

# Prof. HALUK RAHMİ TOPCUOĞLU

## Personal Information

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## Biography

Dr. Topcuoglu received M.S. degree and B.S. degree in computer engineering from Bogazici University in 1991 and 1993, respectively. He received Ph.D. degree in computer science and engineering from Syracuse University in 1999. Dr. Topcuoglu has been at Faculty of Engineering, Marmara University since 1999 where he currently is a Full Professor in the Department of Computer Engineering.

His research interests mainly focus in two folds:

*\* Parallel Algorithm Design, Multicore Computing, Scheduling and Mapping for Multicore Architectures, Reliability Metrics for Multicore Architectures*

*\* Hybrid Evolutionary Algorithms and their applicability on various domains, Hyper-Heuristic Techniques, Dynamic Optimization Problems.*

Dr. Topcuoglu has received the 2008 IBM Faculty Award. The IBM Faculty Awards are competitive worldwide awards that foster collaboration between researchers at leading universities worldwide; and it also promotes courseware and curriculum innovation. Dr. Topcuoglu also received Best Paper Award at IEEE ISDA (Intelligent System Design and Applications) in 2010. His research was recognized by Marmara University with the University Publication Impact Award in January 2012.

He is an editorial board member of Cluster Computing Journal (SCI-Expanded Journal) and he has been serving as reviewer on leading journals including IEEE TPDS, JPDC, IEEE TEC, Information Science, EJOR, Journal of Heuristics and conferences including IPDPS, HPDC, GECCO, EVOCOP conferences.

## Education Information

Doctorate, Syracuse University, Engineering and Computer Science, Computer Science, United States Of America 1994 - 1999

Postgraduate, Boğaziçi Üniversitesi, Fen Bilimleri Enstitüsü, Bilgisayar Mühendisliği (YI) (Tezli), Turkey 1991 - 1993

Undergraduate, Boğaziçi Üniversitesi, Mühendislik Fakültesi, Bilgisayar Mühendisliği Bölümü, Turkey 1986 - 1991

## Foreign Languages

English, C1 Advanced

## Dissertations

Doctorate, Scheduling Task Graphs in Heterogeneous Computing Environments, Syracuse University, Graduate School, Computer Science, 1999

Postgraduate, Comparison of Multi Layer Perceptron Algorithms, Bogazici University, Faculty Of Engineering,

Department Of Computer Engineering, 1993

## Research Areas

algorithms, Distributed Systems, Parallel Algorithms, Numerical Algorithms, Equipment, Processor Architectures, Theoretical Computer Science, Artificial Intelligence, Computer Learning and Pattern Recognition, Evolutionary Computing

## Academic Titles / Tasks

Professor, Marmara University, Faculty Of Engineering, Computer Engineering, 2010 - Continues

Associate Professor, Marmara University, Faculty Of Engineering, Computer Engineering, 2004 - 2010

Assistant Professor, Marmara University, Faculty Of Engineering, Computer Engineering, 1999 - 2004

## Academic and Administrative Experience

Bölüm Akademik Teşvik Değerlendirme Komisyonu Başkanı, Marmara University, Faculty Of Engineering, Computer Engineering, 2018 - Continues

Bölüm Kalite Komisyonu Başkanı, Marmara University, Faculty Of Engineering, Computer Engineering, 2014 - Continues

Bölüm Stratejik Plan Komisyonu Başkanı, Marmara University, Faculty Of Engineering, Computer Engineering, 2014 - Continues

Fakülte Kurulu Üyesi, Marmara University, Faculty Of Engineering, Computer Engineering, 2014 - Continues

Marmara University, Faculty of Engineering, Computer Engineering, 2014 - Continues

Head of Department, Marmara University, Faculty Of Engineering, Computer Engineering, 2003 - Continues

Deputy Head of Department, Marmara University, Faculty Of Engineering, Computer Engineering, 2005 - 2014

Fakülte Kurulu Üyesi, Marmara University, Faculty Of Engineering, Computer Engineering, 2010 - 2013

