KONSTANTINOS KOKKINOS

CURRICULUM VITAE

SENIOR LECTURER
DEPT. OF DIGITAL SYSTEMS
ENERGY SYSTEMS DEPT.
UNIVERSITY OF THESSALY GREECE

CONTACT INFORMATION

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SOCIAL NETWORKS:

- https://www.researchgate.net/profile/Konstantinos_Kokkinos
- https://scholar.google.bg/citations?user=1p4oqr0AAAAJ&hl=en

18 February 2023

CONTENTS

EDUCATION

Postdoctoral Research
University of Thessaly, Energy Systems Department
March 2022 – Nov. 2025
Subject: ***EMERALD****:* "Fuzzy Cognitive Explainable Analytics for Translating Model Complexity in Nuclear Medical Diagnosis"
Financed by HFRI (Hellenic Foundation for Research and Innovation) at the 2nd Call for H.F.R.I.'s Research Projects to Support Faculty Members & Researchers

Postdoctoral Research
University of Thessaly, Civil Engineering Department
Jan. 2015 – Dec. 2016
Subject: "Smart Decision Support System for reducing leaks in urban water networks by the dynamic modifications of pumping and tank filling/emptying schedules"
Financed by the ISS-EWATUS FP7- European Research Program
https://www.eip-water.eu/projects/iss-ewatus

Ph.D. in Computer Science
Computer Engineering Dept.
Western Michigan University, USA
Sep. 1996 - Aug. 2002
PhD Dissertation Title: "LOAD BALANCING AND CONGESTION AVOIDANCE ROUTING",
ISBN: 0-493-97894-1, Order Number: AAI3077379
Achieved Mark "Distinction" (3.98 / 4.00)

Bachelor's Degree (BSc) in Physics
Aristotle's University of Thessaloniki, Greece Department of Physics
September 1984 -1989
Bachelor's Dissertation Title: "The role of Ultrasonic Theory in Medical Informatics"
Achieved Mark "Very Good"

Basic Education
4th Lyceum of Larissa, Greece
June 1983
Achieved Mark "Excellent" (Average Mark 19.4/20)

RESEARCH

PAPERS PUBLISHED IN PEER REVIEWED JOURNALS

1. **Kokkinos, Konstantinos**, Eftihia Nathanail, Vassilis Gerogiannis, Konstantinos Moustakas, and Vayos Karayannis. "Hydrogen storage station location selection in sustainable freight transportation via intuitionistic hesitant decision support system." **Energy** 260 (2022): 125008. **(Impact Factor: 8.857, Scimago: Q1)**

2. Papandrianos, Nikolaos I., Ioannis D. Apostolopoulos, Anna Feleki, Serafeim Moustakidis, **Konstantinos Kokkinos**, and Elpiniki I. Papageorgiou. "AI-based classification algorithms in SPECT myocardial perfusion imaging for cardiovascular diagnosis: a review." **Nuclear Medicine Communications** 44, no. 1 (2022): 1-11. **(Impact Factor: 1.433, Scimago: Q2)**

3. Papandrianos, N., A. Feleki, **K. Kokkinos**, D. Apostolopoulos, and E. Papageorgiou. "Deep learning for automatic diagnosis of coronary artery disease using SPECT MPI images", **European Journal of Nuclear Medicine and Molecular Imaging**, vol. 49, no. Suppl. 1, pp. S617-S617. New York, NY, United States: Springer, 2022. **(Impact Factor: 9.236, Scimago: Q1)**

4. **Kokkinos, K**., V. Karayannis, E. Nathanail, and K. Moustakas. "A comparative analysis of Statistical and Computational Intelligence methodologies for the prediction of traffic-induced fine particulate matter and NO2." **Journal of Cleaner Production** 328 (2021): 129500. **(Impact Factor: 11.072, Scimago: Q1)**

5. Hatziioannou, Marianthi, and **Konstantinos Kokkinos**. "Evaluation of Sustainability Determinants of Small Farming Systems via Participatory Modeling and Fuzzy Multi-Criteria Processes: The Case Study of Heliciculture in Greece." **Frontiers in Sustainability** 2 (2021): 629408 [Front. Sustain. doi: 10.3389/frsus.2021.629408]. **(Impact Factor: 5.005, Scimago: Q2)**

6. **Kokkinos, Konstantinos**, Vayos Karayannis, and Konstantinos Moustakas. "Optimizing microalgal biomass feedstock selection for nanocatalytic conversion into biofuel clean energy, using Fuzzy Multi-Criteria Decision Making processes." **Frontiers in Energy Research** 8 (2021): 622210. **(Impact Factor: 3.858, Scimago: Q1)**

7. **Konstantinos Kokkinos**, Vayos Karayannis, Konstantinos Moustakas, "Circular bio-economy via energy transition supported by Fuzzy Cognitive Map modeling towards sustainable low-carbon environment", **Science of the Total Environment**, ISSN: 0048-9697, 137754, 2020, **(Impact Factor: 10.753, Scimago: Q1).**

8. **Konstantinos Kokkinos**, Vayos Karayannis, "Supportiveness of Low-Carbon Energy Technology Policy via a Comparative Analysis of Fuzzy Multi-Criteria Decision-Making Methodologies", **MDPI-Mathematics**, 20 June 2020, **(Impact Factor: 2.592, Scimago: Q1).**

9. **Kokkinos, Konstantinos**, and Eftihia Nathanail. "Exploring an Ensemble of Textual Machine Learning Methodologies for Traffic Event Detection and Classification." **Transport and Telecommunication Journal** 21.4 2020: 285-294. **(Impact Factor: 1.979, Scimago: Q3)**

10. **Konstantinos Kokkinos**, Evangelia Lakioti, Petros Samaras, Vayos Karayannis, "Evaluation of public perception on key sustainability indicators for drinking water quality by fuzzy logic methodologies", **Desalination and Water Treatment**, ISSN 19443994, 19443986,2019, **(Impact Factor: 2.230, Scimago: Q2).**

11. **Konstantinos Kokkinos**, Vayos Karayannis, Evangelia Lakioti, Konstantinos Moustakas, "Exploring social determinants of municipal solid waste management: Survey processing with Fuzzy Logic and Self-Organized Maps", **Environmental Science and Pollution Research Journal**, Springer Publishing **26**, pages 35288–35304, 2019. https://doi.org/10.1007/s11356-019-05506-2 **(Impact Factor: 5.190, Scimago: Q1).**

