

Prof. Dr. Eng. Athanassios Mihailidis¹

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Nationality..... : Greek

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PROFILE

University Professor and Head of the School of Mechanical Engineering with extensive experience in:

- **Teaching: Machine Elements, Power Transmissions Systems, Automotive Engineering, Tribology. Over 60 diploma theses. Supervisor of 10 PhD theses, participation in 17 national (Greek) and international (3 German, 1 Spanish, 1 UK, 1 Latvian) PhD supervisory committees.**
- **Research and industrial projects: Coordinator of more than 80 Industry, EU and public funded R&D projects mainly on Power Transmission Systems and Tribology**

EDUCATION

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| 1984 | PhD Thesis: Analytical and experimental determination of the stationary temperature field of crossed helical gears. <ul style="list-style-type: none">• PhD grade: Excellent |
| 1979-1984 | Scientific assistant and PhD candidate at the Chair of Machine Elements |
| 1973-1978 | Mechanical Engineering Studies in Aristotle University Thessaloniki. <ul style="list-style-type: none">• Diploma Thesis: Geometry and Kinematics of Crossed Helical Gears.• Diploma grade: Very good |
| 1967-1973 | Deutsche Schule Thessaloniki (German High-School Thessaloniki): <ul style="list-style-type: none">• German and Greek graduation degree "Abitur"• Abitur grade: Very good |

ACADEMIC CAREER

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| 2020-today | Head of the School of Mechanical Engineering |
| 2007-2020 | Director of the Laboratory of Machine Elements and Machine Design of the School of Engineering, Faculty of Engineering, Aristotle University of Thessaloniki (LMEMD AUTH). |
| 2010-today | Full Professor (LMEMD AUTH) |
| 2004-2010 | Associate Professor (LMEMD AUTH) |
| 1999-2004 | Assistant Professor (LMEMD AUTH) |
| 1987-1999 | Lecturer (LMEMD AUTH) |

PUBLISHED WORK

- Over 100 publications in refereed International Journals and Conference Proceedings on Power Transmission Systems and Tribology.
- More than 235 citations (acc. To ResearchGate)
- Reviewer in many International Journals (Wear, International Journal for Computer-Aided Engineering and Software, Proc Inst of Mech Eng, Part B, Journal of Engineering Manufacture, Mechanics Based Design of Structures and Machines, International Journal of Automation and Control, ...)

KEY PUBLICATIONS ON AUTOMOTIVE ENGINEERING, GEARS AND PLANETARY (EPICYCLIC) GEAR TRAINS

- E. Athanasopoulos, C. Salpistis, M. Mohammadpour, A. Mihailidis, S. Thedossiades, H. Rahnejat, Simulation of the tribological conditions of hypoid gear pairs by crossed helical gears. Powertrain Modelling and Control Conference 2016, 7-9 September 2016, Loughborough UK
- A. Mihailidis, I. Nerantzis, E. Athanasopoulos, Overload capacity of a Wolfrom type planetary system, International Journal of Structural Integrity 2015 6:5, pp. 636-648, (doi:10.1108/IJSI-11-2013-0043).
- A. Mihailidis, I. Panagiotidis, E. Bouras, E. Athanasopoulos, Finite element method based analysis of planetary gear systems considering backlash and manufacturing errors. International Conference on Gears 2015, 5-7 October, Munich, Germany, VDI Berichte 2255, 2015, pp. 79-88
- A. Mihailidis, I. Nerantzis, E. Athanasopoulos, Cycloid and Wolfrom reducers for applications requiring high

¹ Spelled also "Athanassios Michailidis"

accuracy, high ratio and high torque rating. International Conference on Gears, Munich, Germany, VDI Berichte 2199.1, 2013, pp. 697-708.