Fakülte Yönetim Kurulu Üyesi, Marmara University, Faculty Of Engineering, Computer Engineering, 2010 - 2012

Fakülte Yönetim Kurulu Üyesi, Marmara University, Faculty Of Engineering, Computer Engineering, 2004 - 2010

Head of Department, Marmara University, Faculty Of Engineering, Computer Engineering, 2004 - 2005

## Advising Theses

Topcuoğlu H. R. , Characterization of changes in dynamic multi-objective optimization problems, Doctorate, S.A.I.SAHMOUD(Student), 2019

Topcuoğlu H. R. , Dynamic Multi-Objective Workflow Scheduling in Cloud Computing , Postgraduate, G.ISMAYILOV(Student), 2019

Topcuoğlu H. R. , Enhancing fireworks algorithm for dynamic optimization problems, Postgraduate, H.PEKDEMİR(Student), 2017

Topcuoğlu H. R. , Characterizing error propagation on scientific applications, Postgraduate, Z.ÖZTÜRK(Student), 2017

Topcuoğlu H. R. , Compiler support for enhancing reliability of network-on-chip architectures, Postgraduate, M.ADITYA(Student), 2017

Topcuoğlu H. R. , Tosun M. O. , Performance and cost efficient reliability framework for multicore architectures, Doctorate, S.ARSLAN(Student), 2017

Topcuoğlu H. R. , Impact of sensor detection schemes on performance of evolutionary dynamic optimization techniques, Postgraduate, L.ALTIN(Student), 2015

Topcuoğlu H. R. , Tosun M. O. , Thread vulnerability for multicore architectures, Doctorate, I.ÖZ(Student), 2013

Topcuoğlu H. R. , Tosun M. O. , Application mapping and optimization for CMP based architectures, Doctorate, B.DEMİRÖZ(Student), 2011

Topcuoğlu H. R. , Path planning for multiple mobile sensor platforms, Postgraduate, M.SİFYAN(Student), 2011  
TOPCUOĞLU H. R. , Scheduling of multiple multi-threaded applications on CMPs, Postgraduate, S.ARSLAN(Student), 2011  
Topcuoğlu H. R. , Hyper-heuristic approaches for static and dynamic generalized assignment problems, Postgraduate, B.KİRAZ(Student), 2008  
Topcuoğlu H. R. , 3-D offline path planning for unmanned aerial vehicles by using metaheuristics, Postgraduate, I.HASIRCIOĞLU(Student), 2008  
Topcuoğlu H. , 3-D offline path planning for unmanned aerial vehicles by using metaheuristics, Postgraduate, I.Hasircioğlu(Student), 2008  
Topcuoğlu H. R. , Locality aware task scheduling in heterogeneous computing environments, Postgraduate, A.KÖSE(Student), 2007  
Topcuoğlu H. , Locality aware task scheduling in heterogeneous computing environments, Postgraduate, A.Köse(Student), 2007  
Topcuoğlu H. R. , Reliability based dynamic scheduling of independent tasks in heterogeneous computing environments, Postgraduate, E.YILDIRIM(Student), 2006  
Topcuoğlu H. R. , Improving data locality for compiler optimization by using hybrid genetic algorithms, Postgraduate, G.YILMAZ(Student), 2005  
Topcuoğlu H. R. , Parallel heuristics for location management in mobile networks, Postgraduate, F.CORUT(Student), 2005  
TOPCUOĞLU H. R. , Location area management for mobile networks with evolutionary algorithms, Postgraduate, B.KARAOĞLU(Student), 2004  
Topcuoğlu H. R. , Hybrid evolutionary algorithms for solving the register allocation problem, Postgraduate, B.DEMİRÖZ(Student), 2004  
TOPCUOĞLU H. R. , Parallel implementation of a VQ-based text-independent speaker identification, Postgraduate, R.SOĞANCI(Student), 2004  
Topcuoğlu H. , Task scheduling techniques for arbitrary network topologies, Postgraduate, A.Fuat(Student), 2003  
Topcuoğlu H. R. , Task scheduling technique for arbitrary network topologies, Postgraduate, A.FUAT(Student), 2003