12. **Konstantinos Kokkinos**, E Lakioti, E Papageorgiou, K Moustakas, V Karayannis, "FCM-based Modeling of Social Acceptance to Overcome Uncertainties in Establishing Waste Biorefinery Facilities", Frontiers in Energy Research Vol. 6 Frontiers in Energy Research 6 (Article 112): Pages 1-17, 2018. DOI: 10.3389/fenrg.2018.00112 **(Impact Factor: 3.524, Scimago: Q1)**

13. Ayad Hendalianpour, Jafar Razmi, Fariborz Joulai, Mahnaz Fakhrabadi, **Konstantinos Kokkinos**, Elpiniki I. Papageorgiou "A Linguistic Multi-Objective Mixed Integer Programming Model for Multi Echelon Supply Chain Network Design at Bio-refinery", **EuroMed Journal of Management**, Vol. 2, No. 4, Pages 329-355. Manuscript ID TPRS-2018-I-JPR-1228. **(Impact Factor: 1.13, Scimago: Q2)**

14. Asmaa Mourhir, Elpiniki I. Papageorgiou, **Konstantinos Kokkinos** and Tajjeeddine Rachidi "Exploring Precision Farming Scenarios Using Fuzzy Cognitive Maps", **Sustainability** 2017, 9(7), 1241; https://doi.org/10.3390/su9071241. **(Impact Factor: 2.592, Scimago: Q2)**

15. Chrysi Laspidou, Elpiniki Papageorgiou, **Konstantinos Kokkinos**, Sambit Sahud, Arpit Gupta and Leandros Tassiulas, "Exploring patterns in water consumption by clustering", **Procedia Engineering**, Vol. 119, pp. 1439-1446, 2015, doi:10.1016/j.proeng.2015.08.1004. **(Scimago: Q3)**

16. **Konstantinos Kokkinos**, Athanasios Loukas and Nicholas Samaras, "Development and Evaluation of an Adaptive Neuro Fuzzy Inference System for the Calculation of Soil Water Recharge in a Watershed", **European Scientific Journal**, Volume 11, Issue 10 Pages 432-446, 2015, http://www.sciary.com/journal-scientific-europeanscientific-article-395467. **(Scimago: NL)**

17. **Konstantinos Kokkinos**, Nicholas Samaras, Chrysi Laspidou and Athanasios Loukas, "Modeling of Hydrological and Environmental Processes through OPENMI and Web Services", **European Scientific Journal**, Volume 11, Issue 10 pp. 563-580, 2015. http://www.sciary.com/journal-scientific-europeanscientific-article-395449. **(Scimago: NL)**

18. Nicholas S. Samaras, **Konstantinos Kokkinos**, Vasileios Vlachos, Costas Chaikalis, "On Intrusion Detection in Opportunistic Networks", **International Journal of Innovation and Regional Development** (IJIRD), Volume 6 Issue 3, Pages 222-242, 2015. Print ISSN: 1753-0679 Online ISSN: 1753-0660. **(Scimago: Q3)**

19. **Konstantinos Kokkinos** and D. Ventzas, "Collaborative monitoring of Traffic in Intersections using video and Image Processing", **International Journal of Image Processing Techniques**, Volume 2, Issue 1, Pages 16-21, 2015, theIRED Scientific Publishing, ISSN No: 2372 3998. **(Scimago: NL)**

20. **Konstantinos Kokkinos** and Dionysios Kountanis, "Uniform k-Stratifed Graphs", **Electronic Notes in Discrete Mathematics**, Elsevier, Vol. 11, Pages 692-704, 2002. ISSN: 1571-0653 **(Scimago: Q3)**

21. C. Hartonas, D. Kontokostas and **Konstantinos Kokkinos**, "Petri Net Semantics for Communicating Agents", Anals of Mathematics, Computing and Teleinformatics, ISSN 1109-9305, Vol. 1, No. 4, 2001 Pages 1-9. **(Scimago: NL)**

PAPERS & CHAPTERS PUBLISHED IN BOOKS

1. **Konstantinos Kokkinos**, Elpiniki Papageorgiou, Vassilios Dafopoulos, Ioannis Adritsos, "Efficiency in Energy Decision Support Systems Using Soft Computing Techniques". **Intelligent Decision Support Systems for Sustainable Computing, Springer Publishing**, 2017, Pages 33-52, ISBN 978-3-319-53153-3.

2. **Konstantinos Kokkinos**, Elpiniki Papageorgiou, Katarzyna Poczeta, Eleftherios Papadopoulos and Chrysi Laspidou, "Soft Computing Approaches for Urban Water Demand Forecasting" Book Chapter Volume 57 of the series Smart Innovation, Systems and Technologies, pp. 357-367, **Intelligent Decision Technologies**, 2016, DOI: 10.1007/978-3-319-39627-9_31, Springer Editions.

3. Elpiniki Papageorgiou, **Konstantinos Kokkinos** and Zoumpoulia Dikopoulou, "Fuzzy Sets in Agriculture", Book Chapter In book: Fuzzy Logic in Its 50th Year, Volume 341 of the series **Studies in Fuzziness and Soft Computing**, Pages 210-233, DOI: 10.1007/978-3-319-31093-0_10 Springer Editions.

PAPERS UNDER REVIEW IN REFEREED JOURNALS

1. V. Karayannis, **Konstantinos Kokkinos**, C. Emmanouil, "Transformation of agro-wastes into sustainable value-added materials and classification with machine learning models, in the framework of circular economy", **Environmental Science and Pollution Research Journal**, (**Impact Factor: 5.190, Scimago: Q1**)

PAPERS IN CONFERENCES

1. **K Kokkinos**, A Exadactylos, D Vafidis, "Use of Salmon Maturity Classification Based on Bayessian Networks and Support Vector Machines Methodologies", **4th International Congress on Applied Ichthyology, Oceanography & Aquatic Environment**, Mytilini, Greece, Nov. 4th – 6th, 2021.

2. **K Kokkinos**, A Exadactylos, D Vafidis, "Use of Fuzzy Cognitive Maps as a Decision-Making Tool to Fisheries Management", **4th International Congress on Applied Ichthyology, Oceanography & Aquatic Environment**, Mytilini, Greece, Nov. 4th – 6th, 2021.

