



2009 International Microwave Symposium

7-12 June, Boston Convention & Exhibition Center

IEEE Microwave Theory and Techniques Society

www.ims2009.org



Call for Papers

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The IEEE Microwave Theory and Techniques Society (MTT-S) International Microwave Symposium 2009 (IMS 2009) will be held in Boston, Massachusetts, as the centerpiece of Microwave Week 2009, scheduled from Sunday, 7 June through Friday, 12 June 2009. Technical papers describing original work in research, development, and application of RF and microwave theory and techniques are solicited, with typical Technical Areas listed below.

Microwave Modeling Focus

1. Field Analysis and Guided Waves
2. Frequency Domain Techniques
3. Time Domain Techniques
4. CAD Algorithms and Techniques
5. Linear Device Modeling
6. Nonlinear Device Modeling
7. Nonlinear Circuit Analysis and System Simulation

Passive Component Focus

8. Transmission Line Elements
9. Passive Circuit Elements
10. Planar Passive Filters and Multiplexers
11. Non-Planar Passive Filters and Multiplexers
12. Active and Integrated Filters
13. Ferroelectric, Ferrite, and Acoustic Wave Components
14. MEMS Components and Technologies

Active Component Focus

15. Semiconductor Devices and Monolithic IC Technologies
16. Signal Generation
17. Frequency Conversion and Control
18. HF/VHF/UHF Technologies and Applications
19. Power Amplifier Devices and Integrated Circuits
20. High-Power Amplifiers
21. Low Noise Components and Receivers
22. Millimeter Wave and Terahertz Components and Technologies

Microwave System Focus

23. Microwave Photonics
24. Signal Processing Circuits and Systems at GHz Speeds
25. Packaging, Interconnects, MCMs, and Hybrid Manufacturing
26. Instrumentation and Measurement Techniques
27. Biological Effects and Medical Applications
28. Smart Antennas, Spatial Power Combining, and Phased Arrays
29. Radars and Broadband Communication Systems
30. Wireless and Cellular Communication Systems
31. Sensors and Sensor Systems

MICROWAVE WEEK 2009: The IMS 2009 opens on Monday with a Plenary Session; technical sessions will run from Tuesday through Thursday of Microwave Week. Workshops will be held on Sunday, Monday, Wednesday and Friday. In addition to IMS 2009, a microwave exhibition, a historical exhibit, the RFIC Symposium (www.rfic2009.org), and the ARFTG Conference (www.arftg.org) will also be held in Boston during Microwave Week 2009.

PAPER SUBMISSION GUIDELINE: Technical papers for this symposium must be submitted via the IMS 2009 website, www.ims2009.org. Complete information on how to submit a paper and register for the conference, as well as other important information, can be found at the IMS 2009 website.

PROPOSALS INVITED: Workshop (Tutorial through Expert level), Short Course, Special Session (Focused and Honorary), and Panel/Rump Session proposals are invited. Visit the following links to suggest topics, or to volunteer to help organize or participate in an interactive Workshop (www.ims2009.org/Workshops.php), Short Course (www.ims2009.org/ShortCourses.php), Special Session (www.ims2009.org/SpecialSessions.php), or Panel Session (www.ims2009.org/PanelSessions.php).

Electronic Submission Deadlines

Proposals for workshops, short courses, panels, and special sessions:	19 September 2008
Manuscripts for review:	8 December 2008
Final manuscripts:	20 March 2009
All submissions must be made through the IMS 2009 portal:	www.ims2009.org
ALL SUBMISSIONS MUST BE MADE IN PDF FORMAT	Hard copies not accepted.

The authors are responsible for formatting. Font embedding must be IEEE Xplore compatible.



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Technical Paper Submission

Paper Submission Instructions:

1. Download a template from www.ims2009.org. Authors must adhere to the format provided in the template. The paper must be in PDF format and the file size must be less than 1MB.
2. Submit the paper at www.ims2009.org by 8 December 2009. Late submissions will not be considered. The system will only accept four pages including text and figures.
3. Authors of accepted papers will be required to submit a final paper for publication in the Symposium CDROM. Notice of paper acceptance and the necessary information to electronically submit this final version of the paper will be sent to the authors in January 2009.

Paper Selection Criteria: All submissions must be in English. IMS 2009 Technical Program subcommittees will review the papers. The selection criteria will include the following factors:

Originality: How is the contribution unique, significant, and state-of-the-art? Are references to previous work by the authors and others included?

Quantitative content: Does the paper give an explicit description of the work with complete supporting data?

Clarity: Is the contribution clear? Are the writing and accompanying figures clear and understandable?

Interest to MTT-S membership: Why should this work be reported at this conference?

