

# CURRICULUM VITAE

**FIRST NAME:** Nikolaos  
**LAST NAME:** Papaspyrou  
**FATHER'S NAME:** Spyridon  
**MOTHER'S NAME:** Niki Lamba  
**DATE OF BIRTH:** January 26, 1971  
**PLACE OF BIRTH:** Athens, Greece  
**SEX:** Male  
**NATIONALITY:** Greek  
**MARITAL STATUS:** Married, two children  
**SPOUSE'S NAME:** Aikaterini Apostolidou  
**MILITARY SERVICE:** Fulfilled (1998-1999)  
**ADDRESS:** Archimidous 7, Pangrati, 11635 Athens, Greece  
**TELEPHONE (HOME):** +30-210-7524801  
**TELEPHONE (OFFICE):** +30-210-7723393  
**FAX:** +30-210-7722519  
**E-MAIL:** [nickie@softlab.ntua.gr](mailto:nickie@softlab.ntua.gr)  
**URL (web page):** <https://www.softlab.ntua.gr/~nickie/>

## POSITION

2019– Professor, School of Electrical and Computer Engineering, National Technical University of Athens, Greece.

2013–2019 Associate Professor, School of Electrical and Computer Engineering, National Technical University of Athens, Greece.

2015–2016 Visiting Researcher (on sabbatical), working with Google's compiler group in Munich, Germany, on things related to the V8 JavaScript engine.

2006–2013 Assistant Professor, School of Electrical and Computer Engineering, National Technical University of Athens, Greece.

2002–2006 Lecturer, School of Electrical and Computer Engineering, National Technical University of Athens, Greece.

## RESEARCH INTERESTS

Theory and implementation of programming languages:

Type systems, semantics, program verification, mechanized theorem proving, safety of concurrent programming languages, functional programming and monads, semantics of (parallel) logic programming, intensional and multidimensional programming, quantum programming, compilers, static analysis.

*Other research interests:*

Formal methods, software engineering, human-computer interaction, educational software, learning environments, hypermedia programming, intelligent software agents.

## STUDIES

- 1994–1998 Ph.D. in Computer Science, Department of Electrical and Computer Engineering, National Technical University of Athens, Greece.
- 1993–1994 Master of Science, Computer Science Department, Cornell University, Ithaca, NY.
- 1988–1993 Diploma of Electrical and Computer Engineer (specialization: Computer Science), National Technical University of Athens, Greece (GPA: 9,58/10).

## TEACHING EXPERIENCE

- 2002– Instructor at the School of Electrical and Computer Engineering of the National Technical University of Athens, Greece. *Courses:*
- **Computer Programming**, 1st semester: 2002-03 until today.
  - **Programming Techniques**, 2nd semester: 2002-03 until 2005-06, 2016-17 until today.
  - **Programming Languages I**, 6th semester: 2008-09 until today.
  - **Compilers**, 8th semester: 2002-03 until today.
  - **Programming Languages II**, 9th semester: 2001-02 until today.
  - **Type Systems for Programming Languages**, post-graduate: 2004-05 until today.

*Courses taught in previous years:*

- **Software Engineering**, 9th semester: 2003-04, 2004-05 and 2016-17.
  - **Introduction to Computers**, 1st semester, School of Applied Mathematical and Physical Sciences: 2002-03.
- 2001 Short-term professor, Department of Electrical and Computer Engineering, National Technical University of Athens, Greece, elected according to the provisions of the Presidential Decree 407/80. *Courses:*
- **Programming Techniques**, 2nd semester: 2001-02.
- 2000 Short-term professor, Department of Electronic and Computer Engineering, Technical University of Crete, Chania, Greece, elected according to the provisions of the Presidential Decree 407/80. *Courses:*
- **LOG102: Software Engineering I** (C, programming techniques and data structures), 2nd semester: 2000-01.
  - **LOG201: Software Engineering II** (C++ and Unix systems programming), 4th semester: 2000-01.

## RESEARCH EXPERIENCE

- 2012–2014 Research project “SemNatComp: Semantic Models and Technologies for Natural Computations”, funded by the Greek Secretariat of Research and Technology, and the European Regional Development Fund, programme “Competitiveness Entrepreneurship & Regions in Transition”, action “Bilateral Co-operation Greece-Romania 2011-2012”. Coordinator for the NTUA–ICCS. Budget: € 15.000.
- 2012-2016 Research project “Handling Uncertainty in Data Intensive Applications on a Distributed Computing Environment (Cloud Computing)” (THALES MIS 380153), funded by the European Social Fund and Greek national funds through the Operational Program “Education and Lifelong Learning” of the National Strategic Reference Framework.

