



National Radio Science Meeting

- ◆ January 4-7, 2012 ◆ University of Colorado at Boulder
- ◆ Meeting website: www.nrsmboulder.org
- ◆ USNC-URSI website: www.usnc-ursi.org

This open scientific meeting is sponsored by the U.S. National Committee (USNC) of the International Union of Radio Science (URSI). The USNC-URSI is appointed by the National Research Council of The National Academies and represents U.S. radio scientists in URSI. The meeting is held in cooperation with the following IEEE organizations: Antennas and Propagation Society, Circuits and Systems Society, Communications Society, Electromagnetic Compatibility Society, Geoscience and Remote Sensing Society, Information Theory Society, Instrumentation and Measurement Society, Microwave Theory and Techniques Society, and Nuclear Science Society. Papers on any topic in the interest area of a Commission are welcome. Contact the Commission Chairperson or visit the web site for further information.

Meeting Highlight: ***Global Navigation Satellite Systems and Radio Science***

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USNC-URSI Chair, 2009-2011: Yahya Rahmat-Samii, (310) 206-2275, rahmat@ee.ucla.edu
USNC-URSI Chair, 2012-2014: Steven C. Reising, (970) 491-2228, Steven.Reising@ColoState.edu
Note: The ten USNC Commission Chairs listed below are for the upcoming 2012-2014 URSI Triennium.

COMMISSION A, Electromagnetic Metrology

Christopher L. Holloway, (303) 497-6184,
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TOPICS

Microwave to submillimeter measurements/standards
Quantum metrology and fundamental concepts
Time and frequency
Time domain metrology
EMC and EM pollution
Noise
Materials
Bioeffects and medical applications
Antenna
EM-field metrology
Impulse radar
Planar structures and microstrip circuits
Interconnect and packaging

COMMISSION B, Fields and Waves

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TOPICS

Antenna arrays
Antenna theory, design and measurements
Complex media (metamaterials, bandgap structures, biological and geophysical media, and others)
Educational methods and tools
Electromagnetic interaction and coupling
Guided waves and waveguiding structures
High-frequency techniques
Inverse scattering and remote sensing
Microstrip and printed devices and antennas
Nonlinear electromagnetics
Numerical methods (differential- and integral-equation based, hybrid and other techniques)
Propagation phenomena and effects

Rough surfaces and random media

Scattering

Theoretical electromagnetics

Transient fields, effects, and systems

Ultra-wideband electromagnetics

Wireless communications

COMMISSION C, Radio-communication Systems and Signal Processing

Amir I. Zaghloul, (703) 538-8435, amirz@vt.edu

TOPICS

Cognitive radio
Computational imaging and inverse methods
Distributed sensor networks
Physics-based signal processing
Radar target detection, localization, and tracking
Sensor array processing and calibration
Signal processing for radar remote sensing
Statistical signal processing of waves in random media
Synthetic aperture and space-time processing

COMMISSION D, Electronics and Photonics

Jennifer T. Bernhard, (217) 333-0293, jbernhar@illinois.edu

TOPICS

Electronic devices, circuits, and applications
Photonic devices, circuits, and applications
Physics, materials, CAD, technology and reliability of electronic and photonic devices, in radio science and telecommunications
Wide bandgap materials

**Abstract submissions
and
Student Paper Competition submissions
are due by
September 23, 2011
These are FIRM DEADLINES!
Please visit www.nrsmboulder.org**

COMMISSION E, Electromagnetic Environment and Interference

Everett G. Farr, (505) 293-3886, efarr@farr-research.com

TOPICS

Effects of natural and intentional emissions on system performance
Electromagnetic compatibility in: computational electromagnetics, education, measurement technologies, standards, and radiation hazards.
High-power electromagnetic effects of transients on electronic systems
Spectrum management and utilization
Communication in the presence of noise

COMMISSION F, Wave Propagation and Remote Sensing

V. Chandrasekar, (970) 491-7981,
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TOPICS

Point-to-point propagation effects:
Measurements *Mobile/fixed paths*
Propagation models *Horizontal/slant paths*
Multipath/mitigation *Surface/atmosphere interactions*
Land or water paths *Atmospheric constituents*
Scattering/diffraction *Dispersion/delay*
Indoor/outdoor links *Natural/man-made structures*
Remote sensing of the Earth by radio waves:
Atmospheric sensing *Ocean and ice sensing*
Field campaigns *Interferometry and SAR*
Subsurface sensing *Scattering/diffraction*
Radiation and emission *Propagation effects*
Urban environments *Soil moisture & terrain*
Propagation and remote sensing in complex and random media

COMMISSION G, Ionospheric Radio and Propagation

Frank Lind, (781) 981-5570, flind@haystack.mit.edu

TOPICS

Ionospheric imaging
Ionospheric morphology
Ionospheric modeling and data assimilation
Transionospheric radio propagation and systems effects
Radar and radio techniques for ionospheric diagnostics
Space weather – radio effects

COMMISSION H, Waves in Plasma

Victor Pasko, (814) 865-3467, vpasko@psu.edu

TOPICS

Plasma instabilities
Waves in space and laboratory plasmas
Wave-wave and wave-particle interactions
Chaos and turbulence in plasma
Spacecraft-plasma interactions
Solar/planetary-plasma interactions
Space as a research laboratory

COMMISSION J, Radio Astronomy

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TOPICS

EoR and Dark Ages: Observations and instrumentation
Solar radio physics: Observations and instrumentation
Radio astronomy teaching labs and educational instruments
New telescopes, techniques, and observations
Timely technical tutorials

COMMISSION K, Electromagnetics in Biology and Medicine

Erdem Topsakal, (662) 325-3669, topsakal@ece.msstate.edu

TOPICS

Biological effects
Dosimetry and exposure assessment
Electromagnetic imaging and sensing applications
Therapeutic, rehabilitative and other biomedical applications
Human body interactions with antennas and other electromagnetic devices

ERNEST K. SMITH USNC-URSI STUDENT PAPER COMPETITION

Prizes will be awarded to three graduate student papers. Awards will be made for First Prize in the amount of \$1000, Second Prize at \$750, and Third Prize at \$500. The deadline for submission of **full papers** on the meeting web site is **September 23, 2011**. Please see www.nrsmboulder.org for additional information, or contact the Student Paper Chair Prof. Danilo Erricolo, Dept. of ECE, University of Illinois at Chicago, erricolo@ece.uic.edu. Student papers and awards will be presented at the Plenary Session on Thursday morning, January 5, 2012. Student Paper Competition participants will have the option of submitting their competition papers for publication in a special section of the journal Radio Science.

ABSTRACT SUBMISSION

The organizers of this meeting require the use of electronic submission. Details and instructions may be found at www.nrsmboulder.org. All abstract submission information must be entered online by **Friday, September 23, 2011**. If you have any questions on abstract submission or the technical program, please direct them to USNC-URSI Secretary Steven C. Reising at Steven.Reising@ColoradoState.edu. Abstracts must be a *minimum of 250 words*. You will not be able to submit an abstract that does not meet the minimum length requirements. After abstract submission is complete, please note that *online registration is required* to attend any session of the meeting or to present a paper. More information about USNC-URSI is available at www.usnc-ursi.org.

Questions should be directed to:

For logistics (including travel and lodging) and the conference program:

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