## Jury Memberships

Associate Professor Exam, Associate Professor Exam, Marmara Üniversitesi, January, 2020  
Associate Professor Exam, Associate Professor Exam, Marmara Üniversitesi, July, 2017  
Associate Professor Exam, Associate Professor Exam, Marmara Üniversitesi, July, 2017  
Associate Professor Exam, Associate Professor Exam, Marmara Üniversitesi, July, 2017  
Associate Professor Exam, Associate Professor Exam, Marmara Üniversitesi, September, 2012

## Articles Published in Journals That Entered SCI, SSCI and AHCI Indexes

- I. **Neural network based multi-objective evolutionary algorithm for dynamic workflow scheduling in cloud computing**  
Ismayilov G., TOPCUOĞLU H. R.  
Future Generation Computer Systems, vol.102, pp.307-322, 2020 (Journal Indexed in SCI)
- II. **A general framework based on dynamic multi-objective evolutionary algorithms for handling feature drifts on data streams**  
Sahmoud S., TOPCUOĞLU H. R.  
Future Generation Computer Systems, vol.102, pp.42-52, 2020 (Journal Indexed in SCI)
- III. **Exploiting characterization of dynamism for enhancing dynamic multi-objective evolutionary algorithms**  
Sahmoud S., TOPCUOĞLU H. R.  
Applied Soft Computing Journal, vol.85, 2019 (Journal Indexed in SCI)
- IV. **A user-assisted thread-level vulnerability assessment tool**

