Curriculum Vitae Yiannis Cotronis

Education

B.Sc. in Mathematics with Applied Science, University of Sussex, UK, 1974.
M.Sc. in Computing Science, Computing Laboratory, University of Newcastle-upon-Tyne, UK, 1975.
   Dissertation title: "Proof Methods for Asynchronous Systems of Processes".
Ph.D. in Computing Science, Computing Laboratory, University of Newcastle-upon-Tyne, UK, 1982.
   Thesis title: "Programming and Verifying Asynchronous Systems".

Professional Positions

1980-1982:	Research Associate, Computing Laboratory, University of Newcastle-upon-Tyne.
1983-1984:	Research Associate, Computing Laboratory, University of Newcastle-upon-Tyne.
1985-1987:	Specialised Scientist , University of Athens.
1987-1989:	Research Associate in Computer Technology Institute, Patras.
1988-1989:	Specialised Scientist , University of Athens.
1989-1991:	R&D manager in ELSYP SA.
1991- 1995:	Lecturer, Department of Informatics, University of Athens.
1995- 1999	Assistant Professor Department of Informatics, University of Athens.
1999-	Tenure Assistant Professor Department of Informatics, University of Athens.

Publications

Journals

1. J.Y.Cotronis, A.N.Refenes and E.Eberbach, "Language Support for Concurrent Symbolic and Numeric Systems", *Software - Concepts and Tools* (1994) 15: 105-124, Springer Verlag, 1994.
2. M.Spiliopoulou, J.Y.Cotronis and M.Hatzopoulos, "Query processing for multimedia applications on optical media", *Information Processing Letters*, 1994.
3. M. Spiliopoulou, M. Hatzopoulos, J.Y. Cotronis, "Parallel Optimisation of Large Join Queries with Set Operators and Aggregates in a Parallel Environment Supporting Pipeline", IEEE-TKDE, June 1996.
4. J.Y.Cotronis, Z.Tsiatsoulis, "Specification composition for the verification of message passing program composition", Microprocessing and Microprocessors, 21 (1998), 595-603

(Following Tenure 1999)

5. Z.Tsiatsoulis, J.Y.Cotronis: "Testing and Debugging Message Passing Programs in Synergy with their Specifications", Fundamenta Informaticae 34 (2000) pp. 1-26.
6. J.Y Cotronis, Composition of MPI Applications over MPICH-G2, International Journal of High Performance Computer Applications, Vol 18, No. 3, Fall 2004, pp.327-339.
7. E. Floros and Y. Cotronis, Towards A Grid Services Based Framework for the Virtualization, Execution and Composition of MPI Applications, Special Issue on Grid Computing, Parallel Processing Letters Vol. 15, No 1&2, 2005, pg. 85-98.
8. Tylissanakis, G. and Cotronis, Y. (2012), Nonintrusive collection and management of data provenance in scientific workflows. Concurrency Computat.: Pract. Exper.. doi: 10.1002/cpe.2809, Vol. 24, 2012.
9. C. Filippidis, Y. Cotronis, C. Markou, DESIGN AND IMPLEMENTATION OF THE MOBILE GRID RESOURCE MANAGEMENT SYSTEM, Computer Science (2012), ISSN 1508-2806, Vol. 13, Issue 1, 2012.
10. E. Konstandinidis and Y. Cotronis,"Accelerating the red/black SOR method using GPUs with CUDA", Concurrency and Computation: Practice and Experience, Vol. 25, 2012.

11. C. Filippidis, Y. Cotronis, C. Markou IKAROS: an HTTP-based distributed File System, for low consumption & low specification devices, Journal of Grid Computing, (to appear).

