

# Curriculum vitae & List of publications

Dana PETCU

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## Addresses

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## Personal data

Date and place of birth:	May 12, 1966, Timișoara, Romania
Marital status:	Divorced, one child
Birth name:	Dana Gioncu
Languages:	Romanian, English, German, French

## Education

MS in	Computer Science	Faculty of Natural Science	University of Timișoara	1988
Tempus	PhD scholarship	IWR	University of Heidelberg	1992-93
PhD in	Numerical Analysis Thesis:	Faculty of Mathematics Numerical solution of stiff differential equation systems	Western University of Timișoara	1994

## Professional experience

Professor	Computer Science Department, Western University of Timișoara	2003-present
Assoc.prof.	Computer Science Department, Western University of Timișoara	1997-2003
Lecturer	Chair of Fundamental Informatics, Western University of Timișoara	1994-1997
Assistant	Chair of Fundamental Informatics, Western University of Timișoara	1990-1994
Programmer	Bega-Pam, Timișoara	1990
Programmer	IURT Lugoj	1988-1990

## Management experience

Director	Institute e-Austria Timișoara	2002-present
Director	Computer Science Department, Western University of Timisoara	2008-present

## Research interests

Parallel, distributed and grid computing, numerical analysis and mathematical software, computer graphics

## Teaching experience

Parallel Computing, Grids, Distributed Systems, Mathematical Software, Computer Graphics, Algorithms, Programming Languages

## Other work experience

Expert evaluator for EU IST-FP6 programme in "Grids for complex problem solving" (2003), "Advanced Grid Technologies, Systems and Services" (2005), "Embedded Systems" (2005), ESF (2006-2007), and INTAS (2005), EU ICT-FP7 programme in "Service and Software Architectures, Infrastructures and Engineering" (2007, 2009)  
Expert evaluator for Romanian National CNCISIS, CEEX, PNII programmes

Member in the Romanian Delegation in FP7-ICT Committee (2007-2009), Member in the Romanian Delegation in e-IRG (2008-2009),

Former Romanian Expert in the FP7-Committee for Competitiveness and Innovation Framework Programme (CIP) (2007-2008) and Romanian Expert in the FP7-COST programme, ICT Domain (2007-2008)

## Awards

Maria-Sybilla-Merian Award, 2005 ([http://www.uni-duisburg-essen.de/ekfg/msm/ekfg\\_13267.shtml](http://www.uni-duisburg-essen.de/ekfg/msm/ekfg_13267.shtml))

IBM Faculty Award, 2009

## Papers in ISI classified journals and proceedings

### Elsevier (ISI classified journals)

1. D.Petcu, *Experiments with an ODE Solver on a Multiprocessor System*, Computers & Mathematics with Applications vol. 42, no. 8-9, Oct.-Nov. (2001), Pergamon-Elsevier Science, UK, 1189-1199.
2. V.Gioncu, D.Petcu, *Available rotation capacity of wide-flange beams and beam-columns. Part 1. Theoretical approaches*, Journal of Constructional Steel Research, vol. 43, no. 1-3, July-September 1997, Elsevier Science Ltd, Oxford, 161-217.
3. V.Gioncu, D.Petcu, *Available rotation capacity of wide-flange beams and beam-columns. Part 2. Experimental and numerical tests*, Journal of Constructional Steel Research, vol. 43, no. 1-3, July-September 1997, Elsevier Science Ltd, Oxford, 219-244.
4. D.Petcu, V.Gioncu, *Computer program for available ductility analysis of steel structures*, Computers & Structures Volume 81, Issues 22-23, September 2003, Pages 2149-2164
5. D.Petcu, *The performance of parallel iterative solvers*, Computers & Mathematics with Applications vol. 50, (2005), Pergamon-Elsevier Science, UK, 1179-1189.

### Other ISI classified journals

6. D.Petcu, C.Popa, *A new version of Kovarik's approximate orthogonalization algorithm without matrix inversion*, International Journal of Computer Mathematics, vol. 82, no. 10, October 2005, 1235-1246, no. GCOM041194 ISSN 0020-7160 print/ISSN 1029-0265 online Taylor & Francis Ltd <http://www.tandf.co.uk/journals> DOI: 10.1080/00207160512331331174
7. D.Petcu, M.Drăgan, *Designing an ODE solving environment*, Lectures Notes in Computational Science and Engineering 10: Advances in Software Tools for Scientific Computing, eds. H.P. Langtangen, A.M. Bruaset, E. Quak, Springer-Verlag, Berlin, 2000, 319-338.
8. D.Petcu *The potential for distributing computation in large initial value problems*, Notes on Numerical Fluid Mechanics 73: Large Scale Scientific Computations of Engineering and Environmental Problems, 2000, eds. Michael Griebel, Svetozar Margenov, Plamen Yalamov, 180-195.
9. D.Petcu, *On the Kantorovich Hypothesis for Newton's Method*, Informatica, Vilnius, 1993, vol. 4, no. 1-2, 188-198
10. D.Petcu, *A parallel algorithm for stiff ordinary differential equations*, Informatica, Vilnius, 1994, vol.5, no. 3-4, 373-384

