KONSTANTINOS N. KOKKINOS

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CURRICULUM CV

EDUCATION

Computer Science, PhD November 2002
W. Michigan University, Michigan
GPA 3.94/4.0

PhD Dissertation : "LOAD BALANCING AND CONGESTION AVOIDANCE ROUTING", ISBN:0-493-97894-1, Order Number:AAI3077379

Computer Science, MSc June 1996
W. Michigan University, Kalamazoo, Michigan
GPA 3.81/4.0

Physics, Bachelor of Science September 1989
Aristotle's University, Thessaloniki, Greece
GPA 7.4/10.0

EXPERIENCE

Full Time Instructor October 2016 – Present
Institution Name: Department of Computer Science and Engineering TEI of Central Greece*, Greece*

- Module Leader of undergraduate level courses in Computer Science including:
  - Introduction to Systems of Computers
  - Logical Programming
  - Artificial Intelligence
  - Object Oriented Programming in Java (Computer Science Department)
  - Requirement Analysis and Quality Control of Software

Full Time Instructor April 2007 – Present
Institution Name: Departments of Computer Science and Civil Engineering*, University of Thessaly, Greece*

- Module Leader of undergraduate level courses in Computer Science including:
  - Introduction to Programming and Data Structures
  - Theory of Computation
  - Object Oriented Programming in Java (Computer Science Department)
  - Introduction to Programming with FORTRAN for Engineers (Civil Engineering Department)

Full Time Instructor April 2005 – 2014
Institution Name: *Technological Education Institute-Larissa, Greece and Staffordshire University, UK, [Computer Science Department] (Joint Award) Master's program in Computer Science.*

Capabilities

Programming Languages
C#
C++
C
PHP
Java
R, R-Studio
FORTRAN
Pascal
Delphi
JavaScript
VB.NET
VBA
MPICH
LEDA
MatLab
Mathematica
AJAX
ASP.NET
CSS
HTML/XHTML
VBScript

Databases
Hadoop
MapReduce
Spark
HDFS
Oracle
SQL/ODBC
JDBC
DAO
ADO
Access
MySQL
SQL-Server
IBM DB2

- Module Leader of undergraduate and graduate level courses in Computer Science including:
  - Principles of Software Engineering
  - E-Commerce
  - Web Services Applications
  - Advanced Web Technologies
- Supervisor of 17 master theses

Full Time Instructor April 2003 – 2015
Institution Name: *TEI-Larissa , Greece[Computer Science Department]*

- Module Leader of undergraduate level courses in Computer Science and Telecommunications including:
  - Data Structures and Algorithms
  - Broadband Communications
  - Object Oriented Programming
- I also taught in the past
  - Automata , Languages and Compilers
  - Human Computer Interaction
  - Pattern Recognition

Research Fellow March 2006 – Present
Institution Names: *Civil Engineering Department, University of Thessaly, Volos, Greece and Computer Science Department, University of Thessaly, Greece*
Participation in funded research projects by the European Commission and also national government funded research projects including:

- **SIM4NEXUS H2020 grant agreement No 689150 [under development]**: this project will focus on building a complexity science library of integrated tools that use complexity science and Artificial Intelligence (AI) approaches. A Geo-Platform to integrate data and metadata sources on all themes for decision and policy-making will also be developed. The foundation of these components will be seven established computer models, each integrating two or more nexus themes. A Knowledge Elicitation Engine (KEE) will provide the link to the Serious Game which will be programmed to create a user-friendly, cloud-based interface that will allow general experts to understand the Nexus themes, how they interact, and to test scenarios and policy choices, and to ultimately policymakers and policy decisions.

- **Water4Cities Holistic Surface Water and Groundwater Management for Sustainable Cities Project ID: 734409 Funded under: H2020-EU MSCA-RISE-2016 - Research and Innovation Staff Exchange [under development]** Participation in the Marie Curie Project **Water4Cities** which will rely on sensor technologies, data and visual analytics to enable localization, visualization and analysis of urban water (both surface water and groundwater) at a holistic urban setting providing services to multiple water stakeholders. More specifically, the Water4Cities project aims to develop the necessary models and associated platform that will enable water providers and relevant stakeholders to a) monitor in real-time the urban water resources; b) support their decisions for optimal urban water management causing minimal environmental impact and c) involve policy makers, corporations and the public to provide the support for sound and balanced decision-making. Beyond the scientific results, Water4Cities will target the exchange of knowledge among project partners. The Water4Cities project requires the collaboration of researchers in different research areas, i.e., water

IDE's
Visual Studio
.NET Framework
NetBeans
Ruby on Rails
Eclipse

Operating Systems
Windows (all versions)
UNIX
Linux
Solaris
X-Windows
VAX-DEC

Network Software
CISCO IOS
NetBios API
ComNet
OpNet
NetSim
Omnet

management, urban infrastructure management, sensor networks, data mining, data visualization, system integration, urban planning. Due to the multi-disciplinary nature of the project, staff exchanges will allow partners working closely together to deliver high quality results.

- **NOVELOG (NEW COOPERATIVE BUSINESS MODELS AND GUIDANCE FOR SUSTAINABLE CITY LOGISTICS)[under development]** : 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**: 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.

