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Curriculum Vitae of Philippas Tsigas

Date of Birth: December 15, 1967.

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Distributed Computing And Systems Group
Department of Computer Science and Engineering
Chalmers University of Technology
S-412 96 Göteborg, Sweden

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WWW: `http://www.cse.chalmers.se/~tsigas`
Phone: +46 31 7725409
Fax: +46 31 165655

Place of birth: Kozani, Greece
Citizenship: Greek, Swedish
Sex: Male

Marital status: married
Children: 2 (born 1998 and 2004)

Current Academic Position:

Professor, Department of Computer Science and Engineering, Chalmers University of Technology and Göteborg University, Sweden.

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Education

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- 1994: Doctoral degree (Ph.D.) from the Department of Computer Engineering and Informatics, University of Patras, Greece.

- 1990: Diploma from the Department of Mathematics, Patras University, Greece.

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Honors

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- Best paper award: "Fast and Lock-Free Concurrent Priority Queues for Multi-Thread Systems" 17th IEEE/ACM International Parallel And Distributed Symposium, 2003.

- Papers invited to special issues of journals: 1) "Animated Visualization of Causal Relations Through Growing 2D Geometry" invited to special issue of the *Information Visualization* devoted to selected papers from the 2003 ACM Symposium on Software Visualization, 2003. 2) "Reactive Multi-word Synchronization for Multiprocessors" invited to special issue of *The Journal of Instruction-Level Parallelism* devoted to selected papers from the 12th IEEE/ACM International Conference on Parallel Architectures and Compilation Techniques, 2003. 3) "Allocating memory in a lock-free manner" invited to special issue of the *Algorithmica* devoted to selected papers from the 13th Annual European Symposium on Algorithms, 2005. 4) "DataMeadow: A Visual Canvas for Analysis of Large-Scale Multivariate Data" invited to special issue of the *Information Visualization* devoted to selected papers from the 2007 IEEE Symposium on Visual Analytics Science and Technology 2007 (VAST 2007). 5) "Strategies for Repeated Games with Subsystem Takeovers Implementable by Deterministic and Self-Stabilizing Automata" invited to special issue of the *International Journal of Autonomous and Adaptive Communication* devoted to selected papers from the 2008 International Conference on Autonomic Computing and Communication Systems.

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Grants and Projects Funded

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- 2010-2014 (2.5M Euros total budget, 344K Euros for Chalmers) Funded under the Seventh Framework Programme of the European Commission. The project title is "A European Network of Excellence in Managing Threats and Vulnerabilities in the Future Internet: Europe for the World" (SysSec). SysSec is a Network of excellence project under the ICT-2009.5 theme.

- 2010-2013 (3.44M Euros total budget, 332K Euros for Chalmers) Funded under the Seventh Framework Programme of the European Commission. The project title is "Performance Portability and Programmability for Heterogeneous Many-core Architectures" (PEPPHER). PEPPHER is a Collaborative Project under the ICT-2009.3.6 Computing Systems theme.

- 2008-2010 (2.1M SEK) by the Swedish Research Council (VR) for a research project on "Lock/wait-free Programming: Composable and Efficient Inter-Process Synchronization for Multicores".

- 2007-2010 (4.4M SEK approx for the Distributed Computing and Systems group part) by the Swedish Emergency Management Agency (KBM) on "Secure and robust communications and information solutions for Emergency Management".

- 2006-2009 (90K Euros) by Microsoft Research (Microsoft Research European PhD Scholarship Programme).

- 2006 (2.5M SEK total budget shared by the Distributed Computing and Systems group and the Computer Security group at our department) by the Swedish Emergency Management Agency for research activities and the preparation of a big scale proposal on "Robust and Fault-Tolerant Secure Systems". Together with Marina Papatriantafilou and Erland Jonsson.

- 2005-2007 (1779K SEK) by the Swedish Research Council (VR) for a research project on "Practical and Efficient Non-blocking Shared Data Objects for Parallel Applications".

- 2003-2008 (500K Euros total budget for all sites). Grant supported by the European Science Foundation (ESF). The grant supports the European network of excellence MiNEMA: Middleware for Network Eccentric and Mobile Applications.

