Personal Communication Systems

Prof. Yuh-Shyan Chen
Department of Computer Science and Information Engineering
National Taipei University
Here's your all-IP network handbook for 3G and beyond

You'll be able to:
- Understand mobile core network protocols and applications based on the 3G/3GIP core network architecture
- Handle IP/VPN services management functions for IP core networks
- Design signaling protocols in non-IP networks to offer VoIP services
- Engineer and administrate 3G and 4G core networks
- Support user mobility, call setup, and call release using IP (Session Initiation Protocol)
- Set up mobile core network with fast handovers to speed up the incoming call setup process with the AGCF (Integrating Call Control Function)
- Write detailed designs, information access methods, and application logic independently using Mobile IPv6 and Mobility Support Platform

Yi-Bing Lin is Chair Professor of the College of Computer Science, and VP of Research and Development, National Chiao Tung University, Taiwan. His research interest includes mobile telecommunications and computer networks. He is an ACM fellow, ELL fellow, IEEE fellow, and RICS fellow.

Aih-Chun Pang is with the Graduate Institute of Networking and Multimedia in the Department of Computer Science and Information Engineering at National Taiwan University. His research interest includes wireless, mobile, and P (PnP), mobile computing and performance modeling.
Chapter 1: Short Message Service and IP Network Integration
Chapter 2: Mobility Management for GPRS and UMTS
Chapter 3: Session Management for Serving GPRS Support Node
Chapter 4: Session Management for Gateway GPRS Support Node
Chapter 5: Serving Radio Network Controller Relocation for UMTS
Chapter 6: UMTS and cdma2000 Mobile Core Networks
Chapter 7: UMTS Charging Protocol
Chapter 8: Mobile All-IP Network Signaling
Chapter 9: UMTS Security and Availability Issues
Chapter 10: VoIP for the Non-All-IP Mobile Networks
Chapter 11: Multicast for Mobile Multimedia Messaging Service
Chapter 12: Session Initiation Protocol
Chapter 13: Mobile Number Portability
Chapter 14: Integration and WLAN and Cellular Networks
Chapter 15: UMTS All-IP Network
Chapter 16: Issues on IP Multimedia Core Network Subsystem
Chapter 17: A Proxy-based Mobile Service Platform
Score

- Homeworks and one oral presentation
  - 40%
- Midterm and Final examinations
  - 30% and 30%