Conferences

Έως 1989

1. J.Y.Cotronis and P.E.Lauer, "Verification of Concurrent Systems of Processes", International Computing Symposium 1977, Liege, Belgium, 4-7 April 1977, in *Proceedings of the International Computing Symposium 1977*, E. Morlet and D. Ribbens (eds.), North Holland, pp. 197-207, 1977.
2. P.E.Lauer, M.W.Shields and J.Y.Cotronis, "Formal Behavioural Specification of Concurrent Systems Without Globalitry Assumptions", *Proceedings of the International Colloquium on the Formalisation of Programming Concepts* (Peniscola, Spain), Lecture Notes in Computing Science, Springer-Verlag, Vol. 107, J.Diaz and I.Ramos (eds.) pp. 115-151, 1981.
3. J.Y.Cotronis and P.E.Lauer, "Two-way Channel with Disconnect", Workshop on Analysis of Concurrent Systems, in *Proceedings of the SERC and STL*, Lecture Notes in Computing Science, Springer-Verlag, Vol. 207, pp 184-198, 1985.

1990-1993

4. E.Eberbach, J.Y.Cotronis and A.N.Refenes, "Language Transformations for Concurrency Control in Symbolic and Numeric Systems", *Parallel Computing 89, Proceedings of the International Conference*, Leiden, The Netherlands, D.J. Evans, G.R. Joubert and F.J.Peters (eds.), Advances in Parallel Computing, 2, North Holland, Amsterdam, pp. 487-494,1990.
5. M.Spiliopoulou, J.Y.Cotronis and M.Hatzopoulos, "Parallel Optimisation of Join Queries Using an Enhanced Iterative Improvement Technique", PARLE 93, *Proceedings of the 5th International PARLE Conference*, Munich, June 14-17, 1993, Lecture Notes in Computer Science, Springer-Verlag, A. Bode, M. Reeve and G.Wolf (eds.), Vol. 694, (regular poster) pp. 716-719, 1993.

1995

6. J.Y. Cotronis A Methodology for Initiating Arbitrary Structured Programs in Parix by Interpreting Graphs, in Proceedings of ZEUS 95 (ed. P. Fritzon and L. Finmo) IOS Press, 1995.

1996

7. J.Y Cotronis, "Efficient Composition and Automatic Initialization of Arbitrarily Structured PVM Programs", Proceedings, First IFIP TC10 International Workshop on Parallel and Distributed Software Engineering (ed. I. Jelly, I. Gorton and P. Croll), Chapman & Hall, March 1996.
8. J.Y.Cotronis, E.Floros, N.Papazis: Efficient Composition of PVM programs, HPCN96, Brussels, H. Liddell, A. Colbrook, B. Hertzberger and P.Sloot (Eds.), April 1996.
9. J.Y.Cotronis: Efficient Program Composition on Parix by the Ensemble Methodology, Euromicro Conference 96, Prague, 1996.

1997

10. J.Y.Cotronis, Z.Tsiatsoulis, "Specification composition for the verification of message passing program composition", In Proc. Encress 97. 3rd International Conference on Reliability, Quality & Safety of Software-Intensive Systems, Chapman and Hall, May 1997. (selected for journal publication)
11. T. Theoharis, J.Y.Cotronis, "FlexParDB: An RDBMS employing Intra-query and Operator parallelism", in Proc. Applications of HPC in Engineering, H.Power and J.J.Casares Long (eds.), Computational Mechanics Publications 1997, pp. 33-42.
12. J.Y. Cotronis: "Message Passing Program Development by Ensemble", in Proceedings Recent Advances in PVM and MPI, M. Bubak, J. Dongarra and J. Wasniewski (eds.), LNCS 1332, 1997, pp.242-249.

1998

13. J.Y. Cotronis, E. Avgeri and G. Krallis: "Porting Applications between PVM and Parix under Ensemble", in Proc. 6th Euromicro Workshop on Parallel and Distributed Processing, IEEE Computer Science 1998, pp. 409-415.
14. J.Y. Cotronis: "Developing Message Passing Applications on MPICH under Ensemble", in Proceedings Recent Advances in PVM and MPI, V. Alexandrov and J. Dongarra (eds.), LNCS 1497, 1998, pp. 145-152.

15. J.Y. Cotronis, P. Kacsuk, Z. Tsiatsoulis, G. Dózsa, E. Floros, «Integration of Formal Specifications into GRADE», Proceedings Dapsys 98, Universitat Wien, pp. 39-46.

