athens, Greece, Institute of Mechanics of National Academy of Sciences, Armenia, State Engineering University of Armenia.
3. D. E. Mouzakis, **S. P. Zaoutsos**, "Time Temperature Superposition Response of Carbon Fiber Reinforced Composite Plaques under Accelerated Aging Conditions" Nova Science Publishers.
4. G.C. Papanicolaou, **S. P. Zaoutsos**, 'Chapter 1- Viscoelastic Constitutive Modeling of Polymer Matrix Composites and Experimental Characterization' in Creep And Fatigue in Polymer Matrix Composites, Woodhead Publishing Ltd, Cambridge, UK.

INVITED PRESENTATIONS

1. **S.P. Zaoutsos** 'Progress in the Nonlinear Viscoelastic-Viscoplastic Behaviour of Fibre Reinforced Polymer Composites: From Experiment and Data Reduction Methods to Modelling', keynote lecture in the International Conference on Structural Analysis of Advanced Materials ICSAAM 2011, September 7-10, 2011, Bucharest, Romania.
2. **S.P. Zaoutsos**, 'Recent Advances in the Nonlinear Viscoelastic-Viscoplastic Response of Polymers and Polymer Composites: Techniques-Modelling-Analysis' keynote lecture in Duracosys 2010, 12-15 September, Patras, Greece.

3. **S.P. Zaoutsos** “Experimental Characterization of Creep-Fatigue Interaction Loading Modes on Carbon Fiber Reinforced Polymers’, keynote lecture in the International Conference on Structural Analysis of Advanced Materials ICSAAM 2013, September 26-28, 2013, Kos, Greece.
4. **S.P. Zaoutsos**, “Time Temperature Superposition Principle in Polymers”, Plenary lecture MEDICTA 2013, in 1st Summer Training school on Thermal Analysis: From theory to Practice, 2013.
5. **S.P. Zaoutsos**, Structure and Properties of Bioceramic Materials for Biomedical Applications, 22nd Panhessalian Stomatological Symposium, 19-21, April 19-21, 2013, Larissa, Greece.