- 2003 Research grant (75K SEK approx) by ARTES (A network for Real-time research and graduate Education in Sweden). ARTES is a national Swedish strategic research initiative in Real-Time Systems supported by the Swedish Foundation for Strategic Research (SSF). Project title: "Applications of wait/lock-free protocols to real-time systems".

- (2002-2004) Research grant (1755K SEK) by the Swedish Research Council (VR) for a the project on "Cooperative Scheduling and Synchronization in Multiprocessor Real-Time Systems", together with Jan Johnsson and Marina Papatriantafilou.

- (2002-2003) Research grant (1170K SEK) by the Swedish Research Council (VR) for the project on "Gossip based Protocols for networked virtual environments", together with Marina Papatriantafilou.

- (2001-2002) Research grant (1.5M SEK approx) by ARTES (A network for Real-time research and graduate Education in Sweden). ARTES is a national Swedish strategic research initiative in Real-Time Systems supported by the Swedish Foundation for Strategic Research (SSF). This project grant is together with Marina Papatriantafilou. Project title: "Applications of wait/lock-free protocols to real-time systems".

- (2000-2001) Research grant (400K SEK; joint grant for 4 faculty members) for the promotion of the collaboration between the Computer Science and Computer Engineering Departments at Chalmers University of Technology; Project title: "A Holistic Approach for Resource Allocation in Wireless and Mobile Communication Systems". This project grant is together with Jan Jonsson, Marina Papatriantafilou and Lars Rasmussen.

- (1998-2000) Research grant (4M SEK) by ARTES (A network for Real-time research and graduate Education in Sweden). ARTES is a national Swedish strategic research initiative in Real-Time Systems supported by the Swedish Foundation for Strategic Research (SSF). Project title: "Applications of wait/lock-free protocols to real-time systems". This project grant is together with Hans Hansson and Marina Papatriantafilou.

- (1998-2000) 3-year research grant (1066K SEK) by the Swedish Research Council for Engineering Sciences (TFR) for a research project on "Non-Blocking Interprocess Communication/Coordination and Applications", together with Marina Papatriantafilou.
- (1997-2000) (2000K SEK), "Applied Computer Science" by the Chalmers University initiative to support more applied research at Chalmers.

Professional Experience

- (Mar. 2009-on) Professor at the Department of Computing Science and Engineering, Chalmers University of Technology and Göteborg University, Sweden.
- (Nov. 1997-Mar. 2009) Associate Professor at the Department of Computing Science, Chalmers University of Technology and Göteborg University, Sweden.
- (Nov. 2004-Dec. 2007) Graduate Studies Director at the Department of Computing Science, Chalmers University of Technology and Göteborg University, Sweden.
- (Jan. 2008-on) Member of the Department Council, Department of Computing Science, Chalmers University of Technology and Göteborg University, Sweden.
- (Oct. 1997-Mar. 1998) Part-time visiting researcher at the Department of Computer Systems, Uppsala University, Sweden.
- (Jan. 1995-Sep. 1997) Postdoctoral fellow of Max-Planck-Institut für Informatik, Saarbrücken, Germany.
- (Aug. 1993-Jul. 1994) Research fellow at the Center of Mathematics and Computer Science (CWI), Amsterdam, The Netherlands, as research member of the Dutch Science Foundation (NWO) program ALADDIN (Algorithmic Aspects of Parallel and Distributed Computing) under contract # NF 62-376.
- (1991-1995) Research member of the European Community ESPRIT II BRA programs: ALCOM (ALgorithms and COMplexity) under contract # 3075 and ALCOM II under contract # 7141.
- (Apr. 1990-Aug. 1993) Research Scholar, Computer Technology Institute (CTI) Patras, Greece.
- (Apr. 1990-Nov. 1994) PhD student, Department of Computer Engineering and Informatics, University of Patras, Greece.

