

Dr. Maria Drakaki is Professor in Humanitarian Engineering in the Department of Science and Technology, at the University Center of International Programmes of Studies of the International Hellenic University. She received her Ph. D degree from the University of Texas at Austin, Physics Department (1992), an M. Sc. degree from the University of Westminster in VLSI System Design (2004) and a B. Sc. degree from the Physics Department of the Aristotle University of Thessaloniki (1986). She was Associate Professor in the Department of Industrial Engineering and Management at the International Hellenic University (2019), Associate Professor in the Department of Automation Engineering of the Alexander Technological Educational Institute of Thessaloniki (2018 – 2019), Assistant Professor in the Department of Automation Engineering at the Alexander Technological Educational Institute of Thessaloniki (2014 – 2018). Prof. Drakaki was adjunct Assistant Professor in the Departments of Automation Engineering (2005 – 2013) and Electronics Engineering at the Alexander Technological Educational Institute of Thessaloniki (1994 – 2011). She was a postdoctoral researcher ((1993, 1997) and research collaborator at the Aristotle University of Thessaloniki (2000-2013).

Prof. Drakaki holds the Fulbright scholarship. She has published several papers in various international peer-reviewed journals and conferences as well as book chapters in international engineering books. She was the recipient of the best paper award of the International Conference on Information Systems Architecture and Technology (2017). She has co-organised special sessions in international conferences. She participates in European projects and has participated in several national and European research projects. Her research interests include humanitarian engineering, AI methods for disaster management, humanitarian logistics, intelligent manufacturing systems, decision support systems, and supply chain management. Prof. Drakaki is the Director of the Institute for the Management of Refugee Flows and Crises of the International Hellenic University. She is Deputy Dean of the School of Science and Technology. She is the Director of the Master's degree programme in Environmental Management and Sustainability and Director of the Master's degree programme in Energy and Finance in the Department of Science and Technology at the University Center for International Programmes of Studies of the International Hellenic University. She is a member of the Quality Assurance Committee of the Department of Science and Technology. Prof. Drakaki was Deputy Head of the Department of Industrial Engineering and Management at the International Hellenic University and an academic member of the University's Research Committee (2019). She was Deputy Head of the Department of Automation Engineering at the Alexander Technological Educational Institute of Thessaloniki (2017 – 2019). Prof. Drakaki was an academic member of the Research Committee (2017 – 2019) and Erasmus+ Academic Coordinator (2016 – 2018) of the Department of Automation Engineering at the Alexander Technological Educational Institute of Thessaloniki. She was Erasmus+ Academic Coordinator of the Department of Science and Technology (2020-April 2021). Prof. Drakaki is the Director of the new interinstitutional M. Sc. in Humanitarian Logistics and Crisis Management between the Department of Balkan, Slavic and Oriental Studies of the University of Macedonia and the Department of Science and Technology of the International Hellenic University.

Journals (selected)

