Dr. Tzatzadakis Vassilios – Short CV

Dr. is a postdoctoral researcher at the Department of Nursing of the Hellenic Mediterranean University, specializing in the synthesis and characterization of polymer adhesives and nanocomposites. He earned his bachelor's and master's degree in Mechanical and Aeronautical Engineering from the University of Patras in 2015 and completed his doctoral thesis at the Technology and Strength of Materials laboratory in 2021. His thesis, titled "Synthesis and experimental characterization of a novel bio-based adhesive for structural and decorative applications: reinforcement of the adhesive with carbon nanotubes," is focused on the development of bio-based structural adhesives reinforced with nanotubes and, currently, he researches on various nanoparticles for biomedical applications

Dr. Tzatzadakis has published 6 articles in peer-reviewed international journals and has presented his research at 7 conferences, with a total of 63 cross-references as of April 19, 2022. He has extensive scientific training in the synthesis and characterization of the mechanical and physical properties of different types of polymer adhesives and nanocomposites. Additionally, he has conducted a life cycle and cost study of bio-based epoxy resins and nano-particle reinforced resins. His research also includes modeling and analyzing the mechanical, thermal, and electrical properties of nanocomposites.

As a PhD researcher, Dr. Tzatzadakis was a member of the ECO-COMPASS program, a European HORIZON 2020 program in collaboration with the Ministry of Infrastructure and People's Information of the Republic of China, which aimed to develop improved ecological composite materials for interior construction and minor aircraft components. He also participated in the NYETE program, a European HORIZON 2020 program that focused on developing methodologies for the implementation of innovations regarding ecological integrated aerostructures, with the aim of manufacturing them with recyclable multifunctional thermoplastic matrix composites.

Dr. Tzatzadakis has also been actively involved in teaching activities, including editing the undergraduate laboratories of the Strength of Materials I & II courses and providing support work within the Strength of Materials, Science of Materials, and Mechanical Behavior of Materials courses. Currently, he is teaching the course of Epidemiology, Scientific Bibliography Search – Principles of Scientific Writing and Presentation, and he is actively involved in Biomedicine Environmental Nanotechnology in the department of Nursing of the Hellenic Mediterranean University.

Publications:

- Tserpes K. Tzatzadakis V. Synthesis and experimental characterization of a carbon nanotube-filled bio-based adhesive. Submitted to Aerospace journal, December 2020.
- Tserpes K, Tzatzadakis V, Bachmann J. Electrical Conductivity and Electromagnetic Shielding Effectiveness of Bio-Composites. Journal of Composites Science. 2020 Mar;4(1):28.

- Tserpes K, Tzatzadakis V, Katsiropoulos C. Effect of hygrothermal ageing on the interlaminar shear strength of carbon fiber-reinforced rosin-based epoxy bio-composites. Composite Structures. 2019 Oct 15;226:111211.
- Tzatzadakis V, Tserpes K. Experimental characterization of the hygrothermal ageing effects on the bulk mechanical properties and lap-shear strength of the novel bio-based epichlorohydrin/cardanol adhesive. The Journal of Adhesion. 2020 Sep 11:1-9.
- Tzatzadakis V, Tserpes K. Production of a novel bio-based structural adhesive and characterization of mechanical properties. The Journal of Adhesion. 2020 Jan 15:1-6.
- Tserpes K, Tzatzadakis V. Life-Cycle Analysis and Evaluation of Mechanical Properties of a Bio-Based Structural Adhesive. Aerospace. 2022 Jan 25;9(2):64.

Conferences:

- Evaluation of mechanical properties and life-cycle analysis of a bio-based structural adhesive. Vasileios Tzatzadakis, Konstantinos Tserpes. In: PROCEEDINGS OF THE 6th International Conference on Structural Adhesive Bonding.
- The effect of hygrothermal ageing on the bulk mechanical properties and lapshear strength of the biobased epichlorohydrin/cardanol adhesive Vasileios Tzatzadakis, Konstantinos Tserpes. In: PROCEEDINGS OF THE 10th-EASN-Innovation in Aviation & Space to the Satisfaction of the European Citizens.
- Tzatzadakis V, Tserpes K. Production of a novel bio-based structural adhesive and characterization of mechanical properties. In: PROCEEDINGS OF THE 9th-EASN-Innovation in Aviation & Space to the Satisfaction of the European Citizens.
- Tserpes K, Tzatzadakis V. Computation of mechanical, thermal and electrical properties of CNT/polymer multifunctional nanocomposites using numerical and analytical models. InMATEC Web of Conferences 2019 (Vol. 304, p. 01013). EDP Sciences.
- Tserpes K, Tzatzadakis V, J. Bachmann. Electrical Conductivity and Electromagnetic Shielding Effectiveness of Bio-Composites. Journal of Composites Science. In: PROCEEDINGS OF THE EMuS2019- European Conference on Multifunctional Structures.
- Tserpes K, Tzatzadakis V, Katsiropoulos C. Effect of hygrothermal ageing on the interlaminar shear strength of carbon fiber-reinforced rosin-based epoxy bio-composites. In: PROCEEDINGS OF THE ICGC-10 - International Conference on Green Composites.
- V. Tzatzadakis and K.I. Tserpes. Numerical and analytical evaluation of mechanical, thermal and electrical properties of CNT/polymer multifunctional nanocomposites, using representative unit cells. In: PROCEEDINGS OF THE ICCS20 - 20th International Conference on Composite Structures.