National Radio Science Meeting

The National Academies of SCIENCES · ENGINEERING · MEDICINE

◆ January 4-7, 2017 ◆ 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 Academies of Sciences, Engineering and Medicine, and represents U.S. radio scientists in URSI. Through technical co-sponsorship of the meeting by the IEEE Antennas and Propagation Society, authors will have their choice of submitting one-page abstracts that are not archived on IEEE Xplore, or two-page summaries that are archived on IEEE Xplore. At least one author is required to register for each presented abstract or summary. Papers must be presented for their corresponding summaries to be archived on IEEE Xplore. Abstracts or summaries on any topic in the interest area of a Commission are welcome. Contact the appropriate USNC-URSI Commission Chair listed below or visit the meeting website for further information.

Meeting Plenary Highlights

(1) Electromagnetic Spectrum Coexistence and Codesign
Contacts: Gregory H. Huff (Commission C Chair), ghuff@tamu.edu
Charles Baylis (Commission E Chair), Charles_Baylis@baylor.edu

(2) Fast Radio Bursts and the Discovery of Missing Matter
Contact: David DeBoer (Commission J Chair), ddeboer@berkeley.edu

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USNC-URSI Chair: David R. Jackson, (713) 743-4426, djackson@uh.edu
USNC-URSI Secretary: Sembiam Rengarajan, (818) 677-3571, srengarajan@csun.edu

COMMISSION A, Electromagnetic Metrology

Steven J. Weiss, (301) 394-1987,
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TOPICS

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

COMMISSION B, Fields and Waves

John L. Volakis, (614) 292-5846, volakis@ece.osu.edu

TOPICS

Antenna arrays
Antenna theory, design and measurements
Cognitive radio
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
Nano-electromagnetics
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

Gregory H. Huff, (979) 862-4161, ghuff@tamu.edu

TOPICS

Cognitive radio
Computational imaging and inverse methods
Distributed sensor networks
Physics-based signal processing
Radar systems
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

Zoya Popovic, (303) 492-0374,
Zoya.Popovic@colorado.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 / Summary Submissions
and
Student Paper Competition Submissions
are due by
September 19, 2016
This is a FIRM DEADLINE!
Please visit *www.nrsmboulder.org*

COMMISSION E, Electromagnetic Environment and Interference

Charles Baylis, (254) 710-4306, Charles_Baylis@baylor.edu

TOPICS

Communication in the presence of noise
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

COMMISSION F, Wave Propagation and Remote Sensing

Michael H. Newkirk, (240) 228-6976, Michael.Newkirk@jhuapl.edu

TOPICS

Point-to-point propagation effects:
Measurements — *Mobile/fixed paths*
Propagation models — *Horizontal/slant paths*
Multipath/mitigation — *Surface/atmosphere interactions*
Land or water paths — *Numerical weather prediction*
Scattering/diffraction — *Dispersion/delay*
Indoor/outdoor links — *Natural/man-made structures*
Microwave remote sensing of the earth:
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

Sigrid Close, (650) 725-2863, sigridc@stanford.edu

TOPICS

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

COMMISSION H, Waves in Plasmas

Anatoly V. Streltsov, (386) 226-7137, streltsa@erau.edu

TOPICS

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

COMMISSION J, Radio Astronomy

David DeBoer, (510) 520-9077, ddeboer@berkeley.edu

TOPICS

Cosmic Microwave Background Polarization
New Telescopes, Techniques and Technology
Next Generation Very Large Array
Observatory Reports
Planetary Remote Sensing
Timely Technical Tutorials

COMMISSION K, Electromagnetics in Biology and Medicine

Mahta Moghaddam, (213) 740-4712, mahta@usc.edu

TOPICS

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

ERNEST K. SMITH USNC-URSI STUDENT PAPER COMPETITION

Prizes will be awarded to three 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 website is ***September 19, 2016***. Please see *www.nrsmboulder.org* for additional information, or contact the Student Paper Chair, Prof. Erdem Topsakal, Dept. of ECE, Virginia Commonwealth University, etopsakal@vcu.edu. Student papers and awards will be presented at the Plenary Session on Thursday morning, January 5, 2017. Student Paper Competition participants will have the option of submitting their full papers for publication in a special section of the journal *Radio Science*.

ABSTRACT AND SUMMARY SUBMISSION

The organizers of this meeting require the use of electronic submission. Details and instructions may be found at the conference website, *www.nrsmboulder.org*. Authors may choose to submit to special sessions in addition to the general topics listed above. A list of special sessions will be available on the conference website. All abstracts or summaries must be submitted online by **Monday, September 19, 2016**. If you have any questions on abstract/summary submission or the technical program, please direct them to the USNC-URSI Secretary, Sembiam Rengarajan, at srengarajan@csun.edu. Abstracts must have a minimum of 250 words. You will not be able to submit an abstract that does not meet the minimum length requirements. After abstract or summary submission is complete, please note that 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 about the conference: For questions concerning conference logistics, please contact: Christina Patarino, Phone: (303) 492-5151, Fax: (303) 492-5959, E-mail: christina.patarino@colorado.edu