

# **CURRICULUM VITAE**

**Panagiota Fatourou**

**July 2016**

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## 1. Personal

### Office Address

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URL: <http://www.csd.uoc.gr/~faturu/>

*Place of Birth:* Kalamata, Messinia, Greece  
*Year of Birth:* 1973  
*Citizenship:* Greek  
*Marital Status:* Single  
*Languages:* Greek (native), English (fluent), German (elementary)

## 2. Education

**Ph.D. in Computer Engineering and Informatics**, Excellent (GPA: 10.0/10.0), Department of Computer Engineering and Informatics, University of Patras, June 1999.  
Thesis Supervisor: Paul Spirakis

**Degree in Computer Science**, Very Good (GPA: 8.36/10.0), Department of Computer Science, University of Crete, November 1995.

## 3. Research Interests

### Algorithms and Theoretical Computer Science

Design and analysis of algorithms, design and analysis of data structures, lower bounds and impossibility results

### Distributed Computing

Design and analysis of distributed algorithms, complexity analysis, lower bounds and impossibility results, models, concurrent and distributed data structures, concurrent

objects, communication and synchronization protocols, energy-efficient distributed algorithms and data structures

### **Parallel Computing**

Design and analysis of parallel algorithms, complexity analysis, parallel programming languages and runtime systems, multithreaded computing, energy-efficient parallel algorithms and data structures

### **Experimental Algorithmics**

Implementation and experimental evaluation of algorithms (with emphasis on concurrent and distributed algorithms and data structures)

## **4. Teaching Interests**

### **Theoretical Computer Science**

Design and analysis of algorithms, data structures, theory of computation, distributed computing, parallel computing, principles and foundations of concurrent computing

### **Systems and Programming**

Distributed and parallel systems, operating systems, programming languages, concurrent programming, network programming

### **Mathematics for Computer Science**

Combinatorics, probability, queuing theory, graph theory

## **5. Research Appointments**

1. *Department of Computer Science, University of Crete, Greece*  
**Associate Professor**, June 2016 - now (to be appointed)
2. *École Polytechnique Fédérale de Lausanne, Switzerland*  
**Ecocloud Visiting Professor**, March 2014 – July 2014
3. *Department of Computer Science, University of Crete, Greece*  
**Tenured Assistant Professor**, April 2012 – June 2016
4. *Department of Computer Science, University of Crete, Greece*  
**Tenure-track Assistant Professor**, October 2009 – April 2012
5. *Institute of Computer Science, Foundation for Research and Technology – Hellas (FORTH)*  
**Affiliated Assistant Professor**, January 2009 - now
6. *Department of Computer Science, University of Ioannina, Greece*  
**Assistant Professor**, April 2008 – October 2009

7. *Department of Computer Science, University of Ioannina, Greece*  
**Lecturer**, November 2002 – March 2008
8. *Department of Computer Science, University of Ioannina, Greece*  
**Visiting Assistant Professor**, September 2001 – October 2002
9. *Department of Computer Science, Greek Open University*  
**Teaching and Research Fellow**, Academic year 2001-2002
10. *Department of Computer Science, University of Toronto, Canada*  
**Postdoc Researcher**, Theory team, March 2001 – July 2001. Principal investigator:  
Faith Ellen Fich
11. *Max-Planck Institut für Informatik, Saarbrücken, Germany*  
**Postdoc Researcher**, Research team “Algorithms and Complexity”, September 1999  
– February 2001. Principal investigator: Kurt Mehlhorn
12. *Computer Technology Institute, Patras, Hellas*  
**Graduate Research Assistant**, January 1996 – August 1999. Principal Investigator:  
Paul Spirakis
11. *Institute of Computer Science, Foundation of Research and Technology- Hellas (FORTH), Heracleon, Hellas*  
**Undergraduate Trainee**, July 1994 – December 1995. Principal investigator:  
Christos Nikolaou

## 6. Publications & Proceedings Editing

### Conference Proceedings Editing

- E2. Panagiota Fatourou, Gadi Taubenfeld (Eds.): *ACM Symposium on Principles of Distributed Computing (PODC '13)*, Montreal, Canada, July 22-24, 2013. ACM 2013, ISBN 978-1-4503-2065-8.
- E1. Kunal Agarwal, Panagiota Fatourou, Arnold L. Rosenberg, Frédéric Vivien, *Euro-Par (2)*, TOPIC 12: Theory and Algorithms for Parallel Computation, LNCS 6853, 2011.

### Theses

- T2. Panagiota Fatourou, “Algorithmic Foundations of Rate-Based Flow Control”, *PhD Thesis*, Department of Computer Engineering and Informatics, University of Patras, June 1999.
- T1. Panagiota Fatourou, “IMMI: A tool for the graphical representation of a distributed system”, *Diploma Thesis*, Department of Computer Science, University of Crete, June 1995.

### Book Chapters

- B4. Panagiota Fatourou, Mykhailo Iaremko, Eleni Kanellou, and Eleftherios Kosmas, “Algorithmic Techniques in STM Design”, R. Guerraoui and P. Romano (Eds.): *Transactional Memory – Foundations, Algorithms, Tools, and Applications*, Springer Lecture Notes in Computer Science, Vol. 8913, pp. 101-126, 2015.
- B3. Hagit Attiya and Panagiota Fatourou, “Disjoint-Access Parallelism in Software Transactional Memory”, R. Guerraoui and P. Romano (Eds.): *Transactional Memory – Foundations, Algorithms, Tools, and Applications*, Springer Lecture Notes in Computer Science, Vol. 8913, pp. 72–97, 2015.
- B2. Panagiota Fatourou, Dmytro Dziuina, and Eleni Kanellou, “Consistency for Transactional Memory Computing”, R. Guerraoui and P. Romano (Eds.): *Transactional Memory – Foundations, Algorithms, Tools, and Applications*, Springer Lecture Notes in Computer Science, Vol. 8913, pp. 3-31, 2015.
- B1. Panagiota Fatourou, “Schedulers for Optimistic Rate-Based Flow Control”, *Encyclopedia of Algorithms*, pp. 803-806, Ming-Yang Kao (Ed.), Springer, 2008.

## Research Articles in Journals

- J13. Panagiota Fatourou, Ioannis Nikolakopoulos, and Marina Papatriantafilou, “Linearizable Wait-free Iteration operations in Shared Double-ended Queues”, *Parallel Processing Letters*, accepted (under minor revisions).
- J12. Panagiota Fatourou and Nikolaos Kallimanis, “Lower and Upper Bounds for Single-Scanner Snapshot Implementations”, *Distributed Computing*, accepted (under revisions) (32 pages + 2 pages of appendix).
- J11. Panagiota Fatourou, Eleni Kanellou, Eleftherios Kosmas, Md Forhad Rabbi, “WFR-TM: Wait-Free Readers without Sacrificing Speculation of Writers”, *Journal of Parallel and Distributed Computing*, Volume 96, pp. 134–151, October 2016, doi:10.1016/j.jpdc.2016.05.002  
<http://www.sciencedirect.com/science/article/pii/S0743731516300326> (18 pages).
- J10. Faith Ellen, Panagiota Fatourou, Eleftherios Kosmas, Alessia Milani, and Corentin Travers, “Universal Constructions that Ensure Disjoint-Access Parallelism and Wait-Freedom”, *Distributed Computing*, pp. 1-27, January 2016, available online: DOI: 10.1007/s00446-015-0261-8, <http://link.springer.com/article/10.1007/s00446-015-0261-8> (27 pages).
- J9. Panagiota Fatourou and Nikolaos D. Kallimanis, “Highly-Efficient Wait-Free Synchronization”, *Theory of Computing Systems* (special issue, invited), Vol. 55, No. 3, pp. 475-520, October 2014 (46 pages).
- J8. Hagit Attiya, Faith Ellen, and Panagiota Fatourou, “The complexity of updating snapshot objects”, *Journal of Parallel and Distributed Computing*, Vol. 71, No. 12, pp. 1570-1577, December 2011 (8 pages).
- J7. Faith Ellen, Panagiota Fatourou, and Eric Ruppert, “The space complexity of unbounded timestamps”, *Distributed Computing*, Vol. 21, No. 2, pages 103-115, July 2008 (13 pages).
- J6. Panagiota Fatourou, Faith Fich and Eric Ruppert, “Time Lower Bounds for Implementations of Multi-Writer Snapshots”, *Journal of the ACM*, Vol. 54, No. 6, Article 30, December 2007 (34 pages).
- J5. Panagiota Fatourou, Marios Mavronicolas, and Paul Spirakis, “Max-Min Fair Flow Control Sensitive to Priorities”, *Journal of Interconnection Networks*, Vol. 6, No. 2, pp. 85-114, June 2005 (30 pages).
- J4. Panagiota Fatourou, Marios Mavronicolas and Paul Spirakis, “Efficiency of Oblivious versus Non-Oblivious Schedulers for Optimistic, Rate-Based Flow Control”, *SIAM Journal on Computing*, Vol. 34, No. 5, pp. 1216-1252, 2005 (37 pages).
- J3. Panagiota Fatourou and Maurice Herlihy, “Read-Modify-Write Networks”,

*Distributed Computing*, Vol. 17, No. 1, pp. 33-46, February 2004 (14 pages).