- Oz I., TOPCUOĞLU H. R. , Tosun O.  
Concurrency Computation, vol.31, no.13, 2019 (Journal Indexed in SCI)
- V. **Scheduling opportunities for asymmetrically reliable caches**  
Arslan S., TOPCUOĞLU H. R. , Kandemir M. T. , Tosun O.  
JOURNAL OF PARALLEL AND DISTRIBUTED COMPUTING, vol.126, pp.134-151, 2019 (Journal Indexed in SCI)
- VI. **Impact of sensor-based change detection schemes on the performance of evolutionary dynamic optimization techniques**  
ALTIN L., TOPCUOĞLU H. R.  
SOFT COMPUTING, vol.22, no.14, pp.4741-4762, 2018 (Journal Indexed in SCI)
- VII. **A selective protection scheme of applications using asymmetrically reliable caches**  
Arslan S., TOPCUOĞLU H. R. , Kandemir M. T. , Tosun O.  
JOURNAL OF SYSTEMS ARCHITECTURE, vol.75, pp.133-144, 2017 (Journal Indexed in SCI)
- VIII. **Asymmetrically reliable caches for multicore architectures under performance and energy constraints**  
Arslan S., TOPCUOĞLU H. R. , Kandemir M. T. , Tosun O.  
Cluster Computing-The Journal of Networks Software Tools and Applications, vol.19, no.4, pp.1819-1833, 2016 (Journal Indexed in SCI)
- IX. **A hyper-heuristic based framework for dynamic optimization problems**  
TOPCUOĞLU H. R. , Ucar A., ALTIN L.  
APPLIED SOFT COMPUTING, vol.19, pp.236-251, 2014 (Journal Indexed in SCI)
- X. **A meta-heuristic based three-dimensional path planning environment for unmanned aerial vehicles**  
Oz I., TOPCUOĞLU H. R. , Ermis M.  
SIMULATION-TRANSACTIONS OF THE SOCIETY FOR MODELING AND SIMULATION INTERNATIONAL, vol.89, no.8, pp.903-920, 2013 (Journal Indexed in SCI)
- XI. **Thread vulnerability in parallel applications**  
Oz I., TOPCUOĞLU H. R. , Kandemir M., Tosun O.  
JOURNAL OF PARALLEL AND DISTRIBUTED COMPUTING, vol.72, no.10, pp.1171-1185, 2012 (Journal Indexed in SCI)
- XII. **Performance evaluation of evolutionary heuristics in dynamic environments**  
Ayvaz D., TOPCUOĞLU H. R. , Gurgen F.  
APPLIED INTELLIGENCE, vol.37, no.1, pp.130-144, 2012 (Journal Indexed in SCI)
- XIII. **Reliability-aware core partitioning in chip multiprocessors**  
Oz I., TOPCUOĞLU H. R. , Kandemir M., Tosun O.  
JOURNAL OF SYSTEMS ARCHITECTURE, vol.58, pp.160-176, 2012 (Journal Indexed in SCI)
- XIV. **A new three-dimensional wireless multimedia sensor network simulation environment for connected coverage problems**  
Topcuoglu H. R. , Ermis M., Bekmezci I., Sifyan M.  
SIMULATION-TRANSACTIONS OF THE SOCIETY FOR MODELING AND SIMULATION INTERNATIONAL, vol.88, no.1, pp.110-122, 2012 (Journal Indexed in SCI)
- XV. **Particle simulation on the Cell BE architecture**  
Demiroz B., TOPCUOĞLU H. R. , Kandemir M., Tosun O.  
CLUSTER COMPUTING-THE JOURNAL OF NETWORKS SOFTWARE TOOLS AND APPLICATIONS, vol.14, no.4, pp.419-432, 2011 (Journal Indexed in SCI)
- XVI. **Positioning and Utilizing Sensors on a 3-D Terrain Part II-Solving With a Hybrid Evolutionary Algorithm**  
TOPCUOĞLU H. R. , Ermis M., Sifyan M.  
IEEE TRANSACTIONS ON SYSTEMS MAN AND CYBERNETICS PART C-APPLICATIONS AND REVIEWS, vol.41, no.4, pp.470-480, 2011 (Journal Indexed in SCI)
- XVII. **Positioning and Utilizing Sensors on a 3-D Terrain Part I-Theory and Modeling**  
TOPCUOĞLU H. R. , Ermis M., Sifyan M.  
IEEE TRANSACTIONS ON SYSTEMS MAN AND CYBERNETICS PART C-APPLICATIONS AND REVIEWS, vol.41, no.3,

