

Curriculum vitae

Prof. Ioannis D. Kechagias

Personal information

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Web pages	http://scholar.google.com/citations?user=euU9evwAAAAJ&hl=en https://www.researchgate.net/profile/John_Kechagias/publications http://www.teilar.gr/person_en.php?pid=153 http://www.mech.teilar.gr/index.php?q=node/77
Nationality	Hellenic
Date of Birth	1971
Place of Residence	Thessaly

Outline



- Dr. Ioannis D. Kechagias (Dip Eng, MSc, PhD) graduated from University of Patras with a Diploma in Mechanical Engineering in 1995 and was awarded a PhD in Manufacturing Processes in 2001. He has worked as a research engineer at the University of Patras in a number of research projects funded by the EE. He joined TEI of Larissa in October 2004 as an Assistant Professor in **CNC Machine Tools technology**, progressing to Associate Professor in 2012 and Professor in December of 2016. From January of 2019 is a **Professor at General Department at the University of Thessaly**.
- He is authored a **book** and more than **80 research papers** in international journals, book chapters and conferences
- Editorial Board Member: Int J of Experimental Design and Process Optimisation-IJDPO Inderscience, since 2008
- Academic Editor: Advances in Civil Engineering, Hindawi Publishing Corporation
- Special Issue Editor: (i) Sustainability (IF:2,59) - Sustainable Manufacturing Processes and Machine Tool Technology; (ii) Micromachines (IF:2,43) - Advanced Manufacturing Technology
- High influencing Author in Quality Engineering in Advanced Manufacturing Technologies as well as in Digital Manufacturing
(H Factor: 15; H10 Factor: 26; **H10 factor since 2015: 19 Google-Sch**)
- Reviewer in more than 31 high impact journals (scopus)
- He gave lectures at several Universities

Education

Ph.D.	University of Patras , Mechanical and Aeronautical Dept. Ph.D. in Manufacturing Engineering (grade: 10). PhD title: Parameter design and modelling of the laminated object manufacturing technique	<i>Sep 1995 – Dec 2001</i>
Degree	University of Patras , Mechanical Engineering Grade: 7,49	<i>Sep 1990 – Jul 1995</i>
1st Year attendance	University of Patras , Mathematics 1st Year attendance,	<i>Sep 1989 – Sep 1990</i>
Degree	School of Pedagogical & Technological Education (SELETE-ASPAITE) Ioánnina	<i>Sep 1999 – Jul 2000</i>

Skills

Skills Mechanical Engineering, Quality Engineering, Industrial Engineering, Manufacturing Systems, Manufacturing Processes, Materials Processing, Machine Tools Technology, Machining, Mechanics, CNC Programming, Advanced Manufacturing, Additive Manufacturing, 3D Printing, Electrical Discharge Machining (EDM), Abrasive Water Jet Machining (AWJM), Plasma Arc Cutting (PAC), LOM, FDM, SLA, FFF, Computer-Aided Engineering, FEM, Mechanical Design, Engineering Drawing, Computer Aided Design, Steels, Material Properties, Design of Taguchi Method, Experiments, DOE, Data analysis, RSM, Product Development, Artificial Neural Networks, Genetic Algorithms, Optimization Algorithms, Surface characterization, Parts and Assembly Accuracy , Digital Manufacturing, MFG Energy and Sustainability, Virtual Reality and Augmented Manufacturing

Languages English, Greek

Scientific Memberships Technical Chamber of Greece (1995)
Hellenic Association of Mechanical & Electrical Engineers since (1996)
IAENG member (2012)
Digital Idea (non profit scientific association)

Publications

Journal Publications (peer reviewing)

1. N.A. Fountas, J.D. Kechagias, D.E. Manolakos, N.M.Vaxevanidis (2020), Single and multi-objective optimization of FDM-based additive manufacturing using intelligent evolutionary algorithms, (FAIM 2020, Accepted for CIRP Manufacturing, Elsevier)
2. N. Vidakis, M. Petousis, A. Maniadi, E. Koudoumas, G. Kenanakis, C. Romanitan, O. Tutunaru, M. Sucheá and J.D. Kechagias (2020), The mechanical and physical properties of 3D printed

