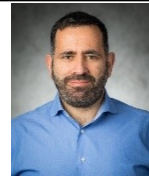


Curriculum Vitae

Nikolaos Tapoglou, PhD, AFHEA, CEng MIMechE

Assistant Professor

Department of Industrial Engineering and Management
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Personal Information

University Address: Department of Industrial Engineering and Management, International Hellenic University, Sindos Campus, Thessaloniki, Greece
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Employment History

- 2021 - today **Assistant Professor**, Department of Industrial Engineering and Management, International Hellenic University, Greece.
- 2019 - 2021 **Technical Fellow** in Emerging Machining Technologies in the Advanced Manufacturing Research Center (AMRC with Boeing), The University of Sheffield, UK.
- 2016 - 2019 **Technical Lead** in Emerging Machining Technologies in the Advanced Manufacturing Research Center (AMRC with Boeing), The University of Sheffield, UK.
- 2015 - 2016 **Research Fellow** in Through-Life Data Analysis and Visualisation, School of Aerospace, Transport and Manufacturing, Cranfield University, UK.
- 2013 - 2015 **Research Fellow** in Implementation of Sustainable Manufacturing, School of Aerospace, Transport and Manufacturing, Cranfield University, UK.
- 2009 - 2012 **Research Associate and Teaching Assistant**, Department of Production Engineering and Management, Technical University of Crete, Greece.

Education

- 2008 - 2012 **Ph.D., Technical University of Crete, Greece**, Production Systems.
Thesis title: Gear hobbing simulation and investigation of the technological parameters involved
- 2006 - 2008 **M.Sc., Technical University of Crete, Greece**, Production Systems.
Thesis title: CAD-based simulation of face milling.
- 2001 - 2006 **Diploma, Technical University of Crete, Greece**, Production Engineering and Management
Thesis Title: Design and execution of machining processes, in three axis milling machines, using Pro/Engineer.

Supervision of PhD, Master Theses

Supervision:

- EngD Students: 2

Co- Supervision of the technical work of:

- PhD Student: 2
- MSc by Research Students: 3
- MSc Student: 4
- MSc Group Project: 1
- Undergraduate thesis: >30

Invited Talks

Tapoglou, N., "Machining of advanced engineering materials using CO₂-based lubri-cooling techniques" Cryogenic machining seminar 2021, May 2021, Nuclear AMRC, University of Sheffield, UK, Online.

Tapoglou, N., "Interrupted hybrid additive and subtractive machining" CIRP UK Meeting, 30 April 2021, Online.

Tapoglou, N., "Development of hybrid additive and subtractive machining" 3rd DMG Mori Lasertec hybrid User Event, 03 December 2020, Online.

Tapoglou, N., "Machining materials for the medical industry using CO₂ assisted machining" Cryogenic machining seminar 2020, January 2020, Nuclear AMRC, University of Sheffield, UK.

Tapoglou, N., "Interrupted Hybrid manufacturing for the aerospace industry" 2nd DMG Mori Lasertec hybrid User Event, 18 November 2019, Frankfurt, Germany.

Tapoglou, N., "Milling of aerospace grade titanium using scCO₂ assisted cooling" Cryogenic machining seminar 2019, January 2019, Nuclear AMRC, University of Sheffield, UK.

Tapoglou, N., "Interrupted Hybrid manufacturing using Direct Energy Deposition" 1st DMG Mori Lasertec hybrid User Event, 12 November 2018, Frankfurt, Germany.

Tapoglou, N., "Hybrid Manufacturing" CGTech Vericut User Exchange, 4 October 2018, Nikken, Sheffield, UK.

Tapoglou, N., "Milling titanium alloy with CO₂ based lubricant" Cryogenic machining seminar 2018, 15 January 2018, Nuclear AMRC, University of Sheffield, UK.

Tapoglou, N., "CO₂ cryogenic machining of titanium alloy" Cryogenic machining seminar 2016, 1 December 2016, Nuclear AMRC, University of Sheffield, UK.

Tapoglou, N., "Remote Monitoring of Machine Tools" Through-Life Engineering Services Summer School 2016, 6-10 June 2016, Cranfield University, UK.