1. Drakaki, M., Kovács, G., Tzionas, P., “No One Stands Alone – Partnerships for Community Resilience”, *Natural Hazards*, 116, 1433–1462 (2023).
2. Mebelli, V., Drakaki, M., Tzionas, P., “ An Investigation of Time Series Models for Forecasting Mixed Migration Flows: Focusing in Germany”, *Operations Research Forum* 4, 34 (2023).
3. Drakaki, M., Linardos, V., Tzionas, P., Karnavas, Y. L., :A transformers-based approach on industrial disaster consequence identification from accident narratives”, *Procedia Computer Science*, vol. 217, pp. 1446-1451, 2023.
4. Linardos, V., Drakaki, M., Tzionas, P., Karnavas, Y. L., “Machine Learning in Disaster Management: Recent Developments in Methods and Applications”, *Machine Learning and Knowledge Extraction*, vol. 4. no. 2, pp. 446-473, 2022.
5. Drakaki, M., Tzionas, P., “A Colored Petri Net-based modeling method for supply chain inventory management”, *Simulation*, vol. 98, no. 3, pp. 257–271, 2022.
6. Drakaki, M., Karnavas, Y. L, Tzifettas, Y., Linardos, V., Tzionas, P., “Machine learning and deep learning based methods toward industry 4.0 predictive maintenance in induction motors: State of the art survey”, *Journal of Industrial Engineering and Management*, vol. 15, no. 1, pp. 31-57, 2022.
7. Drakaki, M., “Operational response to address the needs of Unaccompanied Refugee and Migrant Minors in Greece”, *NRDC-GR (NATO Rapid Deployment Corps) Herald Magazine*, January 2022. (special guest paper).
8. Drakaki, M., Tzionas, P., “A Fuzzy Cognitive Map-based Approach to Prioritise Environmental Objectives in the Environmental Management Systems of Ports”, *International Journal of Simulation and Process Modelling*, vol. 2-3, pp. 127-136, 2021.
9. Drakaki, M., Tzionas, P., “Investigating the Impact of Site Management on Distress in Refugee Sites Using Fuzzy Cognitive Maps”, *International Journal of Disaster Risk Reduction*, 60, 102282, 2021.
10. Christos T. Alexakos, Yannis L. Karnavas, Maria Drakaki, Ioannis A. Tzifettas, “Combined Short Time Fourier Transform and Image Classification Transformer Model for Rolling Element Bearings Fault Diagnosis in Electric Motors”, *Machine Learning and Knowledge Extraction*, vol. 3, No. 1, 2021, pp. 228-242.
11. Drakaki, M., Karnavas, Y.L., Tzionas, P., Chasiotis, I.D., “Recent Developments Towards Industry 4.0 Oriented Predictive Maintenance in Induction Motors”, *Procedia Computer Science*, vol. 180, pp. 943-949, 2021.
12. Drakaki, M., Karnavas, Y.L., Karlis, A., Chasiotis, I. D., Tzionas, P., “Study on Fault Diagnosis of Broken Rotor Bars in Squirrel Cage Induction Motors: A Multi-Agent System Approach using Intelligent Classifiers”, *IET Electric Power Applications*, vol. 14, No. 2, 2020, pp. 245-255.
13. Drakaki, M., Tzionas, P., “Investigating the impact of inventory inaccuracy on the bullwhip effect in RFID-enabled supply chains using colored petri nets”, *Journal of Modelling in Management*, vol. 14, No. 2, 2019, pp. 360-384.
14. Karnavas, Y. L., Topalidis, A., Drakaki, M., “Development and Implementation of a Low Cost μ C- based Brushless DC Motor Sensorless Controller: A Practical

- Analysis of Hardware and Software Aspects”, *Electronics*, vol. 8, No. 12, 2019, 1456.
15. Drakaki, M., Gören, H. G. Tzionas, P., “An Intelligent Multi-Agent Based Decision Support System for Refugee Settlement Siting”, *International Journal of Disaster Risk Reduction*, vol. 31, 2018, pp. 576-588.
 16. Drakaki, M., Tzionas, P., “Community based social partnerships in crisis resilience: a case example in Greece”, *Disaster Prevention and Management*, vol. 26, No. 2, 2017, pp. 203-216
 17. Drakaki, M., Tzionas, P., “Manufacturing Scheduling Using Colored Petri Nets and Reinforcement Learning”, *Applied Sciences*, vol. 7, No. 2, 2017, 136.
 18. M. Drakaki, and P. Tzionas, “Modeling and performance evaluation of an agent-based warehouse dynamic resource allocation using Colored Petri Nets”, *International Journal of Computer Integrated Manufacturing*, vol. 29, No. 7, 2016, pp. 736-753.
 19. Drakaki, M., Siskos, S., Hatzopoulos, A., “A 0.5-20 GHz bandwidth enhanced distributed amplifier”, *Microelectronic Engineering*, vol. 90, 2012, pp. 26-28
 20. Drakaki, M., Siskos, S., Hatzopoulos, A., “ADe-Embedding method for RF CMOS Inductor Measurements”, *Microelectronics Journal*, vol. 40, 2009, pp. 958-965
 21. Drakaki, M., Siskos, S., Hatzopoulos, A., “A Comparative Evaluation of De-Embedding Methods for on-wafer RF CMOS Inductor S-parameter Measurements”, *Physica Status Solidi, C, Current Topics in Solid State Physics*, Vol 5, No. 12, 2008, pp. 3671-3676
 22. Noulis T., Drakaki, M., Siskos, S., “Complete Analysis of BSIM3V3 Noise Models for the optimum design of a low noise preamplifier”, *Journal of Physics, Conference Series*, Vol. 10, No. 1, 2005, pp. 369-372
 23. Pecz B., Zekendes K., Drakaki, M., Barna P., Stoemenos J., “Epitaxially grown β -SiC on Si, interface structural characterization”, *Journal of the Mechanical Behaviour of Materials*, Vol. 6, 59 (1995).
 24. Araya-Pochet, J.A., Chen J., Drakaki M., Erskine, J.L., “Magneto-optical studies of ultrathin epitaxial films”, *Journal of Physics: Condensed Matter*, 5, A191 (1993).
 25. Chen J., Drakaki M., Erskine, J.L., “Chemisorption-induced change in thin-film spin anisotropy: Oxygen adsorption on the p(1×1) Fe/Ag(100) system”, *Physical Review B*, 45, 3636 (1992)

