

# CURRICULUM VITAE



## PERSONAL DETAILS

Name: Mohamed-Jamal Zemerly  
Date of Birth: 23<sup>rd</sup> February 1961  
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## ACADEMIC RECORD

October 1986-September 1989 University of Birmingham, UK, Ph.D. in Image Processing and Pattern Recognition. Title of thesis: "A Rule-Based System for Processing Retinal Images".

January 1985-January 1986 University College Cardiff, UK, M.Sc. (by research) in: Fluid Mechanics. Title of thesis: "Wear Characteristics of a Vane Pump Using Water-Based Fluids".

October 1979-June 1983 University of Technology, Baghdad, Iraq.  
B.Sc. in Educational Engineering Technology in Machines.  
Grade: Very Good (80.993/100), **Rank: 1st out of 67 Graduates.**

October 1974-June 1978 High Technical School of Tripoli, Tripoli, Lebanon.  
Technical Baccalaureate Parts I and II.  
Grade: Very Good (16.42/20)

## WORK EXPERIENCE

February 2010 - Present Khalifa University for Science, Technology and Research (Formerly Etisalat University College) (IET, ABET accredited), Sharjah, UAE. **Acting Head of Computer Engineering Department and then Program Chair of Computer Engineering until Jan 2015.**

September 2000-February 2010 Khalifa University for Science, Technology and Research Sharjah, UAE. **Associate Professor**, Computer Engineering Dept., Subjects taught: Computer Technology, Computer Organization / Systems, Software Development, Algorithms and Data Structures, Computer Architecture, Software Engineering, AI, Java Programming and Selected Topics in Computer Eng. (Ph.D.).

January 1998-August 2000 University of Westminster, London, England.  
**Senior Lecturer**, Software Engineering Division, Subjects taught: Networking Architectures (M.Sc.), Computer Organization, Performance Engineering, Network Software Design, Introduction to C++ and Computer Network Management.

August 1997-December 1997 University of Westminster, London, England.  
Research Fellow and **Visiting Lecturer**, Center for Parallel Computing. EC Copernicus Project "Application of Hamlet tools to embedded MEDical instrument Design (AHMED)". Also teaching Parallel Computer Architecture and Computer Organization.

October 1996-July 1997 University of Westminster, London, England.  
Research Fellow, Center for Parallel Computing.  
EPSRC Project "Environment for the Design and Performance Evaluation of Portable Parallel Software (EDPEPPS)".

December 1992-July 1996 University of Warwick, Coventry, England.  
Senior Research Fellow, Department of Computer Science.  
ESPRIT Project "Performance Evaluation of Parallel Systems".

October 1989-November 1992 University College London, London, England.  
Post-Doctoral Research Fellow, Department of Photogrammetry and Surveying. Leverhulme Trust Project "Monitoring Environmental Change Using Automated Processing of Aircraft Data".

## COMPUTER LANGUAGES

Java/J2ME, C/C++, Android, Qt, Forth, F77, PVM, Mathematica, HTML, JavaScript. Limited knowledge of Pascal, Basic, Prolog, CStools, STRAND88 and GRASS. Operating systems: Unix- CDE/SunOS/Solaris/Linux/FreeBSD (Xwindows) on Sun and PC workstations, Multics, Windows on PCs, IRI P256 Vision System IDRIS (v4 and v5) on Parsys Supernode 1000 48-T800, Parix (v1.1 and v1.2) on Parsytec 128-T800, SGI and Macintosh. Image processing libraries and packages VCL, HIPL, and Khoros.

## OTHER INFORMATION

The Ph.D. project at The University of Birmingham (thesis entitled "A Rule-Based System for Processing Retinal Image", August 89) involved recognizing different lesions of diseases in the retinas of people suffering from Diabetic Retinopathy. A rule-based expert vision System for segmentation and interpretation of retinal images was developed and used achieving correct and consistent diagnosis of all lesions detected. The rule-based system was implemented on an IRI Vision System using Forth and the Vision Command Language provided by the system. Also the project involved compressing retinal and various other images using polynomial fitting. Two new lossy compression methods were developed.