- pp.376-382, 2011 (Journal Indexed in SCI)
- XVIII. **Solving the register allocation problem for embedded systems using a hybrid evolutionary algorithm**  
Topcuoglu H. R. , Demiroz B., Kandemir M.  
IEEE TRANSACTIONS ON EVOLUTIONARY COMPUTATION, vol.11, no.5, pp.620-634, 2007 (Journal Indexed in SCI)
- XIX. **Static task scheduling with a unified objective on time and resource domains**  
Demiröz B., TOPCUOĞLU H. R.  
COMPUTER JOURNAL, vol.49, no.6, pp.731-743, 2006 (Journal Indexed in SCI)
- XX. **Static task scheduling with a unified objective on time and resource domains**  
Demiroz B., Topcuoglu H. R.  
COMPUTER JOURNAL, vol.49, no.6, pp.731-743, 2006 (Journal Indexed in SCI)
- XXI. **A task scheduling algorithm for arbitrarily-connected processors with awareness of link contention**  
Alkaya A. F. , Topcuoglu H. R.  
CLUSTER COMPUTING-THE JOURNAL OF NETWORKS SOFTWARE TOOLS AND APPLICATIONS, vol.9, no.4, pp.417-431, 2006 (Journal Indexed in SCI)
- XXII. **Static Task Scheduling with a Unified Objective on Time and Resource Domains**  
BOZ B., TOPCUOĞLU H. R.  
Computer Journal, vol.49, pp.731-743, 2006 (Journal Indexed in SCI)
- XXIII. **Solving the uncapacitated hub location problem using genetic algorithms**  
Topcuoglu H. R. , Corut F., Ermis M., Yimaz G.  
COMPUTERS & OPERATIONS RESEARCH, vol.32, no.4, pp.967-984, 2005 (Journal Indexed in SCI)
- XXIV. **Evolutionary algorithms for location area management**  
Karaoglu B., Topcuoglu H. R. , Gurgen F.  
APPLICATIONS OF EVOLUTIONARY COMPUTING, PROCEEDINGS, vol.3449, pp.175-184, 2005 (Journal Indexed in SCI)
- XXV. **Parallel implementation of a VQ-based text-independent speaker identification**  
Soganci R., Gurgen F., Topcuoglu H. R.  
ADVANCES IN INFORMATION SYSTEMS, PROCEEDINGS, vol.3261, pp.291-300, 2004 (Journal Indexed in SCI)
- XXVI. **A hybrid evolutionary algorithm for solving the register allocation problem**  
Demiroz B., Topcuoglu H. R. , Kandemir M.  
EVOLUTIONARY COMPUTATION IN COMBINATORIAL OPTIMIZATION, PROCEEDINGS, vol.3004, pp.62-71, 2004 (Journal Indexed in SCI)
- XXVII. **Performance-effective and low-complexity task scheduling for heterogeneous computing**  
Topcuoglu H. R. , Hariri S., Wu M.  
IEEE TRANSACTIONS ON PARALLEL AND DISTRIBUTED SYSTEMS, vol.13, no.3, pp.260-274, 2002 (Journal Indexed in SCI)
- XXVIII. **Task scheduling with conflicting objectives**  
Topcuoglu H. R. , Sevilmis C.  
ADVANCES IN INFORMATION SYSTEMS, vol.2457, pp.346-355, 2002 (Journal Indexed in SCI)
- XXIX. **Efficient code deployment for heterogeneous distributed data sources**  
Demir D., Topcuoglu H. R. , Kavukcu E.  
ADVANCES IN INFORMATION SYSTEMS, vol.2457, pp.395-404, 2002 (Journal Indexed in SCI)
- XXX. **ATM High Performance Distributed Computing Laboratory**  
Hariri S., Bing X., Chen T., Furmanski W., Ganesh K., Kim D., Kim Y., Lee J., Menon V., Park S., et al.  
WORKSHOP ON HIGH PERFORMANCE COMPUTING AND GIGABIT LOCAL AREA NETWORKS, vol.226, pp.50-74, 1997 (Journal Indexed in SCI)

## Refereed Congress / Symposium Publications in Proceedings

- I. **Memory-Assisted Dynamic Multi-Objective Evolutionary Algorithm for Feature Drift Problem**  
SAHMOUD S. A. , TOPCUOĞLU H. R.