- materials composed of ABS-ZnO nanocomposites and ABS-ZnO microcomposites *Statistics, Micromachines* 11 (6), 615, DOI: 10.3390/mi11060615
3. P. Saxena, P. Stavropoulos, J.D. Kechagias, K. Salonitis (2020), *Sustainability assessment for manufacturing operations*, **Energies**, 13(11), 2730; <https://doi.org/10.3390/en13112730>
 4. K-E. Aslani, D. Haidas, J.D. Kechagias, P. Kyratsis, K. Salonitis (2020): *Quality performance evaluation of thin walled PLA 3D printed parts using Taguchi method and Grey Relational Analysis*, **J. Manuf. Mater. Process.** 2020, 4(2), 47. <https://doi.org/10.3390/jmmp4020047>
 5. K-E. Aslani, K. Kitsakis, J.D. Kechagias, N.M. Vaxevanidis, D.E. Manolakos (2020): *On the application of grey Taguchi method for benchmarking the dimensional accuracy of the PLA fused filament fabrication process*, **SN Appl. Sci.** 2, 1016 (2020). <https://doi.org/10.1007/s42452-020-2823-z>
 6. N. Vidakis, M. Petousis, A. Maniadi, E. Koudoumas, A. Vairis, J.D. Kechagias (2020): Sustainable Additive Manufacturing: Mechanical Response of Acrylonitrile-Butadiene-Styrene over Multiple Recycling Processes, **Sustainability** 2020, 12(9), 3568. <https://doi.org/10.3390/su12093568>
 7. J.D. Kechagias, K-E. Aslani, N.A. Fountas, N.M. Vaxevanidis, D.E. Manolakos (2020): *A comparative investigation of Taguchi and full factorial design for machinability prediction in turning of a titanium alloy*. **Measurement** 151/2020. DOI:10.1016/j.measurement.2019.107213
 8. N. Fountas, A. Koutsomichalis, J.D. Kechagias, N.M. Vaxevanidis (2019): *Multi-response optimization of CuZn39Pb3 brass alloy turning by implementing Grey Wolf algorithm*. **Frattura ed Integrità Strutturale** 09/2019; 50(1):584-594. DOI:10.3221/IGF-ESIS.50.49
 9. N.M. Vaxevanidis, N.A. Fountas, A. Koutsomichalis, J.D. Kechagias (2018): *Experimental investigation of machinability parameters in turning of CuZn39Pb3 brass alloy*, **Procedia Structural Integrity**. DOI:10.1016/j.prostr.2018.09.046
 10. J.D. Kechagias, K. Kitsakis, N.M. Vaxevanidis (2017): *Comparison of Full Versus Fractional Factorial Experimental Design for the Prediction of Cutting Forces in Turning of a Titanium Alloy: A Case Study*. **International Journal of Materials**, Volume 4, ISSN: 2313-0555.
 11. K. Kitsakis, J.D. Kechagias, N.M. Vaxevanidis, D. Giagkopoulos (2016): *Tolerance assesment of polyjet direct 3D printing process employing the IT grade approach*. **Academic Journal of Manufacturing Engineering** 12/2016; 14(4):62-69.
 12. N. Vidakis, A. Vairis, M. Petousis, K. Savvakis, J. Kechagias (2016): *Fused Deposition Modelling Parts Tensile Strength Characterisation*. **Academic Journal of Manufacturing Engineering** 09/2016; 14(2):87-94.
 13. A. Tsiolikas, J.D. Kechagias, K. Salonitis, N. Mastorakis (2016): *Optimization of cut surface quality during CNC Plasma Arc Cutting process*. **International Journal of Systems Applications, Engineering & development**, Vol 10, pp.305-308
 14. D. Chaidas, N. Mastorakis, J. Kechagias (2016): *The Impact of Temperature Changing on Dimensional Accuracy of FFF process*. **International Journal of Applied Physics**, Vol 1, 1-5
 15. N.M. Vaxevanidis, J.D. Kechagias, N.A. Fountas, D.E. Manolakos (2015): *Evaluation of Machinability in Turning of Engineering Alloys by Applying Artificial Neural Networks*. **The Open Construction and Building Technology Journal** 01/2015; 8(1):389-399. DOI:10.2174/1874836801408010389
 16. S. Karagiannis, P. Stavropoulos, C. Ziogas, J. Kechagias (2014): *Prediction of surface roughness magnitude in computer numerical controlled end milling processes using neural networks, by considering a set of influence parameters: An aluminium alloy 5083 case study*. **Proceedings of the Institution of**

- Mechanical Engineers Part B Journal of Engineering Manufacture** 01/2014; 228(2):233-244.
DOI:10.1177/0954405413498582
17. N.A. Fountas, I. Ntziantzias, J.D. Kechagias, A. Koutsomichalis, J.P. Davim, N.M. Vaxevanidis (2013): *Prediction of Cutting Forces during Turning PA66 GF-30 Glass Fiber Reinforced Polyamide by Soft Computing Techniques*. **Materials Science Forum** 07/2013; 766:37-58.
DOI:10.4028/www.scientific.net/MSF.766.37
 18. J.D. Kechagias, G. Petropoulos, N.M. Vaxevanidis (2012): *Application of Taguchi design for quality characterization of abrasive water jet machining of TRIP sheet steels*. **International Journal of Advanced Manufacturing Technology** 04/2012; 62(5-8):635-643. DOI:10.1007/s00170-011-3815-3
 19. V. Iakovakis, J.D. Kechagias, G. Petropoulos, S. Maropoulos (2011): *The Impact of FEM Modeling Parameters on the Computed Thermo-Mechanical Behavior of SLA Copper Shelled Electrodes*. **International Journal of Manufacturing, Materials, and Mechanical Engineering** 07/2011; 1(3):21-30. DOI:10.4018/ijmmme.2011070103
 20. J.D. Kechagias, M. Billis, S. Maropoulos (2010): *A parameter design of CNC plasma-arc cutting of carbon steel plates using robust design*. **International Journal of Experimental Design and Process Optimisation**, 01/2010; 1(4):315-326. DOI:10.1504/IJEDPO.2010.034988
 21. J.D. Kechagias, V. Iakovakis (2009): *A neural network solution for LOM process performance*. **International Journal of Advanced Manufacturing Technology** 08/2009; 43(11):1214-1222., DOI:10.1007/s00170-008-1800-2
 22. J.D. Kechagias, G. Petropoulos, V. Iakovakis, S. Maropoulos (2009): *An investigation of surface texture parameters during turning of a reinforced polymer composite using design of experiments and analysis*. **International Journal of Experimental Design and Process Optimisation**, 01/2009; 1(2/3):164-177. DOI:10.1504/IJEDPO.2009.030317
 23. J.D. Kechagias, V. Iakovakis, M. Katsanos, S. Maropoulos (2008): *EDM electrode manufacture using rapid tooling: A review*. **Journal of Materials Science** 04/2008; 43(8):2522-2535.
DOI:10.1007/s10853-008-2453-0
 24. John Kechagias (2007): *Investigation of LOM process quality using design of experiments approach*. **Rapid Prototyping Journal** 10/2007; 13(5):316-323., DOI:10.1108/13552540710824823
 25. John Kechagias (2007): *An Experimental Investigation of the Surface Roughness of Parts Produced by LOM Process*. **Rapid Prototyping Journal** 01/2007; 13(1):17-22., DOI:10.1108/13552540710719172
 26. J.D. Kechagias, S. Maropoulos, S. Karagiannis (2004): *Process build-time estimator algorithm for laminated object manufacturing*. **Rapid Prototyping Journal** 12/2004; 10(5):297-304.,
DOI:10.1108/13552540410562331
 27. S. Maropoulos, N. Ridley, J. Kechagias, S. Karagiannis (2004): *Fracture toughness evaluation of a H.S.L.A. steel*. **Engineering Fracture Mechanics** 08/2004; 71(12):1695-1704.,
DOI:10.1016/j.engfracmech.2003.08.006
 28. G. Chryssolouris, J.D. Kechagias, P. Moustakas, E. Koutras (2003): *An experimental investigation of the tensile strength of parts produced by laminated object manufacturing (LOM) process*. **CIRP Journal of Manufacturing Systems** (In Proceedings of the 34th CIRP International Seminar on Manufacturing Systems, 2001, Athens), Athens, GR; 11/2003

