

Kamer Kaya

PERSONAL:

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EDUCATION:

Ph.D. Department of Computer Engineering,
Bilkent University, Ankara, Turkey, September 2009.
Doctoral Dissertation: Threshold cryptography with Chinese Remainder
Theorem, August 2009. Advisor: Asst. Prof. Dr. Ali Aydın Selçuk.

M.S. Department of Computer Engineering,
Bilkent University, Ankara, Turkey, September 2004.
Thesis: Iterative-improvement-based heuristics for scheduling tasks sharing
files in heterogeneous master-slave environments, September 2004. Advisor:
Prof. Dr. Cevdet Aykanat.

B.Sc. Department of Computer Engineering and Information Sciences,
Bilkent University, Ankara, Turkey, June 2002.

RESEARCH INTERESTS: Combinatorial scientific computing; Parallel computing; Bioinformatics;
Algorithms; Cryptography.

POSITIONS HELD:

- **Research Assistant Professor**
December'12–
present Department of Biomedical Informatics
The Ohio State University
Columbus, OH, USA
- **Post-Doctoral Researcher**
September'11–
November'12 High Performance Computing Lab
Department of Biomedical Informatics
The Ohio State University
Columbus, OH, USA
- **Post-Doctoral Researcher**
September'09–
September'11 The Parallel Algorithms Project
CERFACS
Toulouse, FRANCE

HONORS AND AWARDS:

- Full tuition waiver and stipend by Bilkent University for undergraduate and graduate studies
(1998–2009).

RESEARCH PAPERS:

International journal publications

- [43] Onur Küçüktunç, Kamer Kaya, Erik Saule, and Ümit V. Çatalyürek, “Fast recommendation on bibliographic networks with sparse-matrix ordering and partitioning”, *Social Network Analysis and Mining*, pp. 1–15, March, (2013).
- [42] Kamer Kaya and Bora Uçar, “Constructing elimination trees for sparse unsymmetric matrices”, *SIAM Journal on Matrix Analysis and Applications*, Accepted, (2013).
- [41] Iain S. Duff and Kamer Kaya, “Preconditioners based on strong subgraphs”, *Electronic Transactions on Numerical Analysis*, Accepted, (2013).
- [40] Kamer Kaya, Johannes Langguth, Frederik Manne, and Bora Uçar, “Push-relabel based algorithms for the maximum transversal”, *Computers and Operations Research*, 40, 5, pp. 1266–1275, Dec, 2012.
- [39] Yang Xiang, David Fuhry, Kamer Kaya, Ruoming Jin, Ümit V. Çatalyürek, and Kun Huang, “Merging network patterns: A general framework to summarize biomedical network data”, in *Network Modeling Analysis in Health Informatics and Bioinformatics*, (2012).
- [38] Iain S. Duff, Kamer Kaya, and Bora Uçar, “Design, analysis, and implementation of maximum transversal algorithms”, *ACM Transactions on Mathematical Software*, 38, 2, Article 13, (2011).
- [37] Murat Ak, Kamer Kaya, Kaan Onarlıoğlu, and Ali Aydın Selçuk, “Broadcast encryption with user profiles”, *Information Sciences*, 180 (2010), pp. 1060–1072.
- [36] Kamer Kaya and Bora Uçar, “Exact algorithms for a task assignment problem”, *Parallel Processing Letters*, 19 (2009), pp. 451–465.
- [35] Murat Ak, Kamer Kaya, and Ali Aydın Selçuk, “Optimal broadcast encryption with free riders”, *Information Sciences*, 179 (2009), pp. 3673–3684.
- [34] Kamer Kaya and Ali Aydın Selçuk, “Threshold cryptography based on Asmuth-Bloom secret sharing”, *Information Sciences*, 177 (2007), pp. 4148–4160.
- [33] Kamer Kaya, Bora Uçar, and Cevdet Aykanat, “Heuristics for scheduling file-sharing tasks on heterogeneous systems with distributed repositories”, *Journal of Parallel and Distributed Computing*, 67 (2007), pp. 271–285.
- [32] Kamer Kaya and Cevdet Aykanat, “Iterative-improvement-based heuristics for adaptive scheduling of tasks sharing files on heterogeneous master-slave environments”, *IEEE Trans. Parallel and Distributed Systems*, 17 (2006), pp. 883–896.
- [31] Bora Uçar, Cevdet Aykanat, Kamer Kaya, and Murat İkinci, “Task assignment in heterogeneous computing systems”, *Journal of Parallel and Distributed Computing*, 66 (2006), pp. 32–46.

Book chapters

- [30] Kamer Kaya, Bora Uçar, and Cevdet Aykanat, “Adapting iterative-improvement heuristics for scheduling file-sharing tasks on heterogeneous platforms”, in F. Xhafa and A. Abraham (Eds.),

Metaheuristics for Scheduling in Distributed Computing Environments, Chapter 5, pp. 121–151, (Studies in Computational Intelligence, no. 146), Springer-Verlag Berlin Heidelberg, 2008.

