

Sofia Panagiotidou

Curriculum Vitae

Aristotle University of Thessaloniki ○ Department of Mechanical Engineering

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PERSONAL INFORMATION

Nationality	Hellenic
Date/Place of Birth	16-1-1977 / Kozani, Greece
Phone	+30 2310 996044
E-mail	span@auth.gr

HIGHER EDUCATION

- 2002-2006 Ph.D. in Mechanical Engineering (Industrial Management)
Thesis title: “Optimal Planning of Integrated Preventive Quality Control and Equipment Maintenance Procedures”.
- 2000-2002 M.Sc. in “Management of Production Systems”, Aristotle University of Thessaloniki.
- 1994-2000 5-year Diploma in Mechanical Engineering, Aristotle University of Thessaloniki.

POSTDOC RESEARCH

PostDoc researcher (July – December 2006):

- Department of Mechanical Engineering, Aristotle University of Thessaloniki, Greece (4 months).
- Econometrics Institute of the Erasmus University of Rotterdam, Netherlands (2 months)

CURRENT ACADEMIC POSITION

Associate Professor in *Quantitative Methods and Informatics in Operations Management*, Department of Mechanical Engineering, Aristotle University of Thessaloniki, Greece.

PAST ACADEMIC POSITIONS

2020 – 2022: Associate Professor

2015 – 2020: Assistant Professor

2013 – 2015: Lecturer

in *Stochastic Techniques in Production Management and Quality Control*, Department of Mechanical Engineering, University of Western Macedonia, Greece.

TEACHING EXPERIENCE

Instructor (after Ph.D)

- Department of Production and Management Engineering, Democritus University of Thrace
 - ✓ Quality Control
 - ✓ Statistics and Probabilities
 - ✓ Simulation
- Department of Mechanical Engineering, University of Western Macedonia
 - ✓ Economics
 - ✓ Quality Control
 - ✓ Multivariate Statistics
 - ✓ Business Administration
 - ✓ Statistics
 - ✓ Operations Research
 - ✓ Design and Analysis of Experiments
 - ✓ Decision Theory
 - ✓ Reliability and Maintenance
- Department of Marketing and Operations Management, University of Macedonia
 - ✓ Simulation
- Department of Mechanical Engineering, Aristotle University of Thessaloniki
 - ✓ Operations Research
- Department of Mechanical Engineering, University of Western Macedonia
 - ✓ Experimental Data Analysis (2020-2021), Master's Degree Programme: "Advanced Engineering of Energy Systems"
 - ✓ Experimental Biomechanics (2018-2019), Master's Degree Programme: "Biomechanical Engineering"

- ✓ Measurement and Control Techniques in Production and Energy Transportation Processes (2018-2019), Master's Degree Programme: "Energy Resources Technologies and Management"
- Hellenic Open University
 - ✓ Basic Tools and Techniques for Quality Control (2013-2019), Master's Degree Programme: "Quality Management and Technology"

Teaching Assistant (before Ph.D)

Department of Mechanical Engineering, AUTH (2000 – 2006):

- ✓ Statistics
- ✓ Reliability and Maintenance
- ✓ Operations Research
- ✓ Multivariate Statistics
- ✓ Inventory Control and Supply Chain Management
- ✓ Statistical Quality Control

SUPERVISION OF THESES AND DISSERTATIONS

- Supervision of several Diploma Theses as a Professor in the Department of Mechanical Engineering at the University of Western Macedonia.
- Supervision of several Diploma Theses as a Teaching Associate at the Hellenic Open University.
- Supervision of the following PhD Dissertations (in progress):
 - ✓ “Development and Optimization of Advanced Preventive Maintenance Stochastic Models”, D. Kampitsis, University of Western Macedonia, Department of Mechanical Engineering, January 2019.
 - ✓ “Optimization of Monitoring and Condition Based Maintenance (CBM) in Continuously Deteriorating Systems”, G. Krommydas, University of Western Macedonia, Department of Mechanical Engineering, November 2020.
 - ✓ “Development of predictive maintenance models for industrial equipment using machine learning methods”, E. Skordas, Aristotle University of Thessaloniki, Department of Mechanical Engineering, May 2023.
- Member of the Examination Committee in the PhD Dissertation of Mr. Konstantinos Tasia in the Department of Mechanical Engineering at the University of Western Macedonia, December 2016. (Dissertation title: "Development and Analysis of Advanced

Adaptive Statistical Process Control Charts for the Joint Monitoring of Variables' Central Tendency and Dispersion").

- Member of the Advisory Committee in the PhD Dissertation of Mr. Simos Efthymiadis in the Department of Mechanical Engineering at the University of Western Macedonia, October 2020. (Dissertation title: "Optimization of Supply Chain Management and Quality Procedures in a Petroleum Industry").

