

AP-S General Topics

1. Adaptive, active, and smart antennas
2. Analysis for multi-scale problems
3. Biomedical applications
4. Broadband antennas
5. Chaotic systems structures
6. Complex media
7. Dielectric resonator antennas
8. Digital beamforming
9. Electromagnetic bandgap materials
10. Electromagnetics education
11. Electromagnetic properties of materials
12. Electromagnetic theory
13. EM measurement
14. FEM methods
15. FDTD methods
16. Frequency-selective surfaces
17. High frequency and asymptotic methods
18. Indoor and urban propagation models
19. Integral equation methods
20. Inverse scattering
21. Manufacturing techniques
22. Measurement techniques
23. Metamaterials
24. Microstrip antennas, arrays, and circuits
25. Military applications
26. Mobile and PCS antennas
27. Monolithic array techniques
28. Multi-frequency antennas
29. Nano-electromagnetics
30. Non-linear electromagnetics
31. Numerical methods
32. Optimization methods in EM design
33. Phased-array antennas
34. Photonics in antenna systems
35. Propagation
36. Propagation in rough enclosures
37. Quasi-optical techniques
38. Radar imagery
39. Random media and rough surfaces
40. Reconfigurable antennas and arrays
41. Reflector antennas
42. Remote sensing
43. Scattering, diffraction, and RCS
44. Transients and time-domain techniques
45. Ultra wideband systems
46. Vehicular antennas
47. Vehicular electromagnetics

URSI Commission A

Electromagnetic Metrology

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- A1. Microwave to sub-millimeter measurements/standards
- A2. Quantum metrology and fundamental concepts
- A3. Time and frequency
- A4. Time-domain metrology, EM-field metrology
- A5. EMC and EM pollution
- A6. Noise
- A7. Materials
- A8. Bioeffects and medical applications
- A9. Antennas
- A10. Impulse radar
- A11. Interconnects and packaging

URSI Commission B

Fields and Waves

N. Engheta: engheta@ee.upenn.edu

- B1. Antenna arrays
- B2. Antenna theory, design, & measurements
- B3. Complex, novel, or specialized media
 - B3.1 Electromagnetic bandgap (EBG) structures
 - B3.2 Biological media
 - B3.3 Geophysical media
 - B3.4 Metamaterials
- B4. Educational methods and tools
- B5. Electromagnetic interaction and coupling
- B6. Guided waves & wave-guiding structures
- B7. High-frequency techniques

- B8. Imaging, inverse scattering & remote sensing
- B9. Microstrip antennas and printed devices
- B10. Nanoscale electromagnetics
- B11. Nonlinear electromagnetics
- B12. Numerical Methods
 - B12.1 Fast Methods
 - B12.2 FDTD
 - B12.3 Frequency-Domain methods
 - B12.4 Hybrid methods
 - B12.5 Integral equations and the moment method
 - B12.6 Time-Domain methods
- B13 Optimization techniques
- B14. Propagation phenomena and effects
- B15. Rough surfaces and random media
- B16. Scattering and diffraction
- B17. Theoretical electromagnetics
- B18. Transient fields, effects, and systems
- B19. Ultra-wideband electromagnetics
- B20. Wireless communications

URSI Commission C

Signals and Systems

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- C1. Sensor array processing
- C2. Physics-based signal processing
- C3. Signal processing for radar remote sensing
- C4. Synthetic aperture and space-time processing
- C5. Distributed sensor networks
- C6. Computational imaging and inverse methods
- C7. Statistical signal processing of waves in random media
- C8. Radar target detection, localization, and tracking
- C9. Sensor array calibration

URSI Commission D

Electronics and Photonics

L. W. Pearson: **pearson@ces.clemson.edu**

- D1. Metamaterials containing lumped or active components
- D2. Electronic devices and applications
- D3. Photonic devices and applications
- D4. Physics, materials, CAD, technology and reliability of electronic and photonic devices, with particular reference to radio science and telecommunications

URSI Commission E

Electromagnetic Noise and Interference

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- E1. High-power electromagnetics
- E2. Effects of transients on electronic systems
- E3. Spectrum management and utilization
- E4. Communication in the presence of noise

URSI Commission F

Wave Propagation and Remote Sensing

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- F1. Indoor/outdoor wireless propagation effects
- F2. Propagation over terrain and sea surfaces
- F3. Random and deterministic terrain models
- F4. Remote sensing of land, sea and atmosphere
- F5. Propagation measurements and models
- F6. Passive and active remote sensing

URSI Commission K

Electromagnetics in Biology and Medicine

S. Hagness: **hagness@engr.wisc.edu**

- K1. Biological effects
- K2. Biomedical applications
- K3. Dosimetry
- K4. Exposure assessment
- K5. Applications of RF/Microwaves to medicine

Special Sessions

Matteo Pastorino Aria Abubakar	University of Genoa Schlumberger-Doll Research	Quantitative, hybrid, and large-scale inverse scattering methods	AP
Takehiko Kobayashi	Tokyo Denki Univ. (Japan)	Radio propagation in confined spaces for new wireless systems	AP
Manos M. Tentzeris	Georgia Tech	Green (Environmentally-friendly) Antennas for RFID, Paper-based Electronics and Wireless Sensors	AP
Apostolos Georgiadis Ron Pogorzelski	CTTC (Spain) JPL	Active antenna arrays and transceivers based on coupled oscillators	AP
Ozlem Kilic Atef Elsherbeni	Catholic Univ. America Univ. Mississippi	Hardware Accelerated Computational Techniques for Electromagnetics Applications	AP
Doug Werner Do-Hoon Kwon	Penn State Univ. Mass.-Amherst	Transformation Electromagnetics	AP
Mei Song Tong Weng Chew	UIUC UIUC	Multiphysics Electromagnetics	URSI
Islamshah Amlani Rudy Emrick, George Hanson	Motorola Motorola UW-Milwaukee	Nanomaterials and nanostructures for RF, MMW, and THz Applications	URSI
Rick Ziolkowski H. Xin	Univ. Arizona Univ. Arizona	Electromagnetics and Solar Energy	AP/URSI
Peter de Maagt Amir Zaghloul	ESA (Netherlands) Virginia Tech	Predictions and Tracking of Environmental and Wildlife Phenomena	AP/URSI
Karl Warnick Stuart Hay	BYU CSIRO (Australia)	Array Antennas for Radio Astronomy	AP/URSI
Amir Zaghloul Ozlem Kilic	Virginia Tech Catholic Univ. America	Antennas for Security and Public Safety Applications	AP/URSI
Serdar Yonak David Smith	Toyota Duke Univ.	Homogenization and Characterization Techniques for Metamaterials and Artificial Dielectrics	AP/URSI
Stephen Gedney	University of Kentucky	15th Anniversary of J.-P. Berenger's Perfectly Matched Layer	AP/URSI
Hans Schantz		Small Antennas and Fundamental Limits to Antenna Performance	AP/URSI