- J2. Panagiota Fatourou, “Low-Contention, Depth-First Scheduling of Parallel Computations with Synchronization Variables”, *Information & Computation*, accepted (42 pages).
- J1. Panagiota Fatourou and Paul Spirakis, “Efficient Scheduling of Strict Multithreaded Computations”, *Theory of Computing Systems Journal (TOCS)*, pp. 173-232, Vol. 33, No. 3, May/June 2000 (60 pages).

### **Submitted**

- JS3. Victor Bushkov, Dmytro Dziurma, Panagiota Fatourou, Rachid Guerraoui, “The PCL theorem: transactions cannot be parallel, consistent and live”, submitted to *Journal of the ACM* (69 pages).
- JS2. Faith Ellen, Panagiota Fatourou, Joanna Helga, Eric Ruppert, F. van Breugel, “Non-Blocking Binary Search Trees”, submitted to *Journal of the ACM* (65 pages).
- JS1. Panagiota Fatourou and Nikolaos D. Kallimanis, “The RedBlue Adaptive Universal Constructions”, submitted to *Distributed Computing* (20 pages).

### **Research Articles in Conferences (extended abstracts)**

- C30. Victor Bushkov, Dmytro Dziurma, Panagiota Fatourou, Rachid Guerraoui, “The PCL theorem: transactions cannot be parallel, consistent and live”, *Proceedings of the 26th ACM Symposium on Parallelism in Algorithms and Architectures (SPAA'14)*, pp. 178-187, Prague, Czech Republic, June 2014.
- C29. Faith Ellen, Panagiota Fatourou, Joanna Helga, Eric Ruppert, “The amortized complexity of non-blocking binary search trees”, *Proceedings of the 33rd Annual ACM SIGACT-SIGOPS Symposium on Principles of Distributed Computing (PODC'14)*, pp. 332-340, Paris, France, July 2014.
- C28. Panagiota Fatourou, Eleni Kanellou, Eleftherios Kosmas, Md Forhad Rabbi, “WFR-TM: Wait-Free Readers without Sacrificing Speculation of Writers”, *Proceedings of the 18<sup>th</sup> International Conference on Principles of Distributed Systems (OPODIS'14)*, pp. 420-436, Cortina, Italy, December 2014.
- C27. Hillel Avni, Shlomi Dolev, Panagiota Fatourou, Eleftherios Kosmas, “Abort Free SemanticTM by Dependency Aware Scheduling of Transactional Instructions”, *Proceedings of the International Conference on NETWORKED sYSTEMS (NETYS'14)*, pp. 25-40, Marrakech, Morocco, May 2014.
- C26. Faith Ellen, Panagiota Fatourou, Eleftherios Kosmas, Alessia Milani, and Corentin Travers, “Universal Constructions that Ensure Disjoint-Access Parallelism and Wait-Freedom”, *Proceedings of the 31st Annual ACM SIGACT-SIGOPS Symposium on Principles of Distributed Computing (PODC'12)*, pp. 115-124, Madeira, Portugal, July 2012.



- C25. Panagiota Fatourou and Nikolaos D. Kallimanis, "Revisiting the Combining Synchronization Technique", *Proceedings of the 17th ACM SIGPLAN Symposium on Principles and Practice of Parallel Programming (PPoPP'12)*, pp. 257-266, New Orleans, USA, February 2012.
- C24. Panagiota Fatourou and Nikolaos D. Kallimanis, "A Highly-Efficient Wait-Free Universal Construction", *Proceedings of the 23rd Annual ACM Symposium on Parallelism in Algorithms and Architectures (SPAA '11)*, pp. 325-334, San Jose, California, USA, June 2011.
- C23. Faith Ellen, Panagiota Fatourou, Eric Ruppert, and Franck van Breugel, "Non-Blocking Binary Search Trees", *Proceedings of the 29th Annual ACM SIGACT-SIGOPS Symposium on Principles of Distributed Computing (PODC'10)*, Zurich, Switzerland, July 2010.
- C22. Panagiota Fatourou and Nikolaos Kallimanis, "The RedBlue Adaptive Universal Constructions", *Proceedings of the 23rd International Symposium on Distributed Computing (DISC'09)*, pp. 127-141, Elche, Spain, September 2009.
- C21. Faith Ellen, Panagiota Fatourou, and Eric Ruppert, "The Space Complexity of Unbounded Timestamps", *Proceedings of the 21st International Symposium on Distributed Computing (DISC'07)*, pp. 223-237, Lemesos, Cyprus, September 2007.
- C20. Panagiota Fatourou and Nikolaos D. Kallimanis, "Time Optimal, Space-Efficient Single-Scanner, Multi-Writer Snapshots & Efficient Multi-Scanner Snapshots using CAS", *Proceedings of the 26th ACM Symposium on Principles of Distributed Computing (PODC'07)*, pp. 33-42, Portland, Oregon, August 2007.
- C19. Hagit Attiya, Faith Ellen, and Panagiota Fatourou, "The Complexity of Updating Multi-Writer Snapshot Objects", *Proceedings of the 8th International Conference on Distributed Computing and Networking (ICDCN'06)*, Lecture Notes in Computer Science, Vol. 4308, pp. 319-330, Guwahati, India, December 2006.
- C18. Maria Christodoulidou and Panagiota Fatourou, "Simple and Efficient Replication in Chord", *Proceedings of the 18th International Conference on Parallel and Distributed Computing Systems (PDCS'06)*, pp. 214-219, Dallas, Texas, November 2006.
- C17. Panagiota Fatourou and Nikolaos D. Kallimanis, "Single-Scanner Multi-Writer Snapshot Implementations are Fast!", *Proceedings of the 25th Annual ACM SIGACT-SIGOPS Symposium on Principles of Distributed Computing (PODC'06)*, pp. 228-237, Denver, Colorado, July 2006.
- C16. Panagiota Fatourou, Faith Fich and Eric Ruppert, "Time-Space Tradeoffs for Implementations of Snapshots", *Proceedings of the 38th Annual ACM Symposium on Theory of Computing (STOC'06)*, pp. 169 - 178, Seattle, WA, May 2006.
- C15. Panagiota Fatourou, Faith Fich, and Eric Ruppert, "A Tight Time Lower Bound for Space-Optimal Implementations of Multi-Writer Snapshots", *Proceedings*

of the 35<sup>th</sup> Annual ACM Symposium on Theory of Computing (STOC'03), pp. 259-268, San-Diego, California, June 2003.

