



## Academic Personnel Short Profile / Short CV

<b>University:</b>	Frederick University
<b>Surname:</b>	Papadakis
<b>Name:</b>	Loucas
<b>Rank/Position:</b>	Associate Professor
<b>School:</b>	Engineering
<b>Department:</b>	Mechanical Engineering
<b>Scientific Domain:</b>	Manufacturing Processes and Materials – Specialization: Modelling and simulation of manufacturing processes and material mechanics with application on vehicle and light –weight structures

## Academic qualifications

Qualification	Year	Awarding Institution	Department	Thesis title (Optional Entry)
Doktor-Ingenieur (Dr.-Ing.)	2008	Technische Universität München (TUM)	Mechanical Engineering	Simulation of the Structural Effects of Welded Frame Assemblies in Manufacturing Process Chains
Diplom-Ingenieur Universität (Dipl.-Ing. Univ.)	2003	Technische Universität München (TUM)	Mechanical Engineering	Construction of a piezo-actuator system to reduce clattering during high speed milling

### Employment history in Academic Institutions/Research Centers

Period of employment		Employer	Location	Position
From	To			
2022	today	Frederick University	Cyprus	Associate Professor
2016	2022	Frederick University	Cyprus	Assistant Professor
2008	2015	Frederick University	Cyprus	Lecturer
2004	2008	Institute for Machine Tools and Industrial Management (iwb), Technische Universität München	Germany	Research associate

### Key refereed journal papers, monographs, books, conference publications etc.

Ref. Number	Year	Title	Other authors	Journal and Publisher / Conference	Vol.	Pages
1	2022	Testing mechanical performance of adhesively bonded composite joints in engineering applications: an overview	Budzik, M.K.; Wolfahrt, M.; Reis, P.; Kozłowski, M.; Sena-Cruz, J.; Papadakis, L. Saleh, M.N.; Machalicka, K.V.; Teixeira de Freitas, F.; Vassilopoulos, A.P.	The Journal of Adhesion	98(14)	2133-2209
2	2021	Experimental and Numerical Analysis of 3D Printed Polymer Tetra-Petal Auxetic Structures under Compression	Photiou, D.; Avraam, S.; Sillani, F.; Verga, F.; Jay, O.	Appl. Sciences	11(21)	10362
3	2021	Modelling and Simulation Methods for Additive Manufacturing Processes – Potentials and Limitations demonstrated by means of application examples	Editor(s): Juan Pou, Antonio Riveiro, J. Paulo Davim	Handbooks in advanced manufacturing, Additive Manufacturing, Elsevier	Chapter 22	685-721

4	2020	Use of a Holistic Design and Manufacturing Approach to Implement Optimized Additively Manufactured Mould Inserts for the Production of Injection-Moulded Thermoplastics	Avraam, S.; Photiou, D.; Masurtschak, S.; Pereira J.C.F.	Journal of Manufacturing and Materials Processing	4(4)	100
5	2019	Phase-change with density variation and cylindrical symmetry: Application to selective laser melting	Fyrillas, M.M.; Ioannou, Y.; Rebholz, C.; Matthews, A.; Dounamidis, C.C	Journal of Manufacturing and Materials Processing	3(3)	62
6	2019	Transient Powder Melting in SLM Using an Analytical Model with Phase Change and Spherical Symmetry in a Semi-Infinite Medium	Fyrillas, M.M.	Journal of Manufacturing and Materials Processing	3(2).	50
7	2019	Numerical Analysis of Support Structures' Removal from Additively Manufactured Components.		II International Conference on Simulation for Additive Manufacturing - Sim-AM 2019, Pavia, Italy, 11–13 September, 2019.		
8	2018	On the energy efficiency of pre-heating methods in SLM/SLS processes	Chantzis, D. Salonitis, K.	The International Journal of Advanced Manufacturing Technology	95 (1-4)	1325-1338
9	2018	Parametric study of non flat interface adhesively bonded joint	Jaiswala, P.R. Hirulkar, N.S. Sundaram, K.K Joshi, N.B.	Materials Today: Proceedings 5 (2018)	5	17654-17663
10	2017	Experimental and Computational Appraisal of the Shape Accuracy of a Thin-walled Virole Aero-engine Casing Manufactured by means of Laser Metal Deposition	Hauser, C.	Production Engineering	11 (4-5)	389-399