Tapoglou, N., "Gear Hobbing Simulation", CIRP Research Affiliate Workshop 2015, 6-7 July 2015, AMRC Sheffield, UK.

Tapoglou, N., "The Principles of Sustainable Manufacturing", Tools and Methods in Competitive Engineering (TMCE 2014), 19-23 May 2014, Budapest, Hungary.

Membership of Organizations

| | |
|------------|--|
| 2016-Today | Chartered Engineer and Member of the Institution of Mechanical Engineers (IMechE). |
| 2015-Today | Research Affiliate of the International Academy of Production Engineers (CIRP). |
| 2015-Today | Member of the American Society of Mechanical Engineers (ASME). |
| 2015-Today | Associate Fellow of the Higher Education Academy. |
| 2007-Today | Chartered Engineer and Member of the Technical Chamber of Greece. |

Publications

Books

Roy, R., Tomiyama T., Tiwari, A., Tracht, K., Shehab, E., Mehnen, J., Erkoyuncu, J., **Tapoglou, N.**, (2017), "Proceedings of the 5th International Conference on Through-life Engineering Services", Procedia CIRP Vol. 59.

Roy, R., Tiwari, A., Tracht, K., Shehab, E., Mehnen, J., Erkoyuncu, J., **Tapoglou, N.**, Tomiyama T., (2015), "Proceedings of the 4th International Conference on Through-life Engineering Services", Procedia CIRP Vol. 38.

Journal Publications

Tapoglou, N. (2021) "Development of cutting force model and process maps for power skiving using CAD based modelling", *Machines*. (Impact: 2.428)

Efstathiou, C. **Tapoglou, N.**, (2021) A Novel CAD-based Simulation Model for Manufacturing of Spiral Bevel Gears by Face Milling *CIRP Journal of Manufacturing Science and Technology*, (Impact: 2.991).

Childerhouse, T., Hernandez-Nava, E., **Tapoglou, N.**, M'Saoubi, R., Franca, L., Leah, W., Jackson, M., (Accepted 2021) "The influence of finish machining and hot isostatic pressing on defect distribution and fatigue behaviour of selective electron beam melted Ti-6Al-4V" *International Journal of Fatigue* (Impact: 4.369)

Kyratsis, P., Tzortzis, P., Markopoulos, A., **Tapoglou, N.** (2021) "CAD-based 3D-FE modelling of AISI-D3 turning with ceramic tooling" *Machines* (Impact: 2.428)

Tapoglou N., Clulow J., Curtis D. (2020) "Increased shielding of a Direct Energy Deposition process to enable Deposition of reactive materials; an investigation into Deposition of 15-5 PH Stainless Steel, Inconel 718 and Ti-6Al-4V" *CIRP Journal of Manufacturing Science and Technology*, doi:10.1016/j.cirpj.2020.11.013 (Impact: 2.991).

Tapoglou N., Clulow J. (2020) "Investigation of hybrid manufacturing of stainless steel 316L components using direct energy deposition" *Proceedings of the Institution of Mechanical Engineers, Part B: Journal of Engineering Manufacture*, doi:10.1177/0954405420949360 (Impact: 1.982).

Tapoglou, N. (2019) "Calculation of chip and gear geometry in power skiving using a CAD based simulation", *International Journal of Advanced Manufacturing Technology*, Vol. 100, pp 1779-1785, doi:10.1007/s00170-018-2790-3 (Impact 2.298).

Mourtzis, D., Vlachou, E., Milas, N., **Tapoglou, N.**, Mehnen, J., (2019) "A Cloud-based knowledge enriched framework for machining efficiency based on machine tool monitoring" *Proceedings of*

the Institution of Mechanical Engineers, Part B: Journal of Engineering Manufacture, Vol. 233(1), pp. 278–292, doi:10.1177/0954405417716727 (Impact: 1.982).

