

Prof. Sema Fatma Oktuđ

Personal Information

Email: oktug@itu.edu.tr

Web: <http://faculty.itu.edu.tr/oktug>

Address: İstanbul Teknik Üniversitesi, Bilgisayar Biliřim Fakóltesi, Maslak 34469 İstanbul

Education Information

Doctorate, Bođaziçi Üniversitesi, Fen Bilimleri Enstitüsü, Bilgisayar Mühendisliđi (YI) (Tezli), Turkey 1990 - 1996

Dissertations

Doctorate, Design and performance evaluation of a banyan network based interconnection structure for ATM switches, Bođaziçi Üniversitesi, Fen Bilimleri Enstitüsü, Bilgisayar Mühendisliđi (YI) (Tezli), 1996

Research Areas

Technical Sciences, Computer Sciences, Computer Networks, Communications and Network Protocols, Data Routing

Academic Titles / Tasks

Professor, İstanbul Teknik Üniversitesi, Elektrik-Elektronik Fakóltesi, Bilgisayar Mühendisliđi Bölümü, 2008 - Continues
Associate Professor, İstanbul Teknik Üniversitesi, Elektrik-Elektronik Fakóltesi, Bilgisayar Mühendisliđi Bölümü, 2000 - 2008

Assistant Professor, İstanbul Teknik Üniversitesi, Elektrik-Elektronik Fakóltesi, Bilgisayar Mühendisliđi Bölümü, 1998 - 2000

Lecturer PhD, Bođaziçi Üniversitesi, Mühendislik Fakóltesi, Bilgisayar Mühendisliđi Bölümü, 1996 - 1998

Research Assistant, Bođaziçi Üniversitesi, Mühendislik Fakóltesi, Bilgisayar Mühendisliđi Bölümü, 1987 - 1996

Academic and Administrative Experience

İstanbul Teknik Üniversitesi, Bilgisayar Ve Biliřim Fakóltesi, 2015 - 2016

İstanbul Teknik Üniversitesi, Bilgisayar Ve Biliřim Fakóltesi, Bilgisayar Mühendisliđi Bölümü, 2011 - 2013

İstanbul Teknik Üniversitesi, Elektrik-Elektronik Fakóltesi, 2007 - 2010

İstanbul Teknik Üniversitesi, Biliřim Enstitüsü, 2006 - 2007

Courses

BLG433E-Computer Communications, Undergraduate, 2016 - 2017

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

- I. **Cognitive channel selection and scheduling for multi-channel dynamic spectrum access networks considering QoS levels**
Uyanik G. S. , Oktug S. F.
AD HOC NETWORKS, vol.62, pp.22-34, 2017 (Journal Indexed in SCI)
- II. **Periodicity-Based Anomalies in Self-Similar Network Traffic Flow Measurements**
Akgul T., BAYKUT S., EROL-KANTARCI M., OKTUG S. F.
IEEE TRANSACTIONS ON INSTRUMENTATION AND MEASUREMENT, vol.60, no.4, pp.1358-1366, 2011 (Journal Indexed in SCI)
- III. **Loss rate-based burst assembly to resolve contention in optical burst switching networks**
Kantarci B., Oktug S. F.
IET COMMUNICATIONS, vol.2, no.1, pp.137-143, 2008 (Journal Indexed in SCI)
- IV. **Performance of active queue management algorithms to be used in Intserv under TCP and UDP traffic**
Ucar A., Oktug S. F.
QUALITY OF SERVICE IN MULTISERVICE IP NETWORKS, PROCEEDINGS, vol.3375, pp.260-270, 2005 (Journal Indexed in SCI)
- V. **A GA/Heuristic hybrid technique for routing and wavelength assignment in WDM networks**
Talay A., Oktug S. F.
APPLICATIONS OF EVOLUTIONARY COMPUTING, vol.3005, pp.150-159, 2004 (Journal Indexed in SCI)
- VI. **Multicast ATM switch based on PIPN1**
Oktug S. F.
NETWORKING - ICN 2001, PART II, PROCEEDINGS, vol.2094, pp.390-398, 2001 (Journal Indexed in SCI)

Books & Book Chapters

- I. **Genişbant Bilişsel Radyo Ağları Tasarım ve Uygulamaları**
OKTUĞ S. F. , KARABULUT KURT G. Z. , CANBERK B., CEPHELİ Ö., Uyanik G. S.
İstanbul Sanayi Odası, İstanbul, 2014