JOURNAL PUBLICATIONS

1. Panagiotidou, S. and G. Tagaras, 2007, "Optimal preventive maintenance for equipment with two quality states and general failure time distributions", *European Journal of Operational Research*, 180 (1), 329-353.
2. Panagiotidou, S. and G. Tagaras, 2008, "Evaluation of Maintenance Policies for Equipment Subject to Quality Shifts and Failures", *International Journal of Production Research*, 46 (20), 5761-5779.
3. Panagiotidou, S. and G. Nenes, 2009, "An economically designed, integrated quality and maintenance model using an adaptive Shewhart chart", *Reliability Engineering and System Safety*, 94 (3), 732-741.
4. Nenes, G., Panagiotidou, S. and G. Tagaras, 2010, "Inventory management of multiple items with irregular demand: A case study", *European Journal of Operational Research*, 205 (2), 313-324.
5. Nenes, G., Panagiotidou, S. and R. Dekker, 2010, "Inventory control policies for inspection and remanufacturing of returns: A case study", *International Journal of Production Economics*, 125 (2), 300-312.
6. Panagiotidou, S. and G. Tagaras, 2010, "Statistical Process Control and Condition-Based Maintenance: a meaningful relationship through data sharing", *Production and Operations Management*, 19 (2), 156-171.
7. Nenes, G. and S. Panagiotidou, 2011, "A Bayesian model for the joint optimization of quality and maintenance decisions", *Quality and Reliability Engineering International*, 27 (2), 149-163.
8. Panagiotidou, S. and G. Tagaras, 2012, "Optimal Integrated Process Control and Maintenance under General Deterioration", *Reliability Engineering and System Safety*, 104, 58-70.

9. Panagiotidou, S., Nenes, G. and C. Zikopoulos, 2013, "Optimal procurement and sampling decisions under stochastic yield of returns in reverse supply chains", *OR Spectrum*, 35 (1), 1-32.
10. Nenes, G. and S. Panagiotidou, 2013, "An Adaptive Bayesian Scheme for Joint Monitoring of Process Mean and Variance", *Computers and Operations Research*, 40 (11), 2801-2815.
11. Panagiotidou, S., 2014, "Joint optimization of spare parts ordering and maintenance policies for multiple identical items subject to silent failures", *European Journal of Operational Research*, 235 (1), 300-314.
12. Nenes, G., Castagliola, P., Celano, G. and S. Panagiotidou, 2014, "The Variable Sampling Interval control chart for finite-horizon processes", *IIE Transactions*, 46 (10), 1050-1065.
13. Tsouknidas, A., Anagnostidis, K., Panagiotidou, S. and N. Michailidis, 2015, "The effect of osteoarthritis on the regional anatomical variation of subchondral trabecular bone in the femoral head", *Clinical Biomechanics*, 30, 418-423.
14. Skodras, G., Panagiotidou, S., Kokorotsikos, P. and M. Serafidou, 2016, "Potassium catalyzed hydrogasification of low-rank coal for synthetic natural gas production", *Open Chemistry*, 14, 92-102.
15. Panagiotidou, S., Nenes, G., Zikopoulos, C. and G. Tagaras, 2017, "Joint optimization of manufacturing/remanufacturing lot sizes under imperfect information of returns quality", *European Journal of Operational Research*, 258 (2), 537-551.
16. Panagiotidou, S., Nenes, G., and P. Georgopoulos, 2020, "A Sequential Monitoring Bayesian Control Scheme for Attributes", *Quality Technology and Quantitative Management*, 17 (1) 108-124.
17. Panagiotidou, S., 2020, "Joint Optimization of Spare Parts Ordering and Age-Based Preventive Replacement", *International Journal of Production Research*, 58 (20) 6283-6299.
18. Kampitsis, D. and S. Panagiotidou, 2022, "A Bayesian condition-based maintenance and monitoring policy with variable sampling intervals", *Reliability Engineering and System Safety*, 218, 108159.