3. M Hatziioannou, A Doxarioti, K Apostolou, A Exadactylos, **K Kokkinos**, "Life Cycle Assessment of Small Snail Farming Systems: The Greek Case", **4th International Congress on Applied Ichthyology, Oceanography & Aquatic Environment**, Mytilini, Greece, Nov. 4th – 6th, 2021.

4. **Konstantinos Kokkinos**, A. Exadactylos, D. Vafidis, & M. Hatziioannou, "Efficient Traceability of Aquatic Products on the Cold Supply Chain Management via IoT and Artificial Neural Networks", **3rd International Congress on Applied Ichthyology & Aquatic Environment**, Volos, Greece Nov. 8th – 11th, 2018.

5. **Konstantinos Kokkinos** and Nicholas Samaras, "A novel integrated platform for the monitoring of cold supply chains via IoT, fuzzy logic and adaptive neuro fuzzy inference systems", **Proceedings of the International scientific and practical conference "Bulgaria of regions"**, Plovdiv, Bulgaria Oct. 2018.

6. **Konstantinos Kokkinos**, E. Lakioti, P. Samaras and V. Karayannis, "Stakeholders' Perception of Sustainability Key Performance Indicators for Urban Water Quality, using Soft Computing Methodologies", **Fifth International Conference on Small and Decentralized Water and Wastewater Treatment Plants**, Thessaloniki Greece, August 26th-29th, 2018.

7. **Konstantinos Kokkinos**, Eftihia Nathanail and Elpiniki Papageorgiou, "Applying Unsupervised and Supervised Machine Learning Methodologies in Social Media Textual Traffic Data", **International Conference on Sustainable Urban Mobility**, May 24th -26th, 2018, Skiathos, Greece.

8. Dimitrios Kofinas, Elpiniki Papageorgiou, Chrysi Laspidou, Nikolaos Mellios and **Konstantinos Kokkinos**, "Daily multivariate forecasting of water demand in a touristic island with the use of artificial neural network and adaptive neuro-fuzzy inference system", **2016 International Workshop on Cyber-physical Systems for Smart Water Networks (CySWater)**, April 2016, DOI: 10.1109/CySWater.2016.7469061.

9. **Konstantinos Kokkinos**, N. Samaras, A. Loukas "An Integrated Modeling Architecture for the Monitoring of Lake Karla Watershed", **Fifth International Conference on Environmental Management, Engineering, Planning and Economics, (CEMEPE 2015) and SECOTOX Conference**, June 14th-18th, 2015 Mykonos Island, Greece.

10. **Konstantinos Kokkinos**, N. Samaras, N. Mylopoulos, C. Laspidou, A. Loukas "The Coupling of the Hydrological Models UTHBAL, UTHRL, MODFLOW and the Environmental Model PCLake under a Collaborative Modeling Framework for Water Resources Management of the Lake Karla Watershed", **Fifth International Conference on Environmental Management, Engineering, Planning and Economics, (CEMEPE 2015) and SECOTOX Conference**, June 14th-18th, 2015 Mykonos Island, Greece.

11. **Konstantinos Kokkinos**, N. Samaras, C. Laspidou, A. Loukas, Modeling of Hydrological and Ecological Processes through OpenMI and Web Services, **3rd Global Academic Meeting, GAM 2015, Health, Climate Change and Environment-Global Societal Challenges, New York** Sept. 17th-19th, 2015, New York, USA.

12. **Konstantinos Kokkinos**, A. Loukas, N. Mylopoulos, N. Samaras, Collaborative Environmental Modeling: A Roadmap for Integrated Water Resources Management, **CEST International Conference on Environmental Science and Technology**, Sept. 3rd-5th, 2015 Rhodes Island, Greece.

13. A. Loukas, J. Tzabiras, M. Spiliotopoulos, **Konstantinos Kokkinos**, C. Fafoutis, N. Mylopoulos "Development of a district information system for water management planning and strategic decision making", **Proc. SPIE 9535, Third International Conference on Remote Sensing and Geoinformation of the Environment (RSCy2015)**, 95351L (June 19, 2015); doi:10.1117/12.2193892, Budapest, Hungary.

14. Vasiliades, L., P. Sidiropoulos, J. Tzabiras, **Konstantinos Kokkinos**, M. Spiliotopoulos, G. Papaioannou, C. Fafoutis, K. Michailidou, G. Tziatzios, A. Loukas and N. Mylopoulos (2015). "An Integrated Monitoring and Management System for Quantity and Quality Assessment of Water Resources in Rural Basins." **9th World Congress of EWRA "Water Resources Management in a Changing World: Challenges and Opportunities"**, 10-13 June 2015, Istanbul, Turkey.

15. Vasiliades, L., P. Sidiropoulos, J. Tzabiras, G. Papaioannou, **Konstantinos Kokkinos**, A. Loukas and N. Mylopoulos (2015). "An Integrated Modelling System for Assessing Water Resources Management Practices." **9th World Congress of EWRA "Water Resources Management in a Changing World: Challenges and Opportunities"**, 10-13 June 2015, Istanbul, Turkey.

16. Vasiliades, L., P. Sidiropoulos, J. Tzabiras, **Konstantinos Kokkinos**, M. Spiliotopoulos, G. Papaioannou, C. Fafoutis, K. Michailidou, G. Tziatzios, A. Loukas and N. Mylopoulos (2015). "Hydromentor: An Integrated Water Resources Monitoring and Management System at Modified Semi-Arid Watersheds." **EGU General Assembly**, 12-17 April 2015, Vienna, Austria.

17. Tzabiras, J., M. Spiliotopoulos, **Konstantinos Kokkinos**, C. Fafoutis, P. Sidiropoulos, L. Vasiliades, G. Papaioannou, A. Loukas and N. Mylopoulos (2015). "A GIS Based Watershed Information System for Water Resources Management and Planning in Semi-Arid Areas." **EGU General Assembly**, 12-17 April 2015, Vienna, Austria.

18. **Konstantinos Kokkinos** and D. Ventzas, "Collaborative monitoring of Traffic in Intersections using video and Image Processing", Second International Conference on Advances in Computing, **Electronics and Communication ACEC, Zurich Switzerland**, 25 Oct. 2014.