Teaching Experience

- **Computer Science and Engineering Dept., Chalmers University of Technology**
  - (2008) Developed and taught a *graduate course* on "Research Topics in Security in the context of Crisis Management and Societal Security".
  - (2008) Project course on "Visualization of search results on YouTube-like information servers" *(undergraduate)*.
  - (2008) Project course on "Game Programming in CUDA" *(undergraduate)*
  - (2007) Taught the "System Programming and C" course *(undergraduate)*.
  - (1998–on) Developed and taught the "Advanced Distributed System" course *(undergraduate)*.
  - (2004) Developed and taught a *graduate course* on "Concurrent Data Structures".

- (2001–2008) Taught and coordinated a seminar course on "Data Communication and Distributed Systems" *(undergraduate)*.

- (2000) Developed and taught a *graduate course* with title: "Some Research issues in distributed systems".

- (1998) Developed and taught a *graduate course* on "What can be computed locally in distributed systems?".

- (1998–on) Supervised several master's theses every year, some of them in collaboration with industrial partners.

- (2004-2005) Developed and supervised a year-long project-course on "Programs for Computer Mathematics for very young children" *(undergraduate)*.

- (2000–2001) Supervised a year-long project-course on "Personalized Electronic News Systems" *(undergraduate)*.

- (1999–2000) Developed and supervised a year-long project course on "Personalized Electronic News Systems" *(undergraduate)*.

- (1998-1999) Developed and supervised a year-long project course on "Interprocess Communication/Coordination in Distributed or Parallel Systems" *(undergraduate)*.

- (1998) Developed and taught a *graduate course* on "Fault-tolerant Distributed Computing".

- (1997) Taught part of the undergraduate course "Distributed Systems" *(undergraduate)*.

- Co-developed LYDIAN and introduced it into courses on Distributed Systems and Computing. LYDIAN is an Extensible Educational Simulations and Visualization Environment for Teaching Distributed Algorithms and Protocols.
  URL: http://www.cse.chalmers.se/research/group/lydian/

- **Computer Systems Department, Uppsala University**

  - (Spring 1998) Developed and taught a *graduate course* on "Distributed Algorithms".

- **Max-Planck Institute for Computer Science and Computer Science Department, Saarland University**

  - (Spring 1997) Developed and taught a graduate mini course on "Topics in Distributed Systems".

  - (Spring 1997) Developed and taught a project-course on "Implementation, Visualization and Performance Evaluation of Distributed Protocols" *(undergraduate)*.

  - (Fall 1996) Developed and taught a course on "Distributed Algorithms" *(undergraduate)*.

  - (Spring 1995) Developed and taught a *graduate mini course* on "Fault Tolerant Distributed Computing".

- **Department of Informatics and Computer Engineering, University of Patras**

  - (1990-1993) Teaching assistant of the course on "Advanced Computer Systems" *(undergraduate)*.

  - (1990-1993) Teaching assistant of the course on "Network Algorithms" *(undergraduate)*.

  - (1990-1993) Teaching assistant of the course on "Computer Architectures" *(undergraduate)*.

  - (1990-1991) Teaching in the Seminar Course: "Medical Informatics and Operating Systems" *(postgraduate)*.

- **Greek Mathematical Society, Patras Department**
  - (1988-1990) Training (teaching) the local Olympic team.

