

Location

Washington Marriott Hotel
1221 22nd Street, NW
Washington, DC 20037
(202)872-1500 phone
(202) 872-1424 fax

All sessions will be at the Washington Marriott Hotel, in Washington, DC.

Reserve your hotel room at the Washington Marriott by 07 November to guarantee your lodging. Be sure to mention ARFTG to qualify for the special \$153 rate for single. Key code on the web site is **ARFARFA** or mention **AUTOMATIC** when registering by telephone.

For additional information about the NIST short course, the conference, hotel reservations, and registration forms for exhibitors and attendees, visit our website at:

<http://www.arftg.org>



29 Nov. 8 am - 5 pm & 30 Nov. 8 am - noon
Join us in a practical microwave measurement tutorial.
Day 1: VNA calibration and uncertainty; RF connectors; on-wafer measurements; power; thermal noise; materials characterization; digital system measurements.
Day 2: phase noise; optoelectronic measurements; introduction to nonlinear measurements.

Fee: \$400 for 1-1/2 day course.
Contact Dave Walker (dwalker@boulder.nist.gov) 303-497-5490 for more information.

Conference Chair
Greg Burns – Northrop Grumman
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Short Course
Dave Walker
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dwalker@boulder.nist.gov
303-497-5490 for more information.

Nonlinear Measurements Workshop
Kate A. Remley
National Institute of Standards and Technology
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66th ARFTG

Microwave

Measurements

Symposium

Washington Marriot Hotel

Washington, DC

29 Nov - 2 Dec. 2005

Invitation to Attend

The Automatic RF Techniques Group will hold its 66th ARFTG Microwave Measurements Conference in the city that is not only a center of government but also a capital location – Washington, DC. The two-day conference will cover all aspects of microwave measurements with a special focus on the emerging field of wide band gap devices and high power applications.

Special Sessions

Panel Discussion Session: High Power Measurements - Challenges and Future trends

Panel Members : Jan Verspecht, Larry Dunleavy, Jon Martens, Gary Simpson, and Jean-Pierre Teyessier

Included Workshop: Future of High-Speed Electrical Waveform Metrology

This workshop will address emerging issues in electrical waveform metrology required to support modern telecommunications and wireless applications. The workshop will focus on new classes of high-bandwidth electrical instruments that must measure both temporal and frequency-domain signals and, because of the high frequencies involved, must be mismatch corrected, magnitude and phase calibrated, and may generate energy beyond connector cutoff frequencies. The workshop will focus on new high-speed oscilloscopes, vector signal analyzers, high-speed pattern generators, bit error rate testers, and large-signal analyzers.

Organizers : Dylan Williams and Paul Hale

NVNA Users's Forum

The ARFTG NVNA Users' Forum will be held on Wednesday after the nonlinear workshop. This informal discussion group is devoted to sharing information and issues related to instrumentation utilized in vector large-signal network analysis of microwave circuits and systems. To present please contact Kate Remley: remley@boulder.nist.gov

Conference Agenda

- An introduction to and overview of an emerging technology, wideband gap semiconductors
- Pulsed RF with pulsed bias S-Parameter system
- An introduction to Carbon Nanotube Technology (CNT) and description of tests on a 33 GHz CNT FET
- Measuring nonlinear devices for system level modeling
- Time domain harmonic load pull of a GaN HEMT
- Comparison of instrumentation capable of nonlinear system characterization
- Inter-laboratory comparison of S-Parameter and noise parameter measurements on CMOS devices
- Statistical analysis for accuracy of noise figure measurements
- Planar antenna integrated with miniaturized multiplexer
- IIP₃ estimation from gain compression of RF amplifiers
- Measurement based performance evaluation for WIMAX transceiver designs
- Hot S-Parameter techniques
- A 325 to 500 GHz network analyzer
- **Plus test and measurement equipment exhibits**



30 Nov. 30 noon – 5 pm

The theme for this year's Nonlinear Measurements Workshop is "Broadband Measurements for Wireless Telecommunication Systems". The workshop will address issues related to increasing the measurement bandwidth of instrumentation such as vector signal generators, vector signal analyzers, and LSNAs. The workshop this year will consist of short presentations and an interactive panel discussion. It will feed into NIST's "US Measurement System" roadmapping effort to assess measurement needs for future innovation in key industry sectors. For more information, visit www.arftg.org or contact Kate Remley (remley@boulder.nist.gov), NIST.

Registration Form

Last Name _____

First Name _____

Company _____

Mail Stop _____

Address _____

City _____ State _____ Zip _____

Country _____

Phone _____

Fax _____

Email _____

Registration:

Short Course \$400 \$ _____

66th Conference \$400 \$ _____

Non-Linear Workshop (no additional fee when registered for either the Short Course or Conference)

Payment: **Total** \$ _____

Check (payable to ARFTG, in US dollars)

Credit Card: Visa MC AMEX

Name on Card _____

CC # _____

Expiration Date _____

Signature _____

Mail, Fax or email this form and payment to:

Ray Tucker
ARFTG Member Services
PO Box 228
Rome, NY 13442-0228

Phone: 315-330-3884 FAX: 315-330-8290
Email: Raymond.Tucker@rl.af.mil

Registration forms for both Exhibitors and Participants are also available online at:

<http://www.arftg.org>