

## Melih Onus

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PERSONAL INFORMATION Department of Computer Engineering  
Bilkent University  
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EDUCATION Ph.D., Computer Science and Engineering, April 2009, GPA: 3.93  
Advisor: Dr. Andréa W. Richa  
Thesis: “Overlay Network Construction in Highly Decentralized Networks”  
Arizona State University, Tempe, AZ

B.S., Computer Engineering, May 2003, GPA: 3.55  
Bilkent University, Ankara

RESEARCH INTERESTS Distributed Computing, Computer Networks and Theoretical Computer Science

RESEARCH EXPERIENCE *Instructor* **June 2011 - current**  
**Bilkent University, Ankara, Turkey**  
**Department of Computer Engineering**

*Instructor* **September 2009 - April 2011**  
**TOBB University of Economics and Technology, Ankara, Turkey**  
**Department of Computer Engineering**

*Graduate Research Assistant, Summer Intern,* **May - August 2006**  
**Los Alamos National Laboratory, Los Alamos, NM**  
**Discrete Simulation Sciences(CCS-5),**  
Studied on “A scalable multilevel algorithm for community structure detection”  
Mentor: Dr. Hristo N. Djidjev

*Research Associate* **August 2003 - May 2005**  
**Arizona State University, Tempe, AZ**  
**Department of Computer Science and Engineering,**  
Research Associate for Dr. Andréa W. Richa

*Summer Student* **June 2004**  
**ETH Zurich, Zurich, Switzerland**  
**Department of Computer Science,**  
Attended Mobile Information and Communication Systems(MICS)  
Summer School

*Intern* **Yaz 2002**  
**Bilkent University, Ankara, Turkey**  
**Computer Engineering**  
Studied on “Fast Optimal Load Partitioning Algorithms for 2D Partitioning”  
Mentor: Dr. Cevdet Aykanat

TEACHING  
EXPERIENCE

*Instructor*

**June 2011 - current**

**Bilkent University, Ankara, Turkey  
Computer Engineering Department**

Courses:

CS 473: Algorithms I, Summer 2011

CS 102: Algorithms and Programming II, Summer 2011

*Instructor*

**September 2009 - April 2011**

**TOBB University of Economics and Technology, Ankara, Turkey  
Computer Engineering Department**

Courses:

BIL 334: Formal Languages and Automata, Summer 2010

BIL 112: Java: Introduction to Computer Science, Spring 2010

BIL 101L: Python: Introduction to Computer Science, Fall 2009

*Teaching Associate*

**August 2004 - December 2008**

**Arizona State University, Tempe, AZ  
Department of Computer Science and Engineering,**

Teaching Associate for following courses:

CSE 591: Randomized and Approximation Algorithms, Fall 2008

CSE 555: Theory of Computation, Spring 2007

CSE 550: Combinatorial Algorithms and Intractability, Fall 2004, Fall 2007

CSE 450: Design and Analysis of Algorithms, Spring 2007

CSE 310: Data Structures and Algorithms, Spring 2006, Fall 2008

CSE 230: Computer Organization and Assembly Lang. Prog., Spring 2008

CSE 210: Data Structures using Java, Spring 2005

PUBLICATIONS M. Onus and A. W. Richa, *Minimum Maximum Degree Publish-Subscribe Overlay Network Design*, IEEE/ACM Transactions on Networking, 2011.

M. Onus and A. W. Richa, *Parameterized Maximum and Average Degree Approximation in Topic-based Publish-Subscribe Overlay Network Design*, In Proceedings of 30<sup>th</sup> IEEE International Conference on Distributed Computing Systems(ICDCS), June 2010, Genoa, Italy.

M. Onus and A. W. Richa, *Brief Announcement: Parameterized Maximum and Average Degree Approximation in Topic-based Publish-Subscribe Overlay Network Design*, In Proceedings of 21<sup>st</sup> Annual ACM Symposium on Parallelism in Algorithms and Architectures (SPAA'09), August 2009, Calgary, Canada.

M. Onus and A. W. Richa, *Minimum Maximum Degree Publish-Subscribe Overlay Network Design*, 28<sup>th</sup> Annual IEEE Conference on Computer Communications (INFOCOM'09), April 2009, Rio De Janeiro, Brazil.

M. Onus, A. W. Richa, C. Scheideler, *Linearization: Locally Self Stabilizing Sorting in Graphs*, Workshop on Algorithm Engineering and Experiments (ALENEX'07), January 2007, New Orleans, Louisiana.

H. N. Djidjev and M. Onus, *A scalable multilevel algorithm for community structure detection*, 4<sup>th</sup> Workshop on Algorithms and Models for the Web-Graph (WAW'06), November 2006, Banff, Alberta.