- 2011-2014 Research project “RELEASE: A High-level Paradigm for Reliable Large-scale Server Software”, funded by the European Union FP7 STREP (IST-2011-287510). Coordinator for the NTUA–ICCS. Budget: € 259.408.
- 2010-2012 Research project “Safety Properties for Concurrent Programming Languages”, funded by the NTUA. Coordinator. Budget: € 15.000.
- 2006–2009 Research project “Declarative Programming Languages: Extensions, Implementations and Applications in Software Development and the World-Wide-Web”, funded by the Greek Secretariat of Research and Technology, programme ΠΕΝΕΑ 2003. Coordinator for the NTUA. Budget: € 75.000.
- 2006–2009 Research project “Analysis of the System ABEKT at the Level of Architecture and Source Code”, funded by the National Hellenic Research Foundation, National Documentation Center. Budget: € 8.330.
- 2004–2006 Research project “Theory of Algorithms and Logic: Applications in Computer Science”, funded by the Greek Ministry for Education and the European Union, programme ΕΠΕΑΕΚ II, “Pythagoras: Support of Research Teams in the National Technical University of Athens”. Budget: € 62.000.
- 2004–2005 Research project “TELL: Towards Effective Network Supported Collaborative Learning Activities”, funded by the European Union programme e-Learning. Coordinator for NTUA–ICCS. Budget: € 43.319.
- 2003–2005 Research project “Continuations and Monads for Parallel and Distributed Computing”, funded by the Greek Secretariat for Research and Technology, bilateral Greek-Romanian research collaboration 2002-2005. Coordinator for the NTUA. Budget: € 12.169.
- 2002–2004 Research project “E-LEN: A Network of e-Learning Centers”, funded by the European Union programme SOCRATES/ MINERVA, NTUA.
- 2001–2003 Research project “mENU: A Model for a European Networked University for e-Learning”, funded by the European Union programme eLEARNING INITIATIVE, NTUA.
- 2001–2003 Research project “FL-ArchDesign: Formal Description Languages for the Architectural Design of Software Systems”, NTUA.
- 2000–2001 Visiting post-doctoral researcher, Department of Computer Science, Yale University, New Haven, CT. Research project “FLINT: Systems software for advanced languages”.
- 2000–2001 Research project “SynSemAL: Syntax and Semantics of Artificial Languages”, NTUA–ICCS.
- 1999–2001 Research project “Executable intensional languages and intelligent applications of multimedia, hypermedia and virtual reality”, funded by the Greek Secretariat of Research and Technology, programme ΠΕΝΕΑ ’99, University of Piraeus, NRCS Dimokritos, University of Ioannina.
- 1996–1998 Research project “Automatic document management in an office environment with the aid of intelligent agents”, funded by the Greek Secretariat of Research and Technology, programme ΠΕΝΕΑ ’95, NTUA–ICCS.
- 1995–1998 Research project “MECPOL”, funded by the European Union programme SOCRATES, NTUA–ICCS.
- 1995–1997 Research project “EONT”, funded by the European Union programme SOCRATES, NTUA–ICCS.
- 1995–1998 Research project “Study of cataloguing and teaching Greek children literature”, funded by the European Union programme EPET-2, NTUA–ICCS.
- 1995–1996 Research project “Ghinsu”, funded by the Software Engineering Research Center, University of Florida and NTUA.
- 1994–1996 Research project “Ilektroniki pedotrives”, NTUA.

- 1993–1994 Research project and M.Sc. thesis, Cornell University.
- 1992–1994 Research project “ORION” for the construction of educational software, funded by the European Community assistance programme MOP in Informatics, NTUA–ICCS.
- 1990–1992 Research project “LOGOS”, funded by the European Community programme STRIDE, NTUA.

## PROFESSIONAL EXPERIENCE

- 1999–2004 Analyst-programmer and system administrator, Geotechnical Investigations Ltd., Emmanouil Papadaki 19, 14121 Heraklion Attikis, part-time.
- 1998–1999 Military service as a soldier in the Corps of Computer Science Research, with specialization “Research Assistant”. I served at the Computer Office of the 1st Army Corps Headquarters, and then at the Computer Center of the Greek Army’s General Headquarters.
- 1987–1993 Analyst-programmer, Edafomichaniki Ltd., Delfon 5A, 11525 Maroussi, part-time.

## DISSERTATIONS

- T3. Nikolaos S. Papaspyrou, *A formal semantics for the C programming language*, Ph.D. thesis, National Technical University of Athens, Department of Electrical and Computer Engineering, Division of Computer Science, February 1998.
- T2. Nikolaos S. Papaspyrou, “A Proof Editor for Propositional and Predicate Calculus”, Master’s thesis, Cornell University, Department of Computer Science, January 1995.
- T1. Nikolaos S. Papaspyrou, “ARGUS: A Simulation Program Generator”, Diploma Project, National Technical University of Athens, Department of Electrical and Computer Engineering, Division of Computer Science, July 1993.

## MANUSCRIPTS

- B1. Nikolaos S. Papaspyrou and Emmanuel St. Skordalakis, *Compilers*, ISBN: 960-266-135-6, Symmetria, Athens, Greece, 2002.

## TRANSLATIONS

- t1. Michael L. Scott, *Programming Language Pragmatics*, ISBN: 978-960-461-230-7, Kleidarithmos, 2009. Translated by: Nikolaos S. Papaspyrou. Original: 2nd (US) edition, Morgan Kaufmann, 2006.

## PUBLICATIONS IN JOURNALS

- J23. Aggelos Giantsios, Nikolaos Papaspyrou and Konstantinos Sagonas, “Concolic testing for functional languages”, *Science of Computer Programming*, vol. 147, pp. 109–134, November 2017.
- J22. Phil Trinder, Natalia Chechina, Nikolaos Papaspyrou, Konstantinos Sagonas, Simon J. Thompson, Stephen Adams, Stavros Aronis, Robert Baker, Eva Bihari, Olivier Boudeville, Francesco Cesarini, Maurizio Di Stefano, Sverker Eriksson, Viktoria Fordós, Amir Ghaffari, Aggelos Giantsios, Rickard Green, Csaba Hoch, David Klaftenegger, Huiqing Li, Kenneth Lundin, Kenneth MacKenzie, Katerina Roukounaki, Yiannis Tsiouris and Kjell Winblad, “Scaling Reliably: Improving the Scalability of the Erlang Distributed Actor Platform”, *ACM Transactions on Programming Languages and Systems*, vol. 39, no. 4, pp. 17:1–17:46, September 2017.
- J21. Enea Nicolae Todoran and Nikolaos Papaspyrou, “Concurrency Semantics in Continuation-Passing Style”, *Fundamenta Informaticae*, vol. 153, no. 1–2, pp. 125–146, June 2017.