1999 (Following Tenure 1999)

16. Z.Tsiatsoulis, G.Dózsa, J.Cotronis, P.Kacsuk: Associating Composition of Petri Net Specifications with Application Designs in GRADE, Proc. of the Seventh Euromicro Workshop on Parallel and Distributed Processing, Funchal, Portugal, 1999, pp. 204-211.
17. Grigoriadou M., Papanikolaou K.A., Cotronis Y., Velentzas C. and Filokyprou G. Designing and Implementing a Web-based course, In: G. M. Chapman (ed.): Proceedings of the Fourth International Conference on Computer Based Learning In Science (CBLIS'99), University of Twente, Enschede, The Netherlands, published by Pedagogical Faculty of University of Ostrava, Czech Republic, p. H5, 1999.
18. Z.Tsiatsoulis, J.Cotronis, E. Floros: Testing and debugging message Passing applications based on the synergy of program and specification executions, Proc. of the Seventh Euromicro Workshop on Parallel and Distributed Processing, Funchal, Portugal, 1999, IEEE Computer Society press, pp. 196-203.

2000
19. Grigoriadou, M., Cotronis, Y., Papanikolaou, K.A**.** Simulations as Cognitive Tools in a Hypermedia System. The First Research Workshop of EDEN "Research and Innovation in Open and Distance Learning" (CD-ROM), Prague, March 2000.
20. J.Y. Cotronis, "Reusable message passing components", in Proceedings 8th PDP2000 Euromicro Workshop on Parallel and Distributed Processing, IEEE Computer Society press.
21. J.Y.Cotronis, Z. Tsiatsoulis, C. Kouniakis, "Composition of Message Passing Applications on Demand", in Proceedings Recent Advances in PVM and MPI, J. Dongarra, P.Kackuk, N Podhorszky (eds.), LNCS 1908, 2000, pp. 192-199.

2001
22. J.Y.Cotronis, "Modular MPI Components and the Composition of Grid Applications", Proc. of the Tenth Euromicro Workshop on Parallel, Distributed and Network-based Processing, IEEE Computer Society press, pp. 154-161.

2002
23. J.Y Cotronis, Modular MPI Components and the Composition of Grid Applications, Proc. PDP 2002, IEEE Press pp 154-161.
24. J. Y. Cotronis, Z. Tsiatsoulis: Modular MPI and PVM Components. PVM/MPI 2002: 252-259

2003
25. J.Marco, R.Marco, D.Rodrýguez1, J.Salt, S.Gonzalez2, J.Sanchez, A.Fuentes3, J.Gomes, M.David, J.Martins, L.Bernardo, M.Hardt, A.Garcýa5, P. Nyczyk, A.Ozjeblo, P.Wolniewicz, A.Padee8, M.Bluj, C.Fernandez, J.Fontan, A.Gomez, I.Lopez, Y.Cotronis, E.Floros, G.Tsouloupas, W.Xing, M.Dikaiakos, J.Astalos, B.Coghlan, E.Heymann, M.Senar, G.Merino, C.Kanellopoulos, and D.van Albada, First Prototype of the CrossGrid Testbed, Proc. 1st AcrossGrids Conference, Santiago, February 9 - 14, 2003.
26. J. Y. Cotronis: Building Grid MPI Applications from Modular Components. Euro PDP 2003: 201-208
27 J. Y. Cotronis: Application Composition in Ensemble Using Intercommunicators and Process Topologies. Lecture Notes in Computer Science 2840 Springer 2003, pp 482-490

2004

28. J. Marco, R. Marco, D. Rodriguez, J. Salt, S. Gonzales, J. Sanchez, A. Fuentes, J. Gomes, M. David, J. Martins, L. Bernardo, M. Hardt, A. Garcia, P. Nyczyk, A. Ozjeblo, P. Wolniewicz, A. Padee, M. Bluj, C. Fernadez, J. Fontan, A. Gomez, I. Lopez, Y. Cotronis, V. Floros, G. Tsouloupas, W. Xing, M. Dikaiakos et al., "First Prototype of the CrossGrid Testbed." *Grid Computing. First European*