### Springer LNCS (ISI proceedings)

11. D.Petcu, *Implementation of some multiprocessor algorithms for ODEs using PVM*, Lectures Notes in Computer Science 1332: Recent Advances in Parallel Virtual Machine and Message Passing Interface, 1997, eds. Marian Bubak, Jack Dongarra, Jerzy Wasniewski, Springer-Verlag Berlin, 375-383.
12. D.Petcu, *Solving Initial Value Problems with a Multiprocessor Code*, Lectures Notes in Computer Science 1662: Parallel Computing Technologies, 1999, ed. Victor Malyshev, Springer-Verlag Berlin, 452-466.
13. D.Petcu, *PVMaple: A Distributed Approach to Cooperative Work of Maple Processes*, Lectures Notes in Computer Science 1908: Recent Advances in Parallel Virtual Machine and Message Passing Interface, 2000, eds. Jack Dongarra, Peter Kacsuk, Norbert Podhorszki, Springer-Verlag, Berlin, 216-224.
14. D.Petcu, *Numerical Solution of ODEs with Distributed Maple*, Lectures Notes in Computer Science 1988, Numerical analysis and Its Applications, eds. Lubin Vulkov, Jerzy Wasniewski, Plamen Yalamov, 2001, 666-674

15. D. Petcu, *Solving initial value problems with parallel Maple processes*, Lectures Notes in Computer Science 2150: Parallel Processing, eds. R. Sakellariou, J. Keane, J. Gurd, L. Freeman, Springer-Verlag, Berlin, 2001, pp. 926-934.
16. D. Petcu, *Solving large systems of differential equations with PAVIS*, Lectures Notes in Computer Science 2328, 2002, Parallel Processing and Applied Mathematics, eds. R. Wyrzykowski, J. Dongarra, M. Paprzycki, J. Wasniewski, pp. 437-445
17. D. Petcu, H. Popa, D. Țepeneu, *A user-level interface for clustering mathematical software kernels*, Lectures Notes in Computer Science 2336: Advanced Environments, tools and applications for cluster computing, eds. Dan Grigoraș, A. Nicolau, B. Toursel, B. Folliot, 2002, 175-182
18. D.Zaharie, D.Petcu, *Adaptive Pareto Differential Evolution and its Parallelization*, 5th International Conference, PPAM 2003 Czestochowa, Poland, September 7-10, 2003 Revised Papers, eds. Roman Wyrzykowski, Jack Dongarra, Marcin Paprzycki, Jerzy Wasniewski, LNCS 3019, pp. 261-268.
19. D.Petcu, D.Dubu, M.Paprzycki, *Towards a Grid-aware Computer Algebra System*, Computational Science - ICCS 2004: 4th International Conference, Krakow, Poland, June 6-9, 2004, LNCS 3036, eds. M. Bubak, G.D. van Albada, P. Sloat, J. Dongarra, 490-495.
20. D.Petcu, D.Dubu, M.Paprzycki, *Grid-based parallel Maple*, Recent Advances in Parallel Virtual Machine and Message Passing Interface, PVMMPI 2004, Budapest, Hungary, September 19-22, 2004, eds. D. Kranzmüller, P. Kacsuk, J. Dongarra, LNCS 3241, pp. 215-223.
21. D. Petcu, M. Paprzycki, M. Ganzha, *Clustering Multiple and Cooperative Instances of Computational Intensive Software Tools*, V. Malyskin (Ed.): PaCT 2005, LNCS 3606, pp. 452-456, 2005.
22. C. Bonchiș, G. Ciobanu, C. Izbașa, D. Petcu, *A Web-Based P Systems Simulator and Its Parallelization*, C.S. Calude et al. (Eds.): UC 2005, LNCS 3699, pp. 5869, 2005.
23. D. Petcu, D. Vizman, M. Paprzycki, *Porting CFD Codes Towards Grids: A Case Study*, R. Wyrzykowski et al. (Eds.): PPAM 2005, LNCS 3911, pp. 817-824, Springer-Verlag, Berlin, Heidelberg, 2006
24. K. Hammond, A.Al Zain, G. Cooperman, D. Petcu, Phil Trinder, *SymGrid: A Framework for Symbolic Computation on the Grid*, A.M. Kermarrec, L. Bouge, and T. Priol (Eds.): Euro-Par 2007, LNCS 4641, pp. 447-456, 2007, Springer-Verlag, Berlin, Heidelberg 2007.
25. D. Zaharie, D. Petcu, S. Panica, *A Hierarchical Approach in Distributed Evolutionary Algorithms for Multiobjective Optimization*, LNCS 4818, 2007, Springer, pp. 505-514.
26. A. Cârstea, M. Frîncu, A. Konovalov, G. Macariu, D. Petcu, *On Service-oriented Symbolic Computing*, Parallel Processing and Applied Mathematics, LNCS 4967, 2008, Springer, pp. 843-851.
27. Alexandru Cârstea, Georgiana Macariu, Dana Petcu, and Alexander Konovalov, *Pattern Based Composition of Web Services for Symbolic Computations*, M. Bubak et al. (Eds.): ICCS 2008, Part I, LNCS 5101, pp. 1261-135, 2008.
28. D. Zaharie, M. Drăgan, S. Panica, D. Petcu, M. Stoia-Djeska, *Asynchronous master slave parallelization of evolutionary optimization in airfoil shape design*, Procs. PARA 2008, Trodheim, LNCS (in print).
29. D. Petcu, V. Iordan, *Understanding Service Oriented Architectures in the Classroom: from Web Services to Grid Services*, Procs. ISD 2008 - Information Systems Development Towards a Service Provision Society Papadopoulos, G.A.; Wojtkowski, W.; Wojtkowski, G.; Wrycza, S.; Zupancic, J. (Eds.) Springer Hardcover ISBN: 978-0-387-84809-9, 2009, pp. 831-838
30. D. Petcu, *Challenges of Data Processing for Earth Observation in Distributed Environments*, G.A. Papadopoulos and C. Badica (Eds.): Intelligent Distributed Computing III, Studies in Computational Intelligence SCI 237, Springer, pp. 9-19 (invited talk at IDC 2009 - 3rd International Symposium on Intelligent Distributed Computing).