- J20. Georgios Fourtounis, Nikolaos S. Papaspyrou and Panagiotis Theofilopoulos, “Modular Polymorphic Defunctionalization”, *Computer Science and Information Systems*, vol. 11, no. 4, pp. 1417–1434, October 2014.
- J19. Prodromos Gerakios, Nikolaos Papaspyrou and Konstantinos Sagonas, “Static Safety Guarantees for a Low-level Multithreaded Language with Regions”, *Science of Computer Programming*, vol. 80, pp. 223–263, February 2014.
- J18. Angelos Charalambidis, Athanasios Grivas, Nikolaos S. Papaspyrou and P. Rondogiannis, “Efficient Intensional Implementation for Lazy Functional Languages”, *Mathematics in Computer Science*, vol. 2, no. 1, pp. 123–141, November 2008.
- J17. Michael Lampis, Kyriakos G. Ginis, Michalis A. Papakyriakou and Nikolaos S. Papaspyrou, “Quantum Data and Control Made Easier”, *Electronic Notes in Theoretical Computer Science*, vol. 210, pp. 85–105, July 2008.
- J16. Zhong Shao, Valery Trifonov, Bratin Saha and Nikolaos Papaspyrou, “A Type System for Certified Binaries”, *ACM Transactions on Programming Languages and Systems*, vol. 27, no. 1, pp. 1–45, January 2005.
- J15. Petros Georgiakakis, Andreas Papasalouros, Symeon Retalis, Kostas Siassiakos and Nikolaos Papaspyrou, “Evaluating the Usability of Web-Based Learning Management Systems”, *THEMES in Education*, vol. 6, no. 1, pp. 45–59, 2005. Special issue: “ICT in Diaspora”, P. Zaphiris, N. Lambropoulos and G. Zacharia, editors.
- J14. Eneia Todoran, Florian M. Boian, Cornelia Melenti and Nikolaos Papaspyrou, “Continuations for Remote Objects Control”, *Studia Universitatis Babeş-Bolyai, Informatica*, vol. 50, no. 1, pp. 21–37, 2005.
- J13. Eneia Todoran, Paulina Mitrea and Nikolaos Papaspyrou, “Comparative Semantics for the Basic Andorra Model”, *Automation, Computers, Applied Mathematics, (Scientific Journal of the Faculty of Automation and Computer Science, Technical University of Cluj-Napoca, Romania)*, vol. 14, no. 1, pp. 27–41, 2005.
- J12. Andreas Papasalouros, Symeon Retalis and Nikolaos Papaspyrou, “Semantic Description of Educational Adaptive Hypermedia Based on a Conceptual Model”, *Educational Technology and Society*, vol. 7, no. 4, pp. 129–142, October 2004.
- J11. Nikolaos S. Papaspyrou and Ioannis T. Kassios, “GLU<sup>2</sup> Embedded in C++: A Marriage between Multidimensional and Object-Oriented Programming”, *Software Practice and Experience*, vol. 34, no. 7, pp. 609–630, June 2004.
- J10. Eneia Todoran, Nikolaos Papaspyrou, Florian Boian and Cosmina Ivan, “Continuation Semantics for Concurrency and Concurrent Languages Prototyping”, *Scientific Annals of Cuza University*, vol. 15, pp. 22–37, 2004.
- J9. Paris Avgeriou, Symeon Retalis and Nikolaos Papaspyrou, “Modeling Learning Technology Systems as Business Systems”, *Software and Systems Modeling*, vol. 2, no. 2, pp. 120–133, July 2003.
- J8. Eneia Todoran and Nikolaos Papaspyrou, “CSC in Concurrent Languages Prototyping”, *Automation, Computers, Applied Mathematics, (Scientific Journal of the Faculty of Automation and Computer Science, Technical University of Cluj-Napoca, Romania)*, vol. 2, no. 1, pp. 35–46, 2003.
- J7. Nikolaos S. Papaspyrou, “Denotational Semantics of ANSI C”, *Computer Standards and Interfaces*, vol. 23, no. 3, pp. 169–185, July 2001.

- J6. Nikolaos S. Papaspyrou and Dragan Mačoš, “A Study of Evaluation Order Semantics in Expressions with Side Effects”, *Journal of Functional Programming*, vol. 10, no. 3, pp. 120–133, May 2000.
- J5. Nikolaos Papaspyrou, Symeon Retalis, Sofoklis Efremidis, Gerasimos Barlas and Emmanuel Skordalakis, “Web-based Teaching in Software Engineering”, *Advances in Engineering Software*, vol. 30, no. 12, pp. 901–906, December 1999.
- J4. Nikolaos S. Papaspyrou, Cleo E. Sgouropoulou and Emmanuel S. Skordalakis, “A Model of Collaborating Agents for Content-Based Electronic Document Filtering”, *Journal of Intelligent and Robotic Systems*, vol. 26, no. 2, pp. 199–213, October 1999.
- J3. Symeon Retalis, Vassilis Makrakis, Nikos Papaspyrou and Manolis Skordalakis, “A Case Study of an Enriched Classroom Model Based on the World Wide Web”, *Active Learning*, no. 8, pp. 15–19, July 1998.
- J2. Vassilis Makrakis, Symeon Retalis, Anastasios Koutoumanos, Nikos Papaspyrou and Manolis Skordalakis, “Evaluating the Effectiveness of an ODL Hypermedia System and Courseware at the National Technical University of Athens: A Case Study”, *Journal of Universal Computer Science*, vol. 4, no. 3, pp. 259–272, March 1998.
- J1. Nikolaos S. Papaspyrou, “A Framework for Programming Denotational Semantics in C++”, *ACM SIGPLAN Notices*, vol. 31, no. 8, pp. 16–25, August 1996.