Journal Publications (National)

29. C. Chivu, R.M. Rio-Belver, J.D. Kechagias (2009): *Economic Engineering and Manufacturing Systems*. **Bulletin of the Transilvania University of Brasov-SERIES I- ENGINEERING SCIENCES**, 2(51):395.

30. J.D. Kechagias, V. Iakovakis, V. Tsouras (2006): *Manufacturing of EDM electrodes using RP techniques- a review* (Παραγωγή ηλεκτροδίων EDM χρησιμοποιώντας Τεχνικές Ταχείας Πρωτοτυποποίησης).

Books (peer reviewing)

31. Kechagias John: *Εργαλειομηχανές Ψηφιακής Καθοδήγησης (CNC Machine Tools: Theory & Practice)*. 1 01/2009; **ION**, in Greek language., ISBN: 978-960-411-673-7

Book Chapters (peer reviewing)

32. N.M. Vaxevanidis, N.A. Fountas, J.D. Kechagias, D.E. Manolakos: *FEM Analysis and ANN Modeling for Optimizing Machinability Indicators during Dry Longitudinal Turning of Ti-6Al-4V ELI Alloy*. Metal Cutting Technologies: Progress and Current Trends, 01/2016: chapter 5: pages 95-118; **De Gruyter**., ISBN: 9783110451740, DOI:10.1515/9783110451740-008
33. N.M. Vaxevanidis, N.A. Fountas, J.D. Kechagias, D.E. Manolakos: *Cutting forces modeling and optimization in turning AISI D6 tool steel through experimental design analysis and soft computing*. IAENG Transactions on Engineering Sciences: Special Issue of the International MultiConference of Engineers and Computer Scientists 2013 and World Congress on Engineering 2013, Edited by Sio-Iong Ao, Alan Hoi-Shou Chan, Hideki Katagiri, Li Xu, 04/2014; **CRC Press**., ISBN: ISBN 9781138001367, DOI:10.1201/b16763-17
34. N.M. Vaxevanidis, N.A. Fountas, J.D. Kechagias, D.E. Manolakos: *Estimation of main cutting force and mean surface roughness in turning of AISI D6 tool steel using design of experiments and artificial neural networks*. MACHINING: Operations, technology and management, 01/2013: chapter Chapter 9; **NOVA SCIENCE PUBLISHERS**., ISBN: 978-1-62618-778-8
35. J.D. Kechagias, I. Ntziantzias, N.A. Fountas, N.M. Vaxevanidis: *An investigation into abrasive water jet machining of TRIP sheet steels using Taguchi technique and regression models*. Proceedings of the 37th International MATADOR Conference, 06/2012: chapter 5-8: pages 153-156; **Springer**., ISBN: 978-1-4471-4480-9
36. V. Iakovakis, J.D. Kechagias, G. Petropoulos, S. Maropoulos: *Finite elements analysis of cylindrical copper shelled SLA electrodes*. Innovative Developments in Design and Manufacturing Advanced Research in Virtual and Rapid Prototyping -- Proceedings of VRP4, Oct. 2009, Leiria, Portugal, 1st Edition 01/2010: chapter Finite elements analysis of cylindrical copper shelled SLA electrodes: pages 651-656; **CRC Press**., ISBN: 9780429206498, DOI:10.1201/9780203859476-111
37. John Kechagias: *Practical Guide entrepreneurship-founded company providing specialized services in the wider manufacturing engineering* (Πρακτικός οδηγός επιχειρηματικότητας-Ίδρυση επιχείρησης παροχής εξειδικευμένων υπηρεσιών στον ευρύτερο χώρο της κατασκευαστικής μηχανολογίας). Edited by P. Fitsilis, 01/2007; **Kleidarithmos** (in Greek language)., ISBN: 978-960-461-301-4

Conference Proceedings (peer reviewing)

38. K-E. Aslani, A. Korlos, J.D. Kechagias, K. Salonitis (2020): Impact of process parameters on dimensional accuracy of PolyJet 3D printed parts using grey Taguchi method, 7th International Conference on Manufacturing and Materials Engineering (**ICMMEN2020**), 2-3 July 2020
39. K-E. Aslani, J.D. Kechagias, N.A. Fountas, N. Vidakis, A. Koutsomichalis, D.E. Manolakos and N.M. Vaxevanidis (2020), Prediction of the main cutting force in turning of AISI D6 tool steel bars by applying full and Taguchi fractional experimental design, 7th International Conference on Manufacturing and Materials Engineering (**ICMMEN2020**), 2-3 July 2020