- C14. Panagiota Fatourou, Faith Fich, and Eric Ruppert, ``Space-Optimal Multi-Writer Snapshot Objects are Slow'', *Proceedings of the 21st ACM Symposium on Principles of Distributed Computing (PODC '02)*, Monterey, California, July 2002.
- C13. Panagiota Fatourou and Maurice Herlihy, ``Adding Networks'', *Proceedings of the 15<sup>th</sup> International Symposium on Distributed Computing (DISC '01)*, pp. 330-341, Lisbon, Portugal, October 2001.
- C12. Panagiota Fatourou, ``Low-Contention, Depth-First Scheduling of Parallel Computations with Write-Once Synchronization Variables'', *Proceedings of the 13<sup>th</sup> ACM Symposium on Parallel Algorithms and Architectures (SPAA '01)*, pp. 189-198, Crete Island, Greece, July 2001.
- C11. Panagiota Fatourou and Paul Spirakis, ``A New Scheduling Algorithm for General Strict Multithreaded Computations'', *Proceedings of the 13th International Symposium on Distributed Computing (DISC'99)*, pp. 297-311, Bratislava, Slovakia, September 1999.
- C10. Panagiota Fatourou, Paul Spirakis, Panagiotis Zarafidis, and Anna Zoura, ``Implementation and Experimental Evaluation of Graph Connectivity Algorithms using LEDA'', *Proceedings of the 3<sup>rd</sup> International Workshop on Algorithm Engineering (WAE '99)*, pp. 124-138, London, July 1999.
- C9. Panagiota Fatourou, Marios Mavronicolas, and Paul Spirakis, ``Max-Min Fair Flow Control Sensitive to Priorities'', *Proceedings of the 2nd International Conference on Principles of Distributed Systems (OPODIS '98)*, pp. 45-59, Amiens, France, December 1998.
- C8. Panagiota Fatourou, Marios Mavronicolas, and Paul Spirakis, ``The Global Efficiency of Distributed, Rate-Based, Flow Control Algorithms'', *Proceedings of the 5th International Colloquium on Structural Information and Communication Complexity (SIROCCO '98)*, pp. 244-258, Amalfi, Italy, June 1998.
- C7. Panagiota Fatourou, Marios Mavronicolas, and Paul Spirakis, ``Efficiency of Oblivious versus Non-Oblivious Shedulers for Optimistic, Rate-Based Flow Control'', *Proceedings of the 16th Annual ACM Symposium on Principles of Distributed Computing (PODC '97)*, pp. 139-148, Santa Barbara, California, August 1997.
- C6. Panagiota Fatourou and Paul Spirakis, ``Scheduling Algorithms for Strict Multithreaded Computations'', *Proceedings of the 7th International Symposium on Algorithms and Computation (ISAAC '96)*, pp. 407-416, Osaka, Japan, December 1996.

## Invited Research Articles in Conferences

- C5. Panagiota Fatourou, Marios Mavronicolas, and Paul Spirakis, “Advances in Rate-Based Flow Control”, *Proceedings of the 4th International Colloquium on Structural Information and Communication Complexity (SIROCCO '97)*, Carleton University Press, pp. 266-281, Monte Veritá, Ascona, Switzerland, June 1997.

## Brief Announcements in Conferences

- C4. Panagiota Fatourou and Nikolaos D. Kallimanis, “The Power of Scheduling-Aware Synchronization”, *Proceedings of the 28<sup>th</sup> International Symposium on Distributed Computing (DISC'14)*, pp. 533-535, LNCS 8784, Austin, Texas, USA, October 2014.
- C3. Hagit Attiya, Faith Ellen, and Panagiota Fatourou, “The Complexity of Updating Multi-Writer Snapshot Objects”, *Proceedings of the 26<sup>th</sup> ACM Symposium on Principles of Distributed Computing (PODC'07)*, pp. 318-319, Portland, Oregon, August 2007.
- C2. Panagiota Fatourou and Maurice Herlihy, “Adding Networks”, *Proceedings of the 20<sup>th</sup> Annual ACM Symposium on Principles of Distributed Computing (PODC '01)*, pp. 308-310, New-Port, Rhode Island, August 2001.
- C1. Panagiota Fatourou, Marios Mavronicolas, and Paul Spirakis, “The Global Efficiency of Distributed, Rate-Based, Flow Control Algorithms”, *Proceedings of the 17th Annual ACM Symposium on Principles of Distributed Computing (PODC'98)*, p. 311, Puerto Vallarta, Mexico, June/July 1998.

## Workshops

- W7. Victor Bushkov, Dmytro Dziuma, Panagiota Fatourou, and Rachid Guerraoui, “Snapshot Isolation Does Not Scale Either”, *5<sup>th</sup> Workshop on the Theory of Transactional Memory (WTTM'13)*, Jerusalem, Israel, October 2013.
- W6. Faith Ellen, Panagiota Fatourou, Eleftherios Kosmas, Alessia Milani, and Corentin Travers, “Wait-Free Universal Constructions that ensure Timestamp-Ignoring Disjoint-Access Parallelism”, *5<sup>th</sup> Workshop on the Theory of Transactional Memory (WTTM'13)*, Jerusalem, Israel, October 2013.
- W5. Shlomi Dolev, Panagiota Fatourou, and Eleftherios Kosmas, “Abort Free SemanticTM by Dependency Aware Scheduling of Transactional Instructions”, *8th ACM SIGPLAN Workshop on Transactional Computing (TRANSACT)*, Houston, TX, USA, March 2013, also presented at the *Euro-TM Workshop on Transactional Memory (WTM'13)*, Prague, Czech Republic, April 14, 2013 and at the *5<sup>th</sup> Workshop on the Theory of Transactional Memory (WTTM'13)*, Jerusalem, Israel, October 2013.
- W4. Faith Ellen, Panagiota Fatourou, Eleftherios Kosmas, Alessia Milani, Corentin Travers, “A Wait-Free Disjoint Access Parallel Universal Construction”, *1<sup>st</sup>*

*Euro-TM Workshop on Distributed Transactional Memory (WDTM'12)*, Lisbon, February 2012.

- W3. Panagiota Fatourou, Mykhailo Iaremko, Eleftherios Kosmas and George E. Papadakis, “Reducing contention in STM”, *4<sup>th</sup> Workshop on the Theory of Transactional Memory (WTTM 2012)*, Madeira, Portugal, July 2012.
- W2. Faith Ellen, Panagiota Fatourou, Eleftherios Kosmas, Alessia Milani, Corentin Travers, “On Disjoint-Access Parallelism”, *3<sup>rd</sup> Workshop on the Theory of Transactional Memory (WTTM'11)*, Rome, Italy, September 2011.
- W1. Panagiota Fatourou and Nikolaos D. Kallimanis, “Highly-Efficient Combining-Based Synchronization”, *3<sup>rd</sup> Workshop on the Theory of Transactional Memory (WTTM'11)*, Rome, Italy, September 2011.

### **Other Articles**

- O3. Dmytro Dziuma, Panagiota Fatourou, and Eleni Kanellou “Consistency for Transactional Memory Computing”, *Bulletin of the EATCS*, Vol. 113, June 2014 (25 pages).
- O2. James Aspnes, Costas Busch, Shlomi Dolev, Panagiota Fatourou, Chryssis Georgiou, Alex Shvartsman, Paul Spirakis, and Roger Wattenhofer, “Eight open problems in distributed computing”, *Bulletin of the European Association for Theoretical Computer Science*, Vol. 90, pp. 109-126, October 2006.
- O1. Panagiota Fatourou, “The DISC 2001 Conference”, *Distributed Computing Column, SIGACT News*, pp. 46-53, Vol. 33, No. 1, March 2002.

## 7. Scientific Activities

### Editorial

1. *Distributed Computing Column, Bulletin of the European Association for Theoretical Computer Science (BEATCS)*

**Editor**, January 2009 – June 2015

### ACM Activities

1. Member of the ACM Europe Council, July 2015 – June 2019.

### Steering Committees

1. *Annual ACM SIGACT-SIGOPS Symposium on Principles of Distributed Computing (PODC)*

**Member of the Steering Committee**, Years: 2012, 2013

### Conference Chairing

1. *20<sup>th</sup> International Conference on Principles of Distributed Systems (OPODIS'16)*  
**Programme Committee co-Chair** (with Prof. Fernando Pedone, University of Lugano, Switzerland)
2. *32<sup>nd</sup> Annual ACM SIGACT-SIGOPS Symposium on Principles of Distributed Computing (PODC'13), 2013*  
**General Chair** (*Steering Committee Chair*: Andrzej Pelc)
3. *Euro-Par, Topic 12: Theory and Algorithms for Parallel Computation, Bordeaux, France, 2011.*

**Vice Chair** (General Chair: Arnold L. Rosenberg)

### Workshop Chairing

1. *7<sup>th</sup> Workshop on the Theory of Transactional Memory (WTTM'15)*, July 2015 (in conjunction with PODC 2015)

**Program Committee co-Chair** (together with Prof. Paolo Romano, INESC-ID, University of Lisbon, Portugal)

### Participation in Program Committees

1. *36th ACM SIGACT-SIGOPS Symposium on Principles of Distributed Computing (PODC 2017)*

**Member of the Program Committee**

2. *20<sup>th</sup> International Conference on Principles of Distributed Systems (OPODIS'16)*

**Co-Chair of the Program Committee**

3. *30<sup>th</sup> International Symposium on Distributed Computing (DISC 2016)*, Paris, France, September 2016.

**Member of the Program Committee**

4. *18<sup>th</sup> International Symposium on Stabilization, Safety, and Security of Distributed Systems (SSS 2016)*, Lyon, France, November 2016

**Member of the Program Committee**

5. *11th ACM SIGPLAN Workshop on Transactional Computing (Transact'16)*, Barcelona, Spain, March 2016

**Member of the Program Committee**

6. *4<sup>th</sup> International Conference on NETWORKED Systems (NETYS'16)*, Rabat, Morocco, May 2016

**Member of the Program Committee**

7. *19<sup>th</sup> International Conference on Principles of Distributed Systems (OPODIS'15)*, Rennes, France, December 2015.