#### IEEE Computer Press (ISI proceedings)

31. D.Petcu, *Experiments with PVM Maple and Parallel Methods for ODEs*, Cluster2000: IEEE International Conference on Cluster Computing, Chemnitz, Germany, 28 Nov. -1 Dec. 2000, Proceedings, IEEE Computer Society, 393-394.
32. D.Petcu, *Parallel explicit-state reachability analysis and state space construction*, Proceedings of Second International Symposium on Parallel and Distributed Computing, ISPDC 2003, 13-14 October 2003, Ljubljana, IEEE Computer Society Press, Los Alamitos (ISBN 0-7695-2069-3), 207-214.
33. D.Petcu, D.Dubu, M. Paprzycki, *Extending Maple to the Grid: Design and Implementation*, ISPDC 2004, 5-8

- July 2004, Cork, IEEE Computer Society Press, Los Alamitos (ISBN 0-7695-2210-6), 209-216.
34. M.Petcu, D.Petcu, *Distributed rule-based system*, SOFA 2005, 27-30 August 2005, Szeged, IEEE Computer Society Press, IEEE Hungary Section (ISBN 963 219 001 7), 257-262.
  35. D.Petcu, *Parallel Jess*, ISPDC 2005, 4-6 July 2005, Lille, IEEE Computer Society Press, Los Alamitos (ISBN 0-7695-2434-6), 307-314.
  36. D.Petcu, *Adapting a Partitioning-based Heuristic Load-balancing Algorithm to Heterogeneous Computing Environments*, SYNASC 2005, Timisoara, 25-29 September 2005, IEEE Computer Society Press, Los Alamitos (ISBN 0 7695 2453 2), 170-173.
  37. D.Petcu, *Between Web and Grid-based Mathematical Services*, ICCGI, 1-3 August 2006, Bucharest, IEEE Computer Society Press, Los Alamitos (ISBN 0-7695-2629-2), eds. P. Dini, C. Popoviciu, C. Dini, Gunter Van de Velde, E. Borcoci, pp. 41-47
  38. D.Petcu, V. Iordan, *Grid Service based on GIMP for Processing Remote Sensing Images*, SYNASC 2006, Timisoara, 25-29 September 2006, IEEE Computer Society Press, Los Alamitos (ISBN 0 7695 2740 X), 251-258
  39. N.Somosi, D.Petcu, *A Parallel Algorithm for Rendering Huge Terrain Surfaces*, SYNASC 2006, Timisoara, 25-29 September 2006, IEEE Computer Society Press, Los Alamitos (ISBN 0 7695 2740 X), 274-278
  40. D. Petcu, *Distributed Symbolic Computations*, Invited talk, ISPDC 2007, July 5-8 2007, Hagenberg, IEEE Computer Press, Los Alamitos (ISBN 0-7695-2917-8), 10-11.
  41. A. Cârstea, Marc Frîncu, G. Macariu, D. Petcu, K. Hammond, *Generic Access to Web an Grid-based Symbolic Computing Services*, ISPDC 2007, July 5-8 2007, Hagenberg, IEEE Computer Press, Los Alamitos (ISBN 0-7695-2917-8), 143-150
  42. D. Petcu, D. Zaharie, D. Gorgan, F. Pop, D. Tudor, *MedioGrid: a Grid-based Platform for Satellite Image Processing*, IEEE Fourth International Workshop on Intelligent Data Acquisition and Advanced Computing Systems: Technology and Applications (IDAACS'2007), Dortmund, Germany, September 6-8, 2007, IEEE Computer Press, 137-142.