The Leverhulme Trust project at University College London entitled "Monitoring Environmental Change Using Automated Processing of Aircraft Data" involved developing techniques for automated generation of Digital Elevation Models (DEM) and Ortho-Images (OI) from pairs of digitized aerial stereo images and registration of multi-look multi-spectral airborne sensor data, such as ATM and ASAS, to the OI. These techniques include feature extraction, stereo correspondence generation, stereo matching, disparity surface modeling, camera modeling, and interpolation/kriging. Since the techniques involved are time consuming (e.g. the stereo matcher, Otto-Chau, used takes up to 6 days on sun4 for a pair of SPOT Satellite 6000x6000 pixel images), it was intended to port as much of the techniques involved to a massively parallel transputer-based system (SUPERNODE 1000 developed by Parsys Ltd).

SPOT Images were at first used as input for parallel processing since they are used in an automated system developed specially for SPOT for DEM and OI production "UCL 3D Image Maker\*" Aerial Images proved to be more difficult to match due to their higher resolution (~0.8 m/pixel) which affects the texture of the images and/or large disparities that they may contain (e.g. buildings). A multi-resolution technique based on the Otto-Chau stereo matcher was developed to deal with the aerial images.

Two other research assistants worked on this project and my part included developing techniques for feature extraction, automatic correspondence generation for SPOT satellite and various stereo images, improving a stereo matching technique (and implementing a multi-resolution version of it) and parallelizing it on the SUPERNODE (48xT800 each with 4MB-25MHZ). C and Unix are used throughout this project.

The ESPRIT III Project (P6942) at Warwick University is entitled "Performance Evaluation of Parallel Systems (PEPS)". The principal goal of PEPS was to support and extend the use of Parallel Computers in Europe by providing comparative evaluation of different architectures. For this aim, the PEPS project developed methodologies and tools for performance prediction of parallel processors. The PEPS consortium comprising Thomson-Sintra ASM (France), Simulog (France), Intecs Sistemi (Italy), Warwick University (UK) and NPL (UK).

My duties in PEPS involved hardware/software characterization, software parallelization (including FFT, Sorting, Convolution, Compression, Numerical Integration, Linear Solvers, Interpolation, Financial Modeling, Partial Differential Equations, and Computational Chemistry), bottleneck analysis, and performance modeling of parallel computers. I was also partially responsible for coordination of some of the project tasks and deliverables (see publications) and supervision of a Ph.D. student (Yuri Papay).

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\* won the 1990 British Computer Society Award for technical innovation.

The EDPEPPS project aim was to develop a graphical toolset to support parallel programmers in the design stage of portable parallel programs (using parallel virtual models such as PVM or MPI) based on performance evaluation. The EDPEPPS toolset comprises three main tools: a graphical design tool, a start-of-the-art simulation engine based on the SES/Workbench™, and a visualization/animation tool. The toolset are targeted for heterogeneous high performance computers (HHPC) for which only a few tools for portable parallel software design are available. The toolset capabilities are validated using a set of real problems such as CCITT encoder used by BT and Distributed Bibliographical Database used by one of our partners (IDD). The tools are written in C++ and Motif. My duties include hardware modeling, implementation of PVM functions in SES/Workbench simulation utility that forms a part of the toolset, supervision of a Research Assistant and a number of M.Sc. research students and day-to-day running of the project. I was also responsible for interfacing with industrial partners: NA Software, Parsys Ltd., Information Design and Delivery Ltd., Myrias Computer technology Inc., SES Inc., Software Testing Science, and Transtech Parallel.

The AHMED project aim was to evaluate the Hamlet toolset take-up in an industrial software development environment. The Hamlet toolset is designed to help parallel programmers (using transputer based parallel machines) to design a parallel algorithm using a graphical design tool(DES), predict its performance using a simulation tool (HASTE) and analyze the trace file obtained from the simulation using a visualization tool (TATOO). The AHMED consortium consists of KFKI-MZSKI (Hungary), ASK Industrial Systems (Hungary), Genias Software (Germany), and University of Westminster. My role in AHMED involved providing support and training for the Hamlet toolset, interfacing with industrial partners and Hamlet toolset developers, and maintaining the AHMED web site. At Westminster University I was also responsible for supervision of a numerous number of undergraduate and postgraduate students all of which have successfully completed their projects. I was also a supervisor/joint supervisor for 4 Ph.D. students at the Center for Parallel Computing. As part of my administration duties I was the coordinator for the European Masters student exchange programme in High Performance Computing and Networking (EC SOCRATES Programme) which involves a number of top European Universities in Germany, Spain, France, Greece, Portugal, Hungary and Poland.

