CSE 475 Wireless and Mobile Networks
Term Paper
Due: May 21th 2012, Monday

You are expected to write a **survey paper** on a recent research topic (that you chose) related to this class. A survey paper, as described by ACM Computing Surveys, is "a paper that summarizes and organizes recent research results in a novel way that integrates and adds understanding to work in the field. A survey article assumes a general knowledge of the area; it emphasizes the classification of the existing literature, developing a perspective on the area, and evaluating trends." You should prepare your paper by surveying the journals, magazines and conference proceedings which will be cited and included in the references section of your paper. Undergraduate students should read and cite at least 3 papers, while graduate students should read and cite at least 6 papers. No indirect citation or references are allowed. Do not cut and paste anything you find in the Internet. **Use your own English even it is broken!** Your term paper should not exceed 4 pages (undergrad) and 6 pages (grad) of your writing with 12 pt fonts, single line spacing, 2.5 cm margins. Graduate students will also have to prepare a 45 minutes long presentation and be ready for 5 minutes long questions session on the date announced later.

Your term paper should include the following sections/subsections:

Title
1. Abstract: A brief abstract of your paper, which doesn't exceed 100 words.
2. Introduction
2.a Definition: A brief definition of the research topic and the considered problem.
2.b Motivation: Why is the problem significant? What are the goals?
2.c Related Work: Brief introduction to the different solution approaches for the problem.
3. System Model and Problem Definition
3.a System Model: Give details of the considered wireless network system. Define the network structure and general characteristics.
3.b Problem Definition: Give more details on the considered problem. Provide a formal definition of the problem.
4. Solution approaches: Give at least two solution approaches (from the literature) to the defined problem.
4.a Solution approach 1: Explain the first solution approach. What are the assumptions? Are these assumptions realistic? What is the solution strategy? Which tools/techniques are used for solving the problem? How do the authors validate their work (simulations, mathematical proofs, etc)?
4.b Solution approach 2: Repeat 4.a for the second solution approach. You may include other solution approaches in subsections 4.c, 4.d, etc.
4.c Comparison: Comparison of the solution approaches. How they differ? Can you provide a classification? Pros and cons of each approach. Which approach is more applicable? Which one performs better in terms of different metrics (e.g. throughput, delay, QoS, security, etc.)?
5. Conclusions: Summarize the problem and the solution approaches.
6. Open Problems and future work: In the considered research topic, what are the open problems? What are the common deficiencies of the proposed approaches? What can be done as a future work?

Please make **five choices** from the following topics (with decreasing priority) until April 30th, and send your choices to omer.korcak@marmara.edu.tr. You'll be assigned to one of those five choices according to **first-come first-serve** rule. Those who do not make any choice until April 30th will be assigned to a topic randomly.

No.	List of topics
1.	MAC layer of Wireless Sensor Networks
2.	Performance of Sensor Networks for Elderly/Child Care
3.	Energy Aware Routing in Wireless Sensor Networks
4.	Underwater sensor networks
5.	Underground sensor networks
6.	Optimal sink placement in Wireless Sensor Networks

7.	Border surveillance with Wireless Sensor Networks
8.	Optimal Coverage in Wireless video sensor networks
9.	Routing in LEO satellite networks
10.	Networking issues in LEO/MEO/GEO Hybrid Systems
11.	Mobility Management in LEO satellite networks
12.	MAC Layer of LEO satellite networks
13.	TCP extensions for satellite networks
14.	Performance of Vehicular Ad Hoc Networks
15.	Security problems in Vehicular Ad hoc Networks
16.	Multicast Routing in Ad Hoc networks
17.	TCP Extensions for Ad Hoc Networks
18.	QoS Aware Routing in Ad Hoc Networks
19.	Interference-based Routing in Ad Hoc Networks
20.	Scheduling in Cognitive Radio Networks
21.	Pricing in Cognitive Radio Networks
22.	Opportunistic Sensing in Cognitive Radio Networks
23.	Performance of Body Area Networks
24.	Mobility Modeling of Wireless Networks
25.	Performance evaluation of LTE
26.	Mobile Cloud Computing
27.	Green Wireless Networking
28.	Security problems in RFID
29.	Performance of Mobile Wimax
30.	Performance of Pervasive Healthcare Networking Systems
31.	Optimal Placement of Base stations in WiMax Networks
32.	Optimal Wireless Mesh Network Topology Design
33.	Routing in Delay Tolerant Networks
34.	Femtocell networks
35.	Smart Grid
36.	Performance of ZigBee
37.	Hierarchical Wireless Networks
38.	3D tracking of children using RFID
39.	Security Problems in Mobile IP
40.	Location Tracking using Wireless LAN
41.	Biologically Inspired Wireless Networks
42.	Game Theory applications in Wireless Networks
43.	Performance of self-organizing Wireless Networks
44.	Multi-tier Cellular Network Design
45.	**A topic of your choice**

Some of the related journals and conferences are:

IEEE/ACM Transactions on Networking
IEEE Network Magazine
IEEE Transactions on Communications
IEEE Transactions on Mobile Computing
IEEE Transactions on Wireless Communications
IEEE Journal on Selected Areas in Communications
IEEE Communications Magazine
IEEE Wireless Communications Magazine
IEEE Vehicular Technology Magazine
IEEE Transactions on Vehicular Technology
IEEE Transactions on Information Technology
ACM Transactions on Sensor Networks
Wireless Networks
Computer Networks
Computer Communications
Mobile Networks and Applications
Int. Journal on Communication Systems
IEEE Infocom Conference
IEEE Int. Conf. on Communications (ICC)
IEEE Int. Global Comm. Conf. (Globecom)
ACM Mobicom
ACM Mobihoc
IEEE Wireless Communication and Networking Conference (WCNC)