Conferences and Book Chapters (selected)

1. Sioutas, I., Drakaki, M., Linardos, V., Tzionas, P., “Earthquake predictions using Machine Learning and Acoustic Emissions”, *Lecture Notes in Networks and Systems*, Springer, Proceedings of Intelligent and Fuzzy Systems (INFUS), Istanbul, Turkey, August 22-24, 2023 (accepted).
2. Christidou, A. N., Drakaki, M., Linardos, V., “A Machine Learning Based Method for Automatic Identification of Disaster Related Information Using Twitter Data”, *Lecture Notes in Networks and Systems*, Springer, Proceedings of Intelligent and Fuzzy Systems (INFUS), Izmir, Turkey, July 19-21, 2022.

3. Drakaki, M., Linardos, V., Tzionas, P., "Recent trends in using machine learning and Twitter data for disaster management", 34th European Modeling & Simulation Symposium (EMSS), Rome, Italy, 19-21 September, 2022.
4. Mebelli, V., Drakaki, M., "Investigating Forecasts of Mixed Migration Flows in Europe by Using Time Series Models", 5th International Conference on Dynamics of Disasters (DOD), 2021, online streaming.
5. König, K., Drakaki, M., "Derivation of Recommendations for Action for Sustainable Development in the Light of COVID-19 Pandemic", 9th International Workshop on Simulation for Energy, Sustainable Development & Environment (SESDE), September 15-17, 2021, online streaming.
6. Saltsidou, E., Drakaki, M., "Predicting Tourism Demand Using Timeseries", 33rd European Modeling & Simulation Symposium (EMSS), September 15-17, 2021, online streaming.
7. Makarova, I., Mukhametdinov, E., Gabsalikhova, L., Shepelev, V., Galiev, S., Buyvol, P., Drakaki, M., "Ensuring Reliability of The Gearbox During Operation Stage", Proceedings of the 7th International Conference on Vehicle Technology and Intelligent Transport Systems, VEHITS, 2021, online streaming.
8. Karnavas, Y.L., Chasiotis, I.D., Drakaki, M., Tzifafettas, I.A., "Recent advances of neural network based methods in induction motor fault diagnosis", Proceedings of the 24th International Conference on Electrical Machines, ICEM, 2020, online streaming.
9. Bintoudi, E., Baert, M., Drakaki, M., "Ecological Footprint Analysis of the Port of Thessaloniki as a Tool for an Environmental Management System", Proceedings of the 22nd International Conference on Harbor, Maritime and Multimodal Logistics Modeling and Simulation, HMS, 2020, online streaming.
10. Drakaki, Tzionas, P., Abeshev, K.: "Investigating the Influence of Emotional Intelligence on the Supplier Selection Decisions with Fuzzy Cognitive Maps", Proceedings of the 6th International Conference on Vehicle Technology and Intelligent Transport Systems, VEHITS, 2020, online streaming.
11. Drakaki, M. Gören, H. G., Tzionas, P.: "Supplier Selection Problem in Fuzzy Environment Considering Risk Factors", Proceedings of the 12th International Conference on the Developments in eSystems Engineering, DeSE, 2019, Kazan, Russia.
12. Karnavas, Y. L., Paschaloglou, T. P., Mouroutsos, S. G., Chasiotis, I. D., Drakaki, M., Boutalis, Y. S.: "Application of Salp Swarm Algorithm for DC Motor Parameter Estimation in an Industry 4.0 Control Systems IoT Framework", Proceedings of the 12th International Conference on the Developments in eSystems Engineering, DeSE, 2019, Kazan, Russia.
13. Drakaki, M. Gören, H. G., Tzionas, P.: "Fuzzy Cognitive Maps as a Tool to Forecast Emotions in Refugee and Migrant Communities for Site Management", Lecture Notes in Business Information Processing LNBIIP, Springer (2019).
14. Drakaki, M. Gören, H. G., Tzionas, P.: "A multi-agent based decision framework for sustainable supplier selection, order allocation and routing problem", Proceedings of the 5th International Conference on Vehicle Technology and Intelligent Transport Systems, VEHITS, 2019, Heraklion, Greece.