**Member of the Program Committee**

8. *Ad Hoc Now Workshop*, Athens, Greece, July 2015

**Member of the Program Committee** of the Special Track on "Distributed Computing with Mobile Agents"

9. *6th Workshop on the Theory of Transactional Memory (WTTM'14)*, Paris, France, July 2014 (in conjunction with PODC'14)

**Member of the Program Committee**

10. *33<sup>rd</sup> ACM SIGACT-SIGOPS Symposium on Principles of Distributed Computing (PODC'14)*, Paris, July 2014

**Member of the Program Committee**

11. *41st International Colloquium on Automata, Languages and Programming (ICALP'14)*, 2014

**Member of the Program Committee**

12. *9th Workshop on Transactional Computing (TRANSACT'14)*, Salt Lake City, Utah, USA, March 2014.

**Member of the Program Committee**

13. *32<sup>nd</sup> ACM SIGACT-SIGOPS Symposium on Principles of Distributed Computing (PODC'13)*, July 22-24, Montreal, Canada, 2013

**Member of the Program Committee**

14. *14th International Conference on Distributed Computing and Networking (ICDCN'13)*, Mumbai, India, January 3-6, 2013

**Member of the Program Committee**

15. *5th Workshop on the Theory of Transactional Memory (WTTM'13)*, Jerusalem, Israel, October 2013.

**Member of the Program Committee**

16. *2012 International Conference on Parallel Processing, for the track "Algorithm design and parallelism" (ICPP'12)*, Pittsburgh, PA, September 10-13, 2012.

**Member of the Program Committee**

17. *29<sup>th</sup> Annual ACM SIGACT-SIGOPS Symposium on Principles of Distributed Computing (PODC'10)*, Zurich, Switzerland, July 2010

**Member of the Program Committee**

18. *IEEE International Parallel and Distributed Processing Symposium (IPDPS'10), Algorithms Track*, Atlanta, Georgia, April 2010

**Member of the Program Committee**

19. *International Conference on Parallel and Distributed Computing and Networks (PDCN'10)*, Innsbruck, Austria, February 2010

**Member of the Program Committee**

20. *20<sup>th</sup> ACM Symposium on Parallelism in Algorithms and Architectures (SPAA'08)*, Munich, Germany, June 2008

**Member of the Program Committee**

21. *26<sup>th</sup> Annual ACM SIGACT-SIGOPS Symposium on Principles of Distributed Computing (PODC'07)*, Portland, Oregon, USA, August 2007

**Member of the Program Committee**

22. *International Conference on Parallel and Distributed Computing and Networks (PDCN'07)*, Innsbruck, Austria, February 2007

**Member of the Program Committee**

23. *International Conference on Parallel and Distributed Computing and Networks (PDCN'06)*, Innsbruck, Austria, February 2006

**Member of the Program Committee**

24. *9<sup>th</sup> International Conference on Principles of Distributed Systems (OPODIS'05)*, Pisa, Italy, December 2005

**Member of the Program Committee**

25. *19<sup>th</sup> International Symposium on Distributed Computing (DISC'05)*, Krakow, Poland, September 2005

**Member of the Program Committee**

26. *IADIS Multi-conference on Computer Science and Information Systems, (MCCSIS'05), 2005*

**Member of the Program Committee**

27. *International Conference on Parallel and Distributed Computing and Networks (PDCN'05)*, Innsbruck, Austria, February 2005

### **Member of the Program Committee**

28. 23<sup>rd</sup> Annual ACM SIGACT-SIGOPS Symposium on Principles of Distributed Computing (**PODC'04**), St. John's, Newfoundland, Canada

### **Member of the Program Committee**

29. 9<sup>th</sup> IEEE International Conference on Parallel and Distributed Systems (**ICPADS'02**), Taiwan, December 2002

### **Member of the Program Committee**

30. 15<sup>th</sup> International Symposium on DIStributed Computing (**DISC'01**), Lisbon, Portugal, October 2001

### **Member of the Program Committee**

31. 14<sup>th</sup> International Symposium on DIStributed Computing (**DISC'00**), Toledo, Spain, October 2000

### **Member of the Program Committee**

32. 7<sup>th</sup> International Conference on High Performance Computing (**HiPC'00**), Bangalore, India, December 2000

### **Member of the Program Committee**

## **Participation in other Committees**

1. HiPEAC - European Network on High Performance and Embedded Architecture and Compilation

**Member of the Collaboration Grants Review Committee, June 2016**

## **Organization of Conferences and Workshops**

1. ACM-W Europe womENCourage Celebration of Women in Computing (womENCourage'16), Linz, Austria, September 2016

### **Poster Session Chair**

2. ACM-W Europe womENCourage Celebration of Women in Computing (womENCourage'15), Uppsala, Sweden, September 2015

**(1) Judge of Hackathon, (2) Paper Session Chair & (3) Discussion Leader of a discussion session (unconference)**

3. 7th Workshop on the Theory of Transactional Memory (**WTTM'15**), Donostia-San Sebastián, Spain, July 2015 – in conjunction with PODC'15
4. 6th Workshop on the Theory of Transactional Memory (**WTTM'14**), Paris, France, July 2014 – in conjunction with PODC'14
5. 5th Workshop on the Theory of Transactional Memory (**WTTM'13**), Jerusalem, Israel, October 2013 – in conjunction with DISC'14



**Organization co-chair** (with *Alessia Milani*, *University of Bordeaux, France*, and *Paolo Romano*, *INESC-ID, Portugal*)

6. *31<sup>st</sup> Annual ACM SIGACT-SIGOPS Symposium on Principles of Distributed Computing (PODC'12)*, Madeira Island, Portugal, 2012

**Treasurer** (*Steering Committee Chair: Andrzej Pelc*)

7. *4th Workshop on the Theory of Transactional Memory (WTTM'12)*, Madeira, Portugal, October 2012 – in conjunction with PODC'12

**Organization co-chair** (with *Vincent Gramoli*, *EPFL, Switzerland*, *Alessia Milani*, *University of Bordeaux, France*, and *Paolo Romano*, *INESC-ID, Portugal*)

8. *28<sup>th</sup> Annual ACM SIGACT-SIGOPS Symposium on Principles of Distributed Computing (PODC'09)*, Calgary, Alberta, Canada

**Awards Chair**, August 2009

9. *24<sup>th</sup> Annual ACM SIGACT-SIGOPS Symposium on Principles Of Distributed Computing (PODC'05)*, Las Vegas, Nevada, USA

**Publicity co-chair** with *Danny Hendler* (Department of Computer Science, University of Toronto), July 2005.

10. *23<sup>rd</sup> Annual ACM SIGACT-SIGOPS Symposium on Principles Of Distributed Computing (PODC'04)*, St. John's, Newfoundland, Canada

**Publicity co-chair** with *Victor Luchango* (Sun Microsystems Labs), July 2004.

11. *12<sup>th</sup> International Symposium on DIStributed Computing (DISC'98)*, Andros, Greece

**Local Arrangements & Publicity co-chair** with *Paul Spirakis* (University of Patras, Hellas & Computer Technology Institute, Patras, Hellas) and *Lefteris Kirousis* (University of Patras & Computer Technology Institute), September 1998.

## Organization of Schools

2. *TransForm School on Research Directions in Distributed Computing (SRDC 2013)*, Heraklion, Greece, June 10-14, 2013

**Organization Chair**

3. *TM track at the MSR Cambridge PhD Summer School 2012*. Microsoft Research in Cambridge, U.K. July 2012.

**Organization co-Chair** (together with *Tim Harris*)

4. *TransForm Initial Training School*, Rennes, France, 2011.