My duties at Khalifa University in addition to teaching includes memberships in various committees such as academic planning, quality and standards committee, research committee, academic offences committee (chair), curriculum committee and Acting Head of Computer Engineering Department from February 2010- February 2012. I am now the Chair of Computer and Software Engineering programs. Also I am the acting group leader of the services and Networks Research Group (eSNRG). I also took part in a college team who obtained IET (formerly IEE) accreditation for full 5 years twice and more recently (2015) obtained full ABET accreditation (Computer Engineering Program). I also participated in a Ph.D. in Engineering program accreditation that was accredited from the MOHE in Sep 2012. I also participated as a coach and a chief judge in ACM programming contests at regional and UAE national levels. Also I chair the organization committee of an UAE university wide mobile application contest (for 10 consecutive years 2006-2015) and coached students who participated in these contests (won the first prize in the 2006 contest, third prize in 2007, second prize in 2008, first and second prizes in 2009, third prize in 2010, second prize in 2011, and 1<sup>st</sup> and fourth prize in 2012 and 1<sup>st</sup> in 2015). I successfully supervised many final year undergraduate and 5 M.Sc. and 1 PhD projects, the results of which were published in international conferences and extended versions of some of them were published in international journals (44 conference papers, 16 journal papers and 3 book chapters). I also won 1<sup>st</sup> prizes in UAE IEEE student day for best Senior Design Projects in 2 categories (Software and Electronics). I am also currently supervising 3 PhD and 1 MSc students. I am a technical program co-chair for ICITST2011 and ICITST2012. I am also Co-Chair of ICITST2015 and a member of the scientific and organization committees and a reviewer of a number of international conferences and journals. I am also associate editor of a special issue in the IJITST journal, special guest editor in the IJICR, and co-editor-in-chief of the IJRFIDSC journal.

## **PUBLICATIONS**

### **I: Refereed Journal Papers**

1. M. J. Zemerly, Y. Papay, and G. R. Nudd, "Characterization Based Bottleneck Analysis of Parallel Systems", *Supercomputer Journal, Euroben Special Issue*, Vol. XI, No. 4, pp 89-101, September 1995.
2. Y. Papay, T. Atherton, M. J. Zemerly, and G. R. Nudd, "Performance Prediction of Parallel Self Consistency Field Computation", *Journal of Parallel Algorithms and Applications (Now International Journal of Parallel, Emergent and Distributed Systems)* (Impact Factor = 0.362), Vol. 10, issue 1-2, pp 127-143, October 1996.
3. Y. Papay, M. J. Zemerly, and G. R. Nudd, "Pipelining the Givens Linear Solver on Distributed Memory Machines", *Supercomputer Journal*, Vol. XII, No. 3, pp 37-43, December 1996.
4. T. Delaitre, M.J. Zemerly, G.R. Justo, J. Bourgeois, and S.C. Winter, "EDPEPPS: An Environment for Optimal Parallel Software Design", *Journal of Computation and Artificial Intelligence (Now Computing and Informatics)* (Impact Factor=0.5), special issue on SEIPHC Workshop, Vol. 17, No. 5, pp 405-416, ISSN 1335-9150, October 1998 (SCI/ISI/INSPEC/DBLP index).
5. T. Delaitre, M.J. Zemerly, G.R. Justo, O. Audo, and S.C. Winter, "An Integrated Environment for the Parallel Development Life-Cycle", *Journal of Future Generation of Computer Systems* (Impact factor = 1.978), Elsevier, Vol. 16, issue 6, pp 585-595, April 2000, <http://www.journals.elsevier.com/future-generation-computer-systems/>, <http://www.sciencedirect.com/science/article/pii/S0167739X99000722>, [http://dx.doi.org/10.1016/S0167-739X\(99\)00072-2](http://dx.doi.org/10.1016/S0167-739X(99)00072-2).
6. G. R. Ribeiro Justo, T. Delaitre, M. J. Zemerly, and S. C. Winter, "Accurate Performance Prediction Using Visual Prototypes", *Journal of Concurrency: Practice and Experience* (Impact Factor = 0.636), Vol. 11(11), pp 615-634, Sep 1999.
7. J. Bourgeoi, F. Spies, M.J. Zemerly and T. Delaitre, "Chronos: A Performance Characterization Tool", *The Journal of Supercomputing* (Impact Factor 1.06), Springer, Vol. 15, No. 2, pp 123-140, ISSN: 0920-8542 (Print)1573-0484 (Online), Feb 2000.
8. N.A. Al-Mutawwa, and M.J. Zemerly, "Image Compression using Adaptive Chebyshev Polynomials", *WSEAS Trans. On Mathematics* (Impact Factor = 0.538), Vol. 3, issue 2, pp 417-422, April 2004.
9. E. Basaeed, J. Berri, M.J. Zemerly, and R. Benlamri, "Learner-Centric Context-Aware Mobile Learning", *IEEE Multidisciplinary Engineering Education Magazine*, Vol. 2, No. 2, pp 30-33, June 2007.
10. E. I. Basaeed, J. Berri, J. Zemerly, and R. Benlamri, "Web-Based Context-Aware m-Learning Architecture", *International Journal of Interactive Mobile Technologies (iJIM)*, Vol. 1, No. 1, pp 1-6, Oct 2007.
11. A. Echtibi, M.J. Zemerly, J. Berri, "A Service-Based Mobile Tourist Advisor", *Int. Journal of Computer Information Systems and Industrial Management Applications (IJCISIM)*, Vol. 1, pp. 177-187, 2009.
12. M. Alzaabi, J. Berri, M.J. Zemerly, "Web-based Architecture for Mobile Learning", *International Journal of Infonomics*, Vol. 3, Issue 1, pp. 213-222, March 2010.
13. C.Y. Yeun, M.J. Zemerly, G. Akmayeva, "Editorial", *International Journal of Internet Technology and Secured Transactions*, Volume 2, Issue 3/4, pp. 201-204, 2010.
14. M.A.B. Shemali, C.Y. Yeun, M.J. Zemerly, "Lightweight Mutual Authentication Protocol for Securing RFID Applications", *International Journal of Internet Technology and Secured Transactions*, Volume 2, Issue 3/4, pp. 205-221, 2010.
15. M.A.B. Shemali, C.Y. Yeun, K. Mubarak, M.J. Zemerly, "Security Threats and Challenges for RFID and WSN Integration", *International Journal of RFID Security and Cryptography (IJRFIDSC)*, Volume 1, Issues 1/2, pp. 9-15, March/June 2012.
16. H.M.N. Al Hamadi, C.Y. Yeun, M.J. Zemerly, M.A. Al-Qutayri, A. Gawanmeh, "Verifying Mutual Authentication for the DLK Protocol using ProVerif