#### **PUBLICATIONS IN COLLECTIONS**

- C9. Zhong Shao, Valery Trifonov, Bratin Saha and Nikolaos Papaspyrou, “A Type System for Certified Binaries”, in Jaynarayan H. Lala, editor, *Foundations of Intrusion Tolerant Systems*, pp. 60–85, ISBN: 0-7695-2057-X, IEEE Computer Society Press, Los Alamitos, CA, 2003.
- C8. Symeon Retalis, Paris Avgeriou and Nikolaos Papaspyrou, “Design of Networked Educational Software”, in A. Lontarakis, editor, *Opinions and Thoughts on Open and Distance Learning*, pp. 153–187, ISBN: 960-7860-20-9, Propompos, 2001.
- C7. Ioannis Drositis, Nectarios Koziris, Nikolaos Papaspyrou and Panayotis Tsanakas, “A Systolic Approach to Loop Partitioning and Mapping into Fixed Size Distributed Memory Architectures”, in D. I. Fotiadis and S. D. Nikolopoulos, editors, *Advances in Informatics*, pp. 83–96, ISBN: 981-02-4192-5, World Scientific, Singapore, 2000.
- C6. Nikolaos S. Papaspyrou and Vassilios C. Vescoukis, “Facilitating the Definition of Programming Languages by Using Parametric Context-Free Grammars”, in D. I. Fotiadis and S. D. Nikolopoulos, editors, *Advances in Informatics*, pp. 260–272, ISBN: 981-02-4192-5, World Scientific, Singapore, 2000.
- C5. Nikolaos S. Papaspyrou, “A Case Study in Specifying the Denotational Semantics of C”, in S. G. Tzafestas, editor, *Advances in Intelligent Systems: Concepts, Tools and Applications*, pp. 63–74, ISBN: 0-7923-5966-6, Kluwer Academic Publishers, Dordrecht, November 1999.
- C4. Nikolaos S. Papaspyrou, Cleo E. Sgouropoulou, Alexandros V. Gerbessiotis, Panos Livadas and Emmanuel Skordalakis, “A Multi-Agent Model for Content-Based Electronic Document Filtering”, in S. G. Tzafestas, editor, *Advances in Intelligent Systems: Concepts, Tools and Applications*, pp. 75–86, ISBN: 0-7923-5966-6, Kluwer Academic Publishers, Dordrecht, November 1999.
- C3. Nikolaos S. Papaspyrou, “A Methodology for the Definition of Programming Languages”, in N. Mastorakis, editor, *Software and Hardware Engineering for the 21st Century*, pp. 67–78, ISBN: 960-8052-06-8, World Scientific and Engineering Society Press, July 1999.

- C2. Nikolaos S. Papaspyrou, “Denotational Semantics of Evaluation Order in Expressions with Side Effects”, in N. Mastorakis, editor, *Recent Advances in Information Science and Technology*, pp. 87–94, ISBN: 981-02-3657-3, World Scientific, Singapore, 1998.
- C1. Sofoklis Efremidis, Symeon Retalis, Nikolaos Papaspyrou and Emmanuel Skordalakis, “Teaching Software Engineering through the Net”, in C. Tasso, R. A. Adey and M. Pighin, editors, *Software Quality Engineering*, pp. 3–13, ISBN: 1-85312-403-6, Computational Mechanics Publications, 1997.

## PUBLICATIONS IN CONFERENCE PROCEEDINGS

- P53. Eleni Bakali, Panagiotis Cheilaris, Dimitris Fotakis, Martin Fürer, Costas D. Koutras, Euripides Markou, Christos Nomikos, Aris Pagourtzis, Christos H. Papadimitriou, Nikolaos S. Papaspyrou and Katerina Potika, “Stathis Zachos at 70!”, in Dimitris Fotakis, Aris Pagourtzis and Vangelis Th. Paschos, editors, *Proceedings of the 10th International Conference on Algorithms and Complexity (CIAC 2017)*, vol. 10236 of *Lecture Notes in Computer Science*, pp. 469–484, May 24–26, 2017.
- P52. Aggelos Giantsios, Nikolaos Papaspyrou and Konstantinos Sagonas, “Concolic Testing for Functional Languages”, in *Proceedings of the 17th International Symposium on Principles and Practice of Declarative Programming (PPDP’15)*, pp. 137–148, ISBN: 978-1-4503-3516-4, ACM, July 8–11, 2015.
- P51. Georgios Fourtounis and Nikolaos Papaspyrou, “An Efficient Representation for Lazy Constructors using 64-bit Pointers”, in Jost Berthold, Mary Sheeran and Ryan Newton, editors, *Proceedings of the 3rd ACM SIGPLAN Workshop on Functional High-performance Computing (FHPC 2014)*, pp. 23–30, Gothenburg, Sweden, September 4, 2014, ACM.
- P50. Angelos Charalambidis, Nikolaos Papaspyrou and Panos Rondogiannis, “Tagged Dataflow: A Formal Model for Iterative Map-Reduce”, in *Proceedings of the Workshop on Algorithms for MapReduce and Beyond*, pp. 29–36, Athens, Greece, March 28, 2014.
- P49. Nikolaos S. Papaspyrou and Stathis Zachos, “Teaching Programming through Problem Solving: The Role of the Programming Language”, in Maria Ganzha, Leszek A. Maciaszek and Marcin Paprzycki, editors, *Proceedings of the 4th Workshop on Advances in Programming Languages (WAPL 2013), Federated Conference on Computer Science and Information Systems (FedCSIS 2013)*, pp. 1533–1536, ISBN: 978-1-4673-4471-5, Kraków, Poland, September 8–11, 2013.
- P48. Yannis Rouselakis, Nikolaos S. Papaspyrou, Yiannis Tsiouris and Enea Todoran, “Compilation to Quantum Circuits for a Language with Quantum Data and Control”, in Maria Ganzha, Leszek A. Maciaszek and Marcin Paprzycki, editors, *Proceedings of the 4th Workshop on Advances in Programming Languages (WAPL 2013), Federated Conference on Computer Science and Information Systems (FedCSIS 2013)*, pp. 1537–1544, ISBN: 978-1-4673-4471-5, Kraków, Poland, September 8–11, 2013.
- P47. Enea Nicolae Todoran and Nikolaos Papaspyrou, “Experiments with Continuation Semantics for DNA computing”, in *Proceedings of the 9th IEEE International Conference on Intelligent Computer Communication and Processing (ICCP)*, pp. 251–258, ISBN: 978-1-4799-1493-7, Cluj-Napoca, Romania, September 5–7, 2013, IEEE.
- P46. Emmanouil Koukoutos and Nikolaos Papaspyrou, “Type Inference for a Higher-Order Extension of Prolog”, in *Proceedings of the 9th Panhellenic Logic Symposium*, pp. 75–80, Athens, Greece, July 15–18, 2013.
- P45. Georgios Fourtounis and Nikolaos Papaspyrou, “Supporting Separate Compilation in a Defunctionalizing Compiler”, in José Paulo Leal, Ricardo Rocha and Alberto Simões, editors, *Proceedings of*

*the 2nd Symposium on Languages, Applications and Technologies (SLATE '13)*, vol. 29, pp. 39–49, ISBN: 978-3-939897-52-1, Porto, Portugal, June 20–21, 2013, Schloss Dagstuhl, Leibniz-Zentrum für Informatik.