40. K-E. Aslani, F. Vakouftsi, J.D. Kechagias, N.E. Mastorakis (2019): Surface Roughness Optimization of Poly-Jet 3D Printing Using Grey Taguchi Method, International Conference on Control, Artificial Intelligence, Robotics & Optimization (ICCAIRO), **IEEE**, DOI:10.1109/ICCAIRO47923.2019.00041
41. A. Tsiolikas, T. Mikrou, F. Vakouftsi, K-E. Aslani, J.D. Kechagias (2019): Robust design application for optimizing ABS fused filament fabrication process: A case study, **IOP Conf. Ser.: Mater. Sci. Eng.** 564 012021
42. K. Kitsakis, K-E. Aslani, N.M. Vaxevanidis, J.D. Kechagias (2019): An internal combustion engine visualization physical prototype applying digital manufacturing, **IOP Conf. Ser.: Materials Science and Engineering** 564 (1), 1-6
43. J.D. Kechagias, P. Kyratsis, N.A. Fountas, N.M. Vaxevanidis (2019): Artificial neural networks for multi-parameter surface roughness analysis in CNC Slot Milling of Al 7075 aluminum alloy, 7th **Panhellenic Conference on Metallic Materials**, 121-126
44. J.D. Kechagias, A. Tsiolikas, P. Asteris, N.M. Vaxevanidis (2018): *Optimizing ANN performance using DOE: application on turning of a titanium alloy*. IMANEE-2018, Chisinau, Moldova Mai 31 - June 2 -2018; 07/2018, DOI:10.1051/**mateconf**/201817801017
45. A. Tsiolikas, D. Tsiamitros, K. Kitsakis, J.D. Kechagias, N. Mastorakis, S.D. Kaminaris (2017): *Optimization of neural network parameters using Taguchi Robust Design: Application in plasma arc cutting process*. 2017 Fourth International Conference on Mathematics and Computers in Sciences and in Industry (MCSI); **IEEE**, 08/2017, DOI:10.1109/MCSI.2017.19
46. A. Koutelieris, K. Kioupi, O. Haralampous, K. Kitsakis, N.M. Vaxevanidis, J.D. Kechagias (2017): *Simulation of Extrusion of high density polyethylene tubes*. 21st Innovative Manufacturing Engineering & Energy International Conference – IManE&E 2017, Iasi, Ro; 05/2017. DOI:10.1051/**mateconf**/201711204004
47. J.D. Kechagias, M. Petousis, N. Vidakis, N. Mastorakis (2017): *Plasma Arc Cutting Dimensional Accuracy Optimization employing the Parameter Design approach*. **ITM Web of Conferences**; 9(1):1., DOI:10.1051/**itmconf**/20170903004
48. D. Chaidas, K. Kitsakis, J.D. Kechagias, S. Maropoulos (2016): *The impact of temperature changing on surface roughness of FFF process*. IOP Conference Series Materials Science and Engineering 11/2016; 161(1):012033. DOI:10.1088/1757-899X/161/1/012033
49. N.A. Fountas, J.D. Kechagias, N.M. Vaxevanidis (2016): *Artificial immune algorithm implementation for optimized multi-axis sculptured surface CNC machining*. IOP Conference Series Materials Science and Engineering 11/2016; 161(1):012026. DOI:10.1088/1757-899X/161/1/012026
50. K. Kitsakis, J.D. Kechagias, N.M. Vaxevanidis, D. Giagopoulos (2016): *Tolerance Analysis of 3d-MJM parts according to IT grade*. IOP Conference Series Materials Science and Engineering 11/2016; 161(1):012024. DOI:10.1088/1757-899X/161/1/012024
51. K. Kitsakis, P. Alabey, J.D. Kechagias, N. Vaxevanidis (2016): *A study of the dimensional accuracy obtained by low cost 3D printing for possible application in medicine*. IOP Conference Series: Materials Science and Engineering 161 (1), 012025.
52. K. Kitsakis, Z. Moza, V. Iakovakis, N. Mastorakis, J.D. Kechagias (2015): *An investigation of dimensional accuracy of Multi-Jet Modeling parts*. Proceedings of the International Conference Applied Mathematics, Computational Science & Engineering (AMCSE 2015), Agios Nikolaos, Crete, Gr., 10/2015

