



2013 IEEE International Symposium on Antennas and Propagation and USNC-URSI National Radio Science Meeting



IEEE



AP-S/USNC-URSI

July 7-13, 2013 • Hilton Orlando Lake Buena Vista • Lake Buena Vista, Florida, USA

CALL FOR PAPERS

The **2013 IEEE International Symposium on Antennas and Propagation and USNC-URSI National Radio Science Meeting** will be held jointly July 7-12, 2013, at the Hilton Orlando Lake Buena Vista in Lake Buena Vista, Florida, USA. The symposium and meeting are cosponsored by the IEEE Antennas and Propagation Society (AP-S) and the U.S. National Committee of the International Union of Radio Science (USNC-URSI) Commissions A, B, C, D, E, F, G, and K. The joint meeting is intended to provide an international forum for the exchange of information on state-of-the-art research in antennas, propagation, electromagnetic engineering, and radio science. Technical sessions will be held over a four day period from July 8 through July 11, and workshops and short courses will occur on July 7 and July 12.

The Hilton Orlando Lake Buena Vista hotel is located in the Downtown Disney® Resort area. Complimentary transportation to Disney theme parks is provided for all guests. Explore attractions such as the Downtown Disney® Marketplace, Downtown Disney® West Side and Cirque du Soleil®. The Hilton Orlando Lake Buena Vista is also the only Hilton hotel to offer Disney's Extra Magic Hours benefit to their guests where each day one of the Walt Disney World® parks opens an hour early or stays open up to an extra three hours. Other nearby theme parks include: SeaWorld, Universal Studios® Orlando, Universal's Islands of Adventure®, and more. The Hilton Orlando Lake Buena Vista boasts seven appetizing restaurants and lounges ranging from their 24 hour Mainstreet Market and their signature restaurant Andiamo Italian Bistro to the relaxing Rum Largo Poolside Bar & Café. Take a short drive and you can find many more dining and hotel accommodations.

International Drive: As Orlando's tourism corridor, International Drive offers 14 miles of hotels, shopping and dining attractions. The north end of "I - Drive," as it's known by the locals, is anchored by Prime Outlets International Outlets, Festival Bay Mall and Wet 'n Wild® - Orlando. The center stretch of I-Drive is home to the Pointe Orlando shopping, dining and entertainment complex, while the southern end of I-Drive features SeaWorld® Orlando, Aquatica™ - SeaWorld's Waterpark, Discovery Cove® and Orlando Premium Outlets.

The business side of the city, downtown Orlando, is also a hot spot for nightlife, dining and entertainment. Museums, art galleries, theaters and concert venues make it a great spot for a day or evening of exploring. The downtown neighborhood of Thornton Park offers great people-watching from sidewalk cafes and interesting boutiques, while Lake Eola is the perfect backdrop for several community festivals.

Paper Submission

Authors are invited to submit contributions for review and possible presentation at the symposium on topics of interest to AP-S and URSI. Topics and general information are listed in this call. Papers will be presented in either oral or poster sessions. Assignment to oral or poster sessions will be based solely on a paper's topic. All paper submissions are due **Tuesday, January 15, 2013. This is a firm deadline. Papers will not be accepted after this date.**

www.2013apsursi.org

INSTRUCTIONS FOR AP-S AND URSI AUTHORS

General Submission Information

All paper and abstract submissions must be received in PDF format via the symposium Web site on or before Tuesday, January 15, 2013. This is a firm deadline. Papers will not be accepted after this date. Only electronic submissions in PDF format will be accepted. Please consult the symposium web site for the latest instructions, templates, and format examples. Only the author who submits the paper will receive an acknowledgement of the submission. Please do not include page numbers on submitted documents. All papers must be written in clear, idiomatic English. Please note that AP-S reserves the right to exclude a paper from distribution after the conference (e.g., removal from the proceedings submitted to IEEE Xplore) if the paper is not presented at the conference. Address all AP-S and URSI correspondence, including inquiries concerning papers, abstracts, the technical program, and copyright forms, to Xun Gong, Xun.Gong@ucf.edu or Gokhan Mumcu, mumcu@usf.edu.

Instructions for AP-S Authors

All AP-S summary papers for the 2013 symposium must be submitted in the IEEE standard two-column format. Templates for Microsoft™ Word (.doc) and LaTeX2e are available at the symposium Web site. Papers must be two pages in length, including text, references, and figures. Note that the information density of the new two-column format is roughly twice that of the old format. The introduction of the paper should clearly indicate the unique aspects of the submission and how it relates to previous work. A signed IEEE copyright form must accompany all AP-S submissions. Papers submitted without copyright forms will be rejected. Instructions for electronically signing and submitting copyright forms are available at the symposium Web site.