Professional Activities

- **Program Committee Membership**
  - (2012) Member, Program Committee, 32nd IEEE International Conference on Distributed Computing Systems (ICDCS-32).
  - (2012) Member, Program Committee, the 13th International Conference on Distributed Computing and Networking (ICDCN 2012).
  - (2011) **Program Chair, Security Track**, 13th International Symposium on Stabilization, Safety, and Security of Distributed Systems (SSS 2011).
  - (2010) **Program Co-Chair, Self-Stabilization Track**, 12th International Symposium on Stabilization, Safety, and Security of Distributed Systems (SSS 2010).
  - (2010) **Program Chair, Algorithms and Theory Track**, 30th IEEE International Conference on Distributed Computing Systems (ICDCS-30).
  - (2010) 11th International Conference on Distributed Computing and Networking (ICDCN '10).
  - (2009) Member, Program Committee, the 15th International Conference On High Performance Computing (HIPC '09).
  - (2009) Member, Program Committee, the 29th Conference on Distributed Computing Systems (ICDCS '09).
  - (2009) Member, Program Committee, 23rd IEEE International Parallel and Distributed Processing Symposium (IPDPS '09).
  - (2008) Member, Program Committee, 15th International Conference On High Performance Computing (HIPC '08).
  - (2008) Member, Program Committee, 22nd International Symposium on Distributed Computing (DISC 2008).
  - (2008) Member, Program Committee, 2008 ACM SIGPLAN Symposium on Principles and Practice of Parallel Programming (PPoPP '08).
  - (2008) Member, Program Committee, 22nd IEEE International Conference on Advanced Information Networking and Applications (AINA '08).
  - (2007) **Program Co-Chair**, 11th International Symposium on Principles of Distributed Computing (OPODIS '07).
  - (2007) Member, Program Committee, 14th International Conference On High Performance Computing (HIPC '07).
  - (2007) **Program Vice Chair, distributed systems and algorithms track**, 13th European Conference on Parallel Computing (EUROPAR '07).
  - (2007) Member, Program Committee, 27th IEEE International Conference on Distributed Computing Systems (ICDCS-27).
  - (2007) Member, Program Committee, 11th Panhellenic Conference on Informatics (PCI 2007).
  - (2007) Member, Program Committee, 2007 Swedish Conference on Real-Time Systems (Real Time in Sweden, RTiS 2007).

- (2007) Member, Program Committee, 25th IASTED International Conference on Parallel and Distributed Computing and Networks (PDCN '07).

- (2006) Member, Program Committee, International Workshop on Algorithmic Aspects of Wireless Sensor Networks (ALGOSENSORS 2006).

- (2006) Member, Program Committee, 8th International Conference on Distributed Computing and Networking (ICDCN 2006).

- (2006) Member, Program Committee, 8th International Symposium on Stabilization, Safety, and Security of Distributed Systems (SSS 2006).

- (2006) **Program Chair, Algorithms and Theory track**, 26th IEEE International Conference on Distributed Computing Systems (ICDCS-26).

- (2005) The 8th International Symposium on Parallel Architectures, Algorithms, and Networks (I-SPAN '05).

- (2005) Member, Program Committee, 23rd IASTED International Conference on Parallel and Distributed Computing and Networks (PDCN '05).

- (2004) Member, Program Committee, 25th IEEE Real-time System Symposium (RTSS '04).

- (2004) Member, Program Committee, 18th International Symposium on Distributed Computing (DISC '04).

- (2004) Member, Program Committee, 22nd IASTED International Conference on Parallel and Distributed Computing and Networks (PDCN '04).

- (2004) Member, Program Committee, 24th IEEE International Conference on Distributed Computing Systems (ICDCS '04).

- (2003) Member, Program Committee, 7th International Symposium on Principles of Distributed Computing (OPODIS '03).

- (2002) Member, Program Committee, 6th International Symposium on Principles of Distributed Computing (OPODIS '02).

- (2001) Member, Program Committee, 15th International Symposium on DIStributed Computing (DISC '01).

- (2000) **Program Vice Chair, distributed systems and algorithms track**, 6th European Conference on Parallel Computing (EUROPAR '00).

- (2000) Member, Program Committee, 4th International Symposium on Principles of Distributed Computing (OPODIS '00).

- (1999) Member, Program Committee, 26th Annual Conference on Current Trends in Theory and Practice of Informatics (SOFSEM '99).

- (1998) Member, Program Committee, 2nd International Symposium on Principles of Distributed Computing (OPODIS '98).

- (1997) **Program Co-Chai**r, 11th International Symposium on DIStributed Computing (WDAG '97).

- (1997) Member, Program Committee, 1st International Symposium on Principles of Distributed Computing (OPODIS '97).

- **Steering-Advisory Committee Membership**

  - (2010-on) PEPPHER, a Seventh Framework Programme of the European Commission on Performance Portability and Programmability for Heterogeneous Many-core Architectures, Steering Committee member.

  - (2010-on) SysSec, a European Network of Excellence in Managing Threats and Vulnerabilities in the Future Internet, Steering Committee member.