53. J.D. Kechagias, P. Kyratsis, K. Kitsakis, N. Mastorakis (2015): *Prediction of Surface Roughness in CNC Milling of Al7075 alloy: A case study of using 8mm slot mill cutter*. Proceedings of the International Conference Applied Mathematics, Computational Science & Engineering (AMCSE 2015), Agios Nikolaos, Crete, Gr., 10/2015
54. J.D. Kechagias, S. Maropoulos (2015): *An Investigation of Sloped Surface Roughness of Direct Poly-Jet 3D Printing*. Proceedings of the International Conference on Industrial Engineering - INDE 2015 (Recent Advances in Mechanics, Mechatronics and Civil, Chemical and Industrial Engineering), Zakynthos, Greece; 07/2015
55. Z. Moza, K. Kitsakis, J.D. Kechagias, N. Mastorakis (2015): *Optimizing Dimensional Accuracy of Fused Filament Fabrication using Taguchi Design*. Proceedings of the 14th International Conference on Instrumentation, Measurement, Circuits and Systems (IMAS-14), Salerno, Italy; 06/2015
56. Z. Moza, K. Kitsakis, J.D. Kechagias, N.M. Vaxevanidis (2015): *Medical applications of 3D printing-A dimensional accuracy investigation of low cost 3D printing*. International Conference on Food and Biosystems Engineering (FaBE2015), Mykonos island, GR; 05/2015
57. J.D. Kechagias, P. Kyratsis, N. Mastorakis (2015): *On Prediction of Surface Roughness of Al 7075 alloy during Slot Milling using NN modelling*. Proceedings of the International Conference on Mechanics, Materials, Mechanical Engineering and Chemical Engineering - MMMCE 2015, Barcelona, Spain, pp.98-107; 04/2015
58. J. Kechagias, P. Stavropoulos, S. Maropoulos, K. Salonitis (2014): *On the multi - parameter optimization of CNC plasma-arc cutting process quality indicators using Taguchi Design of Experiments*. Proceedings of the 13th International Conference on Instrumentation, Measurement, Circuits and Systems - IMCAS '14, Istanbul, Turkey, pp.128-133; 12/2014
59. S. Karagiannis, T. Ispoglou, P. Stavropoulos, J.D. Kechagias (2014): *Multi parameter optimization using Taguchi L8 (27) Array - A case study on additive paper lamination process*. Proceedings of the 1st International Conference on Mathematical Methods & Computational Techniques in Science & Engineering - MMCTSE 2014, Athens, Greece, pp.110-113.; 11/2014
60. D. Kountouras, S. Papanikolaou, P. Intzevidou, J.D. Kechagias, S. Maropoulos (2014): *The influence of micro structural aspects on a parameter design of carbon steel plate CNC plasma arc-cutting*. Scientific works of University of food technologies, Volume LXI 2014, Food science, Engineering and technologies 2014 Plovdiv, BG; 10/2014
61. J.D. Kechagias, P. Stavropoulos, A. Koutsomichalis, I. Ntintakis, N. Vaxevanidis (2014): *Dimensional Accuracy Optimization of Prototypes produced by PolyJet Direct 3D Printing Technology*. Proceedings of the International Conference on Industrial Engineering - INDE '14, Santorini Island, Greece, pp. 61-65; 07/2014
62. N.A. Fountas, J.D. Kechagias, Redha Benhadj-Djilali, C.I. Stergiou, N.M. Vaxevanidis (2014): *Optimizing 5-axis sculptured surface finish machining through design of experiments and neural networks*. Proceedings of the ASME 2014 12th Biennial Conference on Engineering Systems Design and Analysis ESDA2014 June 25-27, 2014, Copenhagen, Denmark, 06/2014.
DOI:10.13140/2.1.2400.1929
63. J.D. Kechagias, V. Iakovakis, E. Giorgo, P. Stavropoulos, A. Koutsomichalis, N.M. Vaxevanidis (2014): *Surface roughness optimization of prototypes produced by polyjet direct 3D printing technology*. OPTI 2014 An International Conference on Engineering and Applied Sciences Optimization, Kos Island, Greece; 06/2014

64. N.M. Vaxevanidis, N.A. Fountas, J.D. Kechagias, D.E. Manolakos (2014): *Optimization of main cutting force and surface roughness in turning of Ti-6Al-4V titanium alloy using design of experiments and artificial neural networks*. OPTI 2014 An International Conference on Engineering and Applied Sciences Optimization, Kos Island, Greece; 06/2014
65. S. Karagiannis, P. Stavropoulos, J.D. Kechagias (2014): *An application of Neural Networks for Prediction of Surface Texture Parameters in Turning*. Proceedings of the 2014 International Conference on Neural Networks - Fuzzy Systems -NEUFUZ14, Venice, Italy, pp. 80-84; 03/2014
66. I. Ntintakis, V. Iakovakis, G. Ntalos, J. Kechagias (2013): *Furniture design optimization with FEA analysis*. e-Conference on current issues in global furniture (Proceedings of the 8th Biennial Furniture Research Group Conference), Buckinghamshire new university, UK, pp. 14-21.; 11/2013
67. S. Karagiannis, V. Iakovakis, J.D. Kechagias, N. Fountas, N. Vaxevanidis (2013): *Prediction of Surface Texture Characteristics in Turning of FRPs Using ANN*. Proceedings of the 14th International Conference on Engineering Applications of Neural Networks - EANN 2013, Chalkidiki, Greece, pp. 144-153; 09/2013. DOI:10.1007/978-3-642-41013-0_15
68. N.M. Vaxevanidis, J.D. Kechagias, N.A. Fountas, D.E. Manolakos (2013): *Three component cutting force system modeling and optimization in Turning of AISI D6 tool steel using design of experiments and Neural Networks*. Proceedings of the World Congress on Engineering - WCE 2013, London, UK; 07/2013
69. I. Ntziantzias, J.D. Kechagias, N. Fountas, S. Maropoulos, N.M. Vaxevanidis (2011): *A cutting force model in turning of glass fiber reinforced polymer composite*. Proceedings of the International Conference on Economic Engineering & Manufacturing Systems; 11/2011
70. I. Ntziantzias, J.D. Kechagias, M. Pappas, N. Vaxevanidis (2011): *An experimental study of cutting force system during turning of a reinforced polymer composite*. Proceedings of the 4th International Conference on Manufacturing Engineering (ICMEN), Thessaloniki, Greece; 10/2011
71. M. Pappas, I. Ntziantzias, J. Kechagias, N. Vaxevanidis (2011): *Modeling of Abrasive Water Jet Machining using Taguchi Method and Artificial Neural Networks*. Proceedings of the International Conference on Neural Computation Theory and Applications - NCTA 2011, Paris, Fr; 10/2011
72. J.D. Kechagias, C.K. Ziogas, M.K. Pappas, I. Ntziantzias (2011): *Parameter Optimization During Finish End Milling of Al Alloy 5083 Using Robust Design*. Proceedings of the World Congress on Engineering - WCE 2011, London, UK; 07/2011
73. M. Pappas, J. Kechagias, V. Iakovakis, S. Maropoulos (2011): *Surface Roughness Modelling and Optimization in CNC End Milling using Taguchi Design and Neural Networks*. Proceedings of the 3rd International Conference on Agents and Artificial Intelligence - ICAART 2011, Rome, Italy; 01/2011
74. P. Alabey, M. Pappas, J.D. Kechagias, S. Maropoulos (2010): *Medical Rapid Prototyping and Manufacturing: Status and Outlook*. Proceedings of the ASME 2010 10th Biennial Conference on Engineering Systems Design and Analysis, Istanbul, Tr; 07/2010, DOI:10.1115/ESDA2010-24361
75. J.D. Kechagias, M. Pappas, S. Karagiannis, G. Petropoulos, V. Iakovakis, S. Maropoulos (2010): *An ANN Approach on the Optimization of the Cutting Parameters During CNC Plasma-Arc Cutting*. Proceedings of the ASME 2010 10th Biennial Conference on Engineering Systems Design and Analysis, Istanbul; 07/2010. DOI:10.1115/ESDA2010-24225
76. J.D. Kechagias, V. Iakovakis, G. Petropoulos, S. Maropoulos, S. Karagiannis (2010): *Prediction of Surface Roughness in Turning using Orthogonal Matrix Experiment and Neural Networks*. Proceedings