19. **Konstantinos Kokkinos**, N. Mellios, D. Kofinas, C. Laspidou, and A. Loukas, "The development of a Collaborative Environmental Modeling System for the communication between models UTHBAL and PCLake", **Fourth International Symposium on Green Chemistry for Environment, Health and Development**, September 24th-26th, 2014, Kos Island, Greece

20. Nicholas Samaras and **Konstantinos Kokkinos**, "On Data Dissemination Performance of Routing Algorithms in Vehicular Ad hoc Networks (VANETs)", submitted for publication for the **Third International conference on Connected Vehicles and Expo**, Nov. 3-7, 2014 Vienna, Austria.

21. **Konstantinos Kokkinos**, N. Samaras, A. Loukas, N. Mylopoulos, "A Collaborative Approach to Environmental Modeling", proceedings of WETICE 2014, **IEEE International Workshop on Enabling Technologies: Infrastructures for Collaborative Enterprises**, Parma, Italy, Jun. 23-25, 2014. IEEE Computer Society 2014, ISBN 978-1-4673-1888-4.

22. A. Loukas, J. Tzabiras, M. Spiliotopoulos, **Konstantinos Kokkinos**, C. Fafoutis and N. Mylopoulos, "Development of a district information system for water management planning and strategic decision making", **Second International Conference on Remote Sensing and Geoinformation of Environment, Cyprus**, 7-10 April , 2014.

23. Nicholas S. Samaras, **Konstantinos Kokkinos**, Vasileios Vlachos, Costas Chaikalis, "On Intrusion Detection in Opportunistic Networks", accepted for publication in **Pan-Hellenic Conference on Informatics**, 19th-21st September, Thessaloniki, Greece, 2013.

24. **Konstantinos Kokkinos**, Eleftherios Papadopoulos, Nicholas S. Samaras, Costas Chaikalis "An Integrated Modeling Framework for Routing of Hazardous Materials", proceedings of WETICE 2012, **IEEE International Workshop on Enabling Technologies: Infrastructures for Collaborative Enterprises, Toulouse, France**, Jun. 25-27, 2012. IEEE Computer Society 2012, ISBN 978-1-4673-1888-4.

25. **Konstantinos Kokkinos**, Loukas Ath., Samaras Nich., and Iatrellis Om. "Integrated Modeling of Hydrological Processes through OpenMI and Web Services" **HAICTA-2011 5th International Conference on Information and Communication Technologies in Agriculture, Food and Environment,** Skiathos Greece Sept 8th – 11th 2011.

26. **Konstantinos Kokkinos**, Loukas Ath., "Collaborative Migration, Coupling and Simulation of Water Resources Models through OpenMI", accepted for publication in the **proceedings of WETICE 2010, IEEE International Workshop on Enabling Technologies: Infrastructures for Collaborative Enterprises, Larissa Greece**, June 28th -30th 2010.

27. Chaikalis Kons., Samaras Nic., Iatrellis Om. **Konstantinos Kokkinos**, "An Improved 3GPP Reconfigurable Turbo Decoder for Flat Rayleigh Fading Channels" accepted for publication in the **proceedings of TEMU 2010, International Conference on Telecommunications and Multimedia, Chania Crete, Greece** July 14th-16th 2010.

28. Loukas Ath., **Konstantinos Kokkinos**, Vassiliades L. and Liakopoulos Ant, " The Migration of the UTHBAL Hydrologic Model into OpenMI", in **proceedings of the International Congress on Environmental Modelling and Software, IEMSS**, Barcelona Spain, July 5-10, 2008.

29. **Konstantinos Kokkinos**, Loukas Ath. Vassiliades L and Liakopoulos Ant, "Integrated Modelling of Surface Water and Ground Water Through OpenMI : The Case of Lake Karla Watershed", submitted for publication to the **International Congress on Environmental Modelling and Software, IEMSS**, Barcelona Spain, July 5-10, 2008.

30. Elise de Doncker, **Konstantinos Kokkinos**, Rodger Zanny and Karlis Kaugars "Parallel Multivariate Integration: Paradigms and Applications", **Joint Statistical Conferences (JSM'2001, CD-ROM Proceedings)**, pp. 538-543, 2002.

31. **Konstantinos Kokkinos** and Dionysios Kountanis, "Properties of Regular Uniform k-Stratified Graphs", **Congressus Numerantium Conference, Boca Raton, Florida, USA**, Vol. 147, Pages 117-128, 2000.

32. **Konstantinos Kokkinos** and Dionysios Kountanis, "Approximations to Rectilinear Steiner Trees on a Z-Cube", **Congressus Numerantium Conference, Boca Raton, Florida, USA**, Vol. 128, Pages 205-218, 1996.

33. Subhash Sonnad, Laura Nichols, **Konstantinos Kokkinos**, Pam Zeller, Dennis Malaret-Rosado and Jassim Nasr, "Process Evaluation Simplified: A Computerized Approach", **National Conference for Community Partnership Grantees, St. Louis, MO, March, 1995. Published in Conference Proceedings** Vol 84 pp. 346-366 February 1996.

34. Dionysios Kountanis and **Konstantinos Kokkinos**, "Approximation Algorithms for the Query Optimization Problem for a Cellular Multilist File Organization", **Journal of Computing and Information (JCI), Special Issue: Proceedings of the Seventh International Conference of Computing and Information (ICCI'95)**, Vol. 32, Pages 600-612, 1995.

35. Dionysios Kountanis and **Konstantinos Kokkinos**, "A Balanced Approach to the Rectilinear Steiner Problem", **Congressus Numerantium Conference, Boca Raton, Florida, USA**, Vol. 108, pp. 205-221, 1995.

36. Dalia Motzkin and **Konstantinos Kokkinos**, "The Relational Model and Minimum Covers Revisited", **Joint Conference on Information Systems, South Carolina**, Nov. 1994, Proceedings pp. 314-321.