- tool", International Journal for Information Security Research (IJISR), Volume 2, Issues 1/2, pp. 256-265, March/June 2012.
17. H. Al Tair, M. J. Zemerly, M. Al-Qutayri, M. Leida, "Architecture for Context-Aware Pro-Active Recommender System", International Journal Multimedia and Image Processing (IJMIP), Volume 2, Issues 1/2, pp. 125-133, March/June 2012.
  18. H. Al Tair, M. J. Zemerly, M. AL Qutayri, M. Leida, "Pro-active Multi-Dimensional Recommender System using Multi-Agents", International Journal of Interactive Mobile Technologies (iJIM), Vol. 6, Issue 3, pp. 4-12, July 2012.
  19. F. Al Ameiri, M.J. Zemerly, M. Al-Marzouqi, "M-Learning and Chatting using Indexed Arabic Sign Language", International Journal of Infonomics, Vol. 5, Issues 1/2, pp. 577-584, March/June 2012.
  20. M. A. Bani Shemali, C. Y. Yeun, M. J. Zemerly and K. Mubarak, "Enhancing the Security of the Shrinking Generator Based Lightweight Mutual Authentication RFID Protocol", International Journal of Advanced Logistics, Vol. 1, Number 1, pp. 33-50, September 2012.
  21. F.A. Bazargan, C.Y. Yeun, and M.J. Zemerly, "State-of-the-Art of Virtualization, its Security Threats and Deployment Models", International Journal for Information Security Research (IJISR), Vol. 2 Issues 3/4, ISSN 2042-4639, pp. 335-343, September/December 2012.
  22. H. Al-Hamadi, C.Y. Yeun, M.J. Zemerly, "A Novel Security Scheme for the Grid and SCADA Networks", Journal of Wireless Personal Communications, Springer, December 2013, Vol 73, Issue 4, pp. 1547-1559, Print ISSN: 0929-6212, Online ISSN: 1572-834X, DOI: <http://link.springer.com/article/10.1007/s11277-013-1265-y>.
  23. C.Y. Yeun, M. A. Bani Shemali, M.J. Zemerly, K. Mubarak, "ID-Based Secure Real Time Tracking System", June 2015 accepted in International Journal of Advanced Logistics.
  24. M. A. Bani Shemali, C. Y. Yeun, M. J. Zemerly and K. Mubarak, "SGCA: A Mutual Authentication Protocol to Secure Real Time Tracking of Radioactive Sources", in preparation.
  25. D. Shehada, C.Y. Yeun, M.J. Zemerly, M. Al-Qutayri, Y. Al-Hammadi, "A novel broadcast based secure mobile agent protocol for distributed service applications", submitted.