Technical Areas: Author-selected technical areas (see next page) will be used to determine the appropriate review committees. Choose a primary and an alternative area when you complete the author registration form. The paper abstract should contain information that clearly reflects the choice of area. The technical areas are categorized in four focus areas or tracks. These focus tracks will be used in the organization of the paper presentation schedule at the symposium and are included here for future reference. Note that it is permissible to choose a primary and an alternative technical area that are in different focus tracks. The IMS 2009 TPC may transfer inappropriately placed papers into more appropriate subcommittees.

Presentation Format: The International Microwave Symposium offers three types of presentations:

1. *Full-Length Papers* report significant contributions, advancements, or applications of microwave technology in a formal presentation format with limited audience interaction.
2. *Short Papers* typically report specific refinements or improvements in the state-of-the-art in a formal presentation format with limited audience interaction.
3. *Interactive Forum Papers* provide an opportunity for authors to present theoretical or experimental results in greater detail in a poster format, and/or to display hardware, perform demonstrations, and conduct discussions in an informal manner with interested colleagues.

The author's preference will be honored where possible, but the paper will be placed in the most appropriate area and presentation format consistent with the constraints of the Technical Program. All presentations at IMS 2009 will be given using electronic data projection. No 35-mm slide projectors or overhead transparency projectors will be available.

Student Paper Contest: A Student Paper Contest will be held as part of the Symposium. Student papers will be reviewed in the same manner as all other conference papers. Papers accepted for the competition will be judged on content and presentation. First, second, and third prizes will be awarded. To be considered for an award, the student must have been a full-time student (minimum 9 hours/term graduate, 12 hours/term undergraduate) during the time the work was performed, be the lead author, and must present the paper at the Symposium. During the paper submission process, the student is required to provide the e-mail address of the advisor, who will be asked to certify that the work is primarily that of the student. Students may also elect to have their presentations recorded, as part of the IMS 2009 Virtual Participation program (see: www.ims2009.org/virtualparticipation.php). Recorded sessions will be viewable by all IMS attendees as well as virtual participants.

Notification: Authors will be notified of the decision in January 2009. Authors of accepted papers will be notified by e-mail. The acceptance letter will refer the author to the website for forms and detailed instructions for preparing manuscripts for publication. Final manuscripts must be received by 20 March 2009, to be published on the CD-ROM and to qualify for presentation at the Symposium.

Clearances: It is the author's responsibility to obtain all required company and government clearances prior to submitting a paper. A statement signed by the submitting author that such clearances have been obtained and a completed IEEE copyright form must accompany the final manuscript of each accepted paper. Details regarding clearances will be available through the paper submission website (www.ims2009.org).

Technical Areas

Microwave Modeling Focus

1. Field Analysis and Guided Waves

Novel guiding structures, new physical phenomena in transmission lines and other waveguiding structures, and new analytical methods for solving guided-wave problems.

2. Frequency Domain Techniques

Frequency Domain methods for numerical solution of electromagnetic problems, including field interactions with devices, circuits, and with other physical processes.

3. Time Domain Techniques

Time Domain methods for numerical modeling of high frequency electronics, including modeling based on physical behaviors (electromagnetic, semiconductor, thermal, mechanical).

4. CAD Algorithms and Techniques

Circuit analysis methods, optimization methods, statistical analysis.

5. Linear Device Modeling

Linear models of active and passive devices, models.

6. Nonlinear Device Modeling

Large Signal device models, characterization, parameter extraction, validation. Power Amplifier modeling.

7. Nonlinear Circuit Analysis and System Simulation

Harmonic balance, simulation techniques, distortion and spurious analysis, system simulations, and behavioral modeling.

Passive Component Focus

8. Transmission Line Elements

Planar, non-planar, and micromachined transmission lines and waveguides, including periodic and metamaterial-type structures, discontinuities, junctions, and transitions.

9. Passive Circuit Elements

Couplers, dividers/combiners, hybrids, resonators, lumped element approaches to circuit design.

10. Planar Passive Filters and Multiplexers

Innovative synthesis and analysis of (non-tunable) planar filters and multiplexers. Includes planar superconducting structures.

11. Non-Planar Passive Filters and Multiplexers

Waveguide, dielectric resonator, and non-planar superconducting structures.

12. Active and Integrated Filters

Integrated filters (on Si, LTCC, LCP, MCM-D, GaAs, ...), active, tunable, and reconfigurable filters. Filters based on metamaterials, DGS, EBG, and other structures.

13. Ferroelectric, Ferrite, and Acoustic Wave Components

Ferroelectric devices, bulk and thin film ferrite components, surface and bulk acoustic wave devices including FBAR devices.