- of the International Conference on Agents and Artificial Intelligence-ICAART 2010, Valencia, Spain; 01/2010
77. J.D. Kechagias, V. Iakovakis, G. Petropoulos, S. Maropoulos (2009): *A parameter design in turning of copper alloy*. Proceedings of the International Conference on Economic Engineering and Manufacturing Systems- ICEEMS2009, Braşov, Rom; 11/2009
 78. G. Petropoulos, J.D. Kechagias, V. Iakovakis, S. Maropoulos (2009): *Surface roughness investigation of a reinforced polymer composite*. Proceedings of the International Conference on Economic Engineering and Manufacturing Systems-ICEEMS2009, Brasov, Ro; 11/2009
 79. G. Petropoulos, J.D. Kechagias, P. Dasic, V. Iakovakis (2009): *Experimental analysis and a neural network solution for surface finish in turning of Ertalon 66 GF-30 composite*. Proceedings of the 9th International Conference "Research and Development in Mechanical Industry" (RaDMI-2009), Vrnjačka Banja, Serbia; 09/2009
 80. J. Kechagias, V. Iakovakis, K. Katsanos, S. Maropoulos (2008): *Rapid electrode manufacture using Stereolithography models - A state of the art*. Proceedings of the International Conference on Economic Engineering and Manufacturing Systems, Brasov, Ro; 03/2008
 81. J. Kechagias, V. Iakovakis, S. Maropoulos (2007): *Using Generalized Regression Neural Network to optimize sloped surface roughness of LOM process*. Proceedings of the International Conference on Economic Engineering and Manufacturing Systems-ICEEMS2007, Braşov, Rom; 10/2007
 82. G. Chryssolouris, J.D. Kechagias, J. Kotselis, D. Mourtzis, S. Zannis (1999): *Surface Roughness Modeling of the Helisys Laminated Object Manufacturing Process*. Proceedings of the 8th European Conference on Rapid Prototyping and Manufacturing, Nottingham, UK; 01/1999
 83. J.D. Kechagias, V. Anagnostopoulos, S. Zervos, G. Chryssolouris (1997): *Estimation of build times in Rapid Prototyping processes*. Proceedings of the 6th European Conference on Rapid Prototyping and Manufacturing -EuRP&M1997, University of Nottingham, UK; 01/1997

Book of Abstracts

84. M. Mamouri, J. Kechagias, N.M. Vaxevanidis: *Low cost 3D printing of bones and tissues: A review*, International Conference on Chemistry & Materials Science, Athens, Greece; 12/2017
85. K. Kitsakis, N.Petrou, I.Tanos, J. Kechagias: *Design and 3d Printing of a Robotic Arm*. Book of Abstracts/3rd International Conference on Cryptography, Cyber Security and Information Warfare, Athens; 05/2016
86. D. Coman, A. Ionescu, J. Kechagias: *Numerical Simulations based on Kinematic Model of a Mobile Robot*. 3rd International Conference Advances in Engineering & management (ADEM 2014), Severin, Romania; 9/2014
87. J. Kechagias, V. Iakovakis, A. Ionescu, S. Karagiannis, S. Maropoulos: *Predicting layer thickness deformation of the laminated object manufacturing process using the Taguchi design*. The 18th Conference on Applied and Industrial Mathematics, Iasi, Romania; 10/2010
88. P. Moustakas, J. Kechagias, S. Maropoulos: *Rapid Tooling applications*. Advances in Engineering & Management - ADEM2010, Severin, Romania; 05/2010
89. I. Kechagias: Πρακτικά βιομηχανικού Σχεδιασμού, 1997, Κοζάνη.

Lecture notes

90. V. Iakovakis, J. Kechagias: *Αριθμητική Ανάλυση με Πεπερασμένα Στοιχεία - Θεωρία και Πράξη*. 01/2007; Εκδ. TEI Thessalias.
91. I. Κεχαγιάς: Ταχεία Πρωτοτυποποίηση 2002, Εκδ. TEI Δ.Μ.