## II: Book Chapters

1. M. Holden, M. J. Zemerly and J-P. Muller, "Parallel Stereo and Motion Estimation", in Parallel Algorithms for Digital Image Processing, Computer Vision and Neural Networks, I. Pitas (Editor), Wiley, 1993, pp 175-232.
2. G.R. Justo, T. Karran and M.J. Zemerly, "An Organic Architecture for Distributed Knowledge Management", Chapter 5 of "Industrial Knowledge Management - A Micro Level Approach", Rajkumar Roy (editor), Springer, 2000, [http://rd.springer.com/chapter/10.1007/978-1-4471-0351-6\\_26](http://rd.springer.com/chapter/10.1007/978-1-4471-0351-6_26).
3. T. Delaitre, M. J. Zemerly, G.R. Justo, O. Audoo, and S.C. Winter, "Tools of EDPEPPS", Chapter 18 in a book entitled "Parallel Program Development For Cluster Computing: Methodology, Tools and Case Studies", Peter Kacsuk and Jose Cunha (eds), Nova Sciences, pp 357-365, 2001.
4. M. J. Zemerly, G.R. Justo, T. Delaitre, and S.C. Winter, "Parallel Software Development with EDPEPPS", Chapter 19 in a book entitled "Parallel Program Development For Cluster Computing: Methodology, Tools and Case Studies", Peter Kacsuk and Jose Cunha (eds), Nova Sciences, pp 367-381, 2001
5. Mouza A. Bani Shemali, Chan Yeob Yeun, M.J. Zemerly, "Smart RFID Security, Privacy and Authentication", book Chapter 12 in "Computational Intelligence & Modern Heuristics", pp. 175-189, Ali Al Dahoud (ed.), ISBN 978-953-7619-28-2, February 2010.
6. Ahmed Bentiba, M.J. Zemerly, Mohamed Al Mansoori, "Smart Web Based Programming Contests Management Tool", book Chapter 15 in "Computational Intelligence & Modern Heuristics", Ali Al Dahoud (ed.), pp. 241-250, ISBN 978-953-7619-28-2, February 2010.

7. Maha Saleh El Oneis, M.J. Zemerly, Hassan Barada, "Intelligent Exploitation of Cooperative Client-Proxy Caches in a Web Caching Hybrid Architecture", book Chapter 16 in "Computational Intelligence & Modern Heuristics", Ali Al Dahoud (ed.), pp.251-264, ISBN 978-953-7619-28-2, February 2010.