Instructions for URSI Authors

URSI abstract submissions must consist of at least 250 words and must be limited to one page, including figures. The text must be single-spaced with a minimum font size of 11 points. Any font may be used, but a font from the Times or Arial/Helvetica family is preferred. All fonts must be embedded in the submitted PDF document. The title should be centered 2.5 cm (1 inch) from the top of the page. The author's (or authors') name and complete organizational affiliation should start two lines below the title. If there are multiple authors, the presenter's name should be indicated with an asterisk. The text should start three lines below the last line of the organizational affiliation(s). The top and bottom margins should be 2.5 cm (1 inch), and the left-hand and right-hand margins should be at least 2.5 cm (1 inch). Paragraphs should be separated with one blank line. Do not include a list of references. However, a few open-literature references may be included parenthetically, for example: (R. L. Lewis and J. R. Johler, *Radio Sci.*, 2, 75-81, 1976). Acknowledgment of financial support is not appropriate. The Commission and session topic for the abstract must be identified at the time of submission.

AP-S Student Paper Competition

Eligible entries in the Student Paper Competition must have only one student author, and that student must be the first author. Each additional co-author must submit a signed letter indicating that his/her contribution is primarily advisory. Letters must be in PDF format and must be uploaded to the symposium's student paper Web site in the indicated area at the time the paper is submitted. All Student Paper Competition entries will be evaluated using a double-blind review process in addition to the normal review process used for regular submissions. Detailed instructions will be available on the symposium Web site. For additional information, contact Guoan Wang, gwang@engr.sc.edu.

Special Sessions

Requests to organize special sessions should be submitted to Daniel Sievenpiper at dsievenpiper@eng.ucsd.edu no later than October 12, 2012. Each proposal should include the title of the special session, a brief description of the topic, and justification for its designation as a special session. All proposals should be submitted in PDF format. Special sessions will be selected and finalized by the end of November 2012. At that time, additional instructions will be provided to the organizers of the special sessions chosen for inclusion in the symposium and/or the meeting. The associated papers or abstracts will be due January 15, 2013. A list of special sessions will be posted at the symposium Web site in December 2012.

Exhibits

Industrial, academic, and book exhibits will be open July 9-11, 2013. Exhibitor registration and additional information can be found on the symposium Web site.

Short Courses/Workshops

Individuals who wish to organize a short course or workshop should contact Jing Wang at jingw@usf.edu by November 16, 2012.

For additional information, please visit the symposium Web site www.2013apsursi.org.

AP-S GENERAL TOPICS

1. Adaptive, active, and smart antennas
2. Antenna feeds and matching
3. Antenna near fields and mutual coupling
4. Antenna theory and design
5. Biomedical applications
6. Broadband antennas and systems
7. Dielectric resonator antennas
8. Electromagnetic bandgap materials
9. Electromagnetic education
10. Electromagnetic properties of materials
11. Electromagnetic theory
12. EM measurements and measurement techniques
13. FDTD methods
14. FEM methods
15. Frequency-selective surfaces
16. High frequency and asymptotic methods
17. Indoor, urban, terrestrial, and ionospheric propagation
18. Integral equation methods
19. Inverse scattering and imaging
20. Metamaterials
21. Microstrip antennas, arrays, and circuits
22. MIMO implementations and applications
23. Mobile and PCS antennas
24. Multi-frequency antennas
25. Nano-electromagnetics
26. Numerical methods
27. Optimization methods in EM design
28. Parallel and special-processor based numerical methods
29. Phased-array antennas
30. Propagation and scattering in random or complex media
31. Radar imagery
32. Reconfigurable antennas and arrays
33. Reflector and reflectarray antennas
34. Remote sensing
35. RFID antennas and systems
36. Scattering, diffraction, and RCS
37. Slotted and guided wave antennas
38. Small antennas
39. Software control of antennas
40. Transients and time-domain techniques
41. Ultra wideband antennas and systems
42. Vehicular antennas and electromagnetics
43. Wideband antennas and systems
44. Wireless antennas and applications

URSI TOPICS

Commission A - Electromagnetic Metrology

Chair: Christopher L. Holloway
National Institute of Science and Technology (NIST), Boulder, CO
christopher.holloway@nist.gov