15. Makarova, I., Yakupova, G., Buyvol, P., Shubenkova, K., Abeshev, K., Drakaki, M.: "Improving road safety by affecting negative factors", Proceedings of the 5th International Conference on Vehicle Technology and Intelligent Transport Systems, VEHITS, 2019, Heraklion, Greece.
16. Sinodakis, G., Kostopoulos, V., Drakaki, M., Karnavas, Y.L., Tzionas, P.: "An RFID-Enabled Automated Storage and Retrieval System via Microcontroller Stepper Motor Control", 8th International Conference on Modern Circuits and Systems Technologies, MOCASST, 2019, Thessaloniki, Greece.
17. Drakaki, M. Gören, H. G., Tzionas, P.: "Comparison of Fuzzy Multi Criteria Decision Making Approaches in an Intelligent Multi-agent System for Refugee Siting". In: Świątek J., Borzemski L., Wilimowska Z. (eds) Proceedings of 39th International Conference on Information Systems Architecture and Technology – ISAT 2018. Advances in Intelligent Systems and Computing 656. Springer, Cham, (2019).
18. Drakaki, M. Gören, H. G., Tzionas, P.: "An Intelligent Multi-Agent System using Fuzzy Analytic Hierarchy Process and Axiomatic Design as a Decision Support Method for Refugee Settlement Siting". In: Proceedings of ICDSSST-PROMETHEE 2018. Lecture Notes in Business Information Processing LNBIIP. Springer (2018).
19. Drakaki, M., Gören, H. G., Tzionas, P., "A Multi-agent System Based Site Selection Method for Conflicts and Natural Disasters", 16th International Logistics and Supply Chain Congress, 2018, Denizli, Turkey.
20. Drakaki, M., Tzionas, P., "Modeling the Order Fulfilment Process Using Colored Petri Nets", Proceedings of the 4th International Conference on Supply Chains, 4thOlympus ICSC, 2018, Katerini, Greece.
21. Drakaki, M., Karnavas, Y.L., Chasiotis, I.D., Tzionas, P., "An Intelligent Multi-Agent System Framework for Fault Diagnosis of Squirrel-Cage Induction Motor Broken Bars". In: Świątek J., Borzemski L., Wilimowska Z. (eds) Proceedings of 38th International Conference on Information Systems Architecture and Technology – ISAT 2017. Advances in Intelligent Systems and Computing 656. Springer, Cham, (2018). (Best paper award).
22. Y. Karnavas, A. Topalidis and M. Drakaki, "Development of a Low Cost Brushless DC Motor Sensorless Controller Using dsPIC30F4011", 7thInternational Conference on Modern Circuits and Systems Technologies, MOCASST, 2018, Thessaloniki, Greece.
23. Isaakidis, G., Spiropoulos, A., Drakaki, M., "A Wireless Three Dimensional Printer for Printed Circuit Board Applications" 4th Panhellenic Conference on Electronics and Communications, PACET, 2017, Xanthi, Greece.
24. Giannopoulos, G., Drakaki, M., "Design and manufacture of voice distortion device in real time", 2nd International Workshop on Microsystems, 2017, Thessaloniki, Greece.
25. Drakaki, G. Kovacs, and P. Tzionas, "The logistics role in community resilience: a case example of a community based social partnership in Greece, 6thInternational Symposium and 28th National Conference in Operational Research, HELORS, 2017, Thessaloniki, Greece.