AcrossGrids Conference, Santiago de Compostela, Spain, February 2003, Revised Papers, Lecture Notes in Computer Science series, vol. 2970, pages 67-77, Springer, 2004 (available in pdf)

29. C. Martinez-Rivero, J. Marco, D. Rodriguez, R. Marco, I.GonzΓˇlez, D. Cano, I. Diaz, A. FernΓˇndez, S. Gonzalez, J. SΓˇnchez, J. Salt, F. Fassi, V. Lara, J. Gomes, M. David, J. Martins, L. Bernardo, M. Hardt and A. GarcΓa, P. Nyczyk and A. Ozieblo, P. Wolniewicz, M. Bluj, K. Nawrocki, A. Padee, Wojciech Wislicki, A. Soltan, C. FernΓˇndez, J. FontΓˇn, A. GΓ³mez, I. LΓ³pez, Y. Cotronis, E. Floros, G. Tsouloupas, W. Xing, M. Dikaiakos, J. Astalos, B. Coghlan, E. Heymann, M. Senar, C. Kanellopoulos, "Deployment of an Interactive Physics Analysis Application in the CrossGrid Project Testbed", *Workshop on Case Studies on Grid Applications in conjunction with GGF10*, March 13, 2004, Berlin, Germany (available in pdf).

30. E. Floros, Yiannis Cotronis: Exposing MPI Applications as Grid Services. Lecture Notes in Computer Science Volume 3149, 2004, pp 436-443 Euro-Par 2004: 436-443.

2005

31. J. Gomes; M. David; J. Martins; L. Bernardo; A. Garcia; M. Hardt; H. Kornmayer; J. Marco; D. Rodriguez; I. Diaz; D. Cano; J. Salt; S. Gonzalez; J. Sanchez; F. Fassi; V; Lara; P. Nyczyk; P. Lason; A. Ozieblo; P. Wolniewicz; M. Bluj; K. Nawrocki; A. Padee; W. Wislicki; C. Fernandez; J. Fontan; Y. Cotronis; E. Floros; G. Tsouloupas; W. Xing; M. Dikaiakos ; J. Astalos; B. Coghlan; E. Heymann; M. Senar; C. Kanellopoulos; A. Tirado-Ramos and D.J. Groen: Experience with the International Testbed in the CrossGrid Project, in *European Grid Conference 2005 (EGC 2005),* Science Park Amsterdam, Amsterdam, The Netherlands, February 14-16 2005.

32. Y. Cotronis, P. Polydoras: Ensemble-2: Dynamic Composition of MPMD Programs, PVM-MPI 2005.

2006

33 E. Floros and Y. Cotronis Execution and composition of e-science applications using the WS-resource construct, 20th IEEE International Parallel & Distributed Processing Symposium 2006.
34. E. Floros and Y. Cotronis ServOSims: A Service Oriented Framework for Composing and Executing Multidisciplinary Simulations, e-science 2006.
35. Michael Bruce-Lockhart, Theodore S. Norvell and Yianis Cotronis: Programming and Algorithm Visualization in Engineering and Physics,. Fourth Program Visualization Workshop, University of Florence, Italy, June 29-30, 2006.

2007
36. P. Katsaloulis, E. Floros, T. Theoharis,Y. Cotronis, A. Provata, Gridifcation of Statistical Biocomputation Algorithms, 2007.

2008
37.Y. Cotronis, E. Floros, C. Alexopoulos and G. Tylissanakis Towards a System-Level Science Ecosystem for the Composition and Execution of Multi-Physics Simulations, PDP 2008.

2009
38. Giorgos Tylissanakis, Yiannis Cotronis, "Data Provenance and Reproducibility in Grid Based Scientific Workflows," gpc, pp.42-49, 2009 Workshops at the Grid and Pervasive Computing Conference, 2009

2011
39. C. Filippidis, Y. Cotronis, C. Markou , Mobile-Grid: Design and Implementation of the Ikaros-EG Resource Management System, CGW 2011, 2011.

2012

40. E. Konstandinidis and Y. Cotronis,"Accelerating the red/black SOR method using GPUs with CUDA", 9th International Conference On Parallel Processing And Applied Mathematics, Torun, (2011), Part I, LNCS 7203, pp.589. Accepted as a Best Paper for Publication in Concurrency and Computation: Practice and Experience, (under preparation).

