Curriculum Vitae of Philippas Tsigas (November 2019)

Date of Birth: December 15, 1967.

Distributed Computing And Systems Group
Department of Computer Science and Engineering
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Place of birth: Kozani, Greece
Citizenship: Greek, Swedish
Sex: Male

Marital status: married
Children: 2

Current Academic Position:

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

Education

- 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.

Awards-Honors

- Best paper awards: 1) "Fast and Lock-Free Concurrent Priority Queues for Multi-Thread Systems" 17th IEEE/ACM International Parallel And Distributed Symposium, 2003, 2) "Towards modeling legitimate and unsolicited email traffic using social network properties" 5th Workshop on Social Network Systems (SNS 2012), 3) "Maximizing Determinism in Stream Processing Under Latency Constraints" 11th ACM International Conference on Distributed and Event-based Systems.
- Best grand challenge solution award: "Deterministic real-time analytics of geospatial data streams through ScaleGate objects" 9th ACM International Conference on Distributed Event-Based Systems Computing (DEBS 2015).
- 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. 6) "Performance and Power Consumption Evaluation of Concurrent Queue Implementations in Embedded Systems" invited to special issue of the *Computer Science, Research and Development journal*, 7) "A local seed selection algorithm for overlapping community detection" invited to *Social Network Analysis and Mining journal*. 8) "Concurrent Data Structures in Architectures with Limited Shared Memory" invited to special issue of the *Concurrency and Computation: Practice and Experience journal*, 9) "Viper: A module for communication-layer determinism and scaling in low-latency stream processing" invited to special issue of the *Future Generation Computer Systems*.

Grants and Projects Funded

- 2017-2021 (3.74M SEK) Funded by the Swedish Research Council (VR) for a research project on "Models and Techniques for Energy-Efficient Concurrent Data Access Designs".
- 2013-2016 (3.3M Euros total budget, 1M Euros for Chalmers) Funded unded under the Seventh Framework Programme of the European Commission. The project title is "Execution Models for Energy-Efficient Computing Systems" (EXCESS). EXCESS is a Collaborative Project, part of the portfolio of the A.3 (Advanced Computing And Complex Systems) Unit, managed by the European Commission Directorate General for Communications Networks, Content and Technology. Philippas Tsigas is the scientific coordinator of the project.
- 2011-2016 (20M SEK total budget, 4M SEK for the Distributed Computing and Systems group part) Funded by the Swedish Foundation of Strategic Research. The project title is "Scheme: Software Abstractions for Heterogeneous Multi-core Computers". Together with Per Stenström (Project Leader) and Ulf Assarsson.
- 2012-2014 (2.4M SEK) Funded by the Swedish Research Council (VR) for a research project on "Parallel Data Structures for Heterogeneous Data Structures".

- 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) Funded 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**
  - (2019) Taught the undergraduate course "Distributed Systems" *(undergraduate, masters level).*
  - (2018) Designed and supervised the "SIMD programming" , *a seminar PhD level course.*
  - (2014-on) Supervising and reviewing student projects on "Technical writing", (undergraduate master's level course, part of the Computer Systems and Networks master's programme).
  - (2008–2013) Lectures and assignments on "Advanced topics in computer systems and networks", *a seminar masters level course.*
  - (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, part of the Computer Systems and Networks master's programme)*.
- (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 and Positions of Trust

- **Program Committee Membership**
  - (2019) Member, Program Committee, 3rd International Symposium on Cyber Security Cryptography and Machine Learning (CSCML 2019).
  - (2018) Member, Program Committee, 43rd International Symposium on Mathematical Foundations of Computer Science (MFCS 2018).
  - (2018) Member, Program Committee, 2nd International Symposium on Cyber Security Cryptography and Machine Learning (CSCML 2018).
  - (2017) **Program Committe co-Chair**, 19th International Symposium on Stabilization, Safety, and Security of Distributed Systems (SSS 2017).

– (2017) **Program Committee co-Chair: Track: Parallel, Distributed and Edge-Computing Systems**, 14th International Symposium on Pervasive Systems, Algorithms, and Networks (I-SPAN 2017).

– (2016) Member, Program Committee, 1st IEEE International Conference on Internet-of-Things Design and Implementation (IoTDI 2016).

– (2016) Member, Program Committee, 45th International Conference on Parallel Processing (ICPP-2016).

– (2015) Member, Program Committee, 23rd European Symposium on Algorithms (ESA 2015).

– (2015) Member, Program Committee, 20th ACM SIGPLAN Symposium on Principles and Practice of Parallel Programming (PPoPP 2015).

– **General Co-chair**, fEEDBACk Workshop on Energy Efficient Distributed and Parallel Computing, held in conjunction with PODC 2015.

– Member, Program Committee, 8th Swedish Workshop on Multi-Core Computing (MCC15).

– (2014) Member, Program Committee, 7th International Workshop on Multi-/Many-Core Computing Systems (MuCoCoS 2014).

– (2014) Member, Program Committee, 26th ACM Symposium on Parallelism in Algorithms and Architectures (SPAA 2014).

– (2014) Member, Program Committee, 28th IEEE International Parallel & Distributed Processing Symposium (IPDPS 2014).

– (2014) Member, Program Committee, 13th International Symposium on Experimental Algorithms (SEA 2014).

– (2013) Member, Program Committee, 18th ACM SIGPLAN Symposium on Principles and Practice of Parallel Programming (PPoPP 2013).

– (2013) Member, Program Committee, 19th European Conference on Parallel Computing (Europar 2013).

– (2013) Member, Program Committee, 6th International Workshop on Multi-/Many-core Computing Systems (MuCoCoS 2013).