- **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 behavior were produced; c) a social-media platform was developed to reinforce water-saving behavior 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 behavior and reduce peaks in water and energy distribution loads.

- **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.

- 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". Both research programs are co-funded by the European Social Fund (ESF) and National Resources through the National Strategic Reference Framework (NSRF).

- 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 lies 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.

Full Time Instructor July 1999 – August 2001

Institution Name: *Computer Science Department, Western Michigan University, Kalamazoo Michigan, USA*

- Taught undergraduate and graduate level courses in Computer Science including:
  - Systems Programming and Analysis.
  - Analysis of Algorithms.
  - Analysis of Operating Systems.
  - Introduction to Networks.
  - Advanced Analysis of Algorithms.
  - Advanced Visual Programming in Visual Basic.
  - Introduction to programming in C++.
- Served as a member of the departmental hardware committee for one academic year.

Software Engineer May 1996 – August 1999

Company Name: *AUTOMOTIVE DIAGNOSTICS Division of SPX ® Corporation, 8001 Angling Road, Portage MI 49002.*

- 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 August 1993 – April 1996

Institution Name: *Computer Science Department, Western Michigan University, Kalamazoo, Michigan USA.*

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

JOURNAL PUBLICATIONS

1. **Konstantinos Kokkinos** and Dionysios Kountanis, "Network Design and Routing with Congestion Constraints", Submitted for publication to *Computer Communications*, *Elsevier*, *ISSN 0140-3664* Feb. 2018.

2. **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 2017: 33-52

3. 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

4. **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.

5. 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, pp.211-233, DOI: 10.1007/978-3-319-

31093-0_10 Springer Editions.

6. Chrysi Laspidou, Elpiniki Papageorgiou, **Konstantinos Kokkinos**, Sambit Sahud, Arpit Gupta and Leandros Tassiulas, "Exploring patterns in water consumption by clustering", Procedia Engineering, 13th Computer Control for Water Industry Conference, Volume 119, pp. 1439-1446 CCWI 2015, doi:10.1016/j.proeng.2015.08.1004

7. **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 pp. 432-446, 2015, http://www.sciary.com/journal-scientific-europeanscientific-article-395467.

8. **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.

9. 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, pp. 222-242, 2015. Print ISSN: 1753-0679 Online ISSN: 1753-0660.

10. **K. 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, pp. 16-21, 2015.

11. C. Hartonas, D. Kontokostas and **K. Kokkinos**, "Petri Net Semantics for Communicating Agents", Anals of Mathematics, Computing and Teleinformatics, ISSN 1109-9305, Vol. 1, No. 4, 2009 pp. 1-9.

12. **Konstantinos Kokkinos** and Dionysios Kountanis, "Rerouting of High Speed Networks to Minimize Congestion", Congressus Numerantium Special issue *Combinatorics, Graph Theory and Computing Conference, Florida Atlantic University, Boca Raton, Florida*, Vol 153, pp. 217-228, 2003.

13. **Konstantinos Kokkinos** and Dionysios Kountanis, "Uniform k-Stratifed Graphs" *Electronic Notes in Discrete Mathematics, Elsevier*, Vol. 11, pp. 692-704, 2002.

14. **Konstantinos Kokkinos** and Dionysios Kountanis, "Properties of Regular Uniform k-Stratified Graphs", *Congressus Numerantium Journal*, Vol. 147, pp. 117-128, 2000.

15. **Konstantinos Kokkinos** and Dionysios Kountanis, "Approximations to Rectilinear Steiner Trees on a Z-Cube", *Congressus Numerantium Journal*, Vol. 128, pp. 205-218, 1996.

16. 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, pp.600-612 , 1995.

17. Dionysios Kountanis and **Konstantinos Kokkinos**, "A Balanced Approach to the Rectilinear Steiner Problem", *Congressus Numerantium Journal*, Vol. 108, pp. 205-221, 1995.

REFEREED CONFERENCE PUBLICATIONS

1. **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.

2. 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.

3. **K. 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.

4. **K. 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.

5. **K. 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.

6. **K. 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.

7. A. Loukas, J. Tzabiras, M. Spiliotopoulos, **K. 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

8. Vasiliades, L., P. Sidiropoulos, J. Tzabiras, **K. 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.

9. Vasiliades, L., P. Sidiropoulos, J. Tzabiras, G. Papaioannou, **K. 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.

10. Vasiliades, L., P. Sidiropoulos, J. Tzabiras, **K. 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.

11. Tzabiras, J., M. Spiliotopoulos, **K. 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.

12. **K. 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.

13. **K. 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.

14. 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.

15. **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.

16. A. Loukas, J. Tzabiras, M. Spiliotopoulos, **K. 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.

17. 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.

18. **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.

19. **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.

20. **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.

21. 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.

22. 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 Enviromental Modelling and Software, IEMSS", Barcelona Spain, July 5-10, 2008.

23. **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 Enviromental Modelling and Software, IEMSS", Barcelona Spain, July 5-10, 2008.

24. 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.

25. 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.

26. 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.

MINOR 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.

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)	