  43. G. Macariu, M. Frîncu, A. Carstea, D. Petcu, A. Eckstein, *Redesigning Parallel Symbolic Computations Packages*, PACT 2007, 16th International Conference on Parallel Architecture and Compilation Techniques, 15-19 Sept. 2007, ISSN 1089-795X, IEEE Computer Press, pp. 417.
  44. Dana Petcu, Silviu Panica, Doina Banciu, Viorel Negru, Andrei Eckstein, *Optical character recognition on a Grid infrastructure*, Procs. 3rd International Conference on Automated Production of Cross Media Content for Multi-channel Distribution, AXMEDIS 2007, J. Delgado, K. Ng, P. Nesi, P. Bellini (eds.), IEEE Computer Society Press, Los Alamitos, ISBN 0-7695-3030-3, 2007 pp. 21-25
  45. M. Frîncu, D. Petcu, *Remote Control for Graphic Applications*, SYNASC 2007, September 2007, Timisoara, IEEE Computer Press, ISBN 0-7695-3078-8, 2007, pp. 304-309.
  46. G. Macariu, D. Petcu, *Parallel Multiple Polynomial Quadratic Sieve on Multi-core Architectures*, SYNASC 2007, September 2007, Timisoara, IEEE Computer Press, ISBN 0-7695-3078-8, 2007, pp. 59-65.
  47. A. Cârstea, G. Macariu, M. Frîncu, D. Petcu, *Composing Web-based Mathematical Services*, SYNASC 2007, September 2007, Timisoara, IEEE Computer Press, ISBN 0-7695-3078-8, 2007, pp. 327-334.
  48. D. Petcu, *Teaching Grid Technologies to PhD Students, Part 1: Using Best Practices to Build the Course*, IEEE Distributed Systems Online, vol. 9, no. 3, 2008, art. no. 0803-o3002, <http://dsonline.computer.org/portal/pages/dsonline/2008/03/o3002edu.html>
  49. D. Petcu, *Teaching Grid Technologies to PhD Students, Part 2: Course Structure and Experiences*, IEEE Distributed Systems Online, vol. 9, no. 4, 2008, art. no. 0804-o4001, <http://dsonline.computer.org/portal/pages/dsonline/2008/04/o4001edu.html>
  50. G. Macariu, A. Carstea, M. Frîncu, D. Petcu, *Towards a Grid Oriented Architecture for Symbolic Computing*, Procs. ISPDC 2008, Krakow, ISBN: 978-0-7695-3472-5, 2008, IEEE Computer Press, pp. 259-266
  51. A. Cârstea, G. Macariu, M. Frîncu, D.Petcu, *Workflow Management for Symbolic Grid Services*, Procs. SYNASC 2008, ISBN: 978-0-7695-3523-4, IEEE Computer Press, 2009, pp. 373-379
  52. S. Panica, M. Neagul, D. Petcu, T. Stefanut, D. Gorgan, *Designing a Grid-based Training Platform for Earth Observation*, Procs. SYNASC 2008, ISBN: 978-0-7695-3523-4, IEEE Computer Press, 2009, pp. 394-397
  53. M. Neagul, S. Panica, D. Petcu, D. Zaharie, D. Gorgan, *Web and Grid Services for Training in Earth Observation*, IEEE International Workshop on Intelligent Data Acquisition and Advanced Computing Systems: Technology

