

CONTACT  
INFORMATION

Marmara University  
Computer Engineering Department  
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## CITIZENSHIP

TURKEY

## EDUCATION

**Boğaziçi University**, İstanbul, Turkey

Ph.D., Computer Engineering, GPA: 3.95/4.00, May 2013

- Thesis Title: *Thread Vulnerability for Multicore Architectures*
- Advisor: Professor Oğuz Tosun
- Co-Advisor: Professor Haluk Topçuoğlu

**Marmara University**, İstanbul, Turkey

M.S., Computer Engineering, GPA: 83/100, July 2008

- Thesis Title: *3-D Offline Path Planning for Unmanned Aerial Vehicles by Using Metaheuristics*
- Advisor: Professor Haluk Topçuoğlu

B.S., Computer Engineering, GPA: 3.30/4.00, June 2004

- Advisor: Professor Haluk Topçuoğlu

RESEARCH  
INTERESTS

My main research interests are parallel programming, parallel computer architectures, and reliable computer systems. My research mainly focuses on performance and reliability analysis of multicore systems and parallel programs.

I am additionally interested in information security area, especially public key infrastructure. I worked as a researcher in electronic signature project, and took place in the development of a PKI system for the management of governmental certificate authority.

RESEARCH  
PROJECTS

Shared Data Vulnerability on Parallel Applications by Fault Injection Techniques, Marmara University – BAPKO Project – Project No: FEN-A-100914-0333

*Principal Investigator***September 2014 to Present**

Portable and Predictable Performance on Heterogeneous Embedded Manycores (PaPP), ARTEMIS Project

*Postdoctoral Researcher***November 2013 to Present**

Application Scheduling and Optimization for Chip Multiprocessor (CMP) Architectures, TUBITAK – Evrena Project 108E035

*Researcher***August 2009 to August 2011**

Reliability-Aware Core Partitioning in Chip Multiprocessors, Marmara University – BAPKO Project

*Researcher***June 2011 to June 2013**

EXPERIENCE

**Marmara University**, Department of Computer Engineering, İstanbul, Turkey

*Teaching Assistant*

**March 2009 to Present**

- Instructor CSE 1042: Computer Programming
  - Spring 2015
  - Responsible for teaching and organization of the course which is based on Java and C programming languages
- Assisted CSE 474: Computer Networks
  - Fall 2011, Fall 2012
  - Responsible for grading of a programming assignment which is a multithreaded HTTP server implementation
- Assisted CSE 355: Database Systems
  - Fall 2010, Fall 2011, Fall 2012
  - Responsible for laboratory sessions and a term project which includes requirement analysis, database design, and implementation on SQL server database system
- Assisted CSE 338: Computer Organization
  - Spring 2010, Spring 2011, Spring 2012
  - Responsible for problem sessions and projects which are programming assignments to be developed on SPIM, ModelSim, and SMPCache simulators
- Assisted CSE 100: Introduction to Computer Engineering
  - Fall 2009
  - Responsible for organization of freshman-level course and homework evaluation

**SICS Swedish ICT**, Multicore Center, Stockholm, Sweden

*Postdoctoral Researcher*

**November 2013 to October 2014**

- Supported by ERCIM Alain Bensoussan Fellowship Programme
- Working in PaPP project
  - Responsible for the development of methodologies, techniques, and tools for the design, implementation, and legacy integration of systems with portable and predictable performance

**TÜBİTAK UEKAE**, Gebze, Kocaeli, Turkey

*Researcher*

**August 2004 to December 2008**

- Worked in National Public Key Infrastructure project (MA3)
  - Responsible for the design, implementation, and testing of components for Electronic Certificate Management Infrastructure

JOURNAL  
PUBLICATIONS

Işıl Öz, Haluk Rahmi Topçuoğlu, Mahmut Kandemir and Oğuz Tosun.

Thread Vulnerability in Parallel Applications, *Journal of Parallel and Distributed Computing* 72 (10), 1171–1185, 2012.

Işıl Öz, Haluk Rahmi Topçuoğlu, Mahmut Kandemir and Oğuz Tosun.

Reliability-Aware Core Partitioning in Chip Multiprocessors, *Journal of Systems Architecture* 58 (3-4), 160–176, 2012.

Işıl Öz, Haluk Rahmi Topçuoğlu and Murat Ermis.

A Meta-heuristic Based Three-Dimensional Path Planning Environment for Unmanned Aerial Vehicles, *Simulation: Transactions of the Society for Modeling and Simulation International* 89 (8), 903-920, 2013.

CONFERENCE  
PUBLICATIONS

Işıl Öz, Gladys Utrera, Marisa Gil and Xavier Martorell.