- A. Mihailidis, C. Pupaza. Design Optimization of High Ratio Planetary Systems, Power Transmissions Mechanisms and Machine Science Volume 13, pp 479-485, Springer Netherlands 2013.
- A. Mihailidis, I. Nerantzis. Recent Developments in Automotive Differential Design, Power Transmissions Mechanisms and Machine Science Volume 13, pp 125-140, Springer Netherlands 2013.
- I. Nerantzis, E. Athanasopoulos, A. Mihailidis, S. Theodossiades. Handling Performance of a Vehicle Equipped with an Actively Controlled Differential, SAE International 2011, (DOI: 10.4271/2011-01-1557).
- A. Mihailidis, C. Pupaza, Simulation driven design of internal gears - Multicriteria optimization of internal gears, VDI Berichte 2108.2, 2010, pp. 725-740.
- Mihailidis A, Samaras Z., Karaoglanidis G., Nerantzis I., Fontaras G., The design of a Formula Student race car: a case study, Proceedings of the Institution of Mechanical Engineers, Part D: Journal of Automobile Engineering, 2009, 223 (6), pp. 805-814, (DOI: 10.1243/09544070JAUTO1080).
- Mihailidis A., Nerantzis I, A new system for testing gears under variable torque and speed, Recent Patents on Mechanical Engineering 2009, 2 (3), pp.179-192, (DOI: 10.2174/1874477X10902030179).
- A. Mihailidis, K. Panagiotidis, G. Karaoglanidis, I. Nerantzis, I. Makropoulou, Experimental evaluation of a CVT system for wind energy converters, Proc. of the 3rd Int. Conf. "Power Transmissions 09", Chalkidiki, 2009, pp. 519-526.
- Athanasopoulos G., Mihailidis A., Pattas N, Tziachristos L., Helios; a solar vehicle designed through an anthropocentric and realistic view, 12th International Conference on Project Engineering, Zaragoza, Spain 2008, pp. 1294-1304.
- Mihailidis A., Karaoglanidis G., Nerantzis I., 2006, A CVT system for wind energy converters. Proc. of the 2nd Int. conference "Power Transmissions 06", Novi Sad, Serbia and Montenegro, pp. 411-416.
- Mihailidis A., Makropoulou I., 2005, Wind turbine power transmission systems without rotor shaft. International Conference on Gears, Munich, Germany, VDI Berichte 1904, Bd. 2, pp. 1543-1560.
- A. Mihailidis, G. Tsilingiridis: A wind energy converter without rotor shaft, Proceedings of the International Scientific Conference on Mechanical Elements and Systems "IRMES 2002", Srpsko Sarajevo, Bosnia & Herzegovina, 2002, pp. 39-44.
- A. Mihailidis, K. Panagiotidis, Transient Thermo-Elastohydrodynamic Lubrication of Gear teeth, in New Horizons for Tribology and Lubricants Scientific Achievements – Industrial Applications – Future Challenges (Handbuch der Tribologie und Schmierungstechnik, Band 10), ed. Bartz W. J., Expert Verlag, 2002, 94-99.
- Michailidis, Th.: Flankentemperatur vor dem Eingriff bei Stirn-Schraubädern. Antriebstechnik 32 (1993), S. 52-56.
- Grekoussis, R.; Michailidis, Th.: Rechnergestützte Auslegung von Stirn-Schraubgetrieben. Antriebstechnik 22 (1983), S. 41-44.

KEY DESIGNS

- Closed power loop gearbox test rig: A very successful equipment used to test spur gears with parallel axes, crossed helical gears and even 3-stage planetary gear trains.
- Vario-torque: A planetary system-based device, that fits into the above closed power loop test rig and enables to test gearboxes under variable torque and speed.
- Two disks test rig: Used to simulate rolling element bearing and gear flank contacts.
- Solar car Helios 2004: Designed to participate in the Olympic solar car race "Phaeton 2004". Achieved 1st Design Prize.
- Wind turbine drivetrain without rotor-shaft: A direct drive design where the rotor is attached on the inner ring of a slewing bearing that serves also as a ring gear of a speed-increasing planetary gear train.
- Formula Student: Scientific advisor of the highly successful Aristotle Racing Team for the 2007 – 2010 seasons.

OTHER

- Communication skills: Fluent in German, English and Greek
- Founding member of the Balkan Association of Power Transmissions
- Founding member of the Balkan Tribological Association
- Member of the WiGeP (Wissenschaftliche Gesellschaft Produktentwicklung)
- Hobbies: Windsurfing, Fitness workout

Thessaloniki, December 2021

Athanassios Mihailidis