41. Y. Cotronis, E. Konstantinidis, M. A. Louka and N. M. Missirlis, "Parallel SOR for solving the Convection Diffusion equation using GPUs with CUDA", EuroPar 2012, International European Conference on Parallel and Distributed Computing, Rhodos, (2012).

Books and Book Chapters
1. Critical Reader, Greek Open University: Compilers
2. Critical Reader, Greek Open University: Parallel Programming
3. Introduction to Computing (for Distance learning), Chapter on System Software and Compilers

Conference Proceedings (editor)
1.   Y. Cotronis, J. Dongarra (Eds.) Recent Advances in parallel Virtual machine and Message Passing Interface, Proceedings of PVM-MPI 2001, Santorini, LNCS 2131, 2001.
2.   Parallel, Distributed and Network-Based Processing (PDP), 2011 19th Euromicro International Conference on , vol., no., pp.C1, 9-11 Feb. 2011 doi: 10.1109/PDP.2011.99 Edited by Yiannis Cotronis, Marco Danelutto, and George Angelos Papadopoulos
URL: http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5739075&isnumber=5738968
3.   Recent Advances in the Message Passing Interface. 18th European MPI Users' Group Meeting, EuroMPI 2011, Santorini, Greece, September 18-21, 2011. Proceedings. Series: Lecture Notes in Computer Science, Vol. 6960. Subseries: Programming and Software Engineering Cotronis, Y.; Danalis, A.; Nikolopoulos, D.; Dongarra, J. (Eds.) 2011, 2011, XIV, 358 p.

Teaching

A. Courses

1.   Undergraduate Courses Department of Informatics
Current assignments: Data Structures, Parallel Systems,
Past assignments: Compilers, Computation Theory, Complexity Theory, Novel Architectures, Software Engineering.
2.   Postgraduate Courses in Department of Informatics:
Current assignments: Parallel Systems
Past assignments: Theory of Programming languages.
3.   Joint Postgraduate Courses Department of Informatics and Physics:
Current assignment: Principles of Programming Languages
Past Assignments: Programming Techniques.

B. Laboratories and Development of Educational Software

Established laboratories and developed tools for teaching Compilers and Parallel Programming.
Laboratory on programming on Grids. MPI, OpenMp and Cuda.

C. International Collaboration activities on teaching Material

1. Tempus project S_JEP 8333/94 on developing university courses for Parallel architectures, algorithms, applications, signal processing, etc. for Hungarian Universities.
2. CDA SOCRATES, for defining a curriculum for a Master's degree (EuroMSc) in High-Performance Computing and Networking.
3. Tempus project S_JEP 12495/97 for the development of University courses for Hungarian Universities on Distributed Computing.

D. National Collaboration activities on Teaching Material

1. Greek Project for a "Pilot for a Distance Learning Course on Management, Economics and Computing"
2. Participation in a Greek Project for a "Federated Digital System for University Teaching Material"

Research Interests

Languages and execution environments for parallel programming and Grid Computing, MPI, OpenMP, Cuda.
Software engineering and tools for parallel programming, methodologies for developing message passing programs Portability, reuse and modularity of parallel program components
Formal specifications of parallel programs, error detection and validation of parallel programs
Educational software.

Voluntary Positions in Workshops/Conferences

Conference Chair
Local Chair of Euromicro Workshop of Parallel and Distributed Processing in Rhodos, 2000
Co-Chair of Euro PVM/MPI in Santorini, 2001
Co-Chair of ICPS 2005 in Santorini, 2005
Co-chair EuroMicro PDP in Cyprus 2011
Co-Chair EuroMPI 2011 in Santorini 2011

Program Committee Member
- Euromicro Workshop of Parallel and Distributed Processing, years 1999-2013
- Euro PVM-MPI, years 1999-2013
- DAPSYS, years 2000, 2002, 2004
- AxGrids 2004
- ICCSA 2005
- ICCS 2004

Member of Professional Bodies

ACM, IEEE Computer Society, EPY