## Papers in other international refereed journals

54. St. Maruster, V. Negru, D. Petcu, C. Şandru — *Intelligent front-end for solving differential and non-linear equations*, Journal of Mathematical Sciences 108 (6): 1139-1151, March 2002, Plenum Publishing Corporation, and POMI Journal, vol.258, 1999, 23-34, eds. N.N. Vasilev & A. M. Vershik, Petersburg.
55. D.Petcu, V.Negru, *Interactive system for stiff computations and distributed computing*, International Journal of Applied Science & Computations, vol. 6, no. 2, 1999.
56. D. Petcu, M. Petcu, *Concurrent Instance of a Rule- based System on a Condor Cluster*, Transactions on Computers, Issue 8, Vol. 4, ISSN 1109-2750, 995-1002, 2005
57. D.Petcu, M.Papryzcki, D.Dubu, *Design and implementation of a grid extension of Maple*, Scientific Programming, vol. 13, no. 2, 2005, ISSN 1058-9244, IOS Press, 137-149.
58. D.Petcu, *Speedup in solving differential equations on clusters of workstations*, Int. J. Computational Science and Engineering, Vol. 1, Nos. 2/3/4, 2005, Inderscience Enterprises Ltd., 134-141, ISSN (Print): 17427185, ISSN (Online): 17427193.
59. Dana Petcu, Daniel Vizman and Marcin Paprzycki, *Heuristic Load Balancing for CFD Codes Executed in Heterogeneous Computing Environments*, Scalable Computing: Practice and Experience, Volume 7, Number 2, ISSN 1895-1767, 2006, pp. 1523.
60. Dana Petcu, *A Parallel Rule-based System and Its Experimental Usage in Membrane Computing*, Scalable Computing: Practice and Experience, Volume 7, Number 3, ISSN 1895-1767, 2006, pp. 3949.
61. Dana Petcu, *Grid Services for Satellite Image Processing*, Transactions on Computers, Issue 2, Vol. 6, ISSN 1109-2750, 347-354, 2007
62. Dana Petcu, *Towards Automated Creation of Clients for Grid Services Wrapping CFD Codes*, Transactions on Computers, Issue 3, Vol. 6, ISSN 1109-2750, 573-580, 2007
63. Dana Petcu, Alexandru Cârstea, Georgiana Macariu, Marc Frîncu, *Service-oriented Symbolic Computing with SymGrid*, Scalable Computing: Practice and Experience, Volume 9, Number 2, ISSN 1895-1767, 2008, pp. 111124.
64. Dana Petcu, Silviu Panica, Andrei Eckstein, *Land-Cover Classification on Computational Grids*, International Journal of Computers, Issue 2, Vol. 1, 2007, 22-27 <http://www.naun.org/journals/computers/2007.htm>
65. Dana Petcu, Andrei Eckstein, Claudiu Giurgiu, *Adapting a Legacy Code for Ordinary Differential Equations to Novel Software and Hardware Architectures*, Transactions on Computers, Issue 5, vol. 7, May 2008, 463-472
66. Dana Petcu, Dorian Gorgan, Florin Pop, Dacian Tudor, Daniela Zaharie, *Satellite Image Processing on a Grid-based Platform*, International Scientific Journal of Computing, vol. 7, 2008, issue 2, 51-58

## Papers in Romanian refereed journals

67. D.Petcu, *One-step Methods for the Numerical Solution of Stiff Ordinary Differential Systems*, Revue D'Analyse Numérique et de Théorie de L'Approximation, Tome 23, no. 2, 1994, pp. 197-216
68. D.Petcu, *One-step Methods for the Numerical Solution of Stiff Ordinary Differential Systems*, Studia Universitatis Babeş-Bolyai, Mathematica, XXXVIII, 1, 1993, pp. 61-85
69. D.Petcu, *New Methods for Solving Stiff Differential Equation Systems*, Analele Universităţii din Timișoara, vol. XXVI, fasc. 3, Seria Ştiinţe Matematice, 1988, pp. 67-72
70. D.Petcu, *Search Method For One-Dimensional Minimization*, Analele Universităţii din Timișoara, vol. XXVIII, fasc. 2-3, Seria Ştiinţe Matematice, 1990, pp. 165-175
71. D.Petcu, *On the Error Estimate of Newton's Method for a Hölder Continuous F-derivate*, Analele Universităţii din Timișoara, vol. XXVIII, fasc. 2-3, Seria Ştiinţe Matematice, 1990, pp. 149-163
72. D.Petcu, *One-step Discretization of Stiff Differential Equations*, Analele Universităţii din Timișoara, Seria Ştiinţe Matematice, vol. XXX, fasc. 1, 1992, pp. 59-87
73. D.Petcu, *A Family of Multistep Linear Methods for Solving Stiff Ordinary Differential Equations*, Analele Universităţii din Timișoara, Seria Ştiinţe Matematice, vol. XXX, fasc. 2-3, 1992, pp. 257-282

