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**I. PHY TRACK**
- Interference characterization
- Cognitive radio, ultra-wideband
- Multihop and cooperative communications
- Modulation, coding, diversity
- Equalization, synchronization
- Space-time, MIMO, adaptive antennas
- OFDM, CDMA, spread spectrum
- Channel modeling and characterization
- Interference cancellation and MUD
- Iterative techniques
- Information-theoretic aspects of wireless communications
- Signal processing for wireless communications
- Ultra-Wide Bandwidth communications
- Collaborative signal processing
- Propagation models for high frequency channels

**II. MAC TRACK**
- Multiple access techniques
- Cognitive and cooperative MAC
- Collaborative algorithms
- MAC for mesh, ad hoc, relay, and sensor networks
- Network information theory
- Radio resource management and allocation, scheduling
- Cross-layer design, cross-layer security
- Software defined radio, RFID
- Adaptability and reconfigurability
- Wireless MAC protocols: design and analysis
- B3G/4G Systems, WiMAX, WLAN, WPAN
- QoS provisioning in MAC

**III. NETWORKS TRACK**
- Position location
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- Mobility, location, and handoff modeling and management
- Wireless routing
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- Network coding in mesh, relay, sensor, and ad hoc networks
- Multimedia QoS and traffic management
- Wireless broadcast, multicast, and streaming
- Congestion and admission control
- Wireless network security and privacy
- Interworking heterogeneous wireless/wireline networks
- Capacity, throughput, outage, coverage
- Vehicle-to-vehicle communication

**IV. SERVICES & APPLICATIONS TRACK**
- Emerging wireless/mobile applications
- Context and location-aware wireless services & applications
- Wireless telemedicine and e-health services
- Intelligent transportation systems
- Cognitive radio and sensor-based applications
- Content distribution in wireless home environment
- Wireless emergency and security systems
- Service oriented architectures, service portability
- SIP based services, multimedia, QoS support, middleware
- Innovative user interfaces, peer-to-peer services for multimedia
- Dynamic services, autonomic services
- Regulations, standards, spectrum management
- Test-bed and prototype implementation of wireless services
- Personalization, service discovery, profiles and profiling

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