- (2003–2009) MiNEMA, a European Science Foundation (ESF) Scientific Programme (Middleware for Network Eccentric and Mobile Applications, European Network) Steering Committee member.
  - (1998–on) OPODIS (International Symposium on Principles of Distributed Computing) Steering Committee member.
  - (2004–2005) Chairman of the OPODIS (International Symposium on Principles of Distributed Computing) Steering Committee.
  - (2000–on) EUROPAR (European Conference on Parallel Computing) Advisory Committe member.

- **Evaluation Panel Committee Member**

  - (2009-2011) Research Council for Science, Engineering and Technology (IRCSET).
  - (2009) Research Council of Norway (Forskingsrdet).

- **Refereeing and Reviewing**

  - *Research Funding Agencies Reviewer:* (2003) The Research Council of Norway, (2005) Microsoft Research, (2005) Swiss National Science Foundation (SNF), (2006-on) European Science Foundation (ESF), (2007-2012) Natural Sciences and Engineering Research Council of Canada (NSERC).
  - *Journals:* Information Processing Letters, Information and Computation, Distributed Computing, Journal of Parallel and Distributed Computing, SIAM Journal of Computing, Algorithmica, Journal of Algorithms, Journal of Theory of Computer Science, Theoretical Computer Science, IEEEs Transactions on Parallel and Distributed Systems, Journal of Supercomputing, Science of Computer Programming, International Journal of Information Security, Science of Computer Programming.
  - *Conferences:* WDAG, ESA, FST&TCS, SIROCCO, IEEE IPPS, IEEE ICDCS, DISC, IEEE FOCS, ACM PODC, STACS, Euromicro Conference on Real-Time Systems, MFCS, CIAC, IEEE INFOCOM, IEEE RTSS, ACM ITiCSE, ACM LCTES, OPODIS, IEEE RTCSA, ACM AC, ALGOSENSORS, ICDCN, IEEE IPDPS, SSS, ACM PPoPP.

- **Conferences, Schools, Workshops Organized**

  - the 2009 Winter School in Middleware for Network Eccentric and Mobile Applications is organized by the European Science Foundation (ESF) MiNEMA Scientific Programme.
  - the Barcelona Multicore Workshop (BMW08), 2008, Barcelona, Spain.
  - 11th Scandinavian Workshop on Algorithm Theory (SWAT '08), 2008, Gothenburg, Sweden.
  - 11th International Symposium on DIStributed Computing (WDAG '97), 1997.
  - Co-Organizer of an ALCOM IT (European Union ESPRIT LTR Project 20244) School with theme "Distributed Algorithms and Systems", Saarbrüecken, September 1997.

Invited Talks and Reports

- (2011) DIMACS Workshop on Parallelism: A 2020 Vision, March 2011.

- (2010) Dagstuhl Seminar 10261 "Algorithm Engineering", June 2010.

- (2008) "Multicore Days 2008", SICS, Kista, Sweden, September 2008.

- (2008) Dagstuhl Seminar 08371 "Fault-Tolerant Distributed Algorithms on VLSI Chips", September 2008.

- (2008) Workshop on the Verification of Concurrent Algorithms, Microsoft Research Cambridge, UK.
- (2007) "The Multicore Day 2007", SICS, Stockholm, August 2007.
- (2006) Dagstuhl Seminar 06371 "From Security to Dependability", September 2006.
- (2003) First IEEE Nordic Education Society Chapter workshop, May 2003.
- (2002) Luminy Seminar on Self-Stabilization, France, October 2002.
- (2000) 2nd Schloss-Daghstuhl international meeting of experts on Self-Stabilization, Germany, October 2000.
- (1998) 1st Schloss-Daghstuhl international meeting of experts on Self-Stabilization, Germany, August 1998.
- (1997) Keynote talk, International Symposium on Principles of Distributed Computing, December 1997, together with M. Papatriantafilou.
- Invited lectures at several universities and institutions.

Research Systems

- Dynamic Load Balancing on Graphics Processors.
  URL: `http://www.cse.chalmers.se/research/group/dcs/gpuloadbal.html`

- ContikiSec: a secure network layer for wireless sensor networks, designed for the Contiki Operating System that have been designed at our research group.
  URL: `http://www.cse.chalmers.se/research/group/dcs/masters/contikisec/`

- GPU-Quicksort: A GPU sorting library, based on the GPU-Quicksort algorithm that have been designed at our research group.
  URL: `http://www.cse.chalmers.se/research/group/dcs/gpuqsortdcs.html`.