14. MEMS Components and Technologies

RF microelectromechanical and micromachined components and subsystems: switches, resonators, tunable passive filters, phase shifters, reconfigurable filters, and antennas. Modeling, packaging, reliability, novel materials, and assembly processes

Active Component Focus

15. Semiconductor Devices and Monolithic IC Technologies

Multifunction and monolithic integrated components: RF, microwave, and Millimeter Wave MMICs on GaAs, SiGe ICs, and other technologies. MMIC manufacturing, reliability, failure analysis, yield, and cost.

16. Signal Generation

CW and pulsed oscillators, VCOs, DROs, YTOs, PLOs, and frequency synthesizers. Applications of new devices and resonators, noise in oscillators, DDS techniques.

17. Frequency Conversion and Control

Electronic switches, phase shifters, limiters, mixers, frequency multipliers, and frequency dividers.

18. HF/VHF/UHF Technologies and Applications

Technology for HF, VHF, and UHF including passive and active components, lumped and distributed elements, transmitters and receivers.

19. Power Amplifier Devices and Integrated Circuits

Design and performance (with experimental data) of discrete and IC power amplifiers for RF, microwave, and Millimeter Wave signals, wide bandgap devices.

20. High-Power Amplifiers

High-power amplifier design and characterization, linearization techniques, power combining techniques, vacuum electronics.

21. Low Noise Components and Receivers

Low-noise amplifiers, detectors, devices, receivers, radiometers, models, and characterization methods for low-noise circuits and components.

22. Millimeter Wave and Terahertz Components and Technologies

Millimeter Wave components, technologies, and applications above 30 GHz, submillimeter wave/terahertz devices, instruments, and applications including THz imaging.

Microwave System Focus

23. Microwave Photonics

Microwave/optical interactions and device technology. Wireless over fiber, free-space optical technology, broadband cable applications of photonics, optical transmission effects.

24. Signal Processing Circuits and Systems at GHz Speeds

High-speed mixed-signal components, modules and subsystems; ADC, DAC, and DDS; backplanes, signal integrity and equalization; electrical/optical interfaces and transmission; MIMO; SDR and cognitive systems.

25. Packaging, Interconnects, MCMs, and Hybrid Manufacturing

Dielectrics and substrates, component and subsystem packaging, assembly methods, hybrid integration, interconnects and multi-chip modules, hybrid manufacturing, yield and cost.

26. Instrumentation and Measurement Techniques

Network, Time Domain, and spectral measurements, field mapping, error correction and estimation, materials measurements.

27. Biological Effects and Medical Applications

Biomedical applications of microwaves, applications in biology, microwave fields and interactions in tissues.

28. Smart Antennas, Spatial Power Combining, and Phased Arrays

Smart antennas for wireless applications, spatial power combining, phased arrays, retrodirective systems, T/R modules, multiple-beam scanning, active integrated antennas.

29. Radars and Broadband Communication Systems

Broadband and MMW communication systems for terrestrial, vehicular, satellite, and indoor applications. Radar systems and subsystems. UWB systems and subsystems.

30. Wireless and Cellular Communication Systems

Wireless system and transceiver architectures for 3G/4G for cellular system, WLAN, UWB, WiMax, and Cognitive Radio Systems.

31. Sensors and Sensor Systems

RFID, IVHS, wireless microsensors, nondestructive testing, imaging, and remote sensing.

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About Boston, Massachusetts:

Famous for everything from the Red Sox and Paul Revere to Cheers and seafood, Boston is a popular destination. Part history lesson, part modern metropolis, the Hub offers attractions to suit everyone. It is easy to get around, either on foot or by the user-friendly public transportation system. The Freedom Trail, one of America's first historic walking trails, will take you through 16 historical sites that span over two and a half centuries of America's past. Between landmarks, you can shop stores on Newbury Street, have an authentic Italian meal in the North End or browse the antique shops and distinctive red-brick buildings of Beacon Hill. The more culturally inclined will not want to miss the city's world-class museums, theaters and music venues. Boston is also home to a renowned aquarium, both a children's museum and science museum, along with the Museum of Fine Arts (MFA) and the Institute of Contemporary Art (ICA) whose groundbreaking exhibitions and engaging programs, to state-of-the-art gallery space showcasing not only outstanding art but innovative and exciting ways for people to interact with the masterpieces. For additional information visit: www.bostonusa.com.

IEEE Microwave Theory and Techniques Society (MTT-S):

The IEEE MTT-S is a volunteer run, transnational society with more than 10,000 members and 120 chapters worldwide. Our society promotes the advancement of microwave theory and its applications, including RF, microwave, Millimeter Wave, and terahertz technologies.

For more than 50 years the MTT-S has worked to advance the professional standing of its members and enhance the quality of life for all people through the development and application of microwave technology. As we enter into an exciting future our mission is to continue to understand and influence microwave technology. The activities sponsored by the MTT-S include a broad spectrum of conferences, workshops, tutorials, technical committees, chapter meetings, publications and professional education programs. For additional information visit: www.mtt.org.

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