2020 IEEE Congress on Evolutionary Computation (CEC), Glasgow, United Kingdom, England, 19 - 24 July 2020

- II. **Hybrid techniques for detecting changes in less detectable dynamic multiobjective optimization problems**  
Sahmoud S., TOPCUOĞLU H. R.  
2019 Genetic and Evolutionary Computation Conference, GECCO 2019, Prague, Czech Republic, 13 - 17 July 2019, pp.1449-1456
- III. **Dynamic Multi-Objective Workflow Scheduling for Cloud Computing Based on Evolutionary Algorithms**  
Ismayilov G., TOPCUOĞLU H. R.  
11th IEEE/ACM International Conference on Utility and Cloud Computing (UCC-Companion) / 5th IEEE/ACM International Conference on Big Data Computing, Applications and Technologies (BDCAT), Zürich, Switzerland, 17 - 20 December 2018, pp.103-108
- IV. **Soft Error Characterization on Scientific Applications**  
Ozturk Z., TOPCUOĞLU H. R. , Arslan S., Kandemir M. T.  
16th IEEE Int Conf on Dependable, Autonom and Secure Comp/16th IEEE Int Conf on Pervas Intelligence and Comp/4th IEEE Int Conf on Big Data Intelligence and Comp/3rd IEEE Cyber Sci and Technol Congress (DASC/PiCom/DataCom/CyberSciTech), Athens, Greece, 12 - 15 August 2018, pp.592-599
- V. **A Type Detection Based Dynamic Multi-objective Evolutionary Algorithm**  
Sahmoud S., TOPCUOĞLU H. R.  
21st International Conference on the Applications of Evolutionary Computation (EvoApplications), Parma, Italy, 4 - 06 April 2018, vol.10784, pp.879-893
- VI. **Hybridizing Change Detection Schemes For Dynamic Optimization Problems**  
ALTIN L., TOPCUOĞLU H. R. , ERMİŞ M.  
IEEE Congress on Evolutionary Computation (CEC 2017), Donostia - San Sebastián, Spain, 5 - 08 June 2017
- VII. **Compiler-Enhanced Reliability for Network-on-Chip Architectures**  
Sasongko M. A. , TOPCUOĞLU H. R. , Arslan S., Kandemir M. T.  
25th Euromicro International Conference on Parallel, Distributed and Network-Based Processing (PDP), St Petersburg, Russia, 6 - 08 March 2017, pp.584-588
- VIII. **Sensor-Based Change Detection Schemes for Dynamic Multi-Objective Optimization Problems**  
Sahmoud S., TOPCUOĞLU H. R.  
IEEE Symposium Series on Computational Intelligence (IEEE SSCI), Athens, Greece, 6 - 09 December 2016
- IX. **Enhancing Fireworks Algorithms for Dynamic Optimization Problems**  
Pekdemir H., TOPCUOĞLU H. R.  
IEEE Congress on Evolutionary Computation (CEC) held as part of IEEE World Congress on Computational Intelligence (IEEE WCCI), Vancouver, Canada, 24 - 29 July 2016, pp.4045-4052
- X. **Protecting Code Regions on Asymmetrically Reliable Caches**  
ARSLAN S., TOPCUOĞLU H. R. , KANDEMİR M. T. , TOSUN M. O.  
Architecture of Computing Systems, Germany, 4 - 07 April 2016, pp.375-387
- XI. **A Memory-Based NSGA-II Algorithm for Dynamic Multi-objective Optimization Problems**  
Sahmoud S., TOPCUOĞLU H. R.  
19th European Conference on the Applications of Evolutionary Computation (EvoApplications), Porto, Portugal, 30 March - 01 April 2016, vol.9598, pp.296-310
- XII. **Evolutionary Dynamic Optimization Techniques for Marine Contamination Problem**  
ALTIN L., TOPCUOĞLU H. R. , Ermiş M.  
GECCO (Genetic and Evolutionary Computing Conference) Workshop, 11 - 15 July 2015
- XIII. **Performance and Energy Efficient Asymmetrically Reliable Caches for Multicore Architectures**  
Arslan S., TOPCUOĞLU H. R. , Kandemir M. T. , Tosun O.  
29th IEEE International Parallel and Distributed Processing Symposium (IPDPS), Hyderabad, Pakistan, 25 - 29 May 2015, pp.1025-1032
- XIV. **Performance Evaluation of Sensor-Based Detection Schemes on Dynamic Optimization Problems**  
ALTIN L., TOPCUOĞLU H. R.

IEEE Symposium on Computational Intelligence in Dynamic and Uncertain Environments (CIDUE), Florida, United States Of America, 9 - 12 December 2014, pp.24-31