- LYDIAN: An Extensible Educational Simulations and Visualization Environment for Distributed Algorithms and Protocols.
  Status: 1st public release September 2001, used in courses by a number of Universities, including the University of Paris 8, France; the University of Birmingham, England; the Sabanci University, Turkey; the Chalmers University Of Technology, Sweden. From April 2005 LYDIAN is part of Sourceforge.net.
  URL: `http://www.cse.chalmers.se/research/group/lydian/`

- Noble: A Nonblocking Library of Shared Data Objects for Shared Memory Multiprocessor Systems. URL: `http://www.noble-library.org/`. NOBLE Professional Edition is distributed commercially by Parallel Scalable Solutions AB (`http://www.pss-ab.com/`).

- Lockless-MiniSPLASH2 and Lockless-Spark98: i) Lockless-MiniSPLASH2 is a lock-free version of a the lock-based applications of the SPLASH-2 benchmark suite of multiprocessor applications. ii) Lockless-Spark98 is a version of the shared memory Spark98 kernels where the locks used by the original Spark98 Kernels were replaced by non blocking synchronisation constructs.
  URL: `http://www.cse.chalmers.se/research/group/dcs/miniSplash2.html`
  and `http://www.cse.chalmers.se/research/group/dcs/LocklessSpark98.html`.

- NBmalloc. NBmalloc is a lock-free memory allocator.
  URL: `http://www.cse.chalmers.se/research/group/dcs/nbmalloc.html`
  NBmalloc is a lock-free memory allocator aiming to be an efficient high performance replacement for the standard "libc" memory allocator in concurrent applications. NBmalloc is a lock-free memory allocator, aiming to enhance the parallelism in concurrent applications using dynamic memory.

- CauzalViz: A general system for the visualization of causal relations.

- CiteWiz: Visualization of Citation Networks relations.

- DataMeadow: A Visual Canvas for Analysis of Large-Scale Multivariate Data
DataMeadow is an application platform for visual analytics supporting the rich interaction model and analysis pipeline necessary to promote reasoning about and studying multivariate, large-scale data.

PhDs and Lics Awarded with Ph. Tsigas as Thesis Advisor
(A Lic is awarded half-way between M.Sc. and PhD)

- Yi Zhang, PhD June 2003, Thesis title: Non-blocking Synchronization: Algorithms and Performance Evaluation. First employment: Research Fellow at The University of Birmingham, England. Currently at Volvo Information Technology after being at SAP research, Belfast, UK for some years.

- Håkan Sundel, PhD November 2004, Thesis title: Efficient and Practical Non-Blocking Data Structures. First employment: Co-founder of the Parallel Scalable Solutions AB. Currently he is also working part-time as an associate professor at the University College of Borås, Sweden.

- Boris Koldehofe, PhD March 2005, Thesis title: Distributed Algorithms and Educational Simulation-Visualisation in Collaborative Environments. First employment: PostDoc at The Swiss Federal Institute of Technology, Lausanne, Switzerland. Currently at the University of Stuttgard, Germany.

- Phuong Ha, PhD June 2006, Thesis title: Reactive Concurrent Data Structures and Algorithms for Synchronization. First employment: PostDoc at the University of Tromso, Norway. Currently Associate Professor at the University of Tromso, Norway.

- Niklas Elmqvist, PhD December 2006, Thesis title: 3D Occlusion Management and Causality Visualization. First employment: PostDoc at INRIA Futurs, LRI, University Paris Sud, France. Currently Assistant Professor at the School of Electrical and Computer Engineering at Purdue University, West Lafayette, USA.

- Daniel Cederman, PhD March 2011, Thesis title: Concurrent Algorithms and Data Structures for Many-Core Processors. First employment: PostDoc at Chalmers University of Technology.

- Yi Zhang, Lic April 2001, Thesis title: Non-blocking Shared Data Structures for Shared Memory Multiprocessor Systems.