74. D.Petcu, *Modified Adams-Moulton Schemes for Solving Stiff Differential Equations*, Analele Universității din Timișoara, Seria Matematică-Informatică, vol. XXXI, fasc. 1, 1993, pp. 101-112
75. D.Petcu, *Second Derivative Split Multistep Methods for Stiff Ordinary Differential Equations*, Analele Universității din Timișoara, Seria Matematică-Informatică, vol. XXXI, fasc. 2, 1993, pp. 229-254
76. D.Petcu, *Parallel Algorithms for the Numerical Integration of Stiff ODE Systems*, Analele Universității din Timișoara, Seria Matematică-Informatică, vol. XXXII, fasc. 2, 1994, 65-81
77. D.Petcu, *Implicit Runge-Kutta Methods on a Distributed Computational System*, Analele Universității din Timișoara, Seria Matematică-Informatică, vol. XXXIII, fasc. 2, 1995, 209-220
78. D.Petcu, L.Cucu, *Plotting Conics and Quadrics on a Distributed Computational System*, Analele Universității din Timișoara, Seria Matematică-Informatică, vol. XXXIII, fasc. 2, 1995, 221-231
79. D. Petcu, *Design of an User Interface for Mathematical Software*, Analele Universității din Timișoara, Seria Matematică-Informatică, vol. XXXVII, 1999, Symposium "50 years Jubilee of Mathematical Faculty" – section Computer Science and Applications, Timișoara, November 1998, 137-142.
80. D. Petcu, *Parallel Solving Environment for ODEs*, Analele Universității din Timișoara, Seria Matematică-Informatică, vol. XXXVII, 1999, 1st Int. Workshop: "Symbolic and Numeric Algorithms on Scientific Computing", SYNASC 99, 10-11 August 1999, Timișoara, 45-57.
81. D.Petcu, *A prototype system for cooperative CAS tasks*, Analele Universității din Timișoara, Seria Matematică-Informatică, vol. XXXVIII, 2000, 2nd Int. Workshop: "Symbolic and Numeric Algorithms on Scientific Computing", SYNASC 00, October 4-6, 2000, Timișoara, 125-140.
82. D.Petcu, D. Vizman, M. Popescu *Computational Fluid Dynamic on a Cluster*, Analele Universității din Timișoara, Seria Matematică-Informatică, vol. XXXIX, 2001, 3rd Int. Workshop: "Symbolic and Numeric Algorithms on Scientific Computing", SYNASC 01, October 2-5, 2001, Timișoara, 171-180.
83. D.Petcu, C.Popa, *On the Parallel Implementation of Kovarik's Approximate Orthogonalization Algorithm*, Analele Universității din Timișoara, Seria Matematică-Informatică, vol. XL, 2002, 4th Int. Workshop: "Symbolic and Numeric Algorithms on Scientific Computing", SYNASC 02, October 2002, Timișoara, 197-212.
84. D. Petcu, *On the speedup of parallel iterative numerical methods*, Analele Științifice ale Universității "Al. I. Cuza" din Iași, Tomul XI, 2002, p. 304-317
85. D. Petcu, *Building a computational grid: design issues*, Analele Științifice ale Universității "Alexandru Ioan Cuza" din Iași, Informatică, Tomul XV, 2004, 139-152.
86. C.Popa, D. Petcu, M. Petcu, *On Kovarik's Orthogonalization Algorithm without Matrix Inversion*, Scientific Bulletin of "Politehnica" University of Timișoara, Romania, Transactions on Automatic Control and Computer Science, Vol.49 (63), 2004, ISSN 1224-600X, pp. pp. 223-226
87. D.Petcu, *Software issues in solving initial value problems for ordinary differential equations*, Creative Mathematics, North University of Baia Mare, vol. 13, 2005, 97-110.
88. D. Petcu, D. Dubu, *An Extension of Maple for Grid and Cluster Computing*, Studies in Informatics and Control, Vol. 14, no. 1 (ISSN 1120-1766), 2005, pp. 31-36
89. G. Neagu, N. Andrei, V. Sima, Al. Stanciu, N. Tapus, V. Cristea, C. Nae, R. Potolea, D. Petcu, *The virtual organisation GridMOSI - a component of the national research infrastructure* (in Romanian), Revista Romana de Informatica si Automatica, vol. 16, nr. 4, 2006, pp. 113-120
90. D.Petcu, D.Dubu, *Mapping general purpose scientific computing environments onto a computational grid*, Analele Universității din Timișoara, Seria Matematică-Informatică, vol. XLII, 2004, 6th Int. Symposium: "Symbolic and Numeric Algorithms on Scientific Computing", SYNASC 04, September 2004, Timișoara, 197-212.
91. Dana Petcu, Cosmin Bonchiș, Cornel Izbașa *Symbolic Computations based on Grid Services*, Int. Journal of Computers, Communications and Control, Vol. 1, no. 1, 2006, 44-50.
92. Dana Petcu, Silviu Panica, *Document Conversions Using Grid-based e-Infrastructure for Digital Libraries*, Scientific Bulletin of "Politehnica" University of Timișoara, Romania, Transactions on Automatic Control and Computer Science, vol. 53 (67), no. 3, 2008, 139-144.
93. D. Petcu, A. Eckstein, A. Carstea, A. Craciun, *Mathematics on the net: state of the art and challenges*, Analele Universității din Timișoara, Seria Matematică-Informatică, vol. XLVII, 2, 2009, 95-116.

## Editorials

94. D. Petcu, *Challenges concerning symbolic computations on grids*, Scalable Computing: Practice and Experience (SCPE), Vol. 6, No. 3, 2005 (electronic version, ISSN 1895-1767, <http://www.scpe.org/?a=volume&v=23>)
95. D. Petcu, *Practical Aspects of Large-Scale Distributed Computing*, Scalable Computing: Practice and Experience (SCPE), Vol. 8, No. 3, 2007 (electronic version, ISSN 1097-2803, <http://www.scpe.org/?a=volume&v=31>)
96. D. Petcu, P. Stpiczynski, *Editorial to Special Section on Multi-Agent Systems and Large-Scale Distributed Systems*, International Transactions on Systems Science and Applications (ITSSA), Vol. 3, No. 4, 2008, p. 289, ISSN 1751-1461

## Papers in refereed international proceedings

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241. Dana Petcu, A Comprehensive Development Guide for the Globus Toolkit, IEEE Distributed Systems Online, vol. 9, no. 6, 2008, art. no. 0806-o6003.