- Tapoglou, N.**, Mehnen, J., Vlachou, A., Doukas, M., Milas, N., Mourtzis, D. (2015) “Cloud based platform for optimal machining parameter selection based on function blocks and real time monitoring”, Journal of Manufacturing Science and Engineering, Transactions of the ASME, Vol. 137(4), pp. 040909-040909-11, doi:10.1115/1.4029806, (Impact: 2.875)
- Tapoglou, N.**, Mammias, A., Antoniadis, A. (2013) “Influence of machining data on developed cutting forces in gear hobbing”, International Journal of Machining and Machinability of Materials, Vol. 14 (1), pp. 66-76, doi:10.1504/IJMMM.2013.055121 (Impact SJR: 0.47).
- Tapoglou, N.**, Antoniadis, A. (2012) “CAD-based calculation of cutting force components in Gear Hobbing”, Journal of Manufacturing Science and Engineering, Transactions of the ASME, Vol. 134 (3), pp. 031009-1 - 031009-8, doi:10.1115/1.4006553, (Impact: 2.875).
- Tapoglou, N.**, Antoniadis, A. (2012) “3-Dimensional Kinematics Simulation of Face Milling”, Measurement, Vol. 45(6), pp. 1396-1405, doi:10.1016/j.measurement.2012.03.026, (Impact: 3.364).
- Kyratsis, P., **Tapoglou, N.**, Bilalis, N., Antoniadis, A. (2011) “Thrust force prediction of twist drill tools using a 3D CAD system application programming interface”, International Journal of Machining and Machinability of Materials, 2011, Vol. 10 (1/2), pp.18–33, doi:10.1504/IJMMM.2011.040852, (Impact SJR: 0.47).

Book Chapters

- Tapoglou N.**, Mehnen J., Butans J., (2021) "Energy efficient machining through evolutionary real-time optimization of cutting conditions on CNC-milling controllers", Experiments and Simulations in Advanced Manufacturing Springer
- Mehnen, J., He, H., Tedeschi, S., **Tapoglou, N.** (2017), “Practical Security Aspects of the Internet of Things”, Cybersecurity for Industry 4.0, Springer pp. 225-242.

Conference Proceedings

- Tapoglou, N.**, Kyratsis, P (2021), Investigation of gear profile deviations in gear planning process through CAD based simulation” 2nd International Conference on “Recent Advances in Manufacturing” (RAM-2021) 10th – 12th June, 2021.
- Tapoglou, N.**, Taylor, C.M., Makris C., (2021), “Milling of aerospace alloys using supercritical CO₂ assisted machining” 9th CIRP Conference on High Performance Cutting
- Tapoglou, N.**, Makris C., (2020), “Machining biocompatible polymer materials using CO₂ assisted machining” Flexible Automation and Intelligent Manufacturing International Conference 2020 (FAIM 2020) September 2020, Athens, Greece *Procedia Manufacturing*, 51, 801-805.
- Childerhouse, T., Hernandez-Nava, E., M'Saoubi, R., **Tapoglou, N.**, Jackson, M., (2020) “Surface and sub-surface integrity of Ti-6Al-4V components produced by selective electron beam melting with post-build finish machining” 5th CIRP Conference on Surface Integrity 2020 1st E-conference 1-5 June 2020 *Procedia CIRP* 87, 309-314 .
- Tapoglou, N.**, Taylor, C.M., Ultrasonic Vibration Assisted Milling of Aerospace Materials” ASME 2019 International Mechanical Engineering Congress and Exposition, November 11–14, 2019, Salt Lake City, Utah, USA
- Busachi A., Erkoyuncu, J., Colegrove, P., Drake, R. Watts, C., Martina, F., **Tapoglou, N.**, Lockett, H., “A System Approach for Modelling Additive Manufacturing in Defence Acquisition Programs” 11th CIRP Conference on Intelligent Computation in Manufacturing Engineering, 19-21 July 2017, Gulf of Naples, Italy, *Procedia CIRP* Vol. 67, (2018), pp 209-214.
- Tapoglou, N.**, Aceves Lopez, M.I., Cook, I., Taylor, C.M., “Investigation of the Influence of CO₂ Cryogenic Coolant Application on Tool Wear”, 50th CIRP Conference on Manufacturing systems 3rd – 5th May 2017, *Procedia CIRP*, Vol. 63 (2017), pp. 745-749, doi: 10.1016/j.procir.2017.03.351
- Tedeschi, S., Mehnen, J., **Tapoglou, N.**, Roy, R. “Secure IoT Devices for the Maintenance of Machine Tools”, 5th International Through-life Engineering Services Conference, 1st – 2nd November 2017, Cranfield, UK, *Procedia CIRP*, Vol. 59 (2017), pp. 150-155, doi:10.1016/j.procir.2016.10.002
- Tedeschi, S., Mehnen, J., **Tapoglou, N.**, Roy, R. “Security aspects in Cloud based condition monitoring of machine tools”, 4th International Through-life Engineering Services Conference, 3rd – 4th November 2015, Cranfield, UK, *Procedia CIRP*, Vol. 38 (2015), pp. 47-52, doi:10.1016/j.procir.2015.07.046.