- P44. Georgios Fourtounis, Nikolaos Papaspyrou and Panos Rondogiannis, “The Generalized Intensional Transformation for Implementing Lazy Functional Languages”, in *Proceedings of the 15th International Symposium on Practical Aspects of Declarative Languages (PADL '13)*, vol. 7752 of *Lecture Notes in Computer Science*, pp. 157–172, ISBN: 978-3-642-45283-3, Rome, Italy, January 21–22, 2013, Springer.
- P43. Ioannis Voyiatzis, Kyriakos Axiotis, Nikolaos Papaspyrou, Hera Antonopoulou and Constantinos Efstathiou, “Test Set Embedding into Low-power BIST Sequences using Maximum Bipartite Matching”, in *Proceedings of the 16th Panhellenic Conference on Informatics*, pp. 74–79, Piraeus, Greece, October 5–7, 2012, IEEE Computer Society.
- P42. Stavros Aronis, Nikolaos Papaspyrou, Katerina Roukounaki, Konstantinos Sagonas, Yiannis Tsiouris and Ioannis E. Venetis, “A Scalability Benchmark Suite for Erlang/OTP”, in Torben Hoffman and John Hughes, editors, *Proceedings of the 11th ACM SIGPLAN Erlang Workshop*, pp. 33–42, Copenhagen, Denmark, September 14, 2012, ACM.
- P41. Nikolaos Papaspyrou and Konstantinos Sagonas, “On Preserving Term Sharing in the Erlang Virtual Machine”, in Torben Hoffman and John Hughes, editors, *Proceedings of the 11th ACM SIGPLAN Erlang Workshop*, pp. 11–20, Copenhagen, Denmark, September 14, 2012, ACM.
- P40. Olivier Boudeville, Francesco Cesarini, Natalia Chechina, Kenneth Lundin, Nikolaos Papaspyrou, Konstantinos Sagonas, Simon Thompson, Phil Trinder and Ulf Wiger, “RELEASE: A High-level Paradigm for Reliable Large-scale Server Software”, in *Post-Proceedings of the Symposium on Trends in Functional Programming (TFP 2012)*, vol. 7829 of *Lecture Notes in Computer Science*, pp. 263–278, St. Andrews, Scotland, June 12–14, 2012, Springer-Verlag. An earlier version of this paper was included in the symposium’s draft proceedings.
- P39. Prodromos Gerakios, Nikolaos Papaspyrou, Konstantinos Sagonas and Panagiotis Vekris, “Dynamic Deadlock Avoidance in Systems Code Using Statically Inferred Effects”, in *Proceedings of the 6th Workshop on Programming Languages and Operating Systems (PLOS '11)*, pp. 5:1–5, ISBN: 978-1-4503-0979-0, Cascais, Portugal, October 23, 2011, ACM.
- P38. Georgios Fourtounis, Peter Csaba Ölveczky and Nikolaos Papaspyrou, “Formally Specifying and Analyzing a Parallel Virtual Machine for Lazy Functional Languages using Maude”, in *Proceedings of the 5th ACM SIGPLAN International Workshop on High-Level Parallel Programming and Applications (HLPP)*, pp. 19–26, ISBN: 978-1-4503-0862-5, Tokyo, Japan, September 18, 2011.
- P37. Georgios Korfiatis, Michalis A. Papakyriakou and Nikolaos Papaspyrou, “A Type and Effect System for Implementing Functional Arrays with Destructive Updates”, in Maria Ganzha, Leszek A. Maciaszek and Marcin Paprzycki, editors, *Proceedings of the 3rd Workshop on Advances in Programming Languages (WAPL 2011), Federated Conference on Computer Science and Information Systems (FedCSIS 2011)*, pp. 879–886, ISBN: 978-83-60810-34-4, Szczecin, Poland, September 18–21, 2011.
- P36. Niki Vazou, Michalis Papakyriakou and Nikolaos Papaspyrou, “Memory Safety and Race Freedom in Concurrent Programming Languages with Linear Capabilities”, in Maria Ganzha, Leszek A. Maciaszek and Marcin Paprzycki, editors, *Proceedings of the 3rd Workshop on Advances in Programming Languages (WAPL 2011), Federated Conference on Computer Science and Information Systems (FedCSIS 2011)*, pp. 833–840, ISBN: 978-83-60810-34-4, Szczecin, Poland, September 18–21, 2011.