UNIVERSITY NOTES

1. Konstantinos Kokkinos, **"Artificial Intelligence Methodologies for Engineering Problems"** (2017). University of Thessaly Electronic Notes for the Computer Science Department.
2. Konstantinos Kokkinos, **"Data Mining: Theory and Applications"** (2016). University of Thessaly Electronic Notes for the Computer Science Department.
3. Konstantinos Kokkinos, **"Web Services and Applications"** (2012). A collection of notes, related papers and PowerPoint Presentations for the Post Graduate Program in Computer Science (Joint program of TEI of Thessaly, Greece and Staffordshire University, UK).
4. Konstantinos Kokkinos, **"Advanced Web Technologies"** (2012). A collection of notes, related papers and PowerPoint Presentations for the Post Graduate Program in Computer Science (Joint program of TEI of Thessaly, Greece and Staffordshire University, UK).
5. Konstantinos Kokkinos, **"Automata Theory, Typical Computer Languages and Theory of Computation"** (2011). Technological Education Institute of Thessaly, Greece, Electronic Notes for the Computer Science Department.

SUMMER SCHOOLS - LECTURES AS GUEST SPEAKER

1. **Transport and Telecommunications Institute, Riga, Latvia**, Advances in Intermodal freight transport and logistics-Summer School. http://ssc2019.tsi.lv/ August 19 – 24, 2019. Lectures titled
   a. Information Systems and Technologies.
   b. Smart Urban Logistics applications.
   c. Assessment and Decision Making in Freight Logistics.
2. **University of Thessaly, Volos, Greece,** Fuzzy Cognitive Maps: Methods, Learning Algorithms and Software Tools. Applications and Case Studies July 4th – 8th 2016.

OTHER PUBLICATIONS

Numerous articles in daily and weekly technology and ICT related press, as well as other electronic publications, including:

- Eleftheria (Daily Press) of Larissa, Greece
- Bits and Bytes Western Michigan Periodical, Kalamazoo Michigan, USA

REFEREES IN JOURNALS

- International Journal of Innovation Education and Research
- International Journal of Artificial Intelligence and Soft Computing (InterScience Publishers)
- MDPI – Sustainability
- MDPI – Mathematics

ASSOCIATION MEMBERSHIPS

- Open Modelling Interface (OpenMI) International Association
- IEEE member

CITATIONS

- More than 400 according to Google Scholar, Research Gate, ICI and Scopus
- h-index: 10

TEACHING EXPERIENCE

UNDERGRADUATE COURSES

University of Thessaly, Dept. of Digital Systems, Larissa, Greece

2023-Present

Courses:

- Graph Theory

University of Thessaly, Dept. of Ichthyology and Aquatic Environment Volos, Greece

2019-Present (winter semesters)

Courses:

- Big Data Analytics

University of Thessaly, Dept. of Energy Systems Larissa, Greece

2019-2022

Courses:

- Introduction to Programming with C-Language
- Programming – II with MATLAB

University of Thessaly, Computer Science Dept. Lamia, Greece

2013-2019

Courses:

- Introduction to Programming and Data Structures
- Artificial Intelligence
- Analysis of Algorithms
- Data Mining
- Databases
- Theory of Computation
- Object Oriented Programming in Java
- Introduction to Programming with FORTRAN for Engineers (Civil Engineering Department)

Technological Education Institute of Central Greece, Computer Science Dept. Lamia, Greece

2016-2019

Courses:

- Software Engineering
- Introduction to Systems of Computers
- Logical Programming
- Artificial Intelligence
- Object Oriented Programming

- Requirement Analysis and Software Quality Control

Technological Education Institute of Thessaly, Computer Science Dept. Larissa, Greece

2003-2015

Courses:

- Artificial Intelligence
- Software Engineering
- Data Structures and Algorithms
- Broadband Communications
- Object Oriented Programming
- Automata , Languages and Compilers
- Human Computer Interaction
- Pattern Recognition

Western Michigan University, Computer Science Dept. Kalamazoo Michigan, USA

1999-2002

Courses:

- Operating Systems
- Software Engineering
- Scientific Computing

POSTGRADUATE COURSES

Joint Post Graduate Program of TEI-Thessaly and Staffordshire University UK

2005-2014

Courses:

- Principles of Software Engineering
- E-Commerce
- Web Services Applications
- Advanced Web Technologies

Western Michigan University, Computer Science Dept. Kalamazoo Michigan, USA

1999-2002

Courses:

- Operating Systems
- Robot and Computational Vision
- Advanced Analysis of Algorithms and Intractability

PHD & MASTER'S THESIS SUPERVISION

- Ph.D. as member of the 7p. Board: 3
- Master's Dissertations: 31
- B.Sc. Theses: 87

PROFESSIONAL TRAINING AND SEMINARS

Vocational Institute of Larissa, Greece (Public IEK)

2006-2008

Courses:

- E-Commerce
- Graphics and Photoshop
- Programming in C
- Human Computer Interaction and GUI-Design
- Corel Draw

ADMINISTRATIVE EXPERIENCE & SERVICE

UNIVERSITY SERVICE

- 2003-2014: Computer Science Dept. Technological Education Institute of Thessaly, Greece and Staffordshire University, UK
  Member of the following committees:
  - Steering Committee
  - Committee of all Award Courses development and Liaison between departments
  - Committee in charge of the English/Greek translation of the Course Handbook
- 2012-2014: Computer Science Dept. Technological Education Institute of Thessaly, Greece
  Member of the following committees:
  - Committee for the Course Handbook of the Computer Science Dept.
  - Committee for the Website of the Department.
  - Committee of the Continuous Update and Development of the University Library Website and Services.
- 1999-2001: Computer Science Dept. W.M.U. Kalamazoo MI, USA
  Member of the Departmental Hardware Committee

RESEARCH – INTERNATIONAL & NATIONAL FUNDED PROJECTS

ERASMUS KA220-VET Vocational Education and Training: "Underpin Courier and Transportation Companies to Green their Operations", (Couriers Go Green!) EL01 - Greek State Scholarship's Foundation (IKY)

[01/11/2022 - 31/10/2024]

