

Ozgur Ercetin

Faculty of Engineering and Natural Sciences, Sabanci University,
Istanbul, Turkey 34956.

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EDUCATION

University of Maryland, College Park, MD

Ph.D. in Electrical and Computer Engineering

2002

Dissertation: "Market Based Resource Allocation for Content Delivery in the Internet"

Supervised by: Prof. L. Tassiulas

University of Maryland, College Park, MD

M.S. in Electrical and Computer Engineering

1998

Thesis: "Broadcast Information Dissemination in Satellite-Terrestrial Wireless Networks"

Supervised by: Prof. L. Tassiulas

Middle East Technical University (METU), Ankara, Turkey

B.S. High Honors in Electrical and Electronics Engineering

1995

AWARDS

- Graduate School Fellowship, University of Maryland **1996–1998**
- Dr. Bulent Kerim Altay academic achievement awards, METU **1991, 1994**
- Best Local Paper Award, IEEE ISCC **2003**

TEACHING EXPERIENCE

Sabanci University, Istanbul, Turkey

Assistant Professor – Telecommunications Engineering

2002–Present

Developed syllabus and overall course structure, and administered all grades for the courses: Signals, Multimedia Networks, Information and Coding Theory, Random Processes, Network Theory and Fundamentals, Security in Wireless Local Area Ad Hoc and Sensor Networks, Optimization in Wireless Networks. All classes are instructed in English.

RESEARCH EXPERIENCE

Sabanci University

Assistant Professor

2002–Present

University of California, Riverside, CA

Visiting Faculty Researcher

Jul–Oct 2004

HRL Laboratories, Malibu, CA

Visiting Assistant Researcher

May–Sept 1999

University of Maryland, College Park, MD

Research Assistant

1996–2002

PROJECTS

- "Game Theoretical Analysis and Design of Distributed Control Algorithms in Wireless Hot Spots," PI. Funded by TUBITAK: \$65,000. Aug 2005 - Sept 2007.
- "Multimedia Transmission over Wireless Mesh Networks," co-PI. Funded by AirTies Inc, and TTGV, \$130,000, Sep 2005-Sep 2007.

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- "New Technologies to Avoid Digital Division in e-Divided Areas," funded by FP6 Space-2005: €150,000. Jul 2005.
 - "Broadband Service Manager," Co-PI. Funded by Gantek Teknoloji and TTGV: \$90,000. Feb 2004 - Jul 2005.
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PUBLICATIONS

Journal Papers

1. H. Seferoglu, O. Gurbuz, O. Ercetin and Y. Altunbasak, "Rate Distortion Optimized Joint ARQ-FEC for Real-Time Wireless Multimedia," *Signal Processing: Image Communication*, 22(6), July 2007.
2. O. Ercetin, "Efficient Multimedia Packet Forwarding for Multihomed Users in Wireless LANs," *Telecommunications Systems*, 34 (3-4), pp. 133-145, April 2007.
3. G. Jakllari, S. V. Krishnamurthy, M. Faloutsos, P. V. Krishnamurthy and O. Ercetin, "A Cross-Layer Framework for Exploiting Virtual MISO Links in Mobile Ad-hoc Networks," *IEEE Transactions on Mobile Computing*, 6 (6), pp. 579-594, June 2007.
4. K. Bulbul, O. Ercetin, "Maximum Precision-Lifetime Curve for Joint Sensor Selection and Data Routing in Sensor Networks," accepted for publication in *European Transactions on Telecommunications*, Springer, 2006.
5. O. Ercetin, O. Gurbuz, K. Bulbul, A. Aksu, and E. N. Ciftcioglu, "A Network Architecture for Maximum Lifetime Sensor Telemetry," accepted for publication in *IEICE Transactions on Communications*, 2007.
6. Ö. Ocakođlu and O. Ercetin, "Energy Efficient Random Sleep-Awake Schedule Design," *IEEE Communications Letters*, 10 (7): 528-530, July 2006.
7. O. Ercetin, L. Tassiulas, "Pricing Strategies for Differentiated Services Content Delivery Networks," *Computer Networks*, vol 49, no 6, pp 840-855, 19 December 2005.
8. O. Ercetin, M. O. Ball, A. Trani and L. Tassiulas, "A Modeling Study for Evaluation of Aeronautical Broadband Data Requirements over Satellite Networks," *IEEE Transactions on Aerospace and Electronic Systems*, vol 41 no 1, pp. 361-371, Jan 2005.
9. O. Ercetin, M. O. Ball and L. Tassiulas, "Next Generation Satellite Systems for Aeronautical Communications," *International Journal for Satellite Communications and Networking*, vol 22 no 2, pp. 157-179, Mar/Apr 2004.
10. O. Ercetin, L. Tassiulas, "Market Based Resource Allocation for Content Delivery in the Internet," *IEEE Transactions on Computers*, vol 52 no 12, pp. 1573- 1585, Dec 2003.
11. O. Ercetin, S. Krishnamurthy, S. K. Dao and L. Tassiulas, "Provision of Guaranteed Services in Broadband LEO Satellite Networks," *Computer Networks*, vol.39, no.1, pp. 61-77, May 2002.
12. O. Ercetin, L.Tassiulas, "Push Based Information Delivery in Two Stage Satellite-Terrestrial Wireless Systems," *IEEE Transactions on Computers*, vol.50, no.5, pp. 506-518, May 2001.
13. A. Aksu, and O. Ercetin, "Reliable Multi-hop Routing with Cooperative Transmissions in Energy-Constrained Networks," submitted.

