Reading List for SWIMers

SWIM Group @ Nanjing University
http://cs.nju.edu.cn/lwz/swim/SWIM.html

Math Background

Basic:
Discrete Mathematics
Computer Algorithm Design and Analysis
Combination Optimization
Probability
Stochastic Process

Senior:
Randomized Algorithm
Online Algorithm
Genetic Algorithm/ Ant Colony Algorithm/ Simulate Annealing/ nonlinear programming
Game Theory
Random Graphs

Academic Resources

Google Scholar: http://scholar.google.com
IEEE Digital Library: http://ieeexplore.ieee.org
ACM Digital Library: http://www.acm.org/
Citeseer: http://citeseer.ist.psu.edu/

Leading Conferences

Sigcomm
Mobicom
Mobihoc
ICNP
Infocom
**Books**

无线通信物理层的基本经典书籍:

1. 《Fundamentals of Wireless Communication》出版社信息: Cambridge University Press
   Davida Tse and Pramod Viswanath. David Tse 号称通信领域下一代接班人，大家可能熟悉的代表作 Mobility Increases the Capacity of Adhoc Wireless Networks（1100+citations at GoogleScholar）
   本书有电子版下载，影印不确定

2. 《Wireless Communication》Andrea Goldsmith
   出版社不详。本书号称 stanford 经典教材。有影印版、电子版。人民邮电出版社有中文版。

3. 《Digital communications 4th edition》John G. Proakis
   国外很多学校作为教材。有影印版。

4. 无线通信原理与应用（第二版）（英文影印版）Theodors S. Rappaport 著，电子工业出版社
   本书和 3 号称学习无线通信必备的两本书。电子工业出版社有影印版。

上面 1 和 2 内容比较新，3 和 4 因为是经典，对于一些新的概念介绍并不多。

5. 无线通信与网络（影印版） William Stallings 著 清华大学出版社

**Mesh 网络**:

1. 《下一代无线因特网技术：无线 Mesh 网络》 方旭明，人民邮电出版社。
   关于 Mesh 网络的中文书这一本很出名。

2. 《Wireless Mesh Networks》Xudong Wang，Ian Akyildiz. 出版社：Wiley
   这本书 2009 年 3 月 16 号发行，作者就是写 Mesh 那篇 Survey 的，之前在 GIT，现在被引进到交大。

**Sensor 网络**:

1. 《无线传感器网络》 孙利民 清华大学出版社
   搞 sensor 入门级中文必备书呵，看过，适合初学者。

2. Wireless Ad hoc and Sensor networks: Theory and Applications Xiangyang Li. Cambridge University Press，08 年 6 月份出版. Xiangyang Li 的论文阅读起来还是很舒服的，这本书应该不错，推荐。
Papers

Surveys and Classical Literature


A survey on sensor networks IF Akyildiz, W Su, Y Sankarasubramaniam, E Cayirci - Communications Magazine, IEEE, 2002


**Ad Hoc Networks**


**Mesh Networks**


End-to-end performance and fairness in multi-hop wireless backhaul networks
V Gambiroza, B Sadeghi, EW Knightly Mobicom 2004

Routing in multi-radio, multi-hop wireless mesh networks - R Draves, J Padhye, B Zill  Mobicom 2004(603 citations at GoogleScholar)


Cross-layer optimized video streaming over wireless multihop mesh networks. Y Andreopoulos, N Mastronarde, M van der Schaar. JSAC 2006


Cognitive wireless mesh networks with dynamic spectrum access, CHOWDHURY and AKYILDIZ, JSAC 2008

Assessment of Deployed, Urban-Scale Wireless Networks with a Small Number of Measurements, Joshua Robinson, Ram Swaminathan, Edward Knightly Mobicom 2008 (best paper)

**Sensor Networks**


Cooperative and Cognitive Network

Using Game Theory to Analyze Wireless Ad Hoc Networks, V Srivastava, J Neel, AB Mackenzie, R Menon, Communications Surveys & Tutorials, IEEE, 2005


Cooperative routing in wireless networks. AE Khandani et al.


Cooperative communications in wireless networks IEEE communication magazine 2004 *(300+ citations at GoogleScholar)*


*IEEE JSAC special issue on "cognitive radio - Theory and Applications", Vol. 26, Issue 1, Jan. 2008*

**Opportunistic Network**


**Capacity of Wireless Networks**

The capacity of wireless networks Gupta and Kumar, IEEE Transactions on Information Theory 2000 (3000+ citations at GoogleScholar)

Mobility increases the capacity of ad hoc wireless networks Grossglauser and D.Tse, TON 2002.

Bounds on the gain of network coding and broadcasting in wireless networks. J Liu, D Goeckel,


Capacity of Large Scale Wireless Networks Under Gaussian Channel Model. Shi Li, Xiangyang Li, Yunhao Liu. Mobicom 2008. (best paper candidate)

Handoff and Handover


Adaptive Routing


Richard Draves, Jitendra Padhye and Brian Zill ,” Routing in Multi-Radio, Multi-Hop Wireless Mesh Networks”, MobiCom’04.


Mobile Data Distribution


Multi-radio, Multi-channel Assignment

Joint Channel Assignment and Routing for Throughput Optimization in Multi-radio Wireless Mesh Networks, M Alicherry, R Bhatia, LE Li Mobicom 2005


Power and Topology Control

Y. Liu, etc. "Opportunity-based Topology Control in Wireless Sensor Networks". In ICDCS, 2008 (best paper award)

L. Li, etc. "Analysis of a coned-based distributed topology control algorithm for wireless multi-hop networks". In ACM PODC 2001


MIMO

Characterizing Cross-layer Optimization Gains in Wireless Mesh Networks with MIMO Links, INFOCOM’07

Performance Analysis of Random Beamforming for MIMO Broadcast Channel: Outage Probability Approach, Kim, Yohan Chae, Hyukjin Kim, Kiyeon Yang, Janghoon Kim, Dong Ku, Convergence and Hybrid Information Technology, 2008. (ICCIT ‘08)

Network Coding


Network Coding for Efficient Multicast Routing in Wireless Ad-hoc Networks, Jingyao Zhang; Pingyi Fan; Ben Letaief, K., IEEE Transactions on Communications, Volume 56, Issue 4, April 2008 Page(s):598 – 607

**DTN**

On going researches

**Others**

A List of WMN Paper Classification in 05/06/07 INFOCOM, MobiCom, MobiHoc, MobiSys, SIGCOMM, SECON, MASS, SIGMETRIC, ICDCS, WiMesh, and ICC is available in http://home.eng.iastate.edu/~leon6827/file/WMN.htm