

Müjdat Soytürk

Department of Computer Engineering

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Profile

Associate Professor in the Department of Computer Engineering, Faculty of Engineering, Marmara University, Istanbul, Turkey. Research interests are much more focused on Vehicular Networks and V2X Communications specifically in past years, in addition to the research on Wireless and Mobile Networks. Performance evaluation of the various network types are the strongest skills in addition to statistical analysis of the performance results. Have experience and skills on network modelling and simulation. Analysis of real vehicle traces for better {resource scheduling, coverage and connectivity} and making estimations on resources are some our new research areas.

Education

- **Ph.D in Computer Engineering**, Istanbul Technical University, July 2007
Thesis advisor: Associate Prof. Deniz Turgay Altılar
- **M.S. in Computer Engineering**, Istanbul Technical University, June 2002
Thesis advisor: Prof. Ali Emre Harmanci
- **B.S. Certificate Program in Computer Engineering**, Bogazici University, August 1999
- **B.S. in Industrial Engineering**, Turkish Naval Academy, August 1994

Research Interests

- V2V and V2X Communications
- Vehicular Ad Hoc Networks (VANET), Connected Cars
- Intelligent Transportation Systems (ITS)
- Internet of Things (IoT) and Big Data: Sensing and Networking
- Wireless and Mobile Networks
- Sensor & Ad Hoc Networks

Professional Experience

- 2017 - Associate Professor, Dept of Computer Engineering, Marmara University
- 2012 - 2017 Assistant Professor, Dept of Computer Engineering, Marmara University
- 2008 - 2012 Assistant Professor, Dept of Computer Engineering, Turkish Naval Academy
- 2006 - 2008 Data Center Manager - System Administrator, Inventory Control Center
- 2002 - 2006 Lecturer, Dept of Computer Engineering, Turkish Naval Academy
- 1994 - 1998 Service as Officer in Turkish Navy

Project Experiences (Academic)

- 2017 - "V2I Communication, RSE Intelligent Safety-Traffic-Signalization Management System", ISBAK-PAVO Joint Project, TUBITAK 1511 - Research Technology Development and Innovation Projects in Priority Areas G. P., Architect & Researcher, funded by TUBITAK
- 2017 - "(PoC Project on Test Area) Implementing and Testing V2X Communications and Connected Car Scenarios on RSE and LTE Infrastructure", Turk Telekom, Project Coordinator & Architect & Researcher, funded by Turk Telekom
- 2017 - 2017 "Analysis of Turkey's National ITS Architecture and It's Comparison With Other ITS Architectures", Ministry of Transport, Maritime and Communications, Researcher, funded by TUBITAK
- 2018 - "Wi-Fi Access and Data Traffic Monitoring With The Use of Wi-Fi Sensors", TUBITAK 1505 - University-Industry Collaboration Grant Programme (Customer Industry Institution: Migros Ticaret A.S.), Principal Investigator & Project Director
- 2013 - 2017 Distributed Clustering Approach for UAV Integrated Wireless Sensor Networks, Principal Investigator & Project Director, funded by Marmara University
- 2014 - 2014 Modeling, Simulation and Capacity Analysis of Istanbul BRT System (IETT Metrobus), Principal Investigator & Project Director, funded by IETT,
- 2010 - 2011 Autonomous Control of Unmanned Sea Surface Vehicle (USSV), Principal Investigator & Project Director, funded by Turkish Naval Academy

Project Experiences (Professional)

- 2007 - 2008 Backup and Recovery System for Data Centre of Turkish Navy and Inventory Control Centre” , Project Manager, funded by Turkish Navy
- 2006 - 2008 Re-design and Deployment of Data Center in Inventory Control Centre” , Project Manager, funded by Turkish Navy
- 2006 - 2008 Deployment of Gigabit (Singlemode) F/O Network within Golcuk Base” , Project Manager, funded by Turkish Navy
- 2006 - 2008 Deployment of F/O and MobileIP Access Network for Naval Warships within Golcuk Base” , Project Manager, funded by Turkish Navy
- 2006 - 2008 Setup of Satellite Network Access for Frigates within Golcuk Base” , Project Manager, funded by Turkish Navy
- 2006 - 2007 Disaster Recovery and Business Continuity Project for Data Centre of Turkish Navy and Inventory Control Centre (deployment of a new site and replication of servers and databases which are available 7x24)” , Project Manager, funded by Turkish Navy