**Organization co-Chair** (together with *Michel Raynal*), February 2011

5. *1<sup>st</sup> Max-Planck Advanced Course on the Foundations of Computer Science*, Saarbrücken, Germany

**Member of the Organizing Committee**, August-September 2000

## 8. Teaching Record

1. **École Polytechnique Fédérale de Lausanne (EPFL), Switzerland**  
*Ecocloud Visiting Professor*, March 2014 – July 2014. Mini Seminar taught:  
Concurrent Computing
2. **University of Crete, Department of Computer Science, Hellas**  
*Assistant Professor*. Courses taught:
  - Data Structures (undergraduate core): Fall 2008, Fall 2009, Spring 2011, Fall 2011, Spring 2013, Fall 2013, Spring 2014, Fall 2014, Spring 2015, Fall 2015, Spring 2016  
The material of this course has been fully digitalized and the lectures have been videotaped (in the context of the Open Courses project of the University of Crete).
  - Principles of Distributed Computing (selective undergraduate): Spring 2016
  - Distributed Computing (graduate): Fall 2009, Fall 2010, Fall 2011, Fall 2012, Fall 2013, Fall 2013, Spring 2015  
The material of this course has been fully digitalized (in the context of the Open Courses project of the University of Crete).
  - Distributed Systems (graduate): Spring 2010, Spring 2011, Spring 2012
3. **University of Ioannina, Department of Computer Science, Greece**  
*Assistant Professor* (April 2008-October 2009), *Lecturer* (November 2002 – March 2008) and *Visiting Assistant Professor* (September 2001 – October 2002). Courses taught:
  - Data Structures (core undergraduate): Fall 2001, Fall 2002, Fall 2003, Fall 2005, Fall 2006, Fall 2007
  - Operating Systems (core undergraduate): Spring 2002, Spring 2003, Spring 2004, Spring 2005
  - Distributed Computing (graduate): Spring 2004, Winter 2004, Spring 2006, Spring 2007, Spring 2008, Spring 2009
  - Distributed Systems (undergraduate): Spring 2002, Winter 2004, Spring 2006, Spring 2007, Spring 2008, Spring 2009
4. **University of Ioannina, Department of Arts, Greece**  
*Visiting Assistant Professor*. Course taught:
  - Multimedia (core undergraduate): Winter 2002.
5. **Greek Open University, Department of Computer Science, Greece**  
*Teaching and Research Fellow*, Academic year 2001- 2002. Courses taught:
  - Software Technology

- Data Structures
  - Operating Systems
6. **University of Saarland**, Department of Computer Science, Saarbrücken, Germany  
*Teaching Fellow*, October 2000- February 2001. Graduate course taught (in collaboration with Berthold Voecking and Uli Mayer):
    - WS00/01: Advanced Algorithms and Data Structures for Different Models of Computation
  7. **University of Patras**, Department of Computer Engineering and Informatics, Greece  
*Teaching Assistant*, January 1996-January 1999. Courses assisted:
    - Operating Systems I (core undergraduate): Winter 1996, Winter 1997, Winter 1998
    - Operating Systems II (core undergraduate): Spring 1995, Spring 1996, Spring 1997.
  8. **University of Crete**, Department of Computer Science, Hellas  
*Teaching Assistant*, September 1995 – November 1995; course assisted:
    - CS 241: C, Assembly, Unix (core undergraduate)

## 9. Student Supervision

### PhD Thesis Supervision

1. Eleftherios Kosmas, September 2008 – March 2015, PhD Thesis: “Techniques for Enhancing Parallelism in Mechanisms that Automatically Execute Sequential Code in Concurrent Environments”, Department of Computer Science, University of Crete.
2. Eleni Kanellou, June 2011 – December 2015 (co-supervisor together with Prof. Michel Raynal), University of Rennes I, France.
3. Nikolaos Kallimanis, October 2007 – June 2013, PhD Thesis: “Efficient Synchronization Techniques”, Department of Computer Science, University of Ioannina.

### Early Stage Researchers

In the context of the Marie-Curie Initial Training Network called TransForm, which Panagiota Fatourou coordinated, she worked with early-stage researchers and published a collection of papers in collaboration with them.

Briefly, the Marie Curie Initial Training Networks aim to improve the career perspectives of early-stage researchers (ESR) who are in the first five years of their research career. Specifically, ESRs are defined as those who are, at the time of selection by the host institution, in the first four years of their research careers. This is measured from the date when they obtained the degree which would formally entitle them to embark on a

doctorate, irrespective of whether or not a doctorate is envisaged. Thus, an ESR requires similar supervision and advising as a PhD student.

Panagiota Fatourou has worked with the following ESRs and has published the following papers in collaboration with them:

1. Dmytro Dziurma: Early Stage Researcher of project TransForm, May 2012 – October 2013
  - V. Bushkov, D. Dziurma, P. Fatourou, and R. Guerraoui, “The PCL theorem: transactions cannot be parallel, consistent and live”, submitted to *Journal of the ACM* (69 pages).
  - V. Bushkov, D. Dziurma, P. Fatourou, and R. Guerraoui, “The PCL theorem: transactions cannot be parallel, consistent and live”, *Proceedings of the 26th ACM Symposium on Parallelism in Algorithms and Architectures (SPAA'14)*, pp. 178-187, Prague, Czech Republic, June 2014.
  - V. Bushkov, D. Dziurma, P. Fatourou, and R. Guerraoui, “Snapshot Isolation Does Not Scale Either”, *5<sup>th</sup> Workshop on the Theory of Transactional Memory (WTTM'13)*, Jerusalem, Israel, October 2013.
  - Panagiota Fatourou, Dmytro Dziurma and Eleni Kanellou, “Consistency for Transactional Memory Computing”, R. Guerraoui and P. Romano (Eds.): *Transactional Memory – Foundations, Algorithms, Tools, and Applications*, Springer LNCS 8913, pp. 3-31, 2015 (book chapter).
  - D. Dziurma, P. Fatourou, and E. Kanellou, “Consistency for Transactional Memory Computing”, *Bulletin of the EATCS*, Vol. 113, June 2014 (25 pages).
2. Mykhailo Iaremko: Early Stage Researcher of project TransForm, November 2011 – October 2012
  - Panagiota Fatourou, Mykhailo Iaremko, Eleni Kanellou and Eleftherios Kosmas, “Algorithmic Techniques in STM Design”, R. Guerraoui and P. Romano (Eds.): *Transactional Memory – Foundations, Algorithms, Tools, and Applications*, Springer LNCS 8913, pp. 101-126, 2015 (book chapter).
  - P. Fatourou, M. Iaremko, E. Kosmas and G. E. Papadakis, “Reducing contention in STM”, *4<sup>th</sup> Workshop on the Theory of Transactional Memory (WTTM 2012)*, Madeira, Portugal, July 2012.
3. Forhad Rabbi: Early Stage Researcher of project TransForm, February 2012 – October 2013
  - Panagiota Fatourou, Eleni Kanellou, Eleftherios Kosmas, Md Forhad Rabbi, “WFR-TM: Wait-Free Readers without Sacrificing Speculation of Writers”, Submitted to *Journal of Parallel and Distributed Computing* (25 pages).
  - Panagiota Fatourou, Eleni Kanellou, Eleftherios Kosmas, Md Forhad Rabbi, “WFR-TM: Wait-Free Readers without Sacrificing Speculation of Writers”, *Proceedings of the 18<sup>th</sup> International Conference on Principles of Distributed Systems (OPODIS'14)*, pp. 420-436, Cortina, Italy, December 2014.

4. Armihtamassebi Kasra: Early Stage Researcher of project TransForm, January 2013 – September 2013
  - D. Dziuma, P. Fatourou, E. Kanellou, and Amirtahmasebi Kasra, “Survey on consistency conditions”, FORTH-ICS TR 439, December 2013.

### **Master Thesis Supervision**

1. Eleftherios Kosmas, “Software Transactional Memory”, February 2007 – September 2008, Department of Computer Science, University of Ioannina.
2. Maria Christodoulidou, “Data Management in P2P systems”, February 2006 – September 2008, Department of Computer Science, University of Ioannina.
3. Nikolaos Kallimanis, “Shared Data Structures”, September 2006 – October 2007, Department of Computer Science, University of Ioannina.

