

## Dr. Berna Kiraz

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### CONTACT INFORMATION

Department of Computer Engineering  
Marmara University, Faculty of Engineering  
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### PERSONAL INFORMATION

*Place / Date of Birth:* Ordu, Turkey / 07 December 1982  
*Nationality:* Turkish  
Married to **Alper**, mother of **Bihter** (born 2009) and **Emre** (born 2013)

### EDUCATION

**Istanbul Technical University**, İstanbul, Turkey

Ph.D., Computer Engineering, GPA: 3.69/4.0, August 2014

- *Thesis Title:* Hyper-heuristics in Dynamic Environments
- *Advisor:* Assoc. Prof. Dr. A. Şima Etaner-Uyar  
Department of Computer Engineering, Istanbul Technical University, Turkey
- *Co-Advisor:* Assoc. Prof. Dr. Ender Özcan  
School of Computer Science, University of Nottingham, UK

**Marmara University**, İstanbul, Turkey

M.S., Computer Engineering, GPA: 82/100, October 2008

- *Thesis Title:* Hyper-Heuristic Based Approaches for Static and Dynamic Generalized Assignment Problems
- *Advisor:* Prof. Haluk TOPÇUOĞLU

**Ege University**, İzmir, Turkey

B.S., Mathematics, GPA: 86.45/100 (Top 5% of Class), June 2004

### RESEARCH INTERESTS

Evolutionary Computation, Meta-heuristics and Hyper-heuristics, Dynamic Environments, Optimization, Heuristics, Dynamic Multi-objective Optimization.

### RESEARCH PROJECTS

Hyper-heuristics in Dynamic Environments, The LANCS Initiative Postdoctoral Training Scheme

*Researcher*

**2012**

Hyper-heuristics in Dynamic Environments, Istanbul Technical University – BAP Project

*Researcher*

**2012 to 2014**

## EXPERIENCE

**Computational Optimization & Innovization Lab**, Michigan State University,  
East Lansing, MI, USA

*Post-Doctoral Research Associate*

**September 2014 to August 2015**

**Marmara University**, Department of Computer Engineering

*Research and Teaching Assistant*

**October 2007 to Present**

### Courses Taught

- CSE1043 - Computer Programming for Industrial Engineering (Fall 2015)
- CSE1044 - Intermediate Programming for Industrial Engineering (Spring 2016)

### Courses Assisted

- CSE348 - Signals and Systems (Spring 2011, 2012, 2013, 2014)
- CSE315 - Digital Design (Fall 2007, 2008, 2010, 2011, 2012)
- CSE417 - Microprocessors (Fall 2011, 2012, 2015)
- CSE246 - Analysis of Algorithms (Spring 2011)
- CSE100 - Introduction to Computer Engineering (Fall 2007, 2008)
- PHYS103 - Physics Lab (Spring 2008, 2009)

## JOURNAL PUBLICATIONS

**Berna Kiraz**, A. Ş. Etaner-Uyar, and E. Özcan, “Selection Hyper-heuristics in Dynamic Environments”, *Journal of the Operational Research Society*, 64 (12), pp. 1753-1769, 2013.

G. Uludağ, **Berna Kiraz**, A. Ş. Etaner-Uyar, and E. Özcan, “A Hybrid Multi-population Framework for Dynamic Environments Combining Online and Offline Learning”, *Soft Computing*, Volume 17, Issue 12, pp. 2327-2348, 2013.

## PAPERS IN PREPARATION

S. Asta, **Berna Kiraz**, E. Özcan, A. Ş. Etaner-Uyar, and M. Köle, “Experimental Comparison of Modern Heuristics for TORCS based Car Setup Optimisation”, to be submitted to *IEEE Transactions on Computational Intelligence and AI in Games*

**Berna Kiraz** and K. Deb, “Investigating Effect of Local Search in EAs for Dynamic Optimization Problems”.

## CONFERENCE PUBLICATIONS

C. C. Tutum, A. Guber, K. Deb, A. Smucker, A. P. Nejadhashemi, and **Berna Kiraz**, “An Integrated Approach Involving EMO and HYDRUS-2D Software for SWRT-based Precision Irrigation: Initial Results”, *CEC2015*.

**Berna Kiraz**, A. Ş. Etaner-Uyar, and E. Özcan, “An Ant-based Selection Hyper-heuristic for Dynamic Environments”, *EvoApplications 2013*, LNCS vol. 7835, pp. 626-635, Springer, 2013.

G. Uludağ, **Berna Kiraz**, A. Ş. Etaner-Uyar, and E. Özcan, “Heuristic Selection in a Multi-phase Hybrid Approach for Dynamic Environments”, *12th Annual Workshop on Computational Intelligence (UKCI 2012)*, pp. 1-8, 2012.

M. Köle, A. Ş. Etaner-Uyar, **Berna Kiraz**, and E. Özcan, “Heuristics for Car Setup Optimisation in TORCS”, *12th Annual Workshop on Computational Intelligence (UKCI 2012)*, pp. 1-8, 2012.

G. Uludağ, **Berna Kiraz**, A. Ş. Etaner-Uyar, and E. Özcan, “A Framework to Hybridise PBIL and a Hyper-heuristic for Dynamic Environments”, *PPSN 2012: 12th International Conference on Parallel Problem Solving from Nature*, LNCS vol. 7492, pp. 358-367, Springer, 2012.

**Berna Kiraz**, A. Ş. Etaner-Uyar, and E. Özcan, “An Investigation of Selection Hyper-heuristics in Dynamic Environments”, EvoApplications 2011, Part I, LNCS vol. 6624, pp. 314-323, Springer, 2011

**Berna Kiraz**, H. R. Topçuoğlu, “Hyper-Heuristic Approaches for the Dynamic Generalized Assignment Problem”, ISDA 2010, Cairo, Egypt, November 29 - December 1, 2010.

#### PROFESSIONAL ACTIVITIES

Group Member, İstanbul Technical University, Department of Computer Engineering, SOPA: Heuristic Optimization and Search Research Group (2009 - 2014)

Local Organization Committee, EvoStar 2010, İstanbul, Turkey, 2010.

#### TECHNICAL SKILLS

Programming languages: C, Java, Matlab, Verilog

#### HONORS & AWARDS

2010 ISDA 2010, Best Paper Award, “Hyper-Heuristic Approaches for the Dynamic Generalized Assignment Problem”, B. Kiraz, H. Topcuoglu, 2010, Cairo.

2009 - 2014 TUBITAK 2211-National Scholarship Programme for PhD students

February 2015 - August 2015 TUBITAK 2219 - International Postdoctoral Fellowship Program