Refereed Congress / Symposium Publications in Proceedings

- I. **SPGR based energy-efficient routing technique in MANETs**
Garayli F., Oktug S. F.
7th International Workshop on Reliable Networks Design Modeling (RNDM), Munich, Germany, 5 - 07 October 2015, pp.169-173
- II. **Parent-Aware Routing for IoT Networks**
Gozuacik N., Oktug S. F.
15th International Conference on Next-Generation Wired/Wireless Advanced Networks and Systems (NEW2AN) and 8th Conference on Internet of Things and Smart Spaces (ruSMART), St Petersburg, Russia, 26 - 28 August 2015, vol.9247, pp.23-33
- III. **Failure Tolerant Forwarding in Wireless Sensor Networks**
Ozen S., Oktug S. F.
23rd Signal Processing and Communications Applications Conference (SIU), Malatya, Turkey, 16 - 19 May 2015, pp.1305-1308
- IV. **AN ENERGY EFFICIENT ROUTING TECHNIQUE AND IMPLEMENTATION IN WSNs**
Aydeger A., Ghaleb E., Oktug S. F.
22nd IEEE Signal Processing and Communications Applications Conference (SIU), Trabzon, Turkey, 23 - 25 April 2014, pp.1359-1362
- V. **Statistical Multiplexing for Neural Nanonetworks in case of Neuron Specific Faults**

Tezcan H., Oktug S. F. , Kök F. N.

6th International Congress on Ultra Modern Telecommunications and Control Systems and Workshops (ICUMT), St Petersburg, Russia, 6 - 08 October 2014, pp.254-259

- VI. **Adaptive Sink Selection for WSNs Using Forwarder Set Based Dynamic Duty Cycling**
Ozen S., Oktug S. F.
11th IEEE Annual International Conference on Sensing, Communication, and Networking (SECON), Singapore, Singapore, 30 June - 03 July 2014, pp.7-12
- VII. **Forwarder Set Based Dynamic Duty Cycling in Asynchronous Wireless Sensor Networks**
Ozen S., Oktug S. F.
IEEE Wireless Communications and Networking Conference (WCNC), İstanbul, Turkey, 6 - 09 April 2014, pp.2432-2437
- VIII. **Implementation and Performance Evaluation of Dynamic Spectrum Access Using Software Defined Radios**
Uyanik G. S. , Cepheli O, Karabulut Kurt G. Z. , Oktug S. F.
1st International Black Sea Conference on Communications and Networking (BlackSeaCom), Batumi, Georgia, 3 - 05 July 2013, pp.157-161
- IX. **Detection of Fast-Flux Networks Using Various DNS Feature Sets**
Celik Z. B. , Oktug S. F.
18th IEEE Symposium on Computers and Communications (ISCC), Split, Croatia, 7 - 10 July 2013
- X. **QoS-Aware User Cohabitation Coordinator in Cognitive Radio Networks**
Canberk B., AKYILDIZ I. F. , Oktug S. F.
IEEE Global Communications Conference (GLOBECOM), California, United States Of America, 3 - 07 December 2012, pp.1356-1361
- XI. **Predictive Spectrum Decision Mechanisms in Cognitive Radio Networks**
UYANIK G. S. , Canberk B., Oktug S. F.
IEEE Globecom Workshops (GC Wkshps), California, United States Of America, 3 - 07 December 2012, pp.943-947
- XII. **A Channel Availability Classification for Cognitive Radio Networks using a Monitoring Network**
Canberk B., Oktug S. F.
17th IEEE Symposium on Computers and Communications (ISCC), Turkey, 1 - 04 July 2012, pp.690-695
- XIII. **A Priority Based Cooperative Spectrum Utilization Considering Noise in Common Control Channel in Cognitive Radio Networks**
Uyanik G. S. , Oktug S. F.
7th IEEE International Wireless Communications and Mobile Computing Conference (IWCMC), İstanbul, Turkey, 4 - 08 July 2011, pp.477-482
- XIV. **An Enhanced RED-Based Weighted Fair Priority Queuing Algorithm for IEEE 802.16 Subscriber Station Scheduler**
Kasaci S., Oktug S. F.
2nd International Conference on Emerging Network Intelligence (EMERGING), Florence, Italy, 25 - 30 October 2010, pp.74-82
- XV. **Xpec: A Cross-Layer Spectrum Assignment in Cognitive Radio Networks**
Canberk B., Oktug S. F.
4th International IEEE Symposium on Advanced Networks and Telecommunication Systems (IEEE ANTS), Mumbai, India, 16 - 18 December 2010, pp.67-69
- XVI. **A QoS-Aware Framework for Available Spectrum Characterization and Decision in Cognitive Radio Networks**
Canberk B., Akyildiz I. F. , Oktug S. F.
21st Annual IEEE International Symposium on Personal, Indoor and Mobile Radio Communications (PIMRC), İstanbul, Turkey, 26 - 30 September 2010, pp.1533-1538
- XVII. **An Empirical Study on The Effect of Mobility of GSM Telephone Traffic**
YÜKSEL B., Oktug S. F. , Kurt G. K. , Göksel İ.
21st Annual IEEE International Symposium on Personal, Indoor and Mobile Radio Communications (PIMRC),