92. Ι. Κεχαγιάς; CAD IV. 2002, Εκδ. ΤΕΙ Δ.Μ.
93. Σ. Καραγιαννής, Ι. Κεχαγιάς. 1997; Ερ. Άσκηση, Παν. Πατρών

In production for publication

94. N.A. Fountas, J.D. Kechagias, N.M. Vaxevanidis (2020): *Multi-objective optimization of printing time and shape accuracy for FDM fabricated ABS parts*, **Metaheuristic Computing and Applications**, TechnoPress (Accepted)
95. J.D. Kechagias et al. (2020), Surface roughness investigation of Poly-jet 3d printing process, **Mathematics**, SI. "Mathematical Analysis and Mechanical Behavior in Fused Filament Fabrication 3D Printing" (under review process)
96. N.A. Fountas, P. Kyratsis, K-E Aslani, J.D. Kechagias, and N.M. Vaxevanidis (2020): Comparative analysis between Taguchi and full factorial experimental design for predicting surface roughness in CNC slot-milling of Al 7075 alloy, (in process)
97. J.D. Kechagias et al. (2020), Direct 3D Printing of a hand splint using Reverse Engineering, **IMANEE2020** conf (waiting for acceptance)

Academics

Courses

Pre graduate

Mechanical Engineering, TEI of Thessaly (since 2004)

- Programming CNC Machine Tools
- Manufacturing Technology
- Mechanical Drawing
- Mechanical design
- CAD/CAM/CAE
- Finite element method in constructions

Postgraduate

M.Sc. 'Advanced Design, Technology & Management of Wooden Products', Karditsa (2019-2020)

- Advanced CAD systems
- Reverse engineering and 3d printing

Tenure Professor

- TEI of Western Makedonia, Industrial Design, Kozani (1997-2004)
- TEI of Thessaly, Mechanical Engineering, Larissa (2002-2004)
- University of Thessaly, Mechanical Engineering, Volos (2009-2012)

Erasmus mobility for Teaching

- Tor Vergata University, Rome, Italy
- University of Bucharest, Ro
- University of Craiova, Ro
- University of Bacau, Ro
- University of Cibiú, LBU, Ro

PhD committee

Apr 2020 - present **Supervisor of the candidate PhD student D. Haidas**
University of Thessaly, Department of F.W. Science and Design

- PhD Title: 3D printing optimization for thin wall prototypes
- Dec 2019 – present* **Member committee of the candidate PhD student V. Koutsogiannis**
University of Western Macedonia, Department of Mechanical Engineering
PhD Title: Development of a three-dimensional numerical model and parameter optimization for the "closed-profile PVC extrusion process"
- Dec 2019 – present* **Member committee of the candidate PhD student F. Vakouftsi**
University of Western Macedonia, Department of Mechanical Engineering
PhD Title: Optimizing the machinability of advanced shipbuilding materials
- Dec 2016 – present* **Member committee of the candidate PhD student K. Kitsakis**
University of Western Macedonia, Department of Mechanical Engineering
PhD Title: Optimizing the Dynamic Behavior of Advanced 3D Forming and Material Processing Systems

Student thesis supervisor

- Supervisor of more than 50 student thesis in Higher Education

Student thesis evaluator

- Evaluator of student thesis since 2004

Educational visits

- Educational visits to companies: TEMKA, SPACESONIC, FTS SA, COSMOS, ZEYΣ, DMGMori

Honors

Editorial

- Jan 2009* Editorial Board member: International Journal of Experimental Design and Process Optimisation, Inderscience
- July 2020* Academic Editor: Advances in Civil Engineering, Hindawi Publishing Corporation
- Feb. 2020* Special Issue Editor in Sustainability: Sustainable Manufacturing Processes and Machine Tool Technology, MDPI
- Feb. 2020* Special Issue Editor in Micromachines: Advanced Manufacturing Technology, MDPI
- Aug 2016* Editor-in-Chief, International Journal of Instrumentation and Measurement, IARAS Journals
- Jan 2011* Editorial Board member, American Journal of Intelligent Systems, SAP

Plenary-Invited speaker

- Dec. 2019* Plenary Lecture-15th International Conference on HEAT and MASS TRANSFER (HMT '19, 8-10 Dec, Athens)
- Sep 2014* Invited Plenary Lecture: ADEM 2014, Craiova, Ro

Session Chair

Oct 2013 Session Chair: • WCE 2013-ICMEEM VIII, London, GB

Jan 2010 Session Chair: ICAART 2010, Valencia, Spain

Nov 2009 Session Chair: International Conference on Economic Engineering and

Nov 2007 Manufacturing Systems-University of Braşov, Rom

Reviewer (Pablons)

1. Rapid Prototyping Journal
2. Materials and Manufacturing Processes
3. The International Journal of Advanced Manufacturing Technology
4. Additive Manufacturing
5. Energies
6. Journal of the Brazilian Society of Mechanical Sciences and Engineering
7. Measurement
8. Applied Sciences
9. Boundary Value Problems
10. Tribology in Industry
11. Particulate Science and Technology
12. Engineering Science and Technology, an International Journal
13. Procedia CIRP
14. Materials Today: Proceedings
15. Journal of Manufacturing and Materials Processing
16. Journal of Materials Science
17. Processes
18. Materials & Design
19. Robotics and Computer-Integrated Manufacturing
20. SYMMETRY-BASEL
21. Journal of Testing and Evaluation
22. Advances in Civil Engineering
23. The Open Construction and Building Technology Journal
24. Materials
25. Metals
26. Journal of Engineering
27. Micromachines
28. Journal for Manufacturing Science and Production
29. Journal of Manufacturing Systems
30. Journal of Manufacturing Processes
31. Sustainability