There are several environmental challenges related to the operations of last-mile delivery. The increase in last-mile delivery vehicles is adding to traffic congestion and attendant greenhouse gas emissions. Supply chain emissions make up typically 90% of a company's total emissions, and last-mile emissions typically account for about 5% of supply chain emissions. When the number of delivery vehicles increases, so do carbon dioxide emissions, which make up the bulk of greenhouse gas emissions. Increased traffic could lead to a 25% increase in carbon dioxide emissions in city centers, according to a McKinsey report. The growth of consumer deliveries has generated an exponential rise in packaging waste. Plastic, such as plastic bags that package individual products and Styrofoam packaging are particularly harmful to the environment, with both taking at least 500 years to decompose. Transporting perishable goods is even more environmentally harmful than transporting non-perishable items

because perishable products must be stored at a particular temperature, which requires refrigeration. Refrigeration uses more energy, so a refrigerated delivery truck creates more emissions than a non-refrigerated one, with about 40% of a temperature-controlled vehicle's total emissions coming from refrigeration. Consumer demand for fast delivery is so overwhelming, that speed is often prioritized over ecofriendliness. However, as climate concerns rise exponentially, Green delivery must become a priority. Couriers Go Green project will develop a Certifiable Training Course as well as a Green Strategy step-by-step process model to assist the major players in the Transportation sector to make a Green shift into their operations contributing thus to environmental protection and fight against climate change. To this direction, COURIERS GO GREEN project's results and outcomes will be built around the needs of the main target population. Increased flexibility can be more effective for individuals who are less likely to be admitted and complete a standard VET track. To this extent, in order for the Project to cover the needs of certain groups such as Courier and Transportation Workers, Drivers and low skilled employees as well as digital illiterate individuals who might have different backgrounds and starting points and therefore meet challenges in completing the training, all Project results will be tested against criteria like comprehensibility, effectiveness, terms understanding, plain language, to produce a tailor made and adapted VET program.

H.F.R.I. Research Projects to Support Faculty Members & Researchers: Fuzzy Cognitive Explainable Analytics for Translating Model Complexity in Nuclear Medical Diagnosis (EMERALD)

[01/03/2022 - 29/02/2024].

EMERALD takes a unique, holistic approach to patient-specific predictive modelling and MDSS development by extracting and integrating knowledge from new research, clinical tests and EHR using advanced analytic techniques. ICT technologies (such as Data Mining, Deep Learning (DL) and Advanced Fuzzy Cognitive Tools) will play a key role in EMERALD enabling the analysis simplification of large patient data collections, explainability of decisions made and thus allowing the development of personalized predictive MDSSs. Additionally, dynamic FCMs as a soft computing technology, will play a major role in EMERALD concerning the model-driven data analytics to support decision-making focusing on data interpretability and modelling complexity (i.e., personalized treatment and health technology assessment). Knowledge obtained from EHR and FCM-based models will be combined with experts' knowledge concerning other risk factors (e.g., social, environmental, occupational and economic factors) to build high-level FCM-based MDSSs. EMERALD will further introduce the new concept of DeepFCMs as the innovative and structural component of an XAI-MDSS. DeepFCMs can fuse the multitude of medical data spanning from text to images and they can be executed as typical deep neural networks, but they can be presented visually as FCMs to provide visual explanations and reasoning. Moreover, DeepFCMs are primarily FCMs thus, they can be endowed with self-explanatory capability (as other fuzzy models) providing non-expert users with linguistic descriptions and explanations in Natural Language that facilitate the comprehension of the given visual explanations. Finally, EMERALD aims to create a medical science ecosystem that will optimize physician decision making through NM and AI. To this direction, a multimodal repository of heterogeneous EHR will

be orchestrated via a unique, holistic approach to patient-centred predictive modelling that incorporates dynamic risk assessment capabilities at every step of DL.

Horizon 2020 – Work Programme 2018 – 2020 Science with and for Society Action: 33. Support for the Research and Innovation Dimension of European Universities

[01/11/2021 - 30/10/2024].

INVEST4EXCELLENCE aims at developing an integrated and long-term joint strategy on research and innovation in line with the education strategies from the INVEST EU University Alliance. The thematic focus of the INVEST Alliance is in Sustainable development as one of the most important global challenges. INVEST4EXCELLENCE will create the background for the development and implementation of research and innovation ideas through model development for institutional transformation at research and innovation dimension; developing of European Innovation Ecosystem for Academia-Business & Society; developing of Capacity Building Tools; and implementing and promoting the I-EDUC8EU tool. Involving and engaging the main actors in the regions – civil society, local citizens, local enterprises, public authorities, education institutions (including an academic sector) and NGOs, will be the basic precondition for conducting the research and bringing the innovation into regions. Considering the importance of such stakeholders´ engagement, dedicated involvement tool describing the process and methods of thematic dialogue and promotion of innovations will be developed. This will lead to reinforcement of human resources in the research and innovation of the INVEST Alliance contributing to achieving the knowledge-based civic society, engaged in creation and benefitting of the high quality research and innovation outputs. The project comes with several key enabling educational and digital technologies that can optimize all research and innovation aspects promoted by the INVEST Alliance. The project will influence the interactions between institutional adaptation and the transformation of research and innovation systems by analysing change and adjustment within the whole alliance. INVEST4EXCELLENCE brings together a large European educational community that will actively cooperate and maximize the learning impact of the project.

EPP-EUR-UNIV-2020- INVEST: Innovations of Regional Sustainability: European University Alliance agreement no: 101004073

[01/11/2020 - 30/09/2024].

Member of the primary research group. Lead by the idea of strengthening the link between teaching, research, innovation and knowledge transfer, encouraging mobility and enhancing the high quality and excellence in education and research, the five European universities unite their efforts based on their previous cooperation in European educational, research and mobility projects to achieve their common goal - to establish a European university alliance, called INnoVations of REgional Sustainability: European UniversiTy Alliance - INVEST, targeting their cooperation for developing joint and innovative education and research study programs and curricula, as well as the implementation of multilingual learning, blended and work-based learning and European mobilities. The INVEST alliance will target its activities at students at all 3 study cycles - bachelor, master and doctoral, together with the academic and non-academic staff of the alliance partners. The alliance builds its essence on the four strategic pillars: (1) Competitive education and valuable learning outcomes, (2) Collective excellent research and innovation, (3) High mobility level beyond the Europe, and (4) Networking as the platform for future education and research, covering the three main focus areas - Water, Energy Food and Environment Nexus, Quality of Life and Entrepreneurship. Establishing the Living Lab's as innovative platforms for the quadruple helix (research, education, companies/NGO's and GO's) collaboration with the stakeholders from the regions, together with innovative solutions, such as Virtual Campus or the EDUC8EU integrated platform, the INVEST alliance will create perfect conditions to build a modern European University, satisfying needs and requirements of the new

generation of Europeans as the leaders of introducing sustainable life in regions across the Europe, responding current global challenges determined within the UN Sustainable Development Goals.