PUBLICATIONS IN CONFERENCE PROCEEDINGS

1. Tagaras, G. and S. Panagiotidou, "Optimal Preventive Maintenance Policy of Equipment with Two Operational States", 1st Pan-hellenic Conference of Mechanical - Electrical Engineers, Athens 2005 (online version in Greek), Republication in Pan-Hellenic Union of Dipl. Mechanical/Electrical Engineers, issue 383 (Dec. 2005 – Jan. 2006), pp. 34-41.
2. Bakouros, Y. and S. Panagiotidou, "An analysis of maintenance education and training needs in european SMEs and an IT platform enriching maintenance curricula with industrial expertise", 5th International Conference on Condition Monitoring and Machinery Failure Prevention Technologies, Edinburgh, United Kingdom, July 15-18, 2008, pp. 101-109.
3. Zikopoulos, C., Panagiotidou, S. and G. Nenes, "The Value of Sampling Inspection in a Single-Period Remanufacturing System with Stochastic Returns Yield", 13th International Conference on Advances in Production Management Systems, Bordeaux, France, September 19-23, 2009.
4. Nenes, G., Panagiotidou, S., Tagaras, G. and C. Zikopoulos, "Optimal Disposition of Returns Based on Inaccurate Quality Assessment Procedures". IFAC Conference on Manufacturing Modelling, Management and Control, Saint Petersburg, Russia, June 19-21, pp. 1302-1307, 2013.
5. Tasias, A.K., Nenes, G. and S. Panagiotidou, "A multivariate model for holistic optimization of continuously monitored processes". 32nd Panhellenic Statistical Conference, Ioannina, Greece, 30 May - 1 June, 2019. (in Greek)

ARTICLES IN BOOKS

1. Panagiotidou, S. and G. Tagaras, "End – of – life tire recovery: the Thessaloniki initiative", *Managing Closed – Loop Supply Chains*, Flapper S.D.P., van Nunen J.A.E.E., van Wassenhove L.N., Springer (Eds), 2005, Chapter 17, pp. 183 – 193.

ARTICLES IN COLLECTIVE VOLUMES

1. Zikopoulos, C, Panagiotidou, S. and G. Nenes, 2010. The Value of Sampling Inspection in a Single-Period Remanufacturing System with Stochastic Returns Yield. In B. Vallespir and T. Alix. *Advances in Production Management Systems. New Challenges, New Approaches. IFIP Advances in Information and Communication Technology*, Volume 338, 128-135. (article presented in *International Conference on Advances in Production Management Systems*, Bordeaux, France, September 19-23).

OTHER PUBLICATIONS

1. Nenes, G., Panagiotidou, S. and G. Tagaras, 2011, “Customized inventory management, How a small Greek manufacturing company solved its big, complex procurement problem”, *OR/MS Today*, INFORMS, April, Volume 38, Issue 2.

CONFERENCE PRESENTATIONS

1. Panagiotidou, S. and G. Tagaras, “Integrating Preventive Maintenance and Statistical Process Control”, 5th EURO/INFORMS Joint International Meeting, Istanbul, Turkey, 2003.
2. Panagiotidou, S. and G. Tagaras, “Optimal preventive maintenance policies for equipment with multiple operating states”, 20th European Conference on Operational Research - EURO XX, Rhodes, Greece, 2004.
3. Panagiotidou, S. and G. Tagaras, “Optimal Preventive Maintenance Policies for Stochastically Deteriorating Two-State Processes”, INFORMS Annual Meeting, San Francisco, California, 2005.
4. Panagiotidou, S. and G. Tagaras, “Optimal Preventive Maintenance and Quality Control Policies for Two-State Processes”, INFORMS International Conference, Hong Kong, 2006.
5. Tagaras, G. and S. Panagiotidou, “Joint Economic Design of SPC and Preventive Maintenance”, 22nd European Conference on Operational Research – EURO XXII, Prague, Czech Republic, 2007.
6. Nenes, G. and S. Panagiotidou, “Variable-parameter Shewhart charts integrating quality and maintenance decisions”, 23rd European Conference on Operational Research – EURO XXIII, Bonn, Germany, 2009.
7. Nenes, G., Panagiotidou, S. and G. Tagaras, “Inventory management of multiple items with irregular demand: A case study”, 24th European Conference on Operational Research – EURO XXIV, Lisbon, Portugal, 2010.

Invited presentation, one of the 6 finalists for the “Euro Excellence in Practice Award”

8. Nenes, G. and S. Panagiotidou, “An adaptive Bayesian scheme for joint monitoring of process mean and variance”, 25th European Conference on Operational Research – EURO XXV, Vilnius, Lithuania, 2012.
9. Nenes, G., Panagiotidou, S., Zikopoulos, C, 2015. Joint Optimization of Procurement Lot-sizes in Hybrid Manufacturing / Remanufacturing Systems with Imperfect Quality

Information of Returns. *1st International Conference on Agrifood Supply Chain Management & Green Logistics*, Porto Carras, Halkidiki, Greece, 27-30 May, 2015.