11	2014	Numerical Computation of Component Shape Distortion Manufactured by Selective Laser Melting	Loizou, A. Risse, J. Schrage, J.	Procedia CIRP, Proceedings of the Int. Conference on Manufacturing of Lightweight Components	18	90-95
12	2014	Adhesive Bonding of Attachments on Alternate Car Shell Surfaces in Automotive Final Assembly Lines	Schiel, M. Vassiliou, V. Loizou, A. Dilger, K.	Procedia CIRP, Proceedings of the Int. Conference on Manufacturing of Lightweight Components	18	180-185
13	2014	A Computational Reduction Model for Appraising Structural Effects in Selective Laser Melting Manufacturing	Loizou, A. Risse, J. Bremen, S.	Virtual and Physical Prototyping	9(1)	17-25
14	2013	Considering Manufacturing Effects in Automotive Structural Crashworthiness: A Simulation Chaining Approach.	Schober, A. Zaeh, M.F.	International Journal of Crashworthiness. Taylor & Francis	8(3)	276-287
15	2013	Numerical Investigation of the Influence of Preliminary Manufacturing Processes on the Crash Behaviour of Automotive Body Assemblies	Schober, A. Zaeh, M.F.	The International Journal of Advanced Manufacturing Processes	6 (5-8)	867-880
16	2013	A thermo-mechanical modeling reduction approach for calculating shape distortion in SLM manufacturing for aero engine components	Loizou, A. Risse, J. Bremen, S.	High Value Manufacturing: Advanced Research in Virtual and Rapid Prototyping		613-618
17	2011	A Simulation Approach for Chaining the Forming-Welding-Crash Behaviour of Sheet Metal Structures	Schober, A. Zaeh, M.F. Demosthenous, G.	Key Engineering Materials	473	667-674

18	2010	A Computer Aided Chaining Approach for Predicting the Shape Accuracy in Manufacture of Automotive Structures		Production Engineering	4(4)	349-355
19	2008	Simulation of the Manufacturing Process Chain of Welded Frame Structures	Zaeh, M.F. Langhorst, M.	Production Engineering	2(4)	385-393
20	2007	Realisation of the virtual process chain forming-welding on whole assembled automotive body components by means of shell elements	Zaeh, M.F. Rauh, W.	Mathematical Modelling of Weld Phenomena 8		537-554
21	2007	Interaction between laser beam, process effects, and structural properties during welding using models based on the finite element analysis	Hornfeck, T. Zaeh, M. F.	Journal of Laser Applications	19(3)	189-196

Research Projects				
Ref. Number	Date	Title	Funded by	Project Role*
1	2023-2026	Optimised additively manufactured polymeric auxetic metamaterials for orthopaedic products and devices: A simulation-driven design study (3D-OptimAux)	Foundation for Research and Innovation (IDEK), PHD IN INDUSTRY/1222/0073	PhD Thesis Supervisor
2	2022-2024	Auxetic meta-biomaterials for bespoke femoral stem implants using additive manufacturing technology (BioMetAux)	Foundation for Research and Innovation (IDEK), ENTERPRISES/0521/0046	Principal Researcher and Work Package Leader
3	2022-2024	Blast and Fire Resistant Material (BAM)	Foundation for Research and Innovation (IDEK), EXCELLENCE/0421/0137	Principal Researcher