## National research grants

### Project coordinator

- Parallel and distributed processing in graphics, image processing and computational geometry, 1998-1999.
- Distributed solving environments for mathematical problems, 2001-2002.
- High performance computing technologies based on grid and cluster architectures, 2002-2003
- CompGrid: high performance computing on wide area networks, 2004-2006
- P-systems: Models and implementations for simulating P systems, 2005-2006
- ProWest: Promotion of the research activities in computer science in West Romania, 2005-2007
- GRAI: Grid computing and Artificial Intelligence, 2006-2008
- InfraGrid: Service-oriented Grid Infrastructure (EC Structural Funds), 2009-2011

### Local team coordinator

- MedioGrid: Parallel and distributed image processing on grid architecture of geographical and environment data, 2005-2008.
- GridMOSI: Virtual organization based on Grid technology for high performance modelling, simulation, and optimization, 2005-2008.

- NanoSim: Transport phenomena and structure formation at the micro/nanometer scale in biomedicine and materials science, 2005-2008
- ForMol: Computational formalism inspired by Molecular Biology, 2005-2008

## Member

- Pilot center for teaching informatics, 1997-2002
- Intelligent environments for scientific computing, 1995-2002
- Center for advanced technologies in computer science, 2000-2001.
- Coupling symbolic and numeric calculus, 1993-1994.
- Computational geometry in movement planning, 1997.
- Intelligent interfaces for nonlinear problems, 1998-2000.
- Distributed environments for solving scientific problems, 2001-2003.
- Distributed models for solving complex problems, 2001-2002.
- Computing methods for seismic actions on steel structures, 1995.
- Biographic methods for the study of nonlinear and unelastic behaviour of steel structures under seismic actions, 1996
- Computer program for the strength to the seismic loads, 1997.
- MindSoft: Multi-agent models and soft computing in knowledge engineering, 2005-2007.
- SIAPOM: Integrated System for Analysis and Multidisciplinary Design Optimisation, 2006-2008
- SINRED: National management system for digital resources in science and technologies based on Grid architectures, Oct 2005- Sept 2008
- SIPADOC: Integrated system for the digitization and capitalization of the document's cultural patrimony, 2007-2010
- PEGAF: Grid-based experimental platform for developing applications based on workflows and with dynamic allocation of resources, 2007-2010
- SCIPA: Semantic software services for collaboration and inter-operability for adaptive business processes, 2008-2011
- ASISTSYS: Integrated System of Assistance for Patients with Severe Neuromotor Affections, 2008-2011

## International research grants

### Project coordinator

- SPRERS: Strengthening the Participation of Romania at European R&D in Software Services, 2010-2011, European Commission FP7-ICT, [www.sprers.eu](http://www.sprers.eu)
- GISHEO: On-demand Grid services for training and high education in Earth Observation, 2008-2010, European Space Agency – PECS Programme, <http://gisheo.info.uvt.ro>

### Local team coordinator

- FP7-2007-ICT DEHEMS 2008-2010, leading the Romanian research team (IeAT), [www.dehems.eu](http://www.dehems.eu)
- FP6-2005-Infrastructure-5 SCIENCE 2006-2010, leading the Romanian research team (IeAT)
- FP7 SEE-GRID-SCI, 2008-2010
- Entwicklung paralleler Algorithmen für die Lösung steifer Differentialgleichungen, June 1996, University Ruprecht-Karls Heidelberg
- Automated verification of software and hardware components, Institute e-Austria Timișoara & RISC Linz, 2002-2005
- COBURDIS: Collaboration Romania-Ukraine in Distributed Computing, 2006-2007
- SciCom: Scientific Computing Platform. Collaboration Romania-Austria, 2009-2010
- AEMTIA: Automated Exploration of Mathematical Theories for Industrial Applications, Institute e-Austria Timișoara & RISC Linz, 2008-2010

## Member

- FP6-2005-IST-4-027178 VISP 2005-2008, Virtual Internet Service Provider, <http://www.visp-project.org>, member
- FP6 SEE-GRID-2, member 2007-2008
- FP6 EGEE-2, member 2007-2008
- FP7 EGEE-3, 2008-2010
- FP6-ERG5 SystemaThEx 2005-2007, leading the host institution (IeAT)

## Membership

- ACM Member no. 35696XX
- IEEE Society Affiliate Number: 870444XX
- IT History Society

## Chief Editor

- Scalable Computing: Practice and Experience (SCPE, from 2009)

## Editorial board

- Multiagent and Grid Systems (MAGS, from 2006)
- Scalable Computing: Practice and Experience (SCPE, from 2005),
- Journal on Computer Science and Information Systems (IJCSIS, from 2006),
- International Review on Computers and Software (IRECOS, from 2006),
- International Journal of Computer Science and Applications (IJCSA, from 2005)
- International Journal of Computers, Communications & Control (IJCCC, from 2006)
- International Scientific Journal of Computing (from 2008)