– (2013) Member, Program Committee, 27th IEEE International Parallel & Distributed Processing Symposium (IPDPS 2013).

– (2012) Member, Program Committee, 26th International Symposium on Distributed Computing (DISC 2012).

– (2012) Member, Program Committee, 19th International Colloquium on Structural Information and Communication Complexity (SIROCCO 2012).

– (2012) Member, Program Committee, 32nd IEEE International Conference on Distributed Computing Systems (ICDCS-32).

– (2012) Member, Program Committee, 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).

– (2011) Member, Program Committee, 2nd Workshop on Hybrid Multicore Computing (WHMC 2012).

– (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-Chair**, 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**

- (2013-2016) EXCESS, a Seventh Framework Programme of the European Commission on Execution Models for Energy-Efficient Computing Systems, Project Coordinator.
- (2011-2015) Euro-TM, COST ACTION IC1001: Transactional Memories: Foundations, Algorithms, Tools, and Applications, Management Committee member.
- (2010-2013) 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.
- (1998–2012) 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 Committee member.

• **Editor in Journals**

- Associate Editor in JPDC (Journal of Parallel and Distributed Computing).
- Co-editor of ACM journal on experimental algorithmics special issue on multicore algorithms, volume 17 2012 with David Bader.

- Co-editor of Algorithms 2018, 11(5), (2018), Special Issue 19th International Symposium on Stabilization, Safety, and Security of Distributed Systems (SSS), with Paul Spirakis.
- Co-editor of Information and Computation (TA), Special Issue 19th International Symposium on Stabilization, Safety, and Security of Distributed Systems (SSS), with Paul Spirakis.

- **Evaluation Panel Committee Member**
  - (2009–2011) Irish Research Council for Science, Engineering and Technology (IRCSET).
  - (2009) Research Council of Norway (Forskingsrådet).

- **Departmental Duties**
  - (2004–2007) Graduate studies Director, Computer Science Department, Chalmers University of Technology.
  - (2019–2021) Faculty co-Chair, Computer Science and Engineering, Chalmers University of Technology.

- **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), (2012) The Knowledge Foundation, Sweden (KK-stiftelsen), (2014) Portuguese Foundation for Science and Technology (FCT), 2018 European Research Council, (2018) The French National Research Agency (ANR), (2019-2020) Austrian Science Fund (FWF) .
  - *Journals include:* 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, IEEE Transactions on Parallel and Distributed Systems, Journal of Supercomputing, Science of Computer Programming, International Journal of Information Security, Science of Computer Programming, ACM Transactions on Parallel Computing.
  - *Conferences include:* 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**
  - EXCESS Workshop: Energy Efficient Computing From Embedded to HPC Computing Systems, on August 26th, 2016, Gteborg, Sweden.
  - fEEDBACk Workshop on Energy Efficient Distributed and Parallel Computing, held in conjunction with PODC 2015, Donostia-San Sebastian, Spain.
  - the 1st SysSec Summer School on System Security and malware reverse engineering with a special focus on critical infrastructure protection was organised by the SysSec 7th Framework Programme, 2012, Amsterdam, The Netherlands.
  - the 2009 Winter School in Middleware for Network Eccentric and Mobile Applications was organized by the European Science Foundation (ESF) MiNEMA Scientific Programme, Gothenburg, Sweden.
  - 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, Saarbrucken, Germany.
  - 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

- (2019) Invited talk, 40th International Conference on Application and Theory of Petri Nets and Concurrency and the 19th International Conference on Application of Concurrency to System Design (Petri Nets 2019 / ACSD 2019), Aachen, Germany.
- (2018) UPMARC Multicore Computing Summer School, the Uppsala Programming for Multicore Architectures Research Center (UPMARC), Uppsala, Sweden, June 2018.
- (2015) Dagstuhl Seminar 15021 "Concurrent computing in the many-core era", January 2015.
- (2014) Keynote talk, 7th International Workshop on Multi-/Many-Core Computing Systems, (MuCoCoS-2014) in conjunction with Euro-Par 2014, August 2014.
- (2012) Dagstuhl Seminar 12161 "Abstractions for scalable multi-core computing", April 2012.

- (2011) Fourth Swedish Workshop on Multicore Computing (Keynote), November 2011.
- (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 Include:

- ScaleGate: a basic implementation of our ScaleGate data structure in Java.
  URL: `https://github.com/dcs-chalmers/ScaleGate_Java/`
- 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 Main 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 TU Darmstadt, after some years 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 Associate professor in the College of Information Studies at University of Maryland, College Park after being an 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. Currently at Aeroflex Gaisler AB.
- Andreas Larsson, PhD June 2012. Thesis title: Security and Self-stabilization in Sensor Network Services. First employment: Aeroflex Gaisler AB.
- Nhan D. Nguyen, PhD May 2014. Thesis title: On Composability, Efficient Design and Memory Reclamation of Lock-free Data Structures. First employment: NTT Com Security Sweden AB.
- Farnaz Moradi, PhD September 2014. Thesis title: Improving Community Detection Methods for Network Data. First employment: ERICSSON Research.
- Bapi Chatterjee, PhD January 2019. Thesis title: Lock-free Concurrent Search. First employment: IBM Research India.
- Aras Atalar, PhD September 2019. Thesis title: Throughput and energy efficiency of lock-free data structures: Execution Models and Analyses. First employment: Chalmers University of Technology PostDoc.
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- "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 paper, pages 293-308 in the Proceedings of the Conference, December 1997.

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Entrepreneurial activities related to my research

- Co-founder of the Parallel Scalable Solutions AB, a company with aim to commercialize the NOBLE library that we have developed.