- Tapoglou, N.**, Mehnen, J. "A Framework for Cloud Manufacturing Enabled Optimisation for Machining", APMS 2015 International conference Advances in production management systems, 5th – 9th September 2015, Tokyo, Japan, Advances in Production Management Systems: Innovative Production Management Towards Sustainable Growth (2015), Chapter 42, pp.363-370, doi: 10.1007/978-3-319-22759-7_42.
- Tapoglou N.**, Mehnen J., Butans J., Morar N.I. "Online on-board optimization of cutting parameter for energy efficient CNC milling" 13th Global Conference on Sustainable Manufacturing, GCSM 2015, 16th – 18th September, 2015, Ho Chi Minh City / Binh Duong, Vietnam, Procedia CIRP, Vol. 40 (2016), pp. 384–389, doi:10.1016/j.procir.2016.01.072.
- Tapoglou N.**, Mehnen J. "Cloud-Based Job Dispatching Using Multi-Criteria Decision Making" 48th CIRP Conference on Manufacturing Systems - CIRP CMS 2015, 24 - 26 June 2015, Ischia, Italy Procedia CIRP, Vol. 41 (2016), pp. 661–666, doi:10.1016/j.procir.2015.12.081.
- Tapoglou, N.**, Mehnen, J., Doukas, M., Mourtzis D. "Optimal Machining Parameter Selection Based On Real-Time Machine Monitoring Using IEC 61499 Function Blocks for Use in A Cloud Manufacturing Environment: A Case Study for Face Milling" ASME 2014 Manufacturing Science and Engineering Conference, Detroit, USA, 9-13 June 2014, doi:10.1115/MSEC2014-4022, ISBN: 978-0-7918-4580-6.
- Tapoglou, N.**, Antoniadis, A. "Hob3D A novel gear hobbing simulation software", 2011 International Conference of Mechanical Engineering ICME 2011, London, U.K., 6-8 July 2011, ISSN: 2078-0958 (Print); ISSN: 2078-0966 (Online).
- Tapoglou, N.**, Antoniadis, A. "CAD-Based calculation of cutting force components in gear hobbing", Design, Technology and Management in Manufacturing D.T.M.M.-2010, pp. 21-30, Iasi, Romania, 14-16 May 2010.
- Tapoglou, N.**, Belis, T., Vakondios, D., Antoniadis, A. "CAD-Based Simulation of Gear Hobbing", 31st International Symposium on Mechanics of Materials, pp. 136-150, Aghia Marina, Greece, 9-14 May 2010.
- Tapoglou, N.**, Antoniadis, A. "Influence of cutting parameters in face milling on cutting forces and surface roughness using CAD based simulation", International Conference on Manufacturing Systems ICMS 2009, Iasi, Romania, pp. 1-11, 22-23 October 2009.
- Tapoglou, N.**, Maravelakis E., Antoniadis, A. "3D Simulation of Face Milling", International Conference on Mechanical and Industrial Engineering ICMIE 2009, Amsterdam, The Netherlands, 23-25 September 2009.

Conference Talks

- Tapoglou, N.**, Efstathiou, C. "Simulation of manufacturing gears through power skiving using a CAD based approach" ASME 2019 International Mechanical Engineering Congress and Exposition, November 11–14, 2019, Salt Lake City, Utah, USA
- Tapoglou, N.**, Clulow, J., "Interrupted Hybrid Additive and Subtractive Manufacturing of Parts for the Aerospace and the Oil and Gas Industries" ASME 2019 International Mechanical Engineering Congress and Exposition, November 11–14, 2019, Salt Lake City, Utah, USA