### **Diploma Thesis Supervision**

- Department of Computer Science, University of Crete
  1. Ioannis-Christos Psaradakis, “Distributed data structures for big-data analytics computations”, June 2016 – now.
  2. Maria Xekalaki, “Range queries in Tree-like Data Structures”, September 2015 – now.
  3. Odyseas Makridakis, “Design and Implementation of Data Structures based on Formic Board”, September 2014 – July 2015
  4. Giorgos Papadakis, “Experimental Analysis of Software Transactional Memory Systems”, September 2011 – September 2012
  5. Karolos Antoniadis, “Design and Analysis of Efficient Thread Synchronization Protocols”, September 2011 – June 2012
- *Department of Computer Science, University of Ioannina*
  6. Christos Bournazis, “Experimental Evaluation of Distributed Algorithms”, September 2006-June 2007.
  7. Stavrina Tsourou, “Distributed Hash Tables”, September 2005 – September 2006.
  8. Nikolaos Kallimanis, “Distributed Shared Objects”, September 2004 – June 2005.
  9. Frosini Kouri, “Distributed Storage and Retrieval in P2P Systems”, September 2004 – September 2006.
  10. Maria Christodoulidou, “Data Management in P2P systems”, September 2003 – December 2004.
- *Department of Computer Engineering and Informatics, University of Patras*
  11. George Mourkousis, “Beyond Counting Networks”, September 1998 – May 1999, co-supervised with Paul Spirakis

12. Vassilis Tsivourakis. ``Bandwidth Allocation Protocols'', September 1998 – May 1999, co-supervised with Paul Spirakis

## **Practical Training Supervision**

*Foundation for Research and Technology – Hellas, Institute of Computer Science*

1. Nikolaos Mpatsaras, “Experimental Analysis of distributed hash tables”, June 2016 – September 2016.
2. Evangelos Mageiropoulos, “Simulation of network protocols”, July 2016 – September 2016.

## **Supervision of other Students and young researchers that worked in research projects**

- *Foundation for Research and Technology – Hellas, Institute of Computer Science*
  1. Χρίστη Συμεωνίδου, MSc on Computer Science, University of Crete. Participation in the working team of FORTH ICS project GreenVM.
  2. Charidimos Kiosterakis, BSc on Mathematics, University of Crete. “Analysis of a Highly-Scalable Concurrent Hash Table”, January 2016 – now.
- *Πανεπιστήμιο Κρήτης, Τμήμα Επιστήμης Υπολογιστών*
  1. Alexandros Rasidakis, undergraduate student, Department of Computer Science, University of Crete. “Task-parallel runtime systems”, June 2015 – now.
  2. Christina Tousia, undergraduate student, Department of Computer Science, University of Crete. “Concurrent data structures for indexing very large time series collections”, April 2016 – now.
  3. Kalliopi Polychronaki, undergraduate student, Department of Computer Science, University of Crete. “Concurrent data structures for indexing very large time series collections”, April 2016 – now.
  4. George Kostakis, undergraduate student, Department of Computer Science, University of Crete. “Memory Management Algorithms”, April 2016 – now.
  5. George Kalyvianakis, undergraduate student, Department of Computer Science, University of Crete. “Memory Management Algorithms”, April 2016 – now.
  6. Chrisostomos Maragoulis, undergraduate student, Department of Computer Science, University of Crete. «Hybrid runtime systems», June 2015 – June 2016.
  7. Kalliopi Meladaki, undergraduate student, Department of Mathematics, University of Crete. «Monitoring of Heterogeneous Streams», May 2015 – January 2016.
  8. Parthena Batsina, undergraduate student, Department of Computer Science, University of Crete. «Algorithms for External Memory», October 2013 – February 2014.

- *Computer Technology Institute, Patras*
  1. Anna Evlogimenou. Worked on the implementation of a distributed shared memory frame.
  2. Panagiotis Zarafidis. Worked on the implementation of a dynamic graph connectivity algorithm.
  3. Anna Zoura. Worked on the implementation of a dynamic graph connectivity algorithm.

### **Participation in Doctoral Dissertation Committees**

1. Foivos Zakkak. Department of Computer Science, University of Crete, September 2016 (PhD Advisors: Angelos Bilas and Polyvios Pratikakis).
2. Spyros Agathos. Department of Computer Science, University of Ioannina, May 2016 (PhD Advisor: Vassilios Dimakopoulos). Member of the PhD Advisory Committee.
3. Darko Petrovich, “Efficient Communication and Synchronization on Many-core Processors”, THÈSE N 6552, École Polytechnique Fédérale de Lausanne (EPFL), Switzerland, March 2015 (PhD Advisor: Prof. Andre Schipper)
4. Yannis Nikolakopoulos, “Concurrency Aware Shared Memory Data Structures”, Department of Computer Science and Engineering, Chalmers University of Technology, Sweden, May 2014 (PhD Advisor: Marina Papatriantafilou). Role: Panagiota Fatourou was the Licentiate Discussion Leader.
5. Damien Imbs, “Calculability and progress conditions of distributed objects in shared memory”, IRISA, University of Rennes I, France, April 2012 (PhD Advisor: Prof. Michel Raynal).
6. Vassilis D. Papaefstathiou, “Architectural Support for Software-Guided Energy Reduction of Manycore Communication”, Department of Computer Science, University of Crete, December 2013 (PhD Advisor: Manolis Katevenis).
7. Spyros Lyberis, “Myrmics: A Scalable Runtime System for Global Address Spaces”, Department of Computer Science, University of Crete, July 2013 (PhD Advisor: Dimitris Nikolopoulos).
8. Stamatis Kavadias, “Direct Communication and Synchronization Mechanisms in Chip Multiprocessors”, Department of Computer Science, University of Crete, December 2010 (PhD Advisor: Manolis Katevenis).
9. Vangelis Lappas. Department of Computer Science, University of Ioannina, March 2010- now (PhD Advisor: Vassilios Dimakopoulos). Member of the PhD Advisory Committee.
10. Spiridoula Margariti. Department of Computer Science, University of Ioannina, June 2007 – now (PhD Advisor: Vassilios Dimakopoulos). Member of the PhD Advisory Committee.

## **Participation in Master Thesis Examination Committees**

11. Nikolaos Papakonstantinou. «Combining Recursively Parallel Runtimes with Blocked-based Dependence Analysis», Department of Computer Science, University of Crete, June 2015 (Advisors: Aggelos Bilas and Polyvios Pratikakis).
12. Ευάγγελος Λαδάκης. «GPU-Disasm: A GPU-based x86 Disassembler», Department of Computer Science, University of Crete, October 2015 (Advisor: Evangelos Markatos).
13. Charis Kourdounakis. «Subscription Indexes for Web Syndication Systems», Department of Computer Science, University of Crete. Advisor: Vassilis Christofidis
14. Spiridoula Margariti. «Search in Peer-To-Peer Systems», June 2006 – March 2006. Department of Computer Science, University of Ioannina. Advisor: Vassilios Dimakopoulos
15. Ioannis Petrakis. ``Using Histograms for Building and Querying Workload-Aware Small-Worlds in Peer-to-Peer Systems'', September 2001 – July 2002, Department of Computer Science, University of Ioannina. Advisor: Evangelia Pitoura

## **Participation in Diploma Thesis Examination Committees**

1. Eleftherios Kosmas and Spiridon Agathos. Department of Computer Science, University of Ioannina, September 2004 – September 2005. Advisor: Evangelos Papapetrou.
2. Ioannis Kanellos. Department of Computer Science, University of Ioannina, September 2002 – December 2003. Advisor: Dimitrios Fotiadis
3. Georgia Kastidou. Department of Computer Science, University of Ioannina, September 2001 – July 2002. Advisor: Evangelia Pitoura
4. Panagiotis Papapetrou. Department of Computer Science, University of Ioannina, September 2002 – June 2003. Advisor: Dimitrios Fotiadis
5. Ioannis Petrakis. Department of Computer Science, University of Ioannina, September 2001 – July 2002. Advisor: Evangelia Pitoura
6. Konstantinos Stefanidis. Department of Computer Science, University of Ioannina, September 2002 – September 2003. Advisor: Evangelia Pitoura