## Journal reviewer

- Computing Reviews (CR, from 2005),
- Mathematical Reviews (MR, from 2006),
- Zentralblatt für Mathematik (ZBL, from 1993)
- Parallel Computing, Elsevier (PARCO, from 2005)
- Future Generation Computer Systems, Elsevier, (FGCS, from 2005),
- Journal of Systemics, Cybernetics and Informatics (JSCI, from 2005),
- Engineering Applications of Computational Fluid Mechanics, (JEACFM, from 2007)
- International Journal of Computer Mathematics, Taylor & Francis (from 2006)
- Bulletin of the Belgian Mathematical Society (from 2007)
- International Journal of Computational Science and Engineering, InderScience Publishers (from 2007)
- ISAST Transactions on Scientific Computing (from 2007)
- Annals of West University of Timișoara, Mathematical-Computer Science Series (from 1998)
- International Journal of Grid and Utility Computing (from 2007)
- Bulletin of the Technical University of Iasi (from 2008)
- Information Sciences, Elsevier (in 2009)

## Member in Conference Program Committees

SYNASC'01 (RO), SYNASC'02 (RO),  
ISPDC'03 (SLO), SCI'03 (USA), PPAM'03 (POL), SYNASC'03 (RO), CNIV'03 (RO),  
ADVIS'04 (TUR), ISPDC'04 (IRL), SCI'04 (USA), CCCT'04 (USA), CONTI'04 (RO), ICC'04 (RO), SYNASC'04  
(RO), CNIV'04 (RO),  
IADIS'05 (SPA), ICTIS'05 (MOR), WAGSSDA'05 (NOR), CCCT'05 (USA), CIC'05 (USA), ISPDC'05 (F), ESM'05  
(LAT), ABC'05 (USA), PPAM'05 (POL), LASCOG'05 (POL) SYNASC'05 (RO), PARNUM'05 (SLO), ICCOMP'05  
(GR), HPC&S'05 (LAT), NCUS'05 (JAP), SOFA'05 (HU), CNIV'05 (RO),  
ICPADS'06 (USA), ICC'06 (RO), ICEIS'06 (CY), ICCGI'06 (RO), HETEROPAR'06 (SP), CIC'06 (USA), ADVIS'06  
(TK), HPCS'06 (DE), WSGA'06 (USA), ICCP'06 (RO), ISPDC'06 (RO), ICVL'06 (RO), NCUS'06 (KO), HiPC'06  
(IND), KICSS'06 (THAI), CONTI'06 (RO), CCCT'06 (USA), LASCOG'06 (POL), FIMCSIT'06 (POL),  
ANSS'07 (USA), ICEIS'07 (SP), ICCGI'07 (FR), PPAM'07 (POL), PACT'07 (RU), SMO'07 (EG), ICTIS'07 (MO),  
HPCS'07 (CZ), HeteroPar'07 (USA), IDAACS'07 (DE), GADA'07 (SP), SACCS'07 (RO), IDC'07 (RO), CIC'07  
(USA), SCG'07 (CAN), CANA'07 (POL), EUC'07 (TW), ICPADS'07 (TW),  
ANSS'08 (CAN), ICC'08 (RO), CIC'08 (USA), SIWN'08 (UK), ICEIS'08 (SP), CSE'08 (BR), IDC'08 (IT), Het-  
eroPar'08 (JAP), ISPDC'08 (POL), HPCS'08 (CYP), GADA'08 (MEX), CANA'08 (POL), CODS'08 (UK), CONTI'08  
(RO), ICDCIT'08 (IN), ICCP'08 (RO), KGCM'08 (USA), NCUS'08 (CHI), HyperGrid'08 (RO), ICVL'08 (RO),  
NCUS'08 (CN)  
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(RO), HiperGrid'09 (RO), CSCS17 (RO), HSSS'09 (GR), BCI'09 (GR), HPCS'09 (DE), GADA'09 (PO), KEPT'09  
(RO), ICE-B (IT), SACI'09 (RO), CSE'09 (CA), DAIT'09 (UK), ICCP'09 (RO), AG'09 (USA)  
GPC'10 (TW), ADiS'10 (PL), ICAART'10 (SP), HCW'10 (USA), ICCGI'10 (SP), SWISM'10 (PL), IDC'10 (MOR),  
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2010 (JP), PARCA'10 (RU), ISPDC'10 (TR), ICC'10 (RO), SOCASE'20 (CAN), CANA'10 (POL), CIT-10 (UK),  
ECSA'10 -Doct.Symposium (DK), eGov Summit (BG), EDGeS (NL), ICC-Conti'10 (RO)

## Conference organizer or local chair

SYNASC 2002-2009 (RO),  
LaSCoG 2005-2010 (POL),  
CaVIS 2003-2004 (RO),  
SGC 2004 (RO),  
VISSAS 2005 (RO) - NATO Advanced Workshop,  
ISPDC 2006 (RO)  
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