Professional Activities

- Founding Director of “Vehicular Networking and Intelligent Transportation Systems Research Group, VeNIT-RG” at Marmara University, www.venit.org,
- Founding Director of “Wireless Networks and Systems Research Group, *WINS-RG*” at Marmara University
- Coordinator of "V2X Communications and Connected Cars Working Group" in the "Smart Mobility Clustering" of Turkey.
- Academic Board Member of 5GTR Forum, Turkey.
- Editorial Board Member of “KSII Transactions on Internet and Information Systems” , indexed in SCIE, Korean Journal
- Editorial Board Member of “Turkish Journal of Electrical Engineering & Computer Sciences” , indexed in SCIE, Turkish Journal
- Editorial Board Member of “Smart Computing Review (SMART CR)” , Korean Journal
- Editorial Board Member of “Journal of Platform Technology” , Korean Journal
- Technical Program Committee (more than 100) - Selected in the Past 5 Years
 - IEEE CCNC, Consumer Communications and Networking Conference (2017, 2016, 2013)
 - IEEE LCN, Conference on Local Computer Networks (2016, 2015, 2014, 2013, 2012)
 - IEEE VTC, Vehicular Technology Conference, (2016, 2015, 2013, 2011)
 - NTMS, IFIP International Conference on New Technologies, Mobility and Security (2016, 2015, 2014, 2012, 2011)
 - IEEE ICCVE, International Conference on Connected Vehicles & Expo (2015, 2014, 2013)
 - IEEE IWCMC, International Wireless Communications and Mobile Computing Conference (2016, 2015, 2011)
 - IEEE WiMob, International Conference on Wireless and Mobile Computing, Networking and Communications (2015, 2014, 2012, 2011, 2010, 2009, 2008)
- Reviewer for journals including the following (more than 100) - Selected in the Past 5 Years
 - IEEE Transactions on Vehicular Technology, (2015, 2014)
 - IEEE Wireless Communications Magazine, (2016, 2015, 2014)
 - IEEE Access, (2015)
 - IEEE Communications Magazine, (2016, 2015, 2014, 2013, 2012, 2008, 2007, 2006)
 - IEEE Transactions on Parallel and Distributed Systems, (2014, 2013, 2012)
 - Computer Networks, Elsevier, (2014, 2013)
 - IEEE Communications Letters, (2016, 2015, 2014, 2013, 2012)
 - IEEE Sensors, (2016, 2015, 2014, 2013)
 - Computer Communications, Elsevier, (2014, 2012)
 - International Journal of Ad Hoc and Ubiquitous Computing (IJAHUC), (2014, 2012)
 - Ad Hoc Networks, Elsevier, (2014, 2013, 2012)
 - Simulation: Transactions of the Society for Modeling and Simulation International, (2012)
 - TJEECS - Turkish Journal of Electrical Engineering and Computer Sciences, (2016, 2015, 2014, 2013, 2012, 2011)

- Wireless Communications and Mobile Computing, Wiley, (2011)
- KSII Transactions on Internet and Information Systems, (2014, 2013, 2011)

Journal Publications & Book Chapters

- Sarmad Rashed, **Mujdat Soy Turk**. Analyzing the Effects of UAV Mobility Patterns on Data Collection in Wireless Sensor Networks, *Sensors*, 17(2):413, 2017
- **Mujdat Soy Turk**, Khaza N. Muhammad, Muhammed N. Avcil, Burak Kantarci, Jeanna Matthews. “*From Vehicular Networks to Vehicular Clouds in Smart Cities*” , Chapter in “*Smart Cities and Homes: Key Enabling Technologies*”, Edited by M.S. Obaidat, and P. Nicopolitidis, Elsevier, 2016
- Huseyin Okcu, **Mujdat Soy Turk**. “*Distributed Clustering Approach for UAV Integrated Wireless Sensor Networks*” , International Journal of Ad Hoc and Ubiquitous Computing, Vol.15, No.1/2/3, pp.106-120, 2014
- Kadri Kaan Sevimli, **Mujdat Soy Turk**. “*Enabling Delay-Tolerant Communications for Partially Connected Vehicular Ad Hoc Networks*” , International Journal of Ad Hoc and Ubiquitous Computing, Vol.11, No.2/3, pp.157-168, 2012.
- **Mujdat Soy Turk**, Turgay Altılar. “*SWR: Smartness Provided by Simple, Efficient, and Self-Adaptive Algorithm*” , International Journal of Distributed Sensor Networks, Volume 2012
- **Mujdat Soy Turk**, Halil Cicibas and Omer Unal. “*Real-Time Data Acquisition in Wireless Sensor Networks*” , Data Acquisition, a chapter in Data Acquisition, (Ed.) Michele Vadursi, in the series “Computer and Information Science”, ISBN: 978-953-307-193-0, InTech, 2010.
- **Mujdat Soy Turk**, Turgay Altılar. “*Source-initiated geographical data flow approach for wireless ad hoc and sensor networks*” , ITU Journal/d, Engineering, ISSN:1303-703X, Vol. 7 , No.5, pp. 26-33, Oct. 2008.