Refereed Conference Papers

1. S. Ciftlikli, F. Oztoprak, O. Ercetin, K. Bulbul, "Distributed Algorithms for Delay Bounded Minimum Energy Wireless Broadcasting," submitted.
 2. F. Birlik, O. Ercetin, O. Gurbuz, "Prioritized Video Streaming in Wireless Mesh Networks," in *Proceedings of WoWMoM 2007*.
 3. A. Unlu, O. Armagan, E. Savas, A. Levi, O. Ercetin, "Key Predistribution Schemes for Sensor Networks for Continuous Deployment Scenario," *Proceedings of Networking 2007*, Atlanta, GA.
 4. S. Kaya, A. Levi, E. Savas, O. Ercetin, "Privacy-Aware Multi-Context RFID Infrastructure using Public Key Cryptography," *Proceedings of Networking 2007*, Atlanta, GA.
 5. A. Aksu, and O. Ercetin, "An Energy-Efficient Routing Protocol for Networks with Cooperative Transmissions," *International Conference on Communications (ICC)*, Glasgow, UK, June 2007
 6. K. Bulbul, O. Ercetin and T. Unluyurt, "Delay Constrained Minimum Power Broadcasting in Wireless Networks," *5th Intl. Symposium on Modeling and Optimization in Mobile, Ad Hoc, and*
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Wireless Networks(WiOpt), April 2007.