İstanbul, Turkey, 26 - 30 September 2010, pp.2024-2029

- XVIII. Localization in Underwater Sensor Networks**
Erol M., Oktug S. F.
IEEE 17th Signal Processing and Communications Applications Conference, Antalya, Turkey, 9 - 11 April 2009, pp.307-310
- XIX. Differentiated Availability-Constrained Connection Provisioning in Optical Networks**
Kantarci B., Oktug S. F.
IEEE 17th Signal Processing and Communications Applications Conference, Antalya, Turkey, 9 - 11 April 2009, pp.311-314
- XX. Effect of Wave Height to Connectivity and Coverage in Sea Surface Wireless Sensor Networks**
Yapicioglu T., Oktug S. F.
24th International Symposium on Computer and Information Sciences, Güzelyurt, Cyprus (Kktc), 14 - 16 September 2009, pp.327-332
- XXI. Call Arrival Model for GSM Network Including Handover**
Yuksel B., Cingoz M., Karabulut G., Oktug S. F.
3rd International Symposium on Advanced Networks and Telecommunication Systems, New Delhi, India, 14 - 16 December 2009, pp.148-149
- XXII. Three Dimensional Localization in Wireless Sensor Networks using the Adapted Multi-Lateration Technique Considering Range Measurement Errors**
Kuruoglu G. S. , Erol M., Oktug S. F.
IEEE Globecom Workshops (Gc Workshops 2009), Hawaii, United States Of America, 30 November - 04 December 2009, pp.239-240
- XXIII. Self Similarity Analysis and Modeling of VoIP Traffic under Wireless Heterogeneous Network Environment**
Canberk B., Oktug S. F.
5th Advanced International Conference on Telecommunications, Venice, Italy, 24 - 28 May 2009, pp.76-82
- XXIV. Localization in Wireless Sensor Networks with Range Measurement Errors**
Kuruoglu G. S. , Erol M., Oktug S. F.
5th Advanced International Conference on Telecommunications, Venice, Italy, 24 - 28 May 2009, pp.261-266
- XXV. Differentiated Availability-Aware Connection Provisioning in Optical Transport Networks**
Kantarci B., Mouftah H. T. , Oktug S. F.
IEEE Global Telecommunications Conference (GLOBECOM 08), Louisiana, United States Of America, 30 November - 04 December 2008
- XXVI. The Effects of Terrain Types on 3D Coverage under Heterogeneous Deployment Strategies in Wireless Sensor Networks**
Oktug S. F. , Khalilov A., Tezcan H.
23rd International Symposium on Computer and Information Sciences (ISCIS), İstanbul, Turkey, 27 - 29 October 2008, pp.488-493
- XXVII. Arranging Shareability Dynamically for the Availability-Constrained Design of Optical Transport Networks**
Kantarci B., Mouftah H. T. , Oktug S. F.
13th IEEE Symposium on Computers and Communications, Marrakech, Morocco, 6 - 09 July 2008, pp.100-101
- XXVIII. Connection provisioning with feasible shareability determination for availability-aware design of optical networks**
Kantarci B., Mouftah H. T. , Oktug S. F.
10th International Conference on Transparent Optical Networks, Athens, Greece, 22 - 26 June 2008, pp.19-20
- XXIX. Availability Analysis and Connection Provisioning in Overlapping Shared Segment Protection for Optical Networks**
Kantarci B., Mouftah H. T. , Oktug S. F.
23rd International Symposium on Computer and Information Sciences (ISCIS), İstanbul, Turkey, 27 - 29 October 2008, pp.576-577