- [29] Kamer Kaya, Ayat Hatem, Hatice Gülçin Özer, Kun Huang, and Ümit V. Çatalyürek, “High performance computing in high-throughput sequencing”, in “Biological knowledge discovery handbook: Preprocessing, mining and postprocessing of biological data”, 2012.

Peer-reviewed conference and workshop publications

- [28] Onur Küçüktunç, Erik Saule, Kamer Kaya, and Ümit V. Çatalyürek “Result diversification in automatic citation recommendation”, iConference Workshop on Computational Scientometrics: Theory and Applications, 2013.
- [27] Ahmet Erdem Sariyüce, Kamer Kaya, Erik Saule and Ümit V. Çatalyürek “Betweenness Centrality on GPUs and heterogeneous architectures”, Workshop on General Purpose Processing Using GPUs (GPGPU), in conjunction with ASPLOS, 2013.
- [26] Onur Küçüktunç, Erik Saule, Kamer Kaya, and Ümit V. Çatalyürek “Diversified recommendation on graphs: Pitfalls, measures, and algorithms”, 22nd International World Wide Web Conference (WWW), May 13–17, 2013.
- [25] Ahmet Erdem Sariyüce, Erik Saule, Kamer Kaya and Ümit V. Çatalyürek “Shattering and compressing networks for betweenness centrality”, SDM’13, 13th SIAM International Conference on Data Mining, (May 2013).
- [24] Ayat Hatem, Kamer Kaya and Ümit V. Çatalyürek “Microarray vs. RNA-Seq: A comparison for active subnetwork discovery”, ACM-BCM 2012, 3rd ACM Conference on Bioinformatics, Computational Biology and Biomedicine, October 7–10, 2012, Orlando, FL.
- [23] Ümit V. Çatalyürek, Kamer Kaya, and Bora Uçar “On shared-memory parallelization of a sparse matrix scaling algorithm”, ICPP 2012, 41st International Conference on Parallel Processing, (September 2012).
- [22] Kamer Kaya and Ali Aydın Selçuk “Sharing DSS by the Chinese remainder theorem”, ICACM, International Conference on Applied and Computational Mathematics, (October 2012).
- [21] Onur Küçüktunç, Kamer Kaya, Erik Saule, and Ümit V. Çatalyürek “Fast recommendation on bibliographic networks”, IEEE/ACM International Conference on Advances in Social Networks Analysis and Mining, (August 2012).
- [20] Ümit V. Çatalyürek, Mehmet Deveci, Kamer Kaya, and Bora Uçar, “UMPa: A Multi-objective, multi-level partitioner for communication minimization”, 10th DIMACS Workshop on Graph Partitioning and Graph Clustering, Atlanta, GA, Feb 13–14, 2012.
- [19] Ümit V. Çatalyürek, Kamer Kaya, Johannes Langguth, and Bora Uçar, “A Divisive clustering technique for maximizing the modularity”, 10th DIMACS Workshop on Graph Partitioning and Graph Clustering, Atlanta, GA, Feb 13–14, 2012.
- [18] Kamer Kaya, Erik Saule, Onur Küçüktunç, and Ümit V. Çatalyürek “Algorithms for offline tracking of connected components in large evolving networks”, DNA-SDM 1st SIAM Data Mining Workshop on Dynamic Network Analysis, (April 2012).

- [17] Ümit V. Çatalyürek, Mehmet Deveci, Kamer Kaya, and Bora Uçar, “Multithreaded clustering for multi-level hypergraph partitioning”, IPDPS 2012, Shangai, China.
- [16] Ümit V. Çatalyürek, Kamer Kaya, and Bora Uçar, “Integrated data placement and task assignment for scientific workflows in clouds”, in the proceedings of *DIDC 2011*, The 4th International Workshop on Data Intensive Distribute Computing, (held in conjunction with the 20th International Symposium on High Performance Distributed Computing (HPDC 2011), San Jose, California, June 2011), pp. 45–54, 2011.
- [15] Kamer Kaya, François-Henry Rouet, and Bora Uçar, “On partitioning problems with complex objectives”, HPSS 2011, a workshop of Euro-Par 2011.
- [14] İlker Nadi Bozkurt, Kamer Kaya, and Ali Aydın Selçuk, “Practical threshold signatures with linear secret sharing”, AFRICACRYPT 2009, LNCS, 5580 (2009), pp. 167–178.
- [13] Kamer Kaya and Ali Aydın Selçuk, “A verifiable secret sharing scheme based on the Chinese Remainder Theorem”, INDOCRYPT 2008, LNCS, 5365 (2008), pp. 414–425.
- [12] Said Kalkan, Kamer Kaya, and Ali Aydın Selçuk, “Generalized ID-based blind signatures from bilinear pairings”, ISCIS 2008.
- [11] Kamer Kaya and Ali Aydın Selçuk, “Robust threshold schemes based on the Chinese Remainder Theorem”, AFRICACRYPT 2008, LNCS, 5023 (2008), pp. 94–108.
- [10] Said Kalkan, Kamer Kaya, and Ali Aydın Selçuk, “Generalized ID-based blind signatures”, ISCIS 2007.
- [9] Kerem Kaşkaloğlu, Kamer Kaya, and Ali Aydın Selçuk, “Threshold broadcast encryption with reduced complexity”, ISCIS 2007.
- [8] Kamer Kaya, Ali Aydın Selçuk, and Zahir Tezcan, “Threshold cryptography based on Asmuth-Bloom secret sharing”, ISCIS 2006. LNCS, 4263 (2007), pp. 935–942.
- [7] Hüseyin Acan, Kamer Kaya, and Ali Aydın Selçuk, “Capture resilient ElGamal signature protocols”, ISCIS 2006. LNCS, 4263 (2007), pp. 943–951.