Programming Models Performance Based on Their Memory Errors Vulnerability, *Euromicro International Conference on Parallel, Distributed and Network-Based Computing (PDP)*, Work In Progress Session, Extended Abstract, Turku, Finland, 2015.

Muhammad Khurram Bhatti, Işıl Öz, Konstantin Popov, Ananya Muddukrishna and Mats Brorsson.

Noodle: A Heuristic Algorithm for Task Scheduling in MPSoC Architectures, *Euro-micro Conference on Digital System Design (DSD)*, Verona, Italy, 2014.

Işıl Öz.

Thread Vulnerability for Multicore Architectures, PhD Forum, Extended Abstract, *International Conference on Very Large Scale Integration (VLSI-SoC)*, İstanbul, Turkey, 2013.

Işıl Öz, Haluk Rahmi Topçuoğlu, Mahmut Kandemir and Oğuz Tosun.

Examining Thread Vulnerability Analysis Using Fault-Injection, *International Conference on Very Large Scale Integration (VLSI-SoC)*, İstanbul, Turkey, 2013.

Işıl Öz, Haluk Rahmi Topçuoğlu, Mahmut Kandemir and Oğuz Tosun.

Performance-Reliability Tradeoff Analysis for Multithreaded Applications, *Design, Automation and Test in Europe (DATE)*, Dresden, Germany, 2012.

Işıl Öz, Haluk Rahmi Topçuoğlu, Mahmut Kandemir and Oğuz Tosun.

Quantifying Thread Vulnerability for Multicore Architectures, *Euromicro International Conference on Parallel, Distributed and Network-Based Computing (PDP)*, Ayia Napia, Cyprus, 2011.

Işıl Hasırcıoğlu (Öz), Haluk Rahmi Topçuoğlu and Murat Ermiş.

3-D Path Planning for the Navigation of Unmanned Aerial Vehicles by Using Evolutionary Algorithms, *Genetic and Evolutionary Computation Conference (GECCO)*, Atlanta, GA, USA, 2008.

NATIONAL  
CONFERENCE  
PUBLICATIONS (IN  
TURKISH)

Dindar Öz, Ersin Gülaçtı and Işıl Öz. A Multiple-Receiver Cryptographic Key Management Algorithm with Partial Key Implementation (Kısmi Anahtarlı Çok Alıcılı Bir Şifreleme Anahtar Yönetimi Algoritması), *Network and Information Security Symposium (Ağ ve Bilgi Güvenliği Sempozyumu (ABGS))*, Ankara, Turkey, 2011.

Işıl Hasırcıoğlu (Öz) and Dindar Öz. A Configurable and Dynamic Certificate Verification Library Model (Yapılandırılabilir ve Dinamik Bir Sertifika Doğrulama Kütüphanesi Modeli), *Network and Information Security Symposium (Ağ ve Bilgi Güvenliği Sempozyumu (ABGS))*, Girne, KKTC, 2008.

Işıl Hasırcıoğlu (Öz). Electronic Signature Creation and Verification Standards (Elektronik İmza Oluşturma ve Doğrulama Standartları), *National Electronic Signature Symposium (Ulusal Elektronik İmza Sempozyumu)*, Ankara, Turkey, 2006.

INVITED TALKS

Portable and Predictable Performance of Task-Based Parallel Applications, École Normale Supérieure Paris, Parkas Team, hosted by Professor Albert Cohen, March 2014.

Thread Vulnerability for Multicore Architectures, Université Pierre et Marie Curie, LIP6, hosted by Professor Marc Shapiro, April 2014.

## OTHER ACTIVITIES

Research visit to Universitat Politècnica de Catalunya, hosted by Associate Professor Marisa Gil, Barcelona, Spain, September 2014.

Participation in International Summer School on Advanced Computer Architecture and Compilation for High-Performance and Embedded Systems (HIPEAC ACCES), Fiuggi, Italy, July 2014.

Research visit to École Normale Supérieure Paris, Parkas Team, hosted by Professor Albert Cohen, Paris, France, March 2014.

## TECHNICAL SKILLS

Programming languages: C, Java, Matlab, Verilog

Parallel programming: Pthreads, OpenMP, MPI, CUDA

Simulation/instrumentation: Simics full system simulator, Pin dynamic binary instrumentation tool, SPIM, ModelSim

## PROFESSIONAL ACTIVITIES

Reviewer in IEEE Transactions on Parallel and Distributed Systems (TPDS), ACM Computing Reviews.

Local Chair, Computer Science Student Workshop (CSW), İstanbul, 2011, 2012, 2013.

IEEE membership

HIPEAC membership