- XXX. **Prioritized contention resolution scheme for grid services over OBS networks**
Kantarci B., Oktug S. F. , Altılar D. T.
6th Annual Conference on Communication Networks and Services Research, Halifax, Canada, 5 - 08 May 2008, pp.234-241
- XXXI. **Prudent Creditization Polling (PCP): A novel adaptive polling service for an EPONP**
Kantarci B., Sandikkaya M. T. , Gencata A., Oktug S. F.
11th International Conference on Optical Network Design and Modeling (ONDM 2007), Athens, Greece, 29 - 31 May 2007, vol.4534, pp.388-390
- XXXII. **On the use of principle component analysis for the Hurst parameter estimation of long-range dependent network traffic**
Erol M., Akgul T., Oktug S. F. , Baykut S.
21st International Symposium on Computer and Information Sciences (ISCIS 2006), İstanbul, Turkey, 1 - 03 November 2006, vol.4263, pp.464-473
- XXXIII. **Path loss rate driven burst assembly in OBS networks**
Kantarci B., Oktug S. F.
21st International Symposium on Computer and Information Sciences (ISCIS 2006), İstanbul, Turkey, 1 - 03 November 2006, vol.4263, pp.483-485
- XXXIV. **Analyzing the effects of burst assembly in optical burst switching under self-similar traffic**
Kantarci B., Oktug S. F. , Atmaca T.
Conference on Telecommunications, Lisbon, Portugal, 17 July 2005, pp.109-114
- XXXV. **BIO: An alternative to RIO**
Okuroglu B., Oktug S. F.
Conference on Quality of Service Over Next-Generation Data Networks, Colorado, United States Of America, 21 - 22 August 2001, vol.4524, pp.203-213
- XXXVI. **An entropy based traffic heterogeneity measure for ATM switches**
Oktug S. F. , Yilmaz M., Caglayan M.
13th International Symposium on Computer and Information Sciences (ISCIS 98), BELEK ANTALYA, Turkey, 26 - 28 October 1998, vol.53, pp.420-427

Supported Projects

- Oktuğ S. F. , Project Supported by Higher Education Institutions, 2.4 Ghz ISM Bandını Kullanan IEEE 802.15.4 Cihazları için Yeni Bir Kanal Erişim Yaklaşımı, 2014 - 2018
- Oktuğ S. F. , Project Supported by Higher Education Institutions, Nötron Ağlarında TDMA Temelli Molekül Haberleşmesi için Nöron Gecikme Hatlarının Kullanımı, 2012 - 2018
- Oktuğ S. F. , Project Supported by Higher Education Institutions, BİLİŞSEL RADYO AĞLARINDA ORTAK KONTROL KANALINDAKİ GÜRÜLTÜYÜ DÜŞÜNEREK ÖNCELİKLİ KOOPERATİF SPEKTRUM KULLANIMI, 2011 - 2018
- Oktuğ S. F. , Project Supported by Higher Education Institutions, IEEE802.16 ERİŞİM TERMİNALLERİ İÇİN HİYERARŞİK KANAKL DUYARLI ÇİZELGELEYİCİ, 2010 - 2018
- Oktuğ S. F. , Project Supported by Higher Education Institutions, Sualtı Duyarga Ağları İçin Konumlandırma ve Yönlendirme Protokolü, 2008 - 2009
- Oktuğ S. F. , Project Supported by Higher Education Institutions, Aktif Kuyruk Yönetim Mekanizmalarının İnternet Trafiğinin Özellikleri Üzerindeki Etkileri, 2004 - 2004
- Oktuğ S. F. , Project Supported by Higher Education Institutions, Bilgisayar Mühendisliği ABET Belgelendirme Projesi, 2003 - 2004
- Oktuğ S. F. , Project Supported by Higher Education Institutions, Optik ağlarda başarımlı analiz, 2002 - 2004
- Oktuğ S. F. , Project Supported by Higher Education Institutions, TCP/IP'de Daha Kaliteli hizmet İçin Kuyruk Yönetim Mekanizmalarındaki İyileştirmeler, 2001 - 2003
- Oktuğ S. F. , Project Supported by Higher Education Institutions, Çoktörel Trafik Altında ATM Anahtarları için Başarım Artıcı Teknikler ve Çoa Gönderin Anahtarlama, 1998 - 1999

Citations

Total Citations (WOS):599

h-index (WOS):11

Scholarships

Doktora Sonrası Yurt Dışı Arařtırma Bursu, NATO, 1996 - Continues