### III: Workshop and Conference Papers

1. M. J. Zemerly, M. Holden, J-P. Muller and J. Boffey, "Parallel Stereo Matching of SPOT Satellite Images", Digest of IEE Colloquium on Parallel Architectures for Image Processing Applications, London, 22 April 1991, 4 pages.
2. D. Allison, M. J. Zemerly and J-P. Muller, "Automatic Seed Point Generation for Stereo Matching and Multi-Image Registration", Proc. Int. Geoscience and Remote Sensing Symposium (IGARSS91), Espoo, Helsinki, Finland, 3-6 June 1991, pp 2417-2421.
3. S. Parkes, M. J. Zemerly and J-P. Muller, "Image Data Compression and Its Effects on Stereo Height Extraction Processing", Proc. Int. Geoscience and Remote Sensing Symposium (IGARSS91), Espoo, Helsinki, Finland, 3-6 June 1991, pp 1449-1452.
4. M. Holden, M. J. Zemerly and J-P. Muller, "Using A Transputer Array for Parallel Stereo Matching of SPOT Satellite Images", in Applications of Transputers, Vol I, T. S. Durrani et. al. (Editors), Proc. of Transputer Applications 1991, Glasgow, 28-30 August 1991, IOS Press, pp 154-159.
5. M. Holden, M. J. Zemerly and J-P. Muller, "Applying Geometric Parallelism to Stereo Matching SPOT Satellite Images on A PARSYS Supernode", Proc. 6th Int. Conf. on Image Analysis and Processing, Como, Italy, 4-6 September 1991, IOS Press, 8 pages.
6. J-P. Muller, D. Allison, A. C. Cook, T. Day, P. Eales, M. Holden, J. C. Iliffe, A. Mandanayake, A. Newton, K. Tildsley and M. J. Zemerly, "Global Mapping of Earth and Mars Using Automated Image Understanding Techniques on Remotely Sensed Data", International Space Year Conference on Earth and Space Science Information Systems, February 10-13, 1992, Pasadena, CA, (abstract only).
7. M. Holden, M. J. Zemerly and J-P. Muller, "Application of Transputers to Stereo Matching", in Parallel Computing: From Theory to Sound Practice, W. Joosen and E. Milgrom (Editors), Plenary Session paper in Proc. European Workshops on Parallel Computing 1992 (EWPC 92), Barcelona, Spain, 23-24 March 1992, pp 40-51.
8. M. J. Zemerly, M. Holden and J-P. Muller, "Multi-Resolution Parallel Stereo Matching of Airborne Stereo Imagery", Proc. XVII International Society for Photogrammetry and Remote Sensing Congress (ISPRS 92), Washington D.C., 2-14 August 1992, Volume II, pp 350-357.
9. G. R. Nudd, T. J. Atherton, D. J. Kerbyson, C. T. Clarke, Y. Papay, E. Papaefstathiou, M. J. Zemerly and R. Ziani, "Parallel Computers: The Performance Quest", Workshop: Developing Parallel Engineering Applications, SERC EASE, Abingdon, UK, pp. 29-32, February 1993.
10. G. R. Nudd, T. J. Atherton, D. J. Kerbyson, C. T. Clarke, Y. Papay, E. Papaefstathiou, M. J. Zemerly and R. Ziani, "Assessing the Performance of Parallel Computers - PEPS (ESPRIT 6942)", in Proc. of the 2nd Workshop on Abstract Machine Models for Highly Parallel Computers, University of Leeds, April 1993.
11. G. R. Nudd, E. Papaefstathiou, Y. Papay, T. J. Atherton, C. T. Clarke, D. J. Kerbyson, A. F. Stratton, M. J. Zemerly, and R. Ziani, "A Layered Approach to the Characterization of Parallel Systems for Performance Prediction", Proc. Performance Evaluation of Parallel Systems Workshop (PEPS 93), University of Warwick, 29-30 November 1993, pp 26-34.
12. M. J. Zemerly, E. Papaefstathiou, T. J. Atherton, D. J. Kerbyson and G. R. Nudd, "Characterising Computational Kernels: A Case Study", Proc. Performance Evaluation of Parallel Systems Workshop (PEPS 93), University of Warwick, 29-30 November 1993, pp 231-237.
13. M. J. Zemerly, D. J. Kerbyson, E. Papaefstathiou, R. Ziani, Y. Papay, T. J. Atherton, and G. R. Nudd, "Characterising Computational Kernels To Predict Performance on Parallel Systems", Proc. WTC 94, Como, Italy, 5-7 September 1994, pp 105-119.