- XV. **Hyper-Heuristics for Online UAV Path Planning Under Imperfect Information**  
Akar E., TOPCUOĞLU H. R. , Ermis M.  
17th European Conference on Applications of Evolutionary Computation (EvpApplications), Granada, Nicaragua, 23 - 25 April 2014, vol.8602, pp.741-752
- XVI. **Examining Thread Vulnerability Analysis Using Fault-Injection**  
Oz I., TOPCUOĞLU H. R. , Kandemir M., Tosun O.  
IFIP/IEEE WG 10.5 21st International Conference on Very Large Scale Integration (VLSI-SoC), İstanbul, Turkey, 6 - 09 October 2013, pp.240-245
- XVII. **Parallelizing Broad Phase Collision Detection Algorithms for Sampling Based Path Planners**  
Geleri F., Tosun O., Topcuoglu H. R.  
21st Euromicro International Conference on Parallel, Distributed, and Network-Based Processing (PDP), Belfast, United Kingdom, 27 February - 01 March 2013, pp.384-391
- XVIII. **Performance-Reliability Tradeoff Analysis for Multithreaded Applications**  
Oz I., TOPCUOĞLU H. R. , Kandemir M., Tosun O.  
Design, Automation and Test in Europe Conference and Exhibition (DATE), Dresden, Germany, 12 - 16 March 2012, pp.893-898
- XIX. **Locality-Aware Dynamic Mapping for Multithreaded Applications**  
BOZ B., TOPCUOĞLU H. R. , KANDEMİR M., Tosun O.  
2012 20th Euromicro International Conference on Parallel, Distributed and Network-based Processing, Munich, Germany, 15 - 17 February 2012, pp.185-189
- XX. **Quantifying Thread Vulnerability for Multicore Architectures**  
Oz I., TOPCUOĞLU H. R. , Kandemir M., Tosun O.  
19th International Euromicro Conference on Parallel, Distributed and Network-Based Processing (PDP), Ayia Napa, CYPRUS, 9 - 11 February 2011, pp.32-39
- XXI. **Path Planning for Mobile Sensor Platforms on a 3-D Terrain Using Hybrid Evolutionary Algorithms**  
Sifyan M., TOPCUOĞLU H. R. , Ermis M.  
2010 IEEE World Congress on Computational Intelligence, Barcelona, Spain, 18 - 23 July 2010
- XXII. **Hybrid Evolutionary Algorithms for Sensor Placement on a 3D Terrain**  
TOPCUOĞLU H. R. , Ermis M., Sifyan M.  
9th International Conference on Intelligent Systems Design and Applications, Pisa, Italy, 30 November - 02 December 2009, pp.511-512
- XXIII. **3 D path planning for the navigation of unmanned aerial vehicles by using evolutionary algorithms**  
Hasırcıoğlu I., Topcuoğlu H. R. , Ermiş M.  
Genetic and Evolutionary Computing Conference (GECCO), Georgia, United States Of America, 12 - 16 July 2008
- XXIV. **Hybrid techniques for dynamic optimization problems**  
Ayvaz D., Topcuoglu H. R. , Gurgun F.  
21st International Symposium on Computer and Information Sciences (ISCIS 2006), İstanbul, Turkey, 1 - 03 November 2006, vol.4263, pp.95-104
- XXV. **A comparative study of evolutionary optimization techniques in dynamic environments**  
Ayvaz D., Topcuoglu H. R. , Gurgun F.  
8th Annual Genetic and Evolutionary Computation Conference, Washington, United States Of America, 8 - 12 July 2006, pp.1397-1398
- XXVI. **Genetic algorithms for positioning and utilizing sensors in synthetically generated landscapes**  
Topcuoglu H. R. , Ermis M.  
8th Annual Genetic and Evolutionary Computation Conference, Washington, United States Of America, 8 - 12 July 2006, pp.1801-1802
- XXVII. **A hybrid evolutionary algorithm for solving the register allocation problem**  
BOZ B., TOPCUOĞLU H. R. , KANDEMİR M.  
Evolutionary Computation in Combinatorial Optimization, Portugal, 5 - 07 April 2004, pp.62-71

#### XXVIII. **Task scheduling algorithms for heterogeneous processors**

Topcuoglu H. R. , Hariri S., Wu M.

8th Heterogeneous Computing Workshop (HCW 99), San Juan, Argentina, 12 April 1999, pp.3-14

#### XXIX. **The software architecture of a virtual distributed computing environment**

Topcuoglu H. R. , Hariri S., Furmanski W., Valente J., Ra I., Kim D., Kim Y., Bing X., Ye B.