FP7- SMS: Sensing Toxicants in Marine Water make sense using Biosensors agreement no: 734337 ***[01/02/2016 - 31/01/2017].***

Member of the primary research group. SMS delivers a novel automated networked system that will enable real-time in situ monitoring of marine water chemical and ecological status in coastal areas by the detection of a series of contaminants regulated by the MSFD. SMS designed a multi-modular apparatus that will host in a single unit—the Main Box (MB)—a Sampling Module and an Analysis Module. The former contains sample collection and treatment components, whereas the latter includes four biosensor sub-modules that enable detection and measurement of algal toxins and their associated algal species; several hazardous compounds (tributyltin, diuron and pentaBDPE); sulphonamides and a series of standard water quality parameters. The MB is equipped with a communication module for real-time data transfer to a control center, where data processing takes place, enabling alarm functionality to Health Warning Systems, whenever some critical value exceeds a pre-defined threshold. It is placed on a floating platform or buoy positioned in loco at defined locations. SMS also developed a Specific Marine Pollution Metric that combines real-time data of pollutant concentrations and water quality parameters, to produce a quantitative assessment of marine water quality.

HORIZON 2020 NOVELOG (NEW COOPERATIVE BUSINESS MODELS AND GUIDANCE FOR SUSTAINABLE CITY LOGISTICS)

[14-1-2016 – 31-1-2017].

The NOVELOG Evaluation Tool formulated a multi-criteria multi-stakeholder decision making process, which facilitates the establishment and combination of objectives, performance criteria and indicators, and relevant weights to reveal stakeholders' preferences. The Tool was composed of 140 indicators that are grouped into seven impact areas of a life cycle-based sustainability framework. The goal was to promote and support the selection of sustainable measures/policies in logistics within urban areas. Each stakeholder selects the indicators that fit to each city case and perform a holistic assessment of the proposed measure/policy. Pre-defined weights stimulate the stakeholders' engagement in the decision-making process and result in consensus building within each city. The overall contribution to the project was the development of the Evaluation Tool into a web application according to the multi-criteria set.

LakeRemake (National Research Excellence Project of Greece)

[21-1-2015 – 31-1-2016].

The project focused on the full-scale monitoring study of Microcystis aeruginosa and relevant environmental, hydrometeorological factors and water quality parameters in the reconstructed lake Karla. Lake Karla is a 'new' lake which is already characterized as an 'aged' lake due to eutrophic conditions and dense occurrence of toxic cyanobacteria. The main objective of LAKEREMAKE was to conduct integrated mathematical modeling to include area hydrology, Lake Hydrodynamics, lake ecology and nutrient cycling in order to simulate the dynamics of nutrients, microcystins and Microcystis in Lake Karla under different hydrological scenarios. Moreover, LakeRemake is going to evaluate the effectiveness of microcystin breakdown and removal techniques in Lake

Karla. The overall contribution to the project was the development of all the used models into a framework of software components as well as the development of all the web applications related.

FP-7 Integrated Support System for Efficient Water Usage and Resources Management (ISS-EWATUS)

The project was an interdisciplinary effort of specialists from water management and ICT research respectively to develop an intelligent Integrated Support System for Efficient Water Usage and resources management. The project developed several innovative ICT methods aiming to exploit the untapped water-saving potential in EU. The overall goal was achieved by developing an innovative, multi-factor system capable to optimize water management and reduce water usage. At household level: a) an information system for gathering data about water usage was planned to increase the awareness of water consumption; the data was interpreted and presented to household consumers in an understandable way using mobile devices (smartphones, tablets); b) a household Decision Support System (DSS) was developed for mobile devices to reduce water consumption. Recommendations regarding water-saving devices and behaviour were produced; c) a social-media platform was developed to reinforce water-saving behaviour of consumers via the social interactions among users (and between consumers and experts of water-saving techniques). At urban level: a) an innovative decision support system for reducing leaks in the water delivery system was built based on the dynamic modifications of pumping schedules to reduce leakages at municipal level; b) an adaptive pricing policy was developed as the economic instrument to induce water-saving behaviour and reduce peaks in water and energy distribution loads.

FP-7 Sustainable use of irrigation water in the Mediterranean Region (SIRRIMED)

The project addressed issues related to sustainable use of water in Mediterranean irrigated agricultural systems, with the overall aim of optimizing irrigation water use. The project's strategies included innovative and more efficient irrigation techniques for improving water productivity and allow savings in water consumption. SIRRIMED will consider the development, test and validation of new deficit irrigation strategies, the sustainable and safe use of poor-quality waters and the improvement of precise irrigation scheduling using plant sensors.

European Social Fund (ESF) and National Resources through the National Strategic Reference Framework (NSRF)

- Development of an integrated monitoring, simulating and managing system of aquatic resources with environmental and socio-economical Dynamics- Case study: The watershed of Lake Karla. Research Project **ARCHIMEDES III** of the Operational Programme "Education and Lifelong Learning".
- Development of an integrated system for monitoring and managing the quantity and quality of water resources in rural catchments under climate change. Application in the basin of Lake Karla "**YDROMENTOR**". This project is funded by the Ministry of Education, Lifelong Learning and Religious Action" COOPERATION ACT I: Collaborative Projects small and medium scale ", in Sector 3 Research-Environment-Climate.

Bring the Open Modeling Interface (OpenMI) to LIFE

The OpenMI-LIFE project's rationale lied in the Water Framework Directive, which demands an integrated approach to water management. The purpose of the OpenMI-LIFE is to transform the OpenMI from research output to sustainable operational product.

Personalized Learning Assistant (PerLA)

Using the Semantic Web Infrastructure, development of a Personalized Learning Assistant and a Learning Object Editor for Educational Institutes to provide Distance Learning Courses with the use of intelligent agents.

Model based Integration to support simulation in software project management (MISSION)

The project introduces the unification of object oriented models of software processes with formal models based on Petri Nets to handle the inherit complexity in the presentation of software development processes.