## **10. Proposal Evaluation for the European Commission (Expert contracts with REA)**

1. Expert Contract, Contract Number: CT-EX2015D255299-101, Horizon 2020 Work Programme 2016-2017, May 2016



## 11. Participation in Research and Development Projects

- 1. Project Name:** ASAP: A Scalable Analytics Platform  
**Funding Source:** European Commission - RTD project (FP7)  
**Duration:** 1/3/2014– 28/2/2017  
**Participation period:** 1/6/2016 – now  
**Role:** Member of the research team of the project, Laboratory of Computer Architecture and VLSI Systems, Computer Technology Institute, FORTH – Study of distributed containers for the SPARK analytics engine
- 2. Project Name:** ExaNest: European Exascale System Interconnect and Storage  
**Funding Source:** European Commission – FET-HPC project (Horizon 2020)  
**Duration:** 1/12/2015 – 30/11/2018  
**Participation period:** 1/6/2016 – now  
**Role:** Member of the research team of the project, Laboratory of Computer Architecture and VLSI Systems, Computer Technology Institute, FORTH – Study of communication and synchronization requirements of current emerging HPC applications, as well as of optimized communication and synchronization mechanisms to run on top of the ExaNest technology
- 3. Project Name:** ExaNode: European Exascale Processor & Memory Node Design  
**Funding Source:** European Commission – FET-HPC project (Horizon 2020)  
**Duration:** 1/10/2015 – 30/9/2018  
**Participation period:** 1/1/2016 – now  
**Role:** Member of the research team of the project, Laboratory of Computer Architecture and VLSI Systems, Computer Technology Institute, FORTH – Communication and synchronization algorithms for UNIMEM architectures of type PGAS (Partitioned Global Address Space)
- 4. Project Name:** GreenVM: Energy-Efficient Runtimes for Scalable Multicore Architectures  
**Financing Source:** GSRT-ESPA (ARISTEIA Action of the OPERATIONAL PROGRAMME EDUCATION AND LIFELONG LEARNING, co-funded by the European Social Fund (ESF) and National Resources).  
**Duration (from – to):** October 2012 – September 2015  
**Participation Period (from - to):** October 2012 – now  
**Role:** Member of the research team of the project, coordinator of “WP 2: Library support for power-efficient data structures”  
**Description:** GreenVM aims at developing the techniques and tools required towards programming languages, runtime systems and language virtual machines that is specifically tailored for low power consumption in future many-core architectures which will not support cache coherent memories, without sacrificing the ease of programming and fast development times of such a high-level language. We will implement our results into a functional Java Runtime Environment and power-

efficient data-structure libraries tailored for a partially-coherent manycore architecture. Specifically, we will provide a collection of highly-efficient synchronization primitives and concurrent data structures taking into consideration locality issues, as a power efficient version of the Java concurrency utility package for such architectures. We will furthermore extend the architecture with power-aware metrics and counters, and use these extensions to evaluate the energy efficiency of our system.

**5. Project Name: TransForm: Theoretical Foundations of Transactional Memory**

**Financing Source:** European Commission – Marie Curie Action: Initial Training Network

**Duration (from – to):** 1/11/2009 – 31/10/2013

**Participation Period (from - to):** 1/11/2009 – 31/10/2013

**Role:** Coordinator of the project

**Description:** Transactional Memory (TM) is a new programming paradigm which is considered by most researchers as the future of parallel programming. A lot of work is being devoted to the implementation of TM systems, in hardware or solely in software. What might be surprising is the little effort devoted so far to devising a sound theoretical framework to reason about the TM abstraction. To understand properly TM systems as well as be able to assess them and improve them, a rigorous theoretical study of the approach, its challenges and its benefits is badly needed. This is the challenging research goal undertaken by this MC-ITN. The main goal of this project is to gather leading researchers in the field of concurrent computing over Europe, and combine their efforts in order to define what might become the modern theory of concurrent computing. It aims at training a set of graduate students in this direction with the hope that these students will help Europe become a leader in concurrent computing.

**6. Project Name: Transactional Memories: Foundations, Algorithms, Tools, and Applications (Euro-TM, IC1001)**

**Funding Source:** European Commission – COST Action

**Duration:** 2/2011 – 1/2015

**Participation Period:** 2/2011 – 1/2015

**Role:** Greece Representative to the Action – Member of the management committee

**Description:** Parallel programming (PP) used to be an area once confined to a few niches, such as scientific and high-performance computing applications. However, with the proliferation of multicore processors, and the emergence of new, inherently parallel and distributed deployment platforms, such as those provided by cloud computing, parallel programming has definitely become a mainstream concern. Transactional Memories (TMs) answer the need to find a better programming model for PP, capable of boosting developers' productivity and allowing ordinary programmers to unleash the power of parallel and distributed architectures avoiding the pitfalls of manual, lock based synchronization. It is therefore no surprise that TM has been subject to intense research in the last years. This action aims at consolidating European research on this important field, by coordinating the European research groups working on the development of complementary, interdisciplinary aspects of

Transactional Memories, including theoretical foundations, algorithms, hardware and operating system support, language integration and development tools, and applications.

7. **Project Name: Herakleitos II: Reinforcement Programme of Human Research Manpower**

**Financing Source:** Herakleitos II: Reinforcement Programme of Human Research Manpower - General Secretariat of Research & Technology (GSRT)

**Duration:** 9/2010 – 8/2013

**Participation Period:** 9/2010 – 3/2015

**Role:** Advisor of the PhD student that undertook the research project

8. **Project Name:** Open University Courses

**Financing Source:** GSRT-ESPA

**Duration:** 2012 – 2015

**Role:** Instructor of the course HY240 which has been fully digitalized; Instructor of the course HY586 which has been partially digitalized.

9. **Project Name:** European Network of Excellence on High Performance and Embedded Architecture and Compilation (HIPEAC II and III)

**Financing Source:** European Commission – Network of Excellence (FP7)

**Duration:** 2008 – 2016

**Description:** HiPEAC's mission is to steer and increase the European research in the area of high-performance and embedded computing systems, and stimulate cooperation between a) academia and industry and b) computer architects and tool builders.

**Role:** Member of the network, 2010 - now.

10. **Project Name: CumuloNimbo – A Highly Scalable Transactional Multi-Tier Platform as a Service**

**Funding Source:** European Commission - STREP project (FP7)

**Duration:** 10/2010 –9/2013

**Participation Period:** 2/2011 – October 2013

**Role:** Participation to the project's working team of the Computer Architecture and VLSI Systems Lab, Institute of Computer Science, Foundation for Research and Technology –Hellas – Contribution to the study of the consistency of such systems.

**Description:** CumuloNimbo is a European project funded by the European Commission under the 7th Programme Framework (FP7) that targets to obtain a highly scalable transactional platform as a service (PaaS). One of the innovations will be attaining scalability without trading off consistency as it is the norm in today's PaaS.

11. **Project Name: STREAM – Scalable Autonomic Streaming Middleware for Real-Time Processing of Massive Data Flows**

**Funding Source:** European Commission – STREP project (FP7)

**Duration:** 2/2008 –1/2011

**Participation Period:** 6/2009 – 31/1/2011

**Role:** Participation to the project’s working team of the Computer Architecture and VLSI Systems Lab, Institute of Computer Science, Foundation for Research and Technology –Hellas – Study of existing data flow computing systems.

**Description:** A growing number of applications requires the ability to analyze massive amounts of streaming data in real-time. Examples of such applications are: market data feed processing of the output of large scale ad-hoc networks, etc. The project aims at providing a highly scalable cloud computing platform to enable a new breed of services.

**12. Project Name: MOMENT – Monitoring and Measurement in the Next Generation Technologies**

**Funding Source:** European Commission – STREP project (FP7)

**Διάρκεια:** 1/2008 – 6/2010

**Participation Period:** 1/2009 – 6/2009

**Role:** Participation to the project’s working team of the Distributed Systems Computing Lab, Institute of Computer Science, Foundation for Research and Technology –Hellas – Production of a survey on the Analysis of Network Traffic Streams.

**Description:** This project aimed at integrating existing network measurement and monitoring infrastructures towards a common and open, pan-European platform.

**13. Project Name: ENCORE – Enabling technologies for programmable manycores**

**Funding Source:** European Commission – FP7

**Duration:** 3/2010 – 2/2013

**Participation Period:** 3/2010 - now

**Role:** Participation to the project’s working team of the Computer Architecture and VLSI Systems Lab, Institute of Computer Science, Foundation for Research and Technology –Hellas – Contribution to the design and analysis of concurrent data structures for modern multicores systems.

**Description:** ENCORE focuses on runtime management of parallelism and data locality for future heterogeneous many-core processors.

**14. Project Name: Design and Analysis of Concurrent Data Structures**

**Financing Source:** Research Committee, University of Ioannina

**Duration (from – to):** 1/9/2007 – 31/8/2009

**Participation Period (from - to):** 1/9/2009 - now

**Role:** Faculty member, Department of Computer Science, University of Ioannina

**Description:** The purpose of the project is the design and analysis of fundamental concurrent data structures with the main emphasis on snapshot objects.

**15. Project Name: Operational Programme for Education and Initial Vocational Training (EPEAEK)**

**Financing Source:** Ministry of National Education and Religious Affairs

**Duration (from – to):** 1/1/2003 – 31/12/2005

**Participation Period (from - to):** 1/1/2003 - now

**Role:** Faculty Position, Department of Computer Science, University of Ioannina

**Description:** The purpose of the project is the re-design and upgrade of the undergraduate and graduate programme of studies of the Department of Computer Science at the University of Ioannina. Participation at the following work packages:

- α. Phase U1 – Re-design of the undergraduate programme of studies: U.1.1. Study of Objectives.
- β. Phase U3 – Evaluation of the undergraduate programme of studies: U.1.3. Design of the Evaluation System.
- γ. Phase M3 – Evaluation of the graduate programme of studies: M.1.3 – Design of the Evaluation System.