- 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 metrology
- A6. Noise
- A7. Materials
- A8. Bioeffects and medical applications
- A9. Antennas
- A10. Impulse radar
- A11. Interconnect and packaging
- A12. Test facilities
- A13. THz metrology
- A14. High-Frequency and Millimeter Wireless metrology

Commission B - Fields and Waves

Chair: Sembiam Rengarajan
California State University, Northridge
sembiam.rengarajan@csun.edu

- B.1 Antenna arrays
- B.2 Antenna theory, design, and measurements
- B.3 Complex, novel, or specialized media:
 - B.3.1 Electromagnetic bandgap (EBG structures)
 - B.3.2 Biological media
 - B.3.3 Geophysical media
 - B.3.4 Metamaterials
- B.4 Educational methods and tools
- B.5 Electromagnetic interaction and coupling
- B.6 Guided waves and wave-guiding structures
- B.7 High-frequency techniques
- B.8 Imaging, inverse scattering and remote sensing
 - B.9 Microstrip antennas and printed devices
 - B.10 Nanoscale electromagnetics
 - B.11 Nonlinear electromagnetics
 - B.12 Numerical Methods
 - B.12.1 Fast Methods
 - B.12.2 Finite-Difference methods
 - B.12.3 Frequency-Domain methods
 - B.12.4 Hybrid methods
 - B.12.5 Integral-Equation methods
 - B.12.6 Time-Domain methods
 - B.13 Optimization techniques
 - B.14 Propagation phenomena and effects
 - B.15 Rough surfaces and random media
 - B.16 Scattering and diffraction
 - B.17 Theoretical electromagnetics
 - B.18 Transient fields, effects, and systems
 - B.19 Ultra-wideband electromagnetics
 - B.20 Wireless communications
 - B.21 Cognitive Radio

Commission C - Radiocommunication Systems and Signal Processing

Chair: Amir I. Zaghloul
Virginia Tech
amirz@vt.edu

- C.1 Cognitive radio and software defined radio
- C.2 Computational imaging and inverse methods
- C.3 Information theory, coding, modulation and detection
- C.4 MIMO and MISO systems
- C.5 Radar systems, target detection, localization, and tracking
- C.6 Radio communication systems
- C.7 Sensor networks, and sensor array processing and calibration
- C.8 Signal and image processing
- C.9 Spectrum and medium utilization
- C.10 Synthetic aperture and space-time processing
- C.11 Ground Penetrating Radar (GPR)

Commission D - Electronics and Photonics

Chair: Jennifer T. Bernhard
University of Illinois-Urbana-Champaign
jbernar@illinois.edu

- D.1 Novel transmission line structures and materials
- D.2 Electronic devices, circuits and applications
- D.3 Photonic devices, circuits and applications
- D.4 Physics, materials, CAD, technology and reliability of electronic and photonic devices

Commission E - Electromagnetic Environment and Interference

Chair: Everett G. Farr
Farr Research Inc.
efarr@farr-research.com

- E.1 Electromagnetic environment
 - E.1.1 Electromagnetic noise of natural origin
 - E.1.2 Man-made noise
- E.2 Electromagnetic compatibility measurement technologies
- E.3 Electromagnetic compatibility standards
- E.4 Legal aspects of electromagnetic compatibility
- E.5 Electromagnetic radiation hazards
- E.6 Electromagnetic compatibility education
- E.7 Computational electromagnetics in electromagnetic compatibility
 - E.7.1 Computer Modeling
 - E.7.2 Model Validation
 - E.7.3 Statistical Analysis
- E.8 Effects of natural and intentional emissions on system performance
 - E.8.1 Crosstalk
 - E.8.2 Effects of transients
 - E.8.3 System analysis
 - E.8.4 Signal integrity
 - E.8.5 Electromagnetic compatibility in communication systems
 - E.8.6 Statistical analysis
- E.9 High-power electromagnetics
 - E.9.1 Electrostatic discharge
 - E.9.2 Electromagnetic pulse and lightning
 - E.9.3 Transients
 - E.9.4 Power transmission
- E.10 Spectrum management