Other manuscripts

- [6] İlker Nadi Bozkurt, Kamer Kaya, Ali Aydın Selçuk, and Ahmet M. Güloğlu, “Secret sharing for general access structures, Information Security and Cryptology, Ankara, 2010.
- [5] İlker Nadi Bozkurt, Kamer Kaya, Ali Aydın Selçuk, and Ahmet M. Güloğlu, “Threshold cryptography based on Blakley secret sharing”, Information Security and Cryptology, Ankara, 2008.
- [4] Hüseyin Koyuncu, Kamer Kaya, and Ali Aydın Selçuk, “An analysis of the generalized ID-based ElGamal signatures”, Information Security and Cryptology, Ankara, 2008.
- [3] Said Kalkan, Kamer Kaya, and Ali Aydın Selçuk, “Generalized ID-based ElGamal signatures with message recovery”, Information Security and Cryptology, Ankara, 2007.
- [2] Kamer Kaya, Baha G. Dündar, Said Kalkan, and Ali Aydın Selçuk, “Threshold Paillier and Naccache-Stern cryptosystems based on Asmuth-Bloom secret sharing”, 2nd National Cryptology Symposium, Ankara, 2006.

- [1] Murat Ak, Kamer Kaya, Ali Aydın Selçuk, and Zahir Tezcan, “Experiments on probability of success in linear and differential cryptanalysis”, 2nd National Cryptology Symposium, Ankara, 2005.

CONFERENCE PRESENTATIONS:

- ICPP 2012, September 10–13, 2012, Pittsburgh, PA, presented the paper [23]
- ASONAM’12, August 26–29, 2012, Istanbul, Turkey, presented the paper [21]
- DNA-SDM–1st SIAM Data Mining Workshop on Dynamic Networks, April 26–28, 2012, Anaheim, CA, presented the paper [18].
- DIDC 2011–4th Int. Workshop on Data Intensive Computing, June 8, 2011, San Jose, CA, presented the paper [16].
- CSC11–5th SIAM Workshop on Combinatorial Scientific Computing, May 19–21, 2011, Darmstadt, Germany, presented the abstract for the “Preconditioners based on strong subgraphs” (a joint work with Iain S. Duff).
- Preconditioning 2011–Int. Conf. On Preconditioning Techniques For Scientific And Industrial Applications, May 16–18, 2011, Bordeaux, France, presented the abstract for “Preconditioners based on strong subgraphs” (a joint work with Iain S. Duff).
- INDOCRYPT 2008, December 14–17, 2008, Kharagpur, India, presented the paper [13].
- AFRICACRYPT 2008, June 11–14, 2008, Casablanca, Morocco, presented the paper [11].
- ISCIS 2006, November 1-3, 2006, İstanbul, Turkey. Presented the papers [7,8].

PROFESSIONAL ACTIVITIES:

Program Committee Member: ► ICPP 2013, October 1–4, 2013, Lyon, France ► IEEE Cluster 2012, September 24–28, 2012, Shanghai, China ► PCO Workshop, May 24, 2013 (in conjunction with IPDPS’13), Boston, USA.

Organization Committee Member: ► Poster Co-Chair in ACM-BCB 2012, October 7–10, 2012, Orlando, FL.

Referee for journals: ► Journal on Parallel and Distributed Computing ► IEEE Transactions on Parallel and Distributed Systems ► Parallel Computing ► The Computer Journal ► Information Sciences ► Journal of Systems and Software ► Security and Communication Networks ► Finite Fields and Their Applications.

Referee for conferences: ► IPDPS 2013, May 20–24, 2013, Boston, MA, USA ► Supercomputing 2012, November 10–16, 2012, Salt Lake City, Utah ► IPDPS 2012, May 21–25, 2012, Shanghai, China ► BICoB 2012, March 12–14, 2012, Las Vegas, NV, USA ► ICC 2012, June 10–15, 2012, Ottawa, Canada ► ISCIS 2009, 22–24 September 2009, London, UK ► ISCIS 2008, 27–29 October 2008, İstanbul, Turkey ► ISCIS 2007, 14–16 September 2007, Ankara, Turkey ► ISCIS 2006, 1–3 November 2006, İstanbul, Turkey

Session Chair ► ASONAM 2012, August 26–29, 2012, Istanbul, Turkey ► ICPP 2012, September 10–13, 2012, Pittsburgh, PA.

PROFESSIONAL MEMBERSHIPS: ACM, SIAM.

REFERENCES:

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