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Laboratory of Advanced Materials and Constructions
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AREAS OF COMPETENCE

Mechanics of Polymers and Composites, Solid Mechanics; Biomechanics and Biomaterials; Fracture Mechanics; Experimental Mechanics, Viscoelastic-Viscoplastic Behaviour

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, Brussel, Belgium.
5. Diploma in Mechanical Engineering (1992), Department of Mechanical Engineering, University of Patras, Patras, Greece.

PROFESSIONAL EXPERIENCE

1. Dean of the Faculty (2010-today), Faculty of Applied Sciences, Technological Educational Institute of Larissa, Larissa, Greece.
2. Vice Dean of the Faculty (2007-2009), Faculty of Applied Sciences, Technological Educational Institute of Larissa, Larissa, Greece.
3. Head of the Department (2006-2010), Department of Mechanical Engineering, Technological Educational Institute of Larissa, Larissa, Greece.
4. Associate Professor of Strength of Materials (2005-today), Department of Mechanical Engineering, Technological Educational Institute of Larissa, Larissa, Greece.
5. Teaching Associate in the Graduate Studies Program of the Department of Agriculture Crop Production and Rural Environment (2002-2006), University of Thessaly, Volos, Greece.
6. Assistant Professor (under contract) (2002-2006), Department of Agriculture Crop Production and Rural Environment, University of Thessaly, Volos, Greece.
7. Assistant Professor (under contract) (2002-today), Department of Ichthyology and Aquatic Environment, University of Thessaly, Volos, Greece.
8. Assistant Professor (under contract), (2002-2006) Department of Mechanical Engineering, Technological Educational Institute of Larissa, Larissa, Greece.
9. Teaching assistant, in the course "Statics"(1996-2000), Department of Chemical Engineering, University of Patras, Patras, Greece.
10. Teaching assistant, in the courses "Viscoelasticity" and "Introduction in Composite materials", (1996-1999), Department of Mechanical and Aeronautical Engineering, University of Patras, Patras, Greece.

PROFESSIONAL PARTICIPATIONS

Member of :

1. Technical Chamber of Greece
2. Hellenic Union of Mechanical Engineers
3. European Society of Composite Materials (ESCM)
4. Hellenic Society for Biomaterials (HSB)
5. Hellenic Society of Thermal Analysis (HSTA)

RESEARCH PROJECTS

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*, 2011-2013. EPEDBM, Ministry of Education LifeLong Learning and Religious Affairs, Role in the Project : Project Coordinator

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.

CONFERENCES SCIENTIFIC COMMITTEE

1. 4th Mediterranean Conference on Calorimetry and Thermal Analysis, (MEDICTA '99), 1999, University of Patras, Patras, Greece.
2. International Conference on Structural Analysis of Materials (ICSAM 2007), 2007, University of Patras, Patras, Greece.
3. 9th International Conference in Durability Analysis of Composite Systems (9th DURACOSYS), 2010 University of Patras, Patras, Greece.
4. 4th International Conference, from Scientific Computing to Computational Engineering (4th IC-SCCE), 2010, Athens, Greece.
5. 4th Hellenic Conference of Thermal Analysis, (THERMA 2010), 2010, University of Patras, Patras, Greece
6. International Conference on Structural Analysis of Advanced Materials (ICSAAM 2011), 2011, Bucarest, Romania.
7. 4th International Conference on Experiments, Process, System Modelling, Simulation, Optimization (4th IC-EpsMsO), 2011, Athens, Greece.

SELECTED PUBLICATIONS IN INTERNATIONAL PEER-REVIEWED JOURNALS

1. **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.
2. 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.
3. 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
4. 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
5. 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 .
6. **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
7. 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.

8. **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. (38)

SELECTED PUBLICATIONS IN INTERNATIONAL PEER-REVIEWED CONFERENCES PROCEEDINGS

1. 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.
2. 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.
3. 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.
4. 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.
5. **S.P. Zaoutsos**, ‘Experimental Investigation of Nonlinear Viscoelastic Response of PMC’ s under relaxation mode’, Duracosys 2010, 12-15 September, Patras, Greece.
6. **S. P. Zaoutsos**, ‘Prediction of Viscoelastic-Viscoplastic Response of Polymer Matrix Composites Under Relaxation Loading Mode’ Proceedings of the 4th International Conference from Scientific Computing to Computational Engineering (IC_SCCE 2010), July 7-10, 2010, Athens, Greece.
7. **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.
8. 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.
9. **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, 2007, Patras, Greece.
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.

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’, Proceedings of the International Conference on Structural Analysis of Advanced Materials ICSAAM 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.

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.