26. Isaakidis, G., Spiropoulos, A., Drakaki, M., "An Educational Purpose Built Three Dimensional Printer" 6thInternational Conference on Modern Circuits and Systems Technologies, MOCAS, 2017, Thessaloniki, Greece.
27. Bechtsis, M. Drakaki, and D. Vlachos, "Using Agent-Based Modeling for the Design of Agrifood Supply Chains with Emergency Replenishments", 1stInternational Conference of Agrifood Supply Chain Management and Green Logistics, 2015, pp. 421-430, Chalkidiki, Greece.
28. Perissis Eleftherios, Petridis Ioannis, and M. Drakaki, "Wireless Bluetooth Control Module for a DC Motor", 2ndPanhellenic Conference on Electronics and Communications, PACET, 2012, Thessaloniki, Greece.
29. Drakaki, M., Hatzopoulos, A., Siskos, S., "Improved Calculation of Differentially Driven RF CMOS Inductor Model Parameters", Design of Circuits and Integrated Systems, DCIS, 2007, pp. 76-80, Seville, Spain.
30. Drakaki, M., Hatzopoulos, A., Siskos, S., "Improving the Quality Factor Estimation for differentially Driven RF CMOS Inductors", European Conference on Circuit Theory and Design, ECCTD, 2007, pp. 599-602, Seville, Spain.
31. Drakaki, M., Hatzopoulos, A., Siskos, S., "CMOS Inductor Performance Estimation using Z- and S-parameters ", IEEE ISCAS International Symposium Circuits Systems, ISCAS, 2007, pp. 2256-2259, New Orleans, USA.
32. Drakaki, M., Hatzopoulos, A., Siskos, S., Papakostas D., "Comparison of RF Inductor Parameter Evaluation Methods ", International Conference on Electronics, Hardware, Wireless and Optical Communications, EHAC, 2007, pp. 35-39, Corfu, Greece.
33. Drakaki, M., Hatzopoulos, A., Siskos, S., "Improving the Accuracy of the De-embedding Methods for on-wafer RF Measurements ", Design of Circuits and Integrated Systems, DCIS, 2006, Barcelona, Spain.
34. Drakaki, M., Fikos, G., Siskos, S., "Analog Signal Processing Circuits using Floating Gate MOS Transistors ", 5thInternational Conference on Technology and Automation, ICTA, 2005, pp.322-327, Thessaloniki, Greece.
35. Drakaki, M., Fikos, G., Siskos, S., "Subthreshold Behaviour Modeling of FGMOS Transistors using the ACM and the BSIM3V3 Models", 12thIEEE Mediterranean Electrotechnical Conference, MELECON, 2004, pp. 55-58, Dubrovnic, Croatia.
36. Drakaki, L. Berkovi, I. Kale, and S. Siskos, "Non-Quasi-Static Transient Analysis Modeling of the Floating Gate MOS Transistor", Second International Conference on Microelectronics, Microsystems and Nanotechnology, MMN 2004, Nov. 2004, Athens, Greece.
37. Chen J., Drakaki M., Erskine, J.L., "Magnetic anisotropy of Epitaxial Fe Thin Films on Ag(100)", Bulletin of the American Physical Society, 36, 677 (1991), Cincinnati, OH, March Meeting of the American Physical Society.
38. Chen J., Drakaki M., Ballentine, C.A., Erskine, J.L., "SMOKE Investigation of Ultrathin Fe Films Epitaxially Grown on W(100)", Bulletin of the American Physical Society 35, 199 (1990), New Orleans, LA, March Meeting of the American Physical Society.