7. G. Athanasiou, T. Korakis, O. Ercetin, and L. Tassiulas, "Dynamic Cross-Layer Association in 802.11-based Mesh Networks," *Proceedings of IEEE Infocom*, May 2007, Anchorage, Alaska, USA.
8. A. Aksu, O. Ercetin, "Multihop Cooperative Transmissions in Wireless Sensor Networks," *Proceedings of 2nd IEEE Workshop on Wireless Mesh Networks (WiMesh)*, pp:132 – 134, 2006.
9. G. Jakllari, S. V. Krishnamurthy, M. Faloutsos, P. V. Krishnamurthy and O. Ercetin, "A Framework for Distributed Spatio-Temporal Communications in Mobile Ad hoc Networks," *Proceedings of IEEE Infocom*, May 2006, Barcelona, Spain.
10. H. Seferoğlu, O. Gürbüz, O. Ercetin, Y. Altunbaşak, "Video Streaming to Multiple Clients over Wireless Local Area Networks," *Proceedings of IEEE ICIP*, Aug 2006, Atlanta, GA.
11. O. Ercetin, K. Bulbul, O. Gurbuz, and A. Aksu, "Joint Sensor Selection and Data Routing in Sensor Networks," *NETWORKING 2005*, LNCS 3462, R. Boutaba et al. (Eds.), pp. 828–839, 2005.
12. T. Korakis, O. Ercetin, S. Krishnamurthy, L. Tassiulas and S. Tripathi, "Link Quality based Association Mechanism in IEEE 802.11h compliant Wireless LANs," *1st workshop on Resource Allocation in Wireless NETWORKS (in conjunction with WiOpt 2005)*, April 3, 2005.
13. H. Seferoglu, Y. Altunbasak, O. Gurbuz and O. Ercetin, "Rate Distortion Optimized Joint ARQ-FEC for Real-Time Wireless Multimedia," *International Conference on Communications (ICC)*, Seoul, Korea, May16-20, 2005.
14. C. Oniz, S. Tasci, E. Savas, O. Ercetin, and A. Levi, "SeFER: A Secure, Flexible and Efficient Routing Protocol for Distributed Sensor Networks," *2nd European Workshop on Wireless Sensor Networks (EWSN'05)*, Jan 31-Feb2, 2005.
15. O. Ocakoglu, B. Bayoglu, A. Levi, O. Ercetin and E. Savas, "A Probabilistic Routing Disruption Attack on DSR and Its Analysis," *Med-Hoc-Net 2004 - Third Annual Mediterranean Ad Hoc Networking Workshop*, pages 300 - 306, June 27-30, 2004.
16. O. Ercetin, L. Tassiulas, "Pricing and Peering Strategies of Differentiated Services Content Networks," *Eighth IEEE Symposium on Computers and Communications (ISCC' 03)*, July 2003. (Best Local Paper Award).
17. O. Ercetin, M. O. Ball and L. Tassiulas, "Real-Time Broadband Aeronautical Communications over Satellite Networks," *21st AIAA International Communications Satellite Systems Conference*, Yokohoma, Japan, April 2003.
18. O. Ercetin, S.Krishnamurthy, S.K.Dao and L. Tassiulas, "A Predictive QoS Routing Protocol for Broadband LEO Satellite Networks," *Personal, Indoor, Mobile, Radio Communications Conference (PIMRC) 2000*, London, UK, Sept 2000.
19. O. Ercetin, L.Tassiulas, "Information Delivery in Two-Stage Satellite Terrestrial Wireless Systems," *32nd Annual Conference on Information Sciences and Systems*, Princeton, NJ, March 18-20, 1998.

Patent

- S. Krishnamurthy, O. Ercetin and S. K. Dao, "Method and Apparatus for Predictive QoS Routing Protocols for Broadband Low Earth Orbit Satellite Networks," US Patent 6,609,002 B1, issued on August 19, 2003.

THESIS SUPERVISION

- Firat Birlik, "Quality of Service in Wireless Mesh Networks," MS Thesis, in progress.
- Aylin Aksu, "On Energy Efficiency of Routing with Cooperative Transmissions," MS Thesis, completed.
- Hulya Seferoglu, "Rate Distortion Optimized Joint ARQ-FEC Scheme for Real-Time Wireless Multimedia," MS Thesis, Aug 2005.
- Ozleyis Ocakoglu, "Improving Network Reliability by Exploiting Path Diversity in Ad Hoc Networks with Bursty Losses," MS Thesis, January 2005.

SERVICE

- Evaluator and Reviewer for Satellite Communications Technologies in European Commission
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Framework Program 6 (FP6), 2002, 2003, 2004, 2005.

- Technical Program Committee Chair for IEEE ICPS 2007, Publication Chair for ACM MobiHoc 2004,
- Technical Program Committee member for SECON 2008, MASS 2006-2007, WIOPT 2006-2007, Infocom 2008, Networking 2007, WCNC 2004, Globecom 2005.
- Reviewer for numerous journals and conferences in the areas of communication networks, including: IEEE/ACM Transactions on Networking, IEEE Transactions on Information Theory, IEEE Transactions on Computers, IEEE Transactions on Mobile Computing, IEEE Transactions on Wireless Communications, IEEE Transactions on Vehicular Technology, IEEE Computer Magazine; Elsevier Computer Networks, ACM Mobile Computing and Communications Review (MC2R), ACM Transactions on Internet Technology, International Journal of Foundations of Computer Science (IJFCS); IEEE Communications Letters; INFOCOM 2006, 2005, 2004, 2002, 2001; ICC 2003, 2002; SECON 2004; EWSN 2004.
- Sabanci University Curriculum committee member, 2002-2006.

LANGUAGES

- Turkish – native language
 - English – speak fluently and read/write with high proficiency
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