- E.1.2 Man-made noise
- E.2 Electromagnetic compatibility measurement technologies
- E.3 Electromagnetic compatibility standards
- E.4 Legal aspects of electromagnetic compatibility
- E.5 Electromagnetic radiation hazards
- E.6 Electromagnetic compatibility education
- E.7 Computational electromagnetics in electromagnetic compatibility
 - E.7.1 Computer Modeling
 - E.7.2 Model Validation
 - E.7.3 Statistical Analysis
- E.8 Effects of natural and intentional emissions on system performance
 - E.8.1 Crosstalk
 - E.8.2 Effects of transients
 - E.8.3 System analysis
 - E.8.4 Signal integrity
 - E.8.5 Electromagnetic compatibility in communication systems
 - E.8.6 Statistical analysis
- E.9 High-power electromagnetics
 - E.9.1 Electrostatic discharge
 - E.9.2 Electromagnetic pulse and lightning
 - E.9.3 Transients
 - E.9.4 Power transmission
- E.10 Spectrum management

Commission F - Wave Propagation and Remote Sensing USNC

Chair: V. Chandrasekar
Colorado State University
chandra@engr.colostate.edu

- F.1 Point-to-point propagation effects
 - F.1.1 Measurements
 - F.1.2 Propagation models
 - F.1.3 Multipath/mitigation
 - F.1.4 Land or water paths
 - F.1.5 Scattering/diffraction
 - F.1.6 Indoor/outdoor links
 - F.1.7 Mobile/fixed paths
 - F.1.8 Horizontal/slant paths
 - F.1.9 Surface/atmosphere interactions
- F.1.10 Atmospheric constituents
 - F.1.1.1 Dispersion/delay
 - F.1.1.2 Natural/man-made structures
- F.2 Remote sensing of the Earth by radio waves
 - F.2.1 Atmospheric sensing
 - F.2.2 Ocean and sea ice
 - F.2.3 Field campaigns
 - F.2.4 Interferometry and SAR
 - F.2.5 Subsurface sensing
 - F.2.6 Scattering/diffraction
 - F.2.7 Radiation and emission
 - F.2.8 Propagation effects
 - F.2.9 Urban environments
 - F.2.10 Soil moisture & terrain
- F.3 Propagation and Remote Sensing in Complex and Random Media

Commission K - Electromagnetics in Biology and Medicine

Chair: Erdem Topsakal
Mississippi State University
topsakal@ece.msstate.edu

- K.1 Biological effects
- K.2 Dosimetry and exposure assessment
- K.3 Electromagnetic imaging and sensing applications
- K.4 Therapeutic, rehabilitative, and other biomedical applications
- K.5 Human body interactions with antennas and other electromagnetic devices

We look forward to welcoming you to the 2013 IEEE International Symposium on Antennas and Propagation and USNC-URSI National Radio Science Meeting

Steering Committee

General Chair:

Parveen Wahid
University of Central Florida
Parveen.Wahid@ucf.edu

Co-Chair:

Jay Kralovec
Harris Corp.
jkralove@harris.com

Technical Program Chairs:

Xun Gong
University of Central Florida
Xun.Gong@ucf.edu
Dr. Gokhan Mumcu
University of South Florida
mumcu@usf.edu

URSI Liaison:

Saimak Ebadi
University of Central Florida
sebadi@gmail.com

Special Sessions:

Daniel Sievenpiper
University of California, San Diego
dsievenpiper@eng.ucsd.edu

Student Paper Competition:

Guoan Wang
University of South Carolina
gwang@engr.sc.edu

Student Design Contest:

Buon Kiong Lau
Lunds Tekniska Högskola
Buon_Kiong.Lau@eit.lth.se

Short Courses/Workshops:

Joseph Costantine
California State University Fullerton
jcostantine@fullerton.edu

Local Arrangements: Brian Lail

Florida Institute of Technology
blail@fit.edu

Publicity:

Griff Gothard
Harris Corp.
ggothard@harris.com

Audio-Visual:

Phil Tang
NASA KSC
philip.w.tang@nasa.gov

Finance:

Kalpathy Sundaram
University of Central Florida
Kalpathy.Sundaram@ucf.edu

Exhibits/Sponsors:

Parveen Wahid
University of Central Florida
Parveen.Wahid@ucf.edu
Jay Kralovec
Harris Corp
jkralove@harris.com

Social programs/Hospitality:

Joanne Wilton

Meeting Planners:

Billene Mercer
Conference Management Services, Inc.
Bryan Stewart
Conference Management Services, Inc.
info@2013apsursi.org



AP-S/USNC-URSI

**2013 IEEE International Symposium on
Antennas and Propagation and
USNC-URSI National Radio Science Meeting**



IEEE



July 7-13, 2013 • Hilton Orlando Lake Buena Vista • Lake Buena Vista, Florida, USA

www.2013apsursi.org