Conference Publications

- Muhammed Nur Avcil, Mesut Gurle, **Mujdat Soy Turk**. “Collision Resolution MAC Algorithm for Vehicular Ad Hoc Networks” , 21st IEEE International Workshop on Computer Aided Modelling and Design of Communication Links and Networks (CAMAD 2016), in Special Session: Evolving Technologies for Smart Cities, October 2016
- Bahadır K. Polat, **Mujdat Soy Turk**. “*An Alternative Approach to Mobility Analysis in Vehicular Ad Hoc Networks*” , IEEE International Workshop on Urban Mobility & Intelligent Transportation Systems (UMITS 2016), June 2016
- Muhammed Nur Avcil, **Mujdat Soy Turk**. “*ReSCUE: Relatively Stable Clustering for Unbiased Environments in VANETs*” , IEEE International Wireless Communications & Mobile Computing Conference, IEEE IWCMC'2015, Croatia, Aug. 2015.
- Sarmad Rashed, **Mujdat Soy Turk**. “*Effects of UAV Mobility Patterns on Data Collection in Wireless Sensor Networks*” , IEEE International Conference on Communication, Networks and Satellite, IEEE COMNETSAT'2015, Dec. 2015.

- **Mujdat Soyturk**, Mustafa Cabir Bodur, Ahmet Bekir Bakkal, Samet Ozturk. “Estimating the Number of People in A Particular Area Using WiFi ”, IEEE Signal Processing and Communications Applications Conference, SIU-2015, Turkey, May 2015.
- **Mujdat Soyturk**, Fatih Dogan, Esmâ Sasmaz, Saban Boyuk. “Detection And Analysis of Holes And Bumps On Road Surfaces ”, IEEE Signal Processing and Communications Applications Conference, SIU-2014, Turkey, April 2014.
- Kadri Kaan Sevimli, **Mujdat Soyturk**. “*Lifetime Determination for Delay Tolerant Communications in Sparse Vehicular Networks*”, IEEE International Symposium on Wireless and Pervasive Computing, ISWPC'10, Italy, May 2010.
- Kadri Kaan Sevimli, **Mujdat Soyturk**. “*Dusuk Yogunluklu Aracsal Aglarda Zaman Gecikmeli Veri Iletisimi*”, IEEE Signal Processing and Communications Applications Conference, SIU-2010, Turkey, April 2010.
- Kadri Kaan Sevimli, **Mujdat Soyturk**. “*Aracsal Aglar*”, Akademik Bilisim 2010 Konferansi, AB'10, Turkey, February 2010.
- **Mujdat Soyturk**, Turgay Altılar. “*Reliable Real-Time Data Acquisition for Rapidly Deployable Mission-Critical Wireless Sensor Networks*”, 2nd IEEE Workshop on Mission-Critical Networking, in conjunction with IEEE INFOCOM'2008, Phoenix, AZ, USA, April 2008.
- **Mujdat Soyturk**, Turgay Altılar. “*Stateless Data Flow Approach with Void Avoidance for Wireless Ad Hoc and Sensor Networks*”, IEEE International Symposium on Wireless Pervasive Computing, ISWPC'07, Puerto Rico, February 2007.
- **Mujdat Soyturk**, Turgay Altılar. “*A Routing Algorithm for Mobile Multiple Sinks in Large-Scale Wireless Sensor Networks*”, IEEE International Symposium on Wireless Pervasive Computing, ISWPC'07, Puerto Rico, February 2007.
- **Mujdat Soyturk**, Turgay Altılar. “*A Novel Stateless Energy-Efficient Routing Algorithm for Large-Scale Wireless Sensor Networks with Multiple Sinks*”, IEEE WAMICON' 06, Florida, U.S.A., December 2006.
- **Mujdat Soyturk**, Turgay Altılar. “*Source-Initiated Geographical Data Flow for Wireless Ad Hoc and Sensor Networks*”, IEEE WAMICON' 06, Florida, U.S.A., December 2006.
- **Mujdat Soyturk**, Turgay Altılar. “*Challenges And Approaches For Geographic Routing Protocols in Wireless Sensor Networks*”, IEEE TEHOSS, Oct. (2006).
- Ender Yuksel, **Mujdat Soyturk**, Tolga Ovatman, Bulent Orencik, “*Telsiz Yerel Alan Aglarinda Guvenlik Sorunu*”, Ag ve Bilgi Guvenligi Ulusal Semp. (ABG 2005), Istanbul, 9-11 Haziran, 2005, s. 23-30 (pdf).
- **Mujdat Soyturk**, Erdal Cayirci, A. Emre Harmanci. “*Virtual Cell Layout Based Dynamic Source Routing Algorithm for the Mobile Subsystem of the Next Generation Tactical Communications Systems*”, IEEE MILCOM 2002, California, U.S.A., Oct. 2002, pp. 541-545.

Teaching Experiences (Past Three Years)

- Vehicular Networks and ITS, Ph.D. Course
- Performance Evaluation of Computer Networks, M.S. Course
- Wireless and Mobile Networks, B.S. Technical Elective
- Modelling and Discrete Simulation, B.Sc.
- Probability and Statistics, B.Sc.

Technical Skills

- **Programming:** C, C++, Pascal
- **Network Simulator:** Omnet++, MiXiM, Veins, SUMO
- **Operating System:** Windows, Linux, Solaris
- **Language:** Fluently written/spoken Turkish, Fluently written/spoken English