**16. Project Name: Metro – Research and teaching on distributed computing and networking.**

**Financing Source:** Greek Secretariat of Research and Technology (program ENTEP)

**Duration:** 24 months (academic years 2002-2003 and 2003-2004)

**Participation Period:** The project has been approved by the GSRT but it was withdrawn by the participants (Panagiota Fatourou and Leandros Tassioulas) due to the appointment of Panagiota Fatourou as a faculty member of the Department of Computer Science of the University of Ioannina.

**Role:** Invited researcher from abroad

**Scientific Director:** Leandros Tassioulas

**17. Project Name: Long-Duration European Research Project ESPRIT #20244 – ALCOM-IT (Algorithms and COMplexity on Information Technology), Computer Technology Institute, Patras.**

**Financing Source:** European Union

**Duration:** 01/01/1996 – 30/6/1999

**Participation Period:** 01/01/1996 – 30/6/1999

**Role:** Junior Researcher, Computer Technology Institute, Patras

**Description:** Participation to the following work packages of the project:

- α. W.P. 1.1, LEDA (Library of Efficient Data Structures and Algorithms)  
Implementation of dynamic graph connectivity algorithms.
- β. W.P. 2.1, FRAMES  
Design and implementation of a software library for the simulation of distributed shared memory.
- γ. W.P. 4.1, PAROS (PARAllel Operating Systems)

- Design and implementation of efficient scheduling algorithms for multi-threaded computations.
18. **Project Name: Pilot network of the schools of Achaia, Computer Technology Institute, Patras.**  
**Financing Source:** Achaia's Prefecture  
**Duration:** 01/01/1996 - 31/12/1996  
**Participation Period:** 01/01/1996 – 31/12/1996  
**Role:** Junior Researcher, Computer Technology Institute, Patras  
**Description:** Design of networking applications for educational purposes.
  19. **Project Name: RU-1 Odyssey, Computer Technology Institute**  
**Financing Source:** Ministry of National Education and Religious Affairs  
**Duration:** 01/01/97 – now  
**Participation Period:** 01/01/1997 – 31/7/1997  
**Role:** Junior Researcher, Computer Technology Institute, Patras  
**Description:** Design and implementation of networking education software.
  20. **Project Name: European Project Training Educators through Networks and Distributed Systems (TRENDS), Computer Technology Institute.**  
**Financing Source:** European Union  
**Duration:** 01/01/96 – 31/01/98  
**Participation Period:** 01/08/1997 – 31/12/1997  
**Role:** Junior Researcher, Computer Technology Institute, Patras  
**Description:** Design of distance education software.
  21. **Project Name: Greek Parliament Information System**  
**Financing Source:** Greek Parliament  
**Duration:** 01/01/96 – 31/12/96  
**Participation Period:** 01/01/96 – 31/12/96  
**Role:** Junior Researcher, Computer Technology Institute, Patras  
**Description:** Design of the information system of the Greek Parliament.

## 12. Lectures – Seminars - Presentations

### Lectures – Seminars

1. *National and Kapodistrian University of Athens*, Department of Informatics and Telecommunications, September 2015. Lecture Title: “Efficient Design Techniques for Concurrent Data Structures”.
2. *Chalmers University*, Department of Computer Science and Engineering, Sweden, May 2014. Lecture Title: “Highly-Efficient Concurrent Data Structures”.

3. *École Polytechnique Fédérale de Lausanne (EPFL)*, April 2014. Lecture Title: “Highly-Efficient Concurrent Data Structures”.
4. *Technion*, Israel, July 2011. Lecture Title: “Highly-Efficient Synchronization Techniques”.
5. *Foundation for Research and Technology, Institute of Computer Science*, Crete, March 2008. Lecture Title: “Snapshot Objects”.
6. *Foundation for Research and Technology, Institute of Computer Science*, Crete, November 2007. Lecture Title: “Concurrent Data Structures”.
7. *University of Ioannina*, July 2007. Lecture Title: “Current Research on Atomic Snapshots”.
8. *Computer Science Department, University of Toronto, Canada*, July 2006. Lecture Title: “Single-Scanner Multi-Writer Snapshot Implementations are Fast!”
9. *Foundation for Research and Technology, Institute of Computer Science*, Crete, November 2005. Lecture Title: “Concurrent Objects – Multithreaded Computations”.
10. *University of Ioannina*, April 2002. Lecture Title: “Concurrent Objects with emphasis on adding networks and atomic snapshots”.
11. *Max-Planck Institut für Informatik (MPII), Saarbrücken, Germany*, September 1999 – February 2000. Participation in four series of lectures at MPII. Lectures Titles:
  - “Distributed Computing – Algorithms and Impossibility Results”, November 2000.
  - “Scheduling Multithreaded Computations”, November 2000.
  - “Thread Scheduling for Multiprogrammed Multiprocessors”, July 2000.
  - “Scheduling Algorithms for Strict Multithreaded Computations”, September 1999.
12. *University of Patras*, January 1996 – August 1999. *Participation in three series of lectures of the Department of Computer Engineering and Informatiks. Talk Titles:*
  - “A New Scheduling Algorithm for Strict Multithreaded Computations”, May 1999.
  - “Algorithmic Foundations of Rate-Based Flow Control”, April 1999.
  - “Max-Min Fair Flow Control”, May 1998.
  - “Optimal Optimistic Algorithms for Rate-Based Flow Control”, August 1997.
13. *University of Cyprus*, September 1997. Lecture Title: “Modern Trends in Theory of Rate-Based Flow Control”.
14. *University of Paderborn*, December 1996. Lecture Title: “Efficient Scheduling of Multithreaded Computations”.

### **Invited Lectures in Schools**

Prof. Fatourou was an invited speaker at the following school:

- *6th School on Hot Topics in Distributed Computing (HTDC 2013)*, La Plagne, France, February 2013, Lecture title: “Theory results in Transactional Memory”

## Invited Lectures at Conferences

- *Combinatorial and Global Optimization Conference*, Chania, Crete, May 1998.  
Lecture Title: “Priority, Max-Min Flow Control, Sensitive to Traffic Levels”

## Presentations at Conferences & Workshops,

- *International Conference on NETworked sYStems (NETYS'14)*, pp. 25-40, Marrakech, Morocco, May 2014
- *Euro-TM Workshop on Transactional Memory (WTM'13)*, Prague, Czech Republic, April 2013.
- *5<sup>th</sup> Workshop on the Theory of Transactional Memory (WTTM'13)*, Jerusalem, Israel, October 2013 (two presentations)
- *17th ACM SIGPLAN Symposium on Principles and Practice of Parallel Programming (PPoPP'12)*, New Orleans, LA, USA, February 2012
- *3<sup>rd</sup> Workshop on the Theory of Transactional Memory (WTTM'11)*, Rome, Italy, September 2011
- *ACM Symposium on Principles of Distributed Computing (PODC'07)*, pp. 33-42, Portland, Oregon, August 2007
- *35<sup>th</sup> Annual ACM Symposium on Theory of Computing (STOC)*, San Diego, California, June 2003
- *15<sup>th</sup> International Symposium on DIStributed Computing (DISC)*, Lisbon, Portugal, October 2001
- *13<sup>th</sup> Annual ACM Symposium on Parallel Algorithms and Architectures (SPAA)*, Crete Island, Greece, July 2001
- *13th International Symposium on DIStributed Computing (DISC)*, Bratislava, Slovak Republic, September 1999
- *3rd International Workshop on Algorithm Engineering (WAE)*, London, United Kingdom, July 1999
- *2nd International Conference on Principles of Distributed Systems (OPODIS)*, Amiens, France, December 1998
- *17th Annual ACM Symposium on Principles of Distributed Computing (PODC)*, Puerto Vallarta, Mexico, June/July 1998
- *Combinatorial and Global Optimization Conference*, Chania, Crete, May 1998 (invited talk)
- *16th Annual ACM Symposium on Principles of Distributed Computing (PODC)*, Santa Barbara, California, August 1997

## 13. Awards

*Computer Technology Institute, Patras, Hellas, 1999*

**Best Young Researcher Award.**



*Greek Mathematical Society, 1990*

**Prize in the Pan-Hellenic Competition**

*Greek Mathematical Society, 1989*

**Prize in the Pan-Hellenic Competition**