AUTOMATIC RF TECHNIQUES GROUP

NEWSLETTER

WINTER 2012 NUMBER 48

Important deadlines:
February 15, 2013: 81st conference abstracts/summaries due

March 29, 2013: 81st conference final papers due

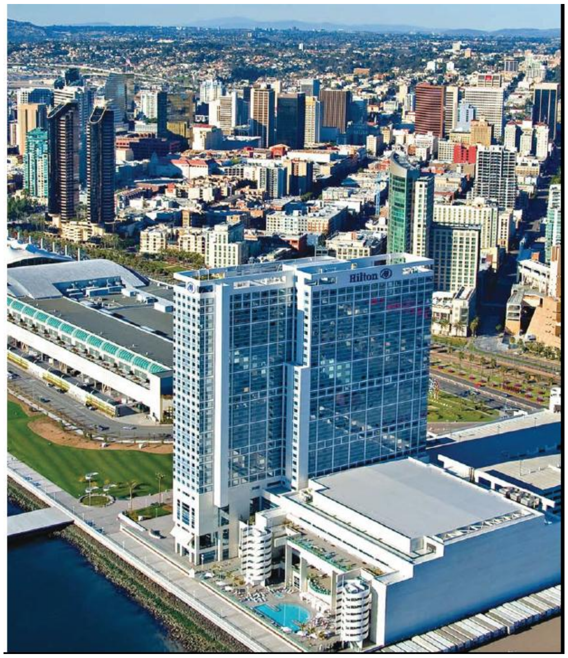
March 31, