

# Curriculum Vitae

Katerina Potika

## Education

- **Ph.D.** in Computer Science, National Technical University of Athens, Greece, 2004. **Thesis Title:** “Approximation Algorithms for Satisfying Communication Requests in All-Optical Multifiber Networks”. **Advisor:** Stathis Zachos.
- **Diploma:** Electrical and Computer Engineering, National Technical University of Athens, Greece, 1997.

## Teaching Positions

- “Business Information Systems”, Department of Technology & Information Management, University of California Santa Cruz (Lecturer Position), Spring 2008.
- “Data Structures and Analysis of Algorithms”, Graduate Program of the Department of Informatics, Athens University of Economics and Business, Fall 2007 and Fall 2004.
- “Algorithms and Complexity” (undergraduate course), School of Applied Mathematics and Physics, National Technical University of Athens, Fall 2006.
- “Algorithms and Complexity” (undergraduate course), Department of Informatics and Telecommunications, National and Kapodistrian University of Athens, Spring 2005.
- “Computational Complexity”, Graduate Program of Logic, Algorithms and Computation, Inter - University Program of Graduate Studies (Athens), Spring 2005.

## Academic Positions

- Post Doc Researcher, project title “Optimization problems in computer and communication networks: theoretical foundations, efficient algorithm design and experimental software development”, School of Electrical and Computer Engineering, National Technical University of Athens, 2006-2008.
- Post Doc Researcher, project title “Graph Drawing”, program “Pythagoras” of the Greek Ministry of Education, School of Applied Mathematics and Physics, National Technical University of Athens 2004-2006.
- Researcher. Project title “Algorithms for Routing and Wavelength Assignment in All Optical Networks”, program “Protagoras” of Basic Research, National Technical University of Athens (NTUA), 2004-2006.
- Young Researcher. Project title “Algorithms for Optimal Use of Bandwidth in All Optical Networks”, program “Archimedes” of the Institute of Communication and Computer Systems (NTUA-ICCS), 2000-2001.
- Visiting Researcher at the University of Konstanz. Project title “AMORE - Algorithmic Methods for Optimizing the Railways in Europe”, a Research Training Network (proposal no RTN1-1999-00446, contract no HPRN-CT-1999-00104), Supervisor Dorothea Wagner, May-June 2002.

- Visiting Researcher at the Swiss Federal Institute of Technology Zurich (ETH Zurich), Computer Engineering and Networks Laboratory, group of Thomas Erlebach. May-June 2002.

## Research Interests

Graph Algorithms, Algorithmic Game Theory, Graph Drawing, Computer Networks.

## Skills

- Languages: C/C++, Java, Pascal, SQL, HTML. Some experience: Perl, Prolog.
- Environments: Unix. Some experience: Microsoft Windows.
- Software: Microsoft Office, Microsoft Visio, Web Page Design, Workflows, WebCT, eclipse, LEDA (C++ class library of efficient data types and algorithms).

## Publications

### Journals

- J4.** *An experimental study of maximum profit wavelength assignment in WDM rings.* Evangelos Bampas, Aris Pagourtzis, and Katerina Potika. **Networks**, Wiley, to appear 2010.
- J3.** *Area-Feature Boundary Labeling.* Michael A. Bekos, Michael Kaufmann, Katerina Potika and Antonios Symvonis. **Computer Journal**, Oxford Journals, published online on September 11, 2009.
- J2.** *Path Multicoloring with Fewer Colors in Spiders and Caterpillars.* Aris Pagourtzis, Katerina Potika, Stathis Zachos. **Computing** 80(3), pages 255-274, Springer Verlag Wien, 2007.
- J1.** *Routing and Wavelength Assignment in Multifiber WDM Networks with Non-Uniform Fiber Cost.* Christos Nomikos, Aris Pagourtzis, Katerina Potika, Stathis Zachos. **Computer Networks** 50(1), pages 1-14, Elsevier 2006.

### Conferences and Workshops (with reviewers)

- C16.** *On a Non-Cooperative Model for Wavelength Assignment in Multifiber Optical Networks.* Evangelos Bampas, Aris Pagourtzis, Giorgos Pierrakos and Katerina Potika. Proceedings of the 19th **International Symposium on Algorithms and Computation** (ISAAC 2008), LNCS 5369, pages 159-170.
- C15.** *Maximum Profit Wavelength Assignment in WDM Rings.* Evangelos Bampas, Aris Pagourtzis and Katerina Potika. Proceedings of the 7th **Cologne-Twente Workshop on Graphs and Combinatorial Optimization** (CTW 2008).
- C14.** *Selfish Wavelength Assignment in Multifiber Optical Networks (abstract).* Evangelos Bampas, Aris Pagourtzis, George Pierrakos and Katerina Potika. Proceedings of the 1st **Annual Meeting of the Asian Association for Algorithms and Computation** (AAAC 2008).

- C13. *Line Crossing Minimization on Metro Maps*. Michael A. Bekos, Michael Kaufmann, Katerina Potika and Antonios Symvonis. Proceedings of the 15th **International Symposium on Graph Drawing** (GD2007), 2007, LNCS 4875, pages 231-242.
- C12. *Selfish Routing and Path Coloring in All-Optical Networks*. Ioannis Milis, Aris Pagourtzis and Katerina Potika. Proceedings of the 4th **Workshop on Combinatorial and Algorithmic Aspects of Networking** (CAAN), 2007, LNCS 4852, pages 71-84.
- C11. *Conflict-free Coloring for Connected Subgraphs of Trees and Trees of Rings*. Georgia Kaouri, Aris Pagourtzis, Katerina Potika. Proceedings of the 11th **Panhellenic Conference on Informatics** (PCI 2007).
- C10. *Maximum Request Satisfaction in WDM Rings: Algorithms and Experiments*. Evangelos Bampas, Aris Pagourtzis and Katerina Potika. Proceedings of the 11th **Panhellenic Conference on Informatics** (PCI 2007).
- C9. *Multi-Stack Boundary Labeling Problems*. Michael A. Bekos, Michael Kaufmann, Katerina Potika and Antonios Symvonis. Proceedings of the 26th Conference on **Foundations of Software Technology and Theoretical Computer Science** (FSTTCS 2006), LNCS 4337, pages 81-92.
- C8. *Polygon Labelling of Minimum Leader Length*. Michael A. Bekos, Michael Kaufmann, Katerina Potika and Antonios Symvonis. Proceedings of the **Asia Pacific Symposium on Information Visualisation** (APVIS 2006). CRPIT, 60. Misue, K., Sugiyama, K. and Tanaka, J., Eds., ACS. 15-21.
- C7. *Boundary Labelling of Optimal Total Leader Length*. Michael A. Bekos, Michael Kaufmann, Katerina Potika and Antonios Symvonis. Proceedings of the 10th **Panhellenic Conference on Informatics** 2005, LNCS 3746, pages 80-89.
- C6. *Maximizing the Number of Connections in Multifiber WDM Chain, Ring and Star Networks*. Katerina Potika. Proceedings of the 4th **International IFIP-TC6 Networking Conference** (Networking 2005), LNCS 3462, pages 1465-1470.
- C5. *Fiber Cost Reduction and Wavelength Minimization in Multifiber WDM Networks*. Christos Nomikos, Aris Pagourtzis, Katerina Potika, Stathis Zachos. Proceedings of the 3rd **International IFIP-TC6 Networking Conference** (Networking 2004), LNCS 3042, pages 150-161.
- C4. *Limited Bandwidth in Multiple-Fiber All-Optical Caterpillars: a Minimization Problem*. Thomas Erlebach, Aris Pagourtzis, Katerina Potika, Stamatis Stefanakos. Proceedings of the 1st **Balkan Conference on Informatics** (BCI 2003), pages 133-146.
- C3. *Resource Allocation Problems in Multifiber WDM Tree Networks*. Thomas Erlebach, Aris Pagourtzis, Katerina Potika, Stamatis Stefanakos. Proceedings of the 29th **International Workshop on Graph Theoretic Concepts in Computer Science** (WG 2003), LNCS 2880, pages 218-229.
- C2. *Path Multi-Coloring in Weighted Graphs*. Christos Nomikos, Aris Pagourtzis, Katerina Potika, Stathis Zachos. Proceedings of the 8th **Panhellenic Conference on Informatics** (PCI 2001), Volume I, pages 178-186.
- C1. *Medusa: An Operating Systems Simulator*. J. Kerenidis, E. Markakis, K. Potika, C. Siaterlis. Proceedings of the 2nd **IES 2000**, pages 52-54.

Technical Reports

**T1.** *Resource Allocation Problems in Multifiber WDM Tree Networks.* T. Erlebach, A. Pagourtzis, E. Potika, and S. Stefanakos. **ETH Zuerich**, TIK Report Nr.178, August 2003.

Submitted Work

**S1.** *Selfish Routing and Path Coloring in All-Optical Networks.* Ioannis Milis, Aris Pagourtzis and Katerina Potika. Submitted to a journal.

## Invited Talks

- *Selfish routing and path coloring in all-optical networks* (minitalk). 4th Bay Algorithmic Game Theory Symposium, 12 October 2007, Yahoo! Inc. Headquarters, Sunnyvale, CA, USA.
- *Optimization Problems in Multifiber Optical Networks.* 1st Athens Colloquium on Algorithms and Complexity, 22-23 August, 2006 Athens, Greece.
- *Introduction to Graph drawing.* 2nd Interdisciplinary Symposium and 2nd Summer School on Mathematical Modeling in Modern Technologies and Economics, National Technical University of Athens (NTUA) 1-5 September 2006, Athens, Greece.
- *Fiber Cost Reduction and Wavelength Minimization in Multifiber WDM Networks.* AP-Proximation and On Line algorithms Workshop 30 September - 2 October, 2004 Athens University of Economy and Business (AUEB), Athens, Greece.
- *Approximation Algorithms for Satisfying Communication Requests in All-Optical Multifiber Networks*(in Greek). Graduate Program in Logic, Algorithms and Computation, Inter - University Program of Graduate Studies, Greece, Weekly Seminar, 18 June 2004.
- *Multicoloring in Trees.* Graduate Center C.U.N.Y, 6 May 2003. NY, USA.

## Teaching Assistant

Courses for the School of Electrical and Computer Engineering and for the School of Applied Mathematics and Physics

- *Introduction to Programming (Undergraduate), Programming Techniques (Undergraduate).* Supporting the Computer Lab part, where a group of 25 student solve tasks at the computer (programming languages Pascal and C in Unix). Grading quizzes and final exams (300 students).
- *Introduction to Computer Science (Undergraduate).* Grading final exams (300 students).
- *Algorithms and Complexity (Undergraduate).* Once a week an one hour long section to two classes of about 100 students each. Developing assignments, writing and renewing textbooks, grading quizzes, homeworks and final exams.
- *Parallel Algorithms (Graduate), Approximation Algorithms (Graduate), Computational Geometry (Graduate).* Developing assignments and grading final exams.

## Professional Experience

- Software Engineer. Department of Organization and Methods, Informatics Division of National Technical University of Athens's Administration. Writing technical proposals and testing new software, 2002-2008.

- Technical Proposal Writing and Part-time Educator. Project title “GoOnline”: Training Support by undergraduate students to acquaint small-medium Greek companies with the new technologies and e-business practices, 2002-2003.
- System Administrator of the Registration Offices of National Technical University of Athens. Database for course scheduling and student grades, 1998-2001.
- Part-time digital library system administrator. Project Title “SKEPSIS: A practical distributed digital library System for ‘gray’ literature”. Allowed distributed indexing/searching of lecture notes and other academic material among several greek universities. 2000.

## **Service**

- Organization of the 3rd Panhellenic Symposium in Logic PLS3, Summer 2001.

## **Knowledge of languages**

Greek (native), English (fluent) and German (fluent).

## **Awards, Fellowships**

- Fellowship of the Research Committee, NTUA, 1998-2001, Fellowship of the NTUA-ICCS, 2002.

## **Personal Data**

- Greek Citizen.
- US Green Card holder.