Conferences Board Member

1. International Scientific Committee (<http://www.imane.ro/committees/>)
2. International Scientific Committee (<https://web.iuh.edu.gr/icmmen20/#committee>)
3. International Scientific Committees: CMSAM Reviewer (www.4th-cmsam.org/)

4. Scientific Committee: ICATA 2019 Cibiú Ro
5. Scientific Advisory Committee ADEM 2010, 12, 14 (3rd International Conference ADVANCES IN ENGINEERING & MANAGEMENT, Craiova, Ro)
6. Scientific Committee: International Conference on Economic Engineering and Manufacturing Systems (since 2007)
7. Scientific Advisory Committee: WSEAS

Scholarships

Sep 2013 Scholarship: IKY - SCIENTIFIC VISIT at Brno UT

Grants

- Jan 2014* Archimedes III-The effect of tolerances in machining and in assembly process-GSRT-TEI of WM
- Mar 2007* Please Enter - Encouraging innovative applications and courses for students of TEI of Larissa and Lamia-GSRT-TEI LARISSAS
- Apr 2006* Advanced e-learning services at TEI of Larissa-GSRT-TEI LARISSAS
- Dec 1999* BRPR-CT98-0741-VIRTUE-Virtual reality environment for the simulation of critical industrial processes involving human intervention-Un Patras/EE
- Jun 1998* ESPRIT PROJECT No 26498 Integration of Business Function in Manufacturing - A best practice approach-Un Patras/EE
- May 1998* BRST-CT97-5145 Development of a high power laser based machine for the production of moulds form laminations-Un Patras/EE
- Nov 1997* ΑΡΤΕΜΙΣ Ολοκληρωμένα συστήματα παρακολούθησης παραγωγικής διαδικασίας στην χαρτοβιομηχανία (ΓΤΕΤ-ΕΠΕΤ II)-Un Patras/EE
- Jun 1997* BRPR CT96-0283-INTEGRITY Integration of heat treatment into machine-tools by using advanced grinding technology-Un Patras/EE
- Mar 1997* ESPRIT PROJECT N.22367-QUETA Quality engineering tools for assembly and small batches manufacturing-
- Jun 1996* BRPR-CT95-0066 Digital Mock-Up process for product conception and downstream processes-DMU-Un Patras/EE
- May 1996* FLAME Μηχανολογία ευέλικτης συναρμολόγησης και κατασκευής (ΓΤΕΤ-ΕΠΕΤ II)-Un Patras
- Feb 1996* ESPRIT PROJECT N. 20903 (RIDER) Real time decision making in manufacturing - Un Patras/EE
- Dec 1995* RETEX Μελέτη σχεδιασμού και εγκατάστασης της μεθόδου ταχείας πρωτοτυποποίησης για την κατασκευή μοντέλων καθισμάτων- GSRT-Un Patras

Awards

- Nov 2009* Certificate of Appreciation (in recognition of high scientific contribution and loyalty to Int Conf on Economic Engineering and Manufacturing Systems, Brasov, Rom)
- Sep 2016* Best Paper Award: (Paper title: Tolerance Analysis of 3D MJM parts according to IT grade. Authors: Kostas Kitsakis John Kechagias, Nikolaos M. Vaxevanidis and Dimitrios Giagopoulos)

Evaluator

- May 2019* Evaluator (RIS)
- Jan 2018* Evaluator ESPA 2014-20 (EDBM)
- Jan 2011* Evaluator (EYDE-ETAK) synergasia

Coordinator

- 2014-2018* Erasmus Department Coordinator

Administrative

Head

- Nov. 2013 – Aug. 2016 & Mar. 2018 – Aug. 2018* **Department Head**
Technological Educational Institute of Thessaly, Department of Mechanical Engineering, Larissa, Greece
- Sep. 2008 – Aug. 2011* **Construction Sector Head**
Technological Educational Institute of Thessaly, Department of Mechanical Engineering, Larissa, Greece
- Sep 2004 – present* **Head of the Laboratory for Manufacturing Processes and Machine Tools - LMP&MT**
Technological Educational Institute of Thessaly, Department of Mechanical Engineering, Larissa, Greece
- 2009-2012* **OMEA Member**

Assembly member

- Sep. 2014 – Aug. 2016* **TEI assembly member**
- Mar. 2018 – Aug. 2018* Technological Educational Institute of Thessaly, Larissa, Greece
- Acad. Year 2007-2008* **TEI research committee (member)**
- Jun. 2012 – Sep. 2018* Member of the Assembly of Special Composition
Member of the Board of the Institute of Lifelong Learning (IDVE)
Education and Research Committee Member of the Special Account for Research Grants

APELLA Evaluator

More than ten evaluations (APELLA)

Statistics

<https://scholar.google.gr/citations?user=euU9evwAAAAJ&hl=en&oi=ao>

H10 index-26, citations: 747

Since 2015: H10 index-19, citations: 503

Professional experience

- Oct. 1995 – Oct. 2000 - Research Assistant, University of Patras
- Oct. 2004 – present: Professor, University of Thessaly (Former TEI)
- Oct. 2004 – 2018: :Supervisor Engineering for Technical Division of TEI of Thessaly
- Oct. 2004 – 2018: TEI Administrative work
- Sep. 2000 - July 2002: N. Delis I. Kechagias O.E.
- Sep. 2000 – July 2004: Secondary School Teacher