14. M. J. Zemerly, R. Ziani, T. J. Atherton, and G. R. Nudd, "Characterization of Parallel Systems", Proc. 10th U.K. Performance Engineering Workshop for Computer and Telecommunication Systems, Edinburgh, 15-16 September, 1994, pp 1-12.
15. M. J. Zemerly, Y. Papay, and G. R. Nudd, "Characterization Based Bottleneck Analysis of Parallel Systems", Proc. Workshop on Performance Evaluation and Benchmarking of Parallel Systems, University of Warwick, 15-16 December 1994, 14 pages.
16. T. Delaitre, G.R. Justo, F. Spies, P. Vekariya, R. Bigeard, S. Winter and M.J. Zemerly, "A Graphical Toolset for Performance-Oriented Design of Portable Parallel Software", Electronic Proc. ONERA Meeting, Chatillon, Montrouge, France, October 23-25 1996.
17. G.R. Ribeiro Justo, P. Vekariya, T. Delaitre, M.J. Zemerly, and S. Winter, "Prototype-Oriented Development of High-Performance Systems", Proc. 2nd Int. Workshop on Software Engineering for Parallel Distributed Systems (PDSE'97), Boston, MA, 17-18 May 1997.
18. T. Delaitre, M.J. Zemerly, P. Vekariya, G.R. Justo, J. Bourgeois, F. Schinkmann, and S. Winter, "EDPEPPS: An Environment for Design and Performance Evaluation of Portable Parallel Software", Proc. Workshop on Portable Software Tools for Parallel Applications, PSTPA'97, Manchester, 1 July 1997.
19. T. Delaitre, P. Vekariya, R. Bigeard, G.R. Justo, F. Spies, S. Winter, and M.J. Zemerly, "EDPEPPS: A Integrated Graphical Toolset for Design and Performance Evaluation of Portable Parallel Software", Proc. 3rd Int. Euro-Par'97 Conf. (Workshop 1), Passau, Germany, 26-29 August, 1997, C. Lengauer, M. Griehl, and S. Gorlatch (eds), Lecture Notes in Computer Science 1300, Springer-Verlag, Berlin, pp 140-149.
20. T. Delaitre, S. Poslad, M.J. Zemerly, and S. Winter, "Performance Modelling of Client Server Applications", Proc. 13th UK Performance Engineering Workshop for Computer and Telecommunication Systems, Leeds, 24 July 1997.
21. T. Delaitre, M.J. Zemerly, P. Vekariya, G.R. Justo, J. Bourgeois, F. Schinkmann, F. Spies, S. Randoux, and S.C. Winter, "EDPEPPS: A Toolset for the Design and Performance Evaluation of Parallel Applications", Proc. EUROPAR'98, Workshop 1: Tools and Environments, 1-4 Sep 1998, Southampton, UK, distinguished paper, pp 113-125.
22. T. Delaitre, M.J. Zemerly, G.R. Justo, O. Audo, and S.C. Winter, "An Integrated Environment for the Parallel Development Life-Cycle", in Proc.DAPSYS'98, Budapest, September 28-30, 1998.
23. T. Delaitre, M.J. Zemerly, G.R. Justo, and S.C. Winter, "EDPEPPS: A Graphical Environment for the Parallel Software Development Life-Cycle", Proc. 1999 International Conference on Parallel and Distributed Processing Techniques and Applications (PDPTA'99), Las Vegas, June 1999, Vol IV, pp 1737-1743. **Selected as one of the best papers.**
24. T. Karran, G.R. Justo, and M.J. Zemerly, "An Organic Distributed Knowledge Information Management Architecture", Proc. IASTED International Conference Intelligent Control Systems (ISC'99), October 28-30, 1999, Santa Barbara, CA, USA, M.H. Hamza (editor), pp 15-20.
25. T. Karran, G.R. Justo, and M.J. Zemerly, "An Organic Architecture for Component Evolution in Decisions Systems", Proc. SCI'2000, Orlando, Florida, July 2000.
26. N.A. Al-Mutawwa, and M.J. Zemerly, "Image Compression using Adaptive Chebyshev Polynomials", Proc. 3<sup>rd</sup> World Scientific and Engineering Academy and Society (WSEAS) Int. Conference on Signal, Speech and Image Processing (ICOSSIP), Crete, Greece, 13-15 October, 2003. (JOURNAL)
27. M.J. Zemerly, T. Delaitre, G.R. Justo, and S.C. Winter, "A Graphical Environment for Simulation of C/PVM Parallel Software on a Cluster of Heterogeneous Workstations", Proc. 5<sup>th</sup> Middle East Symposium on Simulation and Modelling (MESM'2003), Sharjah, 5-7 Jan 2004, pp 129-133.
28. M.J. Zemerly, K.M.S. Abdulla, and M.H. Shariff, "Super-Linear Speedup for Parallel Givens Algorithm on a Network of Workstations (NoW)", Proc. 3<sup>rd</sup> WSEAS Int. Conf. on Software Eng., Parallel & Distributed Systems (SEPADS'04), 13-15 Feb 2004, Salzburg, Austria.
29. K. Zahrou and M.J. Zemerly, "Programmer Experience in Developing a Ubiquitous Application", Proc. 2nd IEEE-GCC 2004 Conference on Advancing

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## **RESEARCH INTERESTS**

Performance Prediction/Modeling of Parallel and Distributed Systems, Distributed Multimedia and Information Systems, Image Compression, Parallel Image Processing, Ubiquitous Computing, Cloud Computing, Information Security, Mobile Agents.

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