Other Minor University Projects

- Design and simulation of a multifunctional pipeline for the division and multiplication of integers. The pipeline as well as its control functions has been implemented in C for SPARC IPC.
- Derivation of algorithms to find the Steiner minimum cost tree of a mesh IPC Network. Several approximation algorithms have been derived and simulated for a grid palette. Two of the algorithms have been explored extensively as a part of the Master Thesis. All of the algorithms have been implemented in C.
- DBMS Implementation using embedded SQL with C and SMG for the VAX/VMS and the SUN platforms. An actual software package used as SQL front-end has been produced to decompose Universal relations in BCNF, synthesize relations from dependencies and find Minimum Covers.
- Database implementation using SQL language embedded in C. The project was using a university database with student grades and other relevant information and was outputting "official" transcripts for each student. Implementation has been done on a VAX platform.
- Voice recognition techniques using Visual Basic and oscillography based on a class project for Artificial Intelligence. The project involved manipulation of sound waves changing using oscillography software to extract noise.
- Graph arithmetization using Cantor numbering. The properties of homomorphism and graph addition and multiplication of connected and planar graphs were explored using a new model of graph algebra.
- Parallelization of major graph theory algorithms for the N-Cube as well as the ICN using SPARK and SUN platforms. The project included conversion of the spanning tree major algorithms, spanning forests, broadcasting, and pipelining.
- Image processing project that involved rectangular representation of binary images. This method was compared with RLC algorithm and implemented for real images. Histogram representations as well as FFT (Fourrier transformations) have been used. Skeleton algorithm was implemented using C on a SUN platform. Comparisons of image storing using rectangular representation as opposed to JPEG format have been also made for a variety of binary images.

PROFESSIONAL EXPERIENCE

Senior Lecturer
University of Thessaly, Greece. Department of Computer Science, Energy Systems and Department of Civil Engineering
Jan 2007 – Present
Senior Lecturer appointed both undergraduate and Master's level courses for the departments of Computer Science and Civil Engineering teaching a variety of Computer Science and data Science courses.

Senior Lecturer
Technological Education Institute of Central Greece. Department of Computer Science
Jan 2016 – Sept. 2019
Senior Lecturer appointed undergraduate level courses for the department of Computer Science, serving as a full department member except tenure.

Senior Lecturer

Joint Master's Program Technological Education Institute of Thessaly and Staffordshire University Stoke UK.

Apr 2005 – Sept 2014

Full Time Instructor appointed graduate level courses serving as a full department member except tenure.

Lecturer & Senior Lecturer

Technological Education Institute of Thessaly, Greece. Department of Computer Science

Jan 2003 – Aug 2014

Senior Lecturer appointed undergraduate and graduate level courses for the department of Computer Science, serving as a full department member except tenure.

Full Time Instructor

Western Michigan University, MI USA. Computer Science Department.

July 1999 – Sept 2001

Full Time Instructor appointed graduate level courses serving as a full department member except tenure. Member of the departmental hardware committee.

Software Engineer

AUTOMOTIVE DIAGNOSTICS Division of SPX ® Corporation, 8001 Angling Road, Portage MI 49002.

May 1996 – Aug 1999

- Report to Manager of Emissions Inspection Division.
- Develop software for Gas-Inspection-Analyzers (ASM ® and BEAR® units).
- Develop software for Graphical User Interface of Emission Analyzers for ALLEN® units.
- Update and maintain software releases for the emissions inspection programs for the states of New Mexico, Texas, Georgia, Nevada and Alaska, U.S.A.
- Conducted Research for Battery Tachometer hardware design as a part of an integrated product of vehicle diagnostic functions, using Fast Fourier Transformations.

Research Fellow

Western Michigan University MI, USA.

Aug 1993 – Apr 1996

Conducted research having two contracts granted by **NSF-CCR-9258355**, by **NSF ACR-0000442** and by matching funds of **Xerox Corporation**. Specifically:

- **From August 1993 to April 1995** contacted research as a member of the Computational Geometry Laboratory at W.M.U. For that period, developed new heuristic algorithms for the Steiner Tree Problem in the rectilinear space and wrote simulation software to verify his experimental results. Additionally, worked on developing new communication algorithms for the Z-Cube parallel architectures. This research resulted in coauthoring three journal publications.
- **From May 1995 to April 1996** joined the research team of the Parallel Processing Laboratory of W.M.U. and worked on the PARiNT project (NSF ACR-0000442). Furthermore, maintained two releases of the **PARiNT** library and contacted research for new techniques in computing multivariate integrals in parallel as well as for the user-friendly interface for these techniques. Research areas included load balancing, distributed data structures and theoretical mathematical topics such as the Monte Carlo technique and extrapolation.

VARIOUS SKILLS AND AWARDS

SOFTWARE SKILLS AND CAPABILITIES

- **Programming Languages**

C#	C++	C	Python	FORTRAN	Delphi
JavaScript	VB.NET	VBA	mpich	LEDA	MATLAB
R	ASP.NET	Mathematica	CSS	HTML	VBScript

- **Big Data Processing Technologies**

Hadoop	MapReduce	Spark	HDFS

- **Databases**

Oracle	MySQL	SQL Server	IBM DB2	Access	JDBC/ODBC

- **IDE's**

Visual Studio	Anaconda	NetBeans	Eclipse	Jupyter	Ruby on Rails

- **Operating Systems**

Windows (all)	UNIX	Linux	Solaris	VAX-DEC

- **Network Software**

CISCO IOS	BetBios API	CommNet	OpNet	NetSim	Omnet

PROFESSIONAL CERTIFICATIONS

- JAVA Expert By Oracle (Integrated Cloud Applications and Platform Services)
- OpenMI – Associate

LANGUAGES

- Greek (mother tongue)
- English (excellent knowledge)
- French (working knowledge)

HONOURS & AWARDS

- All University Teaching Award (WMU 2000, 2001)
- Outstanding Graduate Student Award (WMU 1998, 1999)
- Graduate Honors in Computer Science Award (WMU 1994, 1995, 1996, 1997, 1998)
- Excellence in Research Award (WMU 1994, 1995, 1996, 1997, 1998, 1999, 2000, 2001)
- Graduate Honor Roll (WMU 1994-2001)

MEMBER IN SCIENTIFIC CLUBS

- OpenMI World Association
- IEEE General

SEMINARS ATTENDED

- KELE, Centre of Hellenic Traditional Dances Feb - Apr 2016, Greek Traditional Dance Training