4	2020-2023	Development of an Innovative Insulation Fire Resistant Façade from the Construction and Demolition Waste (DEFEAT)	Foundation for Research and Innovation (IDEK), Restart 2016 – 2020 programme	Principal Researcher
5	2017-2021	AdditiveManufacturABLE (AMable – 768775)	EC, Horizon 2020, FoF-12-2017	Principal Researcher
6	2011-2014	Development of Aero Engine Component Manufacturing using Laser Additive Manufacturing (MERLIN – 266271)	EC, FP7, Theme 7 Transport	Principal Researcher
7	2012	Corporate Research Centre Transregio 10: “Integration of forming, cutting and welding for the integrated manufacturing of light-weight frame structures”	German Research Association (DFG)	Visiting Researcher
8	2011-2012	A smart feed management data tool for Cyprus’ offshore aquaculture industry with the aid of a stand alone renewable energy system	Research Promotion Foundation, TEXNOΛΟΓΙΑ/MHXAN/0609(BIE)/01	Work Package Leader and Principal Researcher
9	2010-2012	Increase of the passive safety of cars for the protection of pedestrians by Crash Resistant Adhesive Bonding of attachments on Lacquered Surfaces (CrabLacs)	Research Promotion Foundation, KOINA/CORNET II/0809/01	Project Coordinator and Principal Researcher
10	2008	Electron beam welding of turbine bladed disks	MTU Aerospace, Munich, Germany	Research Team Member
11	2007-2008	Welding simulation of complex structures	DVS, Düsseldorf, Germany	Principal Researcher
12	2006-2008	Analysis of the model stability in the simulation of laser beam welding heat effects	FOSTA e.V., Düsseldorf, Germany	Principal Researcher
13	2006-2008	Corporate Research Centre Transregio 10: “Integration of forming, cutting and welding for the integrated manufacturing of	German Research Association (DFG)	Principal Researcher and Coordinator of the Research Group “Modelling Integration”

		light-weight frame structures” (Phase 1-2)		
14	2004-2006	Structural simulation chain of manufacturing process in body-in-white of the automotive industry	AUDI AG, Ingolstadt, Germany	Principal Researcher and Project Coordinator

### Academic Consulting Services and/or Participation in Councils / Boards/ Editorial Committees

Ref. Number	Period	Organization	Title of Position or Service	Key Activities
1	2023-to date	AMable platform	Participation in the initiation, continuation and running of platform	Organization of community online conferences and provision of services in the area of additive manufacturing
2	2022-to date	MDPI	Member of the Editorial Board of the Special Issue "Additive Manufacturing: Topology Optimization and Cellular Microstructures" of the Journal "Applied Sciences"	Journal Special Issue editor
3	2019-2022	COST European Cooperation in Science & Technology	National representative of Cyprus and Management Committee Delegate of the European Program COST CA18120 entitled "Reliable roadmap for certification of bonded primary structures".	Yearly meeting participation, research exchange and networking in the area of adhesive bonding, participation in the Work Package: Design Phase
4	May-June 2020	EUROPEAN COMMISSION, Innovation and Networks Executive Agency (INEA)	EC Evaluator for the Call of Proposals H2020-LC-GV-2018-2019-2020: Building a low-carbon, climate resilient future under work programme Smart, green and integrated transport	Evaluation work, composition of consensus report, budget evaluation
5	July-September 2016	Cyprus Ministry of Energy, Commerce, Industry and Tourism	Evaluator and technical expert for the Call of Proposals "EPIXEIRISIAKI KAINOTOMIA 2014"	Evaluation work, composition of technical evaluation report, budget evaluation
6	February-March 2016	EUROPEAN COMMISSION,	EC Evaluator for the Call of Proposals H2020-NMBP-2016-	Evaluation work, composition of consensus report, budget evaluation

		DG, RI, Advanced Materials and Nanotechnologies	2017: Affordable weight reduction of high-volume vehicles and components taking into account the entire life-cycle	
7	October 2013 – April 2014	Corporate Research Centre Transregio 10, German Research Association (DFG)	Member of the Scientific Committee of the "Conference on Manufacture of Lightweight Components (ManuLight 2014)" Dortmund, Germany, April 2014	Scientific review of research papers
8	April 2013	Cyprus Ministry of Energy, Commerce, Industry and Tourism	Evaluator and technical expert for the Call of Proposals KAINOTOMIA 2013	Evaluation work, composition and drafting of evaluation report, budget evaluation and technical discussions
9	January 2012	EUROPEAN COMMISSION, RESEARCH DIRECTORATE-GENERAL	EC Evaluator for the Call of Proposals FP7-2012-GC-MATERIALS	Evaluation work, composition of consensus report (rapporteur), budget evaluation

Other Achievements			
Ref. Number	Date	Title	Key Activities:
1	2010, 2011	Member of the organisation team at the Frederick University for two national seminars focusing on the initiative "European Road safety Charter", dealing with the reduction of the victims of road accidents	Seminar organisation, preparation and evaluation of questionnaires, preparation of seminar talks and presentations