10. Tasias, A. K., Nenes, G. and S. Panagiotidou, "Integrated Production Process Optimization: A Bayesian Approach". *International Symposium on Business and Industrial Statistics*, Piraeus, Greece, 4-6 July, 2018.
11. Tasias, A. K., Nenes, G. and S. Panagiotidou, "A Bayesian Production, Maintenance and Quality Model for Processes in Big Data Environments", *30th European Conference on Operational Research*, Dublin, Ireland, 22-26 June, 2019.
12. Kampitsis, D., Nenes, G. and S. Panagiotidou, "Bayesian monitoring in combined Statistical Process Control and Condition Based Maintenance" *19th Conference of the Applied Stochastic Models and Data Analysis International Society ASMDA 2021*, Athens, Greece 1-4 June, 2021.
13. Kampitsis, D. and S. Panagiotidou, "An enhanced Bayesian Condition-Based Maintenance policy for industrial equipment subject to non-exponential deterioration" *32nd European Conference on Operational Research*, Athens, Greece 3-6 July, 2022.

FUNDED RESEARCH

1. "Business plan and techno-economic study of a commercial road-vehicle", funded by the Hellenic Vehicle Industry S.A., Jan. 2002 – Feb. 2002.
2. "Optimal Planning of Integrated Preventive Quality Control and Equipment Maintenance Procedures", funded by the Greek Ministry of Higher Education, Nov. 2002 – Nov. 2005.
3. "Investigation in Integrated Procedures of Quality Assurance, Preventive Maintenance and Management of Reverse Supply Chains", funded by the Greek Ministry of Higher Education, Jan. 2006 – Dec. 2006.
4. "Training Material in Maintenance", Leonardo Da Vinci, E.C, DG Education and Culture, Jan. 2007 – Jan. 2009.
5. "Encouragement of business actions of innovative applications and student courses at the University of Western Macedonia", Operational Programme for Education and Initial Vocational Training, Nov. 2006 – Jun. 2007.
6. "Development of an Inventory Management System for Critical Stock Keeping Units", funded by RODA S.A., Feb. 2007 – Jun. 2007.

7. "ILearn2Main: Industrial Training System for Modern Enterprise Maintenance", Leonardo Da Vinci, E.C, DG Education and Culture, Nov. 2007 – Oct. 2009.
8. "Development of an intelligent, dynamic information system for the detection and prediction of failures and non-optimal operation in an industrial environment", funded by Souroti S.A., Kri Kri S.A., Alfa Beta Roto S.A., Jul. 2011 – Oct. 2013.
9. "Subcontracting (main DSS: An Intelligent DSS System for Maintenance Activities in the Manufacturing Sector", University of Western Macedonia., Apr. 2012 – Aug. 2012.
10. "Support of Curriculum in Polytechnic Departments", University of Western Macedonia., Nov. 2012 – Feb. 2013.
11. "Analysis of Supply and Production Systems: an Integrated Approach", Funded by the European Union (European Social Fund - ESF) Jan. 2013 – December 2013.
12. "Support of research activities in the Laboratory of Business Administration in the department of Mechanical Engineering", Aristotle University of Thessaloniki., Mar. 2013 – Dec 2013.
13. "Air Quality in Western Macedonia: The Impact of Climate Change and the Transition to the Post-Lignite Age", Support for Regional Excellence, Departments of Chemical Engineering and Mechanical Engineering, University of Western Macedonia, 2019 – 2022.
14. "Supply Chain Management Optimization in an Oil Trading Company", funded by ELINOIL S.A., June. 2021 – Jun. 2023.
15. "Development of an Inventory Management System for Critical Materials", funded by EUROPA S.A., Feb. 2022 – Dec. 2022.

REVIEWER SERVICE

Member of the Editorial Review Board:

- *Production and Operations Management (Member of the Editorial Review Board)*

Referee for the following international academic journals:

- *Production Applied Mathematical Modeling*
- *Communications in Statistics - Simulation and Computation*
- *Computers and Industrial Engineering*
- *European Journal of Operational Research*
- *IEEE Transactions on Systems, Man, and Cybernetics: Systems*
- *International Journal of Production Economics*

- *International Journal of Production Research*
- *International Journal of Systems Science*
- *Journal of Applied Statistics*
- *Journal of Risk and Reliability*
- *Journal of the Operational Research Society*
- *MIS Quarterly*
- *Omega*
- *OR Spectrum*

SCHOLARSHIPS - DISTINCTIONS

- Master Scholarships from:
 - i. the Research Committee of AUTH (2000-2002).
 - ii. the Greek National Scholarship Foundation (2000-2002).
- PhD Scholarship from the Greek National Scholarship Foundation (Oct. 2003 – Jul. 2006).
- PhD Scholarship from the HERACLITUS Programme (Nov. 2002 – Nov. 2005).
- PostDoc Scholarship from the Research Committee of Aristotle University of Thessaloniki (Jan. 2011 - Dec. 2011).
- Finalist in the international Euro Excellence in Practice Competition with the article “Inventory Management of Multiple Items with Irregular Demand: A Case Study”, *EURO XXIV Conference*, Lisbon, Portugal, 2010.

LANGUAGES

- Greek (mother tongue)
- English (Cambridge Proficiency)
- German (Zertifikat)