F.Gelgi and M.Onus, *Heuristics for Minimum Brauer Chain Problem*, 21<sup>st</sup> International Symposium on Computer and Information Sciences (ISCIS'06), Springer LNCS 4263,

pages 47-54, November 2006, Istanbul, Turkey.

K. Kothapalli, C. Scheideler, M. Onus and C. Schindelhauer, *Distributed Coloring with  $O(\log n)$  bits*. In Proceedings of IEEE Parallel and Distributed Processing Symposium (IPDPS'06), April 2006, Rhodes Island, Greece.

M. Onus, A. Richa, K. Kothapalli and C. Scheideler, *Efficient Broadcasting and Gathering in Wireless Ad-Hoc Networks*, In Proceedings of International Symposium on Parallel Architectures, Algorithms and Networks (I-SPAN'05), December 2005, Las Vegas, Nevada.

K. Kothapalli, C. Scheideler, M. Onus and A. W. Richa, *Constant density spanners for wireless ad-hoc networks*, In Proceedings of 17<sup>th</sup> Annual ACM Symposium on Parallel Algorithms and Architectures (SPAA'05), July 2005, Las Vegas, Nevada.

#### HONORS AND AWARDS

- ◇ Preparing Future Faculty, Exploratory Phase, Certificate of Completion, April 2008
- ◇ Certificate of Appreciation for Outstanding Work as a Teaching Assistant, Arizona State University, Ira A. Fulton School of Engineering, April 2006
- ◇ Silver Medal in 40<sup>th</sup> International Mathematical Olympiad, Romania, July 1999
- ◇ Bronze Medal in 6<sup>th</sup> National Mathematical Olympiad, December 1998
- ◇ Bronze Medal in 39<sup>th</sup> International Mathematical Olympiad, Taiwan, July 1998
- ◇ Silver Medal in 5<sup>th</sup> National Mathematical Olympiad, December 1997
- ◇ Golden Medal in 1<sup>st</sup> Secondary School National Mathematical Olympiad, May 1996

#### COMPUTER KNOWLEDGE

**Operating Systems:** Windows, UNIX, Linux  
**Programming Languages:** C, C++, Java, Python  
**Application Programs:** Microsoft Office, Matlab

#### TALKS

- ◇ *Efficient Shortest Path Computation in Planar Graphs*, Annual Student Symposium, Los Alamos National Laboratory, August 2006.
- ◇ *Distributed Sorting with  $O(\log n)$  bits*, Discrete Mathematics and Algorithms Seminar, Department of Mathematics, Arizona State University, November 2005.
- ◇ *Constant Density Spanners for Wireless Ad Hoc Networks*, Discrete Mathematics and Algorithms Seminar, Department of Mathematics, Arizona State University, April 2005.
- ◇ *Broadcasting Algorithms in Ad Hoc Networks*, Discrete Mathematics and Algorithms Seminar, Department of Mathematics, Arizona State University, April 2004.

#### COMMUNITY INVOLVEMENT

◇ External reviewer: The 23<sup>rd</sup> IEEE International Parallel and Distributed Processing Symposium (IPDPS'09), May 2009, Rome, Italy; The 8<sup>th</sup> Latin American Theoretical Informatics Symposium (LATIN'08), April 2008, Rio de Janeiro, Brazil; Joint Workshop on Foundations of Mobile Computing (DIALM-POMC'07), August 2007, Portland, Oregon; 4<sup>th</sup> International Conference on Fun with Algorithms (FUN'07), June 2007, Tuscany, Italy; The 1<sup>st</sup> Annual IEEE International Workshop on Foundation and Algorithms for Wireless Networking (FAWN'06), March 2006, Pisa, Italy; International Conference on Distributed Computing in Sensor Systems (DCOSS'06), June 2006, San Francisco, California; The 6<sup>th</sup> ACM International Symposium on Mobile Ad Hoc Networking and Computing (MOBIHOC'05), May 2005, Urbana-Champaign, Illinois; Joint Workshop on Foundations of Mobile Computing (DIALM-POMC'04), October 2004, Philadelphia, Pennsylvania; The 4<sup>th</sup> Latin American Theoretical Informatics Symposium (LATIN'04), April 2004, Buenos Aires, Argentina.

#### CLASSES

Wireless Networks, Mobile Ad Hoc Networking, Computer Networks, Advanced Com-

puter Networks, Distributed Algorithms and Fault Tolerance, Combinatorial Optimization II, Randomized and Approximation Algorithms, Theory of Computer Science, Advanced Topics on Optimization and Control, Combinatorial Algorithms and Intractability, Graph Theory I, II, Probabilistic Methods in Combinatorics, Applied Cryptography.

LANGUAGES    English