- Håkan Sundel, Lic March 2002, Thesis title: Applications of Non-Blocking Data Structures to Real-Time Systems.

- Boris Koldehofe, Lic April 2003, Thesis title: Collaborative Environments: Aspects in Communication and Educational Visualisation.

- Phuong Hoai Ha, Lic October 2004, Thesis title: Reactive Shared Objects for Interprocess Synchronization.

- Niklas Elmqvist, Lic November 2004, Thesis title: Visualization of Causal Relations.

- Andreas Larsson, Lic March 2011, Thesis title: Towards Secure and Self-stabilizing Sensor Network Services for Civil Security.

Theses

- PHILIPPAS TSIGAS. Algorithmic Aspects of Wait/free Multiprocessor Coordination/Communication. *PhD Thesis*, Department of Computer Engineering and Informatics, Patras University, 1994.

- PHILIPPAS TSIGAS. Algorithms for Asynchronous Interprocess Communication. *Diploma Thesis*, Department of Mathematics, Patras University, 1989.

Books

- EDUARDO TOVAR, PHILIPPAS TSIGAS, HACENE FOUCHAL, EDITORS. Principles of Distributed Systems. *Lecture Notes in Computer Science Vol. 4878*, Springer-Verlag, 2007.

- MARIOS MAVRONICOLAS AND PHILIPPAS TSIGAS, EDITORS. Distributed Algorithms. *Lecture Notes in Computer Science Vol. 1320*, Springer-Verlag, 1997.

Books Chapters

- DANIEL CEDERMAN, PHILIPPAS TSIGAS Dynamic Load-Balancing Using Work-Stealing. In GPU Computing Gems Jade Edition. Wen-Mei Hwu (Editor-in-Chief), Morgan Kaufmann, ISBN: 978-0-12-385963-1. Expected Release Date: Aug 2011.

- DANIEL CEDERMAN, ANDERS GIDENSTAM, PHUONG HA, HÅKAN SUNDELL, MARINA PAPATRIANTAFILOU AND PHILIPPAS TSIGAS Lock-free Concurrent Data Structures. In Programming Multi-core and Many-core Computing Systems, Wiley Series on "Parallel and Distributed Computing" by John Wiley & Sons, Inc., Sabri Pllana et al. (editors). Planned to be published in 2011.

- HÅKAN SUNDELL, PHILIPPAS TSIGAS, YI ZHANG Applications of wait/lock-free protocols to real-time systems. In ARTES - A network for Real-Time research and graduate Education in Sweden 1997-2006. H. Hansson (editor), Uppsala University, ISBN: 91-506-1859-8, 2006.

Invited Publications

- "LYDIAN: An Educational Animation Environment for Distributed Algorithms and Protocols" with Marina Papatriantafilou. *8th International Colloquium on Numerical Analysis and Computer Science with Applications*, page 142 in the Proceedings of the Conference, August 1999.

- "On Distributed Resource Handling: Dining, Drinking and Mobile Philosophers", with Marina Papatriantafilou. *International Conference on Principles of Distributed Systems – OPODIS '97*, invited keynote/tutorial paper, pages 293-308 in the Proceedings of the Conference, December 1997.

Publications in Refereed Scientific Journals

1. JAAP-HENK HOEPMAN, ANDREAS LARSSON, ELAD MICHAEL SCHILLER, PHILIPPAS TSIGAS "Secure and Self-Stabilizing Clock Synchronization in Sensor Networks". In *Theoretical Computer Science* (**Special issue on Stabilization, Safety and,Security**), **Vol. , No.** , pages: - , Elsevier (Article in Press).

2. SHLOMI DOLEV, ELAD M. SCHILLER, PAUL G. SPIRAKIS, PHILIPPAS TSIGAS "Robust and scalable middleware for selfish-computer systems". In *Computer Science Review*, **Vol. 5, No. 1**, pages: 69 - 84, Elsevier 2011.