6th IEEE International Symposium on High Performance Distributed Computing, Oregon, United States Of America, 5 - 08 August 1997, pp.40-49

#### XXX. **A global computing environment for networked resources**

Topcuoglu H. R. , Hariri S.

1997 International Conference on Parallel Processing, Illinois, United States Of America, 11 - 15 August 1997, pp.493-496

### **Supported Projects**

Topcuoğlu H. R. , TUBITAK Project, Error Propagation-Centric Application Optimization, 2019 - 2021

Topcuoğlu H. R. , Bozkuş Z., TUBITAK Project, Birtis Yüksek performanslı Çok Büyük Ölçekli Beyin Simülasyonu İçin Runtime Sistemi, 2014 - 2018

Topcuoğlu H. R. , TUBITAK Project, Elastik - Çok-Çekirdekli Mimarilere Yönelik Katmanlar Arası Güvenilirlik Optimizasyon Sistemi, 2014 - 2018

Topcuoğlu H. R. , Project Supported by Higher Education Institutions, Dinamik Eniyileme Problemine Karma Yaklaşımlar, 2015 - 2017

Topcuoğlu H. R. , Altinkut Uncuoğlu A., Mertoğlu B., Kayaman Apohan N., Kahraman M. V. , Sezer A. D. , TUBITAK Project, Marmara Üniversitesinin ARDEB Programlarına Yönelik Proje Desteklerinden Faydalanma Potansiyelinin Artırılması, 2014 - 2017

Topcuoğlu H. R. , Project Supported by Higher Education Institutions, Çok Çekirdekli Mimariler için Güvenilirlik Tabanlı Çekirdek Paylaşırma Algoritmaları, 2011 - 2013

Topcuoğlu H. R. , TUBITAK Project, Application Scheduling and Optimization for Chip Multiprocessor CMP Architectures, 2008 - 2011

Topcuoğlu H. R. , TUBITAK Project, Locating and Utilizing Sensors with Hybrid Evolutionary Algorithms in a Synthetically Generated Landscape, 2007 - 2009

Topcuoğlu H. R. , Project Supported by Higher Education Institutions, Heterojen Ortamlar için Bir Uygulama Listeleme Algoritması ve Başarım Analizi, 2000 - 2002

### **Memberships / Tasks in Scientific Organizations**

IEEE - Computer Society, Member, 2000 - Continues, United States Of America

### **Scientific Refereeing**

IEEE TRANSACTIONS ON PARALLEL AND DISTRIBUTED SYSTEMS, SCI Journal, February 2021

TUBITAK Project, 1001 - Program for Supporting Scientific and Technological Research Projects, Marmara University, Turkey, September 2020

TUBITAK Project, 1001 - Program for Supporting Scientific and Technological Research Projects, Marmara University, Turkey, April 2020

TUBITAK Project, 2218 - Yurt İçi Doktora Sonrası Araştırma Burs Programı, Marmara University, Turkey, February 2020

IEEE TRANSACTIONS ON PARALLEL AND DISTRIBUTED SYSTEMS, SCI Journal, January 2020

TUBITAK Project, 1001 - Program for Supporting Scientific and Technological Research Projects, Marmara University, Turkey, June 2018



## Citations

Total Citations (WOS):2162

h-index (WOS):13

## Awards

Topcuoğlu H. R. , 130. Yıl Yayın Atf Ödülü, Marmara Üniversitesi, November 2013

Topcuoğlu H. R. , 129. Yıl Yayın Performans Ödülü, Marmara Üniversitesi, January 2012

Topcuoğlu H. R. , Best Paper Award, International Conference On Intelligent Systems Design And Applications ,  
November 2010

Topcuoğlu H. R. , IBM Faculty Award, Ibm, November 2008

Topcuoğlu H. R. , Graduate School Fellowship, Syracuse University, August 1998