

Course Schedule, Version 1

Note: ◇ Speaker Undecided.

Attention: If you have decided on a presentation and date, please contact Mr. Chi Zhang at zhangchi@ufl.edu or the instructor, who can help you make the arrangement. If you find a topic or a specific paper you would most feel comfortable to present, let us know so that we can make the switch as well.

Overview of Wireless Ad Hoc Networks:

- Wireless Local Area Networks (Dr. Fang)
- Mobile Ad Hoc Networks (Dr. Fang)
- Wireless Sensor Networks (Dr. Fang)
- Wireless Mesh Networks (Dr. Fang)

Wireless LANs:

- Medium Access Control Protocols (Dr. Fang)
- Performance Evaluation (Dr. Fang, Rongsheng Huang)
- Problems (Dr. Fang)

Mobile Ad Hoc Networks:

- Network Capacity and Scaling Law (Chi Zhang)
- Network Connectivity (Omni-Directional and Directional) (Pan Li)
- ◇ Mobility Helps Capacity
- Network Formation and Power Control (Gustavo Vejarano)
- MAC Protocols in MANETs (Rongsheng Huang)
- Routing Protocols (Xiaoxia Huang)
- ◇ Wireless TCP
- ◇ Congestion Control

- Cross-Layer Design (Joint Design of Flow Control and MAC) (Stella Sun)
- Wireless Security (Authentication, Anonymity and Privacy) (Yun Zhou)
- Vehicular Ad Hoc Networks (Yang Song)
- Delay Tolerant Networks (Stella Sun)

Wireless Sensor Networks:

- Various Applications (Data Collection or Monitoring) (Dr. Fang)
- Power-Efficient MAC (S-MAC) (Pan Li)
- Robust Routing (Braided Routing, Multipath Routing) (Xiaoxia Huang)
- \diamond Load Balancing and Flow Control
- \diamond Node Deployment and Localization
- Coverage and Boundary Detection (Chi Zhang)
- Security Issues
 - Key distribution and management (Yun Zhou)
 - Authentication and en route packet filtering (Yun Zhou)
 - ID-based cryptography and its application (Chi Zhang)

Wireless Mesh Networks:

- Architecture and Design Issues (Yang Song)
- MAC and Scheduling
 - Multi-Channel MAC (Rongsheng Huang)
 - Dynamic Spectrum Allocations and Cognitive Radio (Gustavo Vejarano)
 - Joint Flow Control and Medium Access Control (Yang Song)
 - WiMAX (Nicola Scalabrino)
- Application: Voice over IP for WMNs (Nicola Scalabrino)
- Testbed of WMNs (Nicola Scalabrino)
- Secure Architecture and Billing (Dr. Fang)