- P35. Georgios Fourtounis, Nikolaos Papaspyrou and Panos Rondogiannis, “The Intensional Transformation for Functional Languages with User-Defined Data Types”, in *Proceedings of the 8th Panhellenic Logic Symposium*, pp. 38–42, Ioannina, Greece, July 4-8, 2011.
- P34. Prodromos Gerakios, Nikolaos Papaspyrou and Konstantinos Sagonas, “A Type and Effect System for Deadlock Avoidance in Low-level Languages”, in *Proceedings of the 6th ACM SIGPLAN Workshop on Types in Language Design and Implementation (TLDI 2011)*, pp. 15–28, ISBN: 978-1-4503-0484-9, Austin, TX, USA, January 25, 2011.
- P33. Prodromos Gerakios, Nikolaos Papaspyrou and Konstantinos Sagonas, “A Type System for Unstructured Locking that Guarantees Deadlock Freedom without Imposing a Lock Ordering”, in Kohei Honda and Alan Mycroft, editors, *Proceedings of the 3rd International Workshop on Programming Language Approaches to Concurrency and Communication-cEntric Software (PLACES 2010)*, vol. 69 of *Electronic Proceedings in Theoretical Computer Science*, pp. 44–58, Paphos, Cyprus, March 21, 2010. A shorter version of the paper appeared in the workshop’s preproceedings.
- P32. Prodromos Gerakios, Nikolaos Papaspyrou and Konstantinos Sagonas, “Race-free and Memory-safe Multithreading: Design and Implementation in Cyclone”, in *Proceedings of the 5th ACM SIGPLAN Workshop on Types in Language Design and Implementation (TLDI 2010)*, pp. 15–26, ISBN: 978-1-60558-891-9, Madrid, Spain, January 23, 2010.
- P31. Prodromos Gerakios, Nikolaos Papaspyrou and Konstantinos Sagonas, “A Concurrent Language with a Uniform Treatment of Regions and Locks”, in Alastair R. Beresford and Simon Gay, editors, *Proceedings of the 2nd International Workshop on Programming Language Approaches to Concurrency and Communication-cEntric Software (PLACES 2009)*, vol. 17 of *Electronic Proceedings in Theoretical Computer Science*, pp. 79–93, York, England, March 22, 2009. A shorter version of the paper appeared in the workshop’s preproceedings.
- P30. Angelos Manousaridis, Michalis Papakyriakou and Nikolaos S. Papaspyrou, “From Program Verification to Certified Binaries”, in Arnold Beckmann, Costas Dimitracopoulos and Benedikt Löwe, editors, *Proceedings of the 4th Conference on Computability in Europe*, pp. 324–331, June 2008.
- P29. Michalis A. Papakyriakou and Nikolaos S. Papaspyrou, “Mechanized Proofs of Type Safety for a Family of Lambda Calculi with References”, in *2nd Informal ACM SIGPLAN Workshop on Mechanizing Metatheory*, Freiburg, Germany, October 4, 2007.
- P28. Michalis A. Papakyriakou, Prodromos E. Gerakios and Nikolaos S. Papaspyrou, “A Mechanized Proof of Type Safety for the Polymorphic Lambda Calculus with References”, in *Proceedings of the 6th Panhellenic Logic Symposium*, Volos, Greece, July 5-8, 2007.
- P27. Konstantinos Pouliasis and Nikolaos S. Papaspyrou, “Axiomatizing Principia Metaphysica in Isabelle/HOL”, in *Proceedings of the 6th Panhellenic Logic Symposium*, Volos, Greece, July 5-8, 2007.
- P26. Michael Lampis, Kyriakos G. Ginis and Nikolaos S. Papaspyrou, “Quantum Data and Control Made Easier”, in Peter Selinger, editor, *Preliminary Proceedings of the 4th International Workshop on Quantum Programming Languages*, pp. 73–86, Oxford, UK, July 17-19, 2006.
- P25. Angelos Charalambidis, Athanasios Grivas, Nikolaos Papaspyrou and Panos Rondogiannis, “Efficient Intensional Implementation for Lazy Functional Languages”, in *Proceedings of the 17th International Workshop on the Implementation and Application of Functional Languages (IFL '05)*, Dublin, Ireland, September 19-21, 2005.

- P24. Nikolaos S. Papaspyrou, Michalis A. Papakyriakou and Angelos Manousaridis, “Encoding Hoare Logic in Typed Certified Code”, in *Proceedings of the 5th Panhellenic Logic Symposium*, pp. 134–141, Athens, Greece, July 25-28, 2005.
- P23. Eneia Todoran, Nikolaos Papaspyrou and Kalman Pusztai, “Denotational Prototype Semantics for a Simple CSP-Like Language”, in *Proceedings of the 8th IEEE International Conference on Intelligent Engineering Systems (INES 2004)*, pp. 319–325, Cluj-Napoca, Romania, September 19-21, 2004.
- P22. Nikolaos S. Papaspyrou, Dimitrios Ch. Vytiniotis and Vassilios M. Koutavas, “Logic-Enhanced Type Systems: Programming Language Support for Reasoning about Security and Other Program Properties”, in *Proceedings of the 4th Panhellenic Logic Symposium*, pp. 141–145, ISBN: 960-431-859-4, Thessaloniki, Greece, July 7-10, 2003, Ziti Publishing.
- P21. Nikolaos S. Papaspyrou, Stergios Stergiou, Georgios Manis and George Papakonstantinou, “A Meta-interface for Programming Embedded Applications in a Tailor-Made Operating System”, in *Proceedings of the 4th International Workshop on Computer Science and Information Technologies (CSIT 2002)*, Patras, Greece, September 18-20, 2002.
- P20. Zhong Shao, Bratin Saha, Valery Trifonov and Nikolaos Papaspyrou, “A Type System for Certified Binaries”, in *Proceedings of the 29th ACM SIGPLAN-SIGACT Symposium on Principles of Programming Languages (POPL '02)*, pp. 217–232, ISBN: 1-58113-450-9, Portland, OR, January 16-18, 2002. Also published in *ACM SIGPLAN Notices*, vol. 37, no. 1, January 2002.
- P19. Nikolaos S. Papaspyrou, “Formal Specification of the User Interface by Using Parametric Context-Free Grammars”, in N. Avouris and N. Fakotakis, editors, *Advances in Human-Computer Interaction I, Proceedings of the Panhellenic Conference with International Participation on Human-Computer Interaction (PC-HCI 2001)*, pp. 71–76, ISBN: 960-7620-18-6, Patras, Greece, December 7-9, 2001, Typorama.
- P18. Nikolaos S. Papaspyrou, Ioannis P. Panagopoulos, Stergios Stergiou and George Papakonstantinou, “Developing Embedded Applications for a Component-Based Operating System”, in *Proceedings of the 4th Multiconference, Information Society (IS 2001), Development and Reengineering of Information Systems*, pp. 383–387, Ljubljana, Slovenia, October 22-26, 2001.
- P17. Nikolaos S. Papaspyrou, “A Resumption Monad Transformer and its Applications in the Semantics of Concurrency”, in *Proceedings of the 3rd Panhellenic Logic Symposium*, Anogia, Greece, July 17-22, 2001.
- P16. Christos Koutsikas, Dimitrios Staikos, Konstantinos Bitsakos, Nikolaos Papaspyrou and Nikolaos Malevris, “Testing a Communications Driver for the IEEE 1394 High Speed Serial Bus Standard”, in *Proceedings of the 1st International Conference on Practical Software Testing Techniques (PSTT 2000)*, pp. 1–12, Minneapolis, MN, USA, September 20, 2000.
- P15. Eneia Todoran and Nikolaos S. Papaspyrou, “Continuations for Parallel Logic Programming”, in *Proceedings of the 2nd ACM SIGPLAN International Conference on Principles and Practice of Declarative Programming (PPDP '00)*, pp. 257–267, ISBN: 1-58113-265-4, Montréal, Canada, September 20-23, 2000.
- P14. Paris Avgeriou, Anastasios Koutoumanos, Symeon Retalis and Nikolaos Papaspyrou, “Learning Object Metadata in a Web-Based Learning Environment”, in *Proceedings of Technology in Teaching and Learning in Higher Education: An International Conference*, pp. 241–246, Samos, Greece, August 25-27, 2000.

- P13. Symeon Retalis, Paris Avgeriou and Nikolaos Papaspyrou, “Design of Networked Educational Software: The Method CADMOS-D and the Tool CRITON”, in *Proceedings of the Conference on Open and Distance Learning and Regional Development*, ISBN: 960-8583-0-6, Igoumenitsa, December 13-14, 1999.
- P12. Nikolaos S. Papaspyrou and Vassilios C. Vescoukis, “Facilitating the Definition of Programming Languages by Using Parametric Context-Free Grammars”, in *Proceedings of the 7th Hellenic Conference on Informatics*, vol. II, pp. 91–98, Ioannina, Greece, August 1999.
- P11. Nikolaos S. Papaspyrou, Aris N. Tsois and Emmanuel S. Skordalakis, “An Object-Oriented Simulation Program Generator”, in *Proceedings of the International Workshop on Discrete Event Systems (WoDES '98)*, pp. 42–47, Cagliari, Italy, August 26-28, 1998.
- P10. Anastasios Koutoumanos, Nikolaos Papaspyrou, Symeon Retalis, Cleo Sgouropoulou, Ioannis Sgourovassilakis and Emmanuel Skordalakis, “Distance Learning Applications in Banking: The D-LAB project”, in *Proceedings of the 2nd European Conference in Higher Education Information Systems (EUNIS '97)*, Grenoble, France, September 9-11, 1997.
- P9. Nikolaos Papaspyrou, Symeon Retalis, Anastasios Koutoumanos, Emmanuel Giakoumakis and Emmanuel Skordalakis, “A Model for Multimedia Courseware Cost Estimation”, in *Proceedings of the 3rd Panhellenic Conference with International Participation on the Didactics of Mathematics and Informatics in Education*, pp. 417–436, Patra, Greece, 1997.
- P8. Nikolaos S. Papaspyrou, “A Static Semantics for the Type System of C: A Formal Mathematical Description”, in *Proceedings of the 6th Panhellenic Conference in Computer Science*, pp. 691–700, Athens, Greece, 1997.
- P7. Nikolaos S. Papaspyrou, Cleo E. Sgouropoulou, Dimitrios N. Petroglou, Alexandros V. Gerbessiotis, Panos Livadas and Emmanuel S. Skordalakis, “A Model for Content-Based Electronic Document Filtering Using Intelligent Agents”, in *Proceedings of the 6th Panhellenic Conference in Computer Science*, pp. 679–688, Athens, Greece, 1997.
- P6. Anastasios Koutoumanos, Nikolaos Papaspyrou, Simeon Retalis, Hermann Maurer and Emmanuel Skordalakis, “Towards a Novel Networked Learning Environment”, in *Proceedings of the World Conference of the Web Society (WebNet 96)*, pp. 267–272, San Francisco, CA, October 15-19, 1996.
- P5. Nikolaos Papaspyrou, Anastasios Koutoumanos, Hermann Maurer and Emmanuel Skordalakis, “An Ongoing Experiment in ODL Using New Technologies”, in *Proceedings of the World Conference of the Web Society (WebNet 96)*, pp. 390–395, San Francisco, CA, October 15-19, 1996.
- P4. Nikolaos Papaspyrou and Aris Tsois, “ARGUS: An Object Oriented Simulation Program Generator”, in *Proceedings of the Conference on Advanced Information Systems Engineering (CAiSE\*96) Doctoral Consortium*, pp. 42–45, Heraklion, Greece, 1996.
- P3. Vassilios C. Vescoukis, Nikolaos Papaspyrou and Emmanuel Skordalakis, “A Logic-Based Framework for Reasoning Support in Software Evolution”, in *Proceedings of the Conference on Advanced Information Systems Engineering (CAiSE\*96)*, vol. 1080 of *Lecture Notes in Computer Science*, pp. 44–59, ISBN: 3-540-61292-0, Heraklion, Greece, 1996.
- P2. Anastasios Koutoumanos, Nikolaos Papaspyrou and Emmanuel Skordalakis, “The Experimental Distance Learning System SL-DLS”, in *Proceedings of the Distance Learning Conference*, Athens, Greece, 1995, Institute of Education.
- P1. Anastasios Koutoumanos, Nikolaos Papaspyrou, Andreas Syrigos and Emmanuel Skordalakis, “Towards a Novel Approach for the Completion and Submission of the Tax Form”, in *Proceedings of the 5th Panhellenic Conference in Computer Science*, pp. 403–409, Athens, Greece, 1995.

## CITATIONS

Until the March of 2019 there were 684 citations to the above publications (h-index: 15) according to [Google Scholar](#) (Publish or Perish), 495 citations according to [Microsoft Academic Search](#) and 234 citations (h-index: 8) according to [Scopus](#).

## SUPERVISION OF DOCTORAL AND POSTGRADUATE THESES

- Petros Barbagiannis, M.Sc. (MIIAA), 2017
- Niki Vazou, M.Sc. (MIIAA), 2015
- George Fourtounis, Ph.D., 2014
- Panagiotis Theofilopoulos, M.Sc. (MIIAA), 2013
- Prodromos Gerakios, Ph.D., 2012 (co-supervised with Kostis Sagonas)

In March 2019, I supervise eight (8) Ph.D candidates. I have supervised more than 60 diploma projects.

