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 USNC-URSI Commission Chairs listed below or visit the meeting website for further information.

Please note that the meeting this year takes place on Thursday-Sunday (in the past it was usually Wednesday-Saturday). Sunday will be used for technical presentations only if needed to accommodate the number of accepted papers.

Meeting Plenary Highlights

(1) The Wonderful World of Waves in the Near Earth Environment
(2) Radio Navigation Systems - New Challenges and Opportunities

Contacts: Anatoly Steltsov (Commission H Chair), streltsa@erau.edu
Sigrid Close (Commission G Chair), sigridc@stanford.edu

USNC-URSI Chair (2015-2017): David R. Jackson, (713)743-4426, djackson@uh.edu
USNC-URSI Chair (2018-2020): Sembiam Rengarajan, (818) 677-3571, srengarajan@csun.edu

COMMISSION A, Electromagnetic Metrology
Steven J. Weiss, (301) 394-1987, steven.j.weiss14.civ@mail.mil
Incoming chair (2018-2020): Jeanne Quimby

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

Abstract / Summary Submissions
and Student Paper Competition Submissions are due by September 18, 2017
This is a FIRM DEADLINE!
Please visit www.nrsmboulder.org
COMMISSION D, Electronics and Photonics  
Zoya Popovic, (303) 492-0374, Zoya.Popovic@colorado.edu  
Incoming chair (2018-2020): Negar Ehsan

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

COMMISSION E, Electromagnetic Environment and Interference  
Charles Baylis, (254) 710-4306, Charles_Baylis@baylor.edu  
Incoming chair (2018-2020): Larry Cohen

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  
Incoming chair (2018-2020): Kamal Sarabandi

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
  - Subsurface sensing: Propagation and remote sensing in complex and random media

COMMISSION G, Ionospheric Radio and Propagation  
Sigrid Close, (650) 725-2863, sigridc@stanford.edu  
Incoming chair (2018-2020): Attila Komjathy

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
- Transitionospheric 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  
Incoming chair (2018-2020): Jeff Mangum

TOPICS
- ALMA 2030
- The VLBA at 25: Recent Accomplishments and Future Directions
- New Telescopes, Techniques and Technology
- Observatory Reports
- Spectral Line Cosmology and Low-Frequency Arrays

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
- Body-Area Networks
- Medical Devices

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 18, 2017. 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 Friday morning, January 5, 2018. 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 18, 2017. 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 about the conference, please contact David R. Jackson or Sembiam Rengarajan. For questions concerning conference logistics, please contact Christina Patarino; Phone: (303) 492-5151, E-mail: christina.patarino@colorado.edu.