3. Shlomi Dolev, Elad M. Schiller, Paul G. Spirakis, Philippas Tsigas "Strategies for Repeated Games with Subsystem Takeovers Implementable by Deterministic and Self-Stabilizing Automata". In *International Journal of Autonomous and Adaptive Communication*, **special issue devoted to selected papers from the 2008 International Conference on Autonomic Computing and Communication Systems Vol. 4, No. 1**, pages: 4 - 38, 2011.

4. Shlomi Dolev, Elad M. Schiller, Paul G. Spirakis, Philippas Tsigas "Game Authority for Robust and Scalable Distributed Selfish-Computer Systems". In *Theoretical Computer Science*, **Vol. 411, No. 26-28**, pages: 2459 - 2466, Elsevier 2010.

5. Phuong Hoai Ha, Philippas Tsigas, Otto J. Anshus "The Synchronization Power of Coalesced Memory Accesses". In *Transactions on Parallel and Distributed Systems*, **Vol. 21, No. 2**, pages: 939 - 953, IEEE press 2010.

6. Anders Gidenstam, Marina Papatriantafilou, Philippas Tsigas "NBmalloc: Allocating Memory in a Lock-Free Manner". In *Algorithmica*, **Vol. 58, No. 2**, pages: 304 - 338, Springer 2010.

7. Daniel Cederman, Philippas Tsigas "GPU-Quicksort: A Practical Quicksort Algorithm for Graphics Processors". In *the ACM Journal of Experimental Algorithmics (JEA)*, **Vol. 14**, pages: 1.4-1.24 , ACM press 2009.

8. Niklas Elmqvist, Ulf Assarsson, Philippas Tsigas "Dynamic Transparency for 3D Visualization: Design and Evaluation". In *The International Journal of Virtual Reality*, **Vol. 8, No. 1**, pages: 75-88, March 2009.

9. Anders Gidenstam, Marina Papatriantafilou, Håkan Sundell, Philippas Tsigas "Efficient and Reliable Lock-Free Memory Reclamation Based on Reference Counting". In *Transactions on Parallel and Distributed Systems*, **Vol. 20, No. 8**, pages: 1173-1187 , IEEE press 2009.

10. Peter Damaschke, Phuong Hoai Ha, Philippas Tsigas "Online Search with Time-Varying Price Bounds". In *Algorithmica*, **Vol. 55, No. 4**, pages: 619 - 642, Springer 2009.

11. Andreas Larsson, Anders Gidenstam, Phuong H Ha, Marina Papatriantafilou, Philippas Tsigas "Multi-word Atomic Read/Write Registers on Multiprocessor Systems". In *the ACM Journal of Experimental Algorithmics*, **Vol. 13**, pages: 1.7-1.30 , ACM press 2009.

12. Håkan Sundell, Philippas Tsigas "Lock-Free Deques and Doubly Linked Lists". In *Journal of Parallel and Distributed Computing*, **Vol. 68, No. 7**, pages: 1008-1020, Elsevier 2008.

13. Niklas Elmqvist, Philippas Tsigas "A Taxonomy of 3D Occlusion Management". In *IEEE Transactions on Visualization and Computer Graphics*, **Vol. 14, No. 5**, pages: 1095 - 1109, IEEE Press 2008.

14. Niklas Elmqvist, John Stasko, Philippas Tsigas "DataMeadow: A Visual Canvas for Analysis of Large-Scale Multivariate Data". In *Information Visualization*, **special issue devoted to selected papers from the IEEE Symposium on Visual Analytics Science and Technology 2007 Vol. 7, No. 1**, pages: 18 - 33, Palgrave Macmillan Publishers 2008.

15. Niklas Elmqvist, Philippas Tsigas "View-Projection Animation for 3D Occlussion Managment". In *Computer & Graphics*, **Vol. 31, No. 6**, pages: 864-876, Elsevier, 2007.

16. Niklas Elmqvist, Philippas Tsigas "CiteWiz: A Tool for the Visualization of Scientific Citation Networks". In *Information Visualization*, **Vol. 6, No. 30**, pages: 215 - 232, Palgrave Macmillan Publishers, 2007.

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Entrepreneurial activities related to my research

- Co-founder of the Parallel Scalable Solutions AB, a company that is commercializing the NOBLE library that we have developed.