## REVIEWER IN JOURNALS

- Computer Languages, Systems and Structures.
- Computer Methods and Programs in Biomedicine.
- Computer Science and Information Systems.
- Fundamenta Informaticae.
- Informatica.
- Information and Software Technology.
- International Journal of Computer Research.
- International Journal of Cooperative Information Systems
- IT Professional.
- Journal of Educational Technology and Society.
- Journal of Intelligent and Robotic Systems.
- Mathematics in Computer Science.

## PROGRAM AND ORGANIZATION COMMITTEES FOR CONFERENCES

- International Conference on Open Source Systems, 2018. Program committee.
- Symposium on Implementation and Application of Functional Languages, 2016. Program committee.
- ACM Symposium On Applied Computing, Technical Track on Programming Languages, 2012 until 2018. Program committee.
- Workshop on Advances in Programming Languages (WAPL), 2011, 2013, 2015, 2017 Program committee.
- Symposium on Computer Languages, Implementations and Tools (SCLIT), 2011 until 2018. Program committee.
- Panhellenic Logic Symposium, 2017: Program committee, organizing committee. 2015: Program committee, organizing committee. 2013: Program committee, organizing committee (chair). 2005: Organizing committee.
- Balkan Conference in Informatics (BCI), 2012, 2013, 2015, 2017. Program committee.
- Panhellenic Conference on Informatics, 2014, 2015, 2016. Program committee.
- Workshop on Global Computing Models and Technologies, 2008. Program committee.

## REVIEWER IN CONFERENCES

- ACM/SIGPLAN Conference on Programming Language Design and Implementation (PLDI), 2001.
- ACM/SIGPLAN International Conference on Principles and Practice of Declarative Programming (PPDP), 2007, 2008, 2012.
- ACM/SIGPLAN Workshop on Partial Evaluation and Program Manipulation (PEPM), 2012.
- European Symposium on Programming, 2006, 2007, 2008, 2009.
- Practical Aspects of Declarative Languages (PADL), 2011
- International Symposium on Symbolic and Algebraic Computation (ISSAC), 2011.
- International Conference on Concurrency Theory (CONCUR), 2009.
- Computability in Europe, Logic and Theory of Algorithms, 2008.
- Workshop on Global Computing Models and Technologies, 2008.
- European Starting AI Researcher Symposium (STAIRS), 2006.
- Fundamentals of Software Engineering (FSEN), 2011.
- Panhellenic Logic Symposium, 2005, 2007.
- Panhellenic Conference on Human-Computer Interaction, 2001.
- Panhellenic Conference on Informatics, 2001, 2003.
- Multiconference on Circuits, Systems, Communications and Computers, 2000.
- International Conference on Circuits, Systems and Computers, 1998, 1999.
- World Conference of the Web Society (WebNet), 1997, 1998, 1999.

## ADMINISTRATIVE ACTIVITIES

- Director of the Division of Computer Science, School of Electrical and Computer Engineering, December 2017 until today.
- Member of the Special Interdepartmental Committee for the graduate program in Algorithms, Logic and Discrete Mathematics (AAMA), 2016-17 until today.
- Member of the Special Interdepartmental Committee for the graduate program in Logic and the Theory of Algorithms (MIIAA), 2003-04 until 2007-18.
- Academic advisor to ΔOATAII for the recognition of university diplomas in the field of Electrical and Computer Engineering, 2008 until today.
- Member of several committees for supplies and hiring; School of Electrical and Computer Engineering, National Technical University of Athens, and ICCS.

## OTHER SCIENTIFIC ACTIVITIES

- Member of the scientific committee of the Greek National Contest of Informatics. Since 2006 I volunteer as a coach, problem setter and evaluator of students who participate in the contest. I am currently responsible for hosting the automated tutoring and grading system, Hellenico, in the premises of the Software Engineering Laboratory. Every year since 2006, I organize the preparation camp for the contest's finalists, out of which the national teams are selected. I have also served as leader and deputy leader in many delegations of our national teams to the:
  - *International Olympiad in Informatics*: Croatia (2007), Egypt (2008), Bulgaria (2009), Canada (2010), Thailand (2011), Italy (2012), Taiwan (2014), Kazakhstan (2015), Iran (2017), Japan (2018).
  - *Balkan Olympiad in Informatics*: Bulgaria (2009), Montenegro (2010), Romania (2018).

- *Junior Balkan Olympiad in Informatics*: Bulgaria (2009 and 2013), Romania (2018).
- Examiner of two subjects in the examinations for scholarships awarded by the Greek State Scholarship Foundation, from 2004 until 2010.
- Reviewer of proposals for a contest of the European Space Agency, 2011.
- Examiner for ΑΣΕΠ, division “ΠΕ19: Computer Science”, 2008.
- Member of ACM (Association for Computing Machinery), SIGPLAN (Special Interest Group on Programming Languages).

## AWARDS AND DISTRICTIONS

- 1997 Financial support from the NATO Advanced Study Institute for participation in the Marktoberdorf Summer School on Computational Logic.
- 1996 Financial support from the NATO Advanced Study Institute for participation in the Marktoberdorf Summer School on Mathematical Methods in Program Development.
- 1996 Award of the Chorafas Foundation.
- 1993–1994 Assistantship for graduate studies from Cornell University.
- 1993 Prize of the Technical Chamber of Greece.
- 1993 Award in memory of Ioannis Kollias, NTUA.
- 1992 Prize of the Technical Chamber of Greece.
- 1992 1st place award in the national contest for young scientists of the Greek Mathematics Society, and participation in the contest of the European Community in Sevilla, Spain.
- 1991 1st place award in the national contest for young scientists of the Greek Mathematics Society, and participation in the contest of the European Community in Zurich, Switzerland.
- 1990 2nd place award in the national contest for young scientists of the Greek Mathematics Society, and participation in the contest of the European Community in Copenhagen, Denmark.
- 1987 3rd place award in the national contest of the Greek Mathematics Society.
- 1982–1988 Awards of distinguished progress, honorary diplomas of the City of Athens.

## LANGUAGES

- Greek Mother tongue.
- English Cambridge Proficiency in English (1990, Grade B).
- French Diplôme d’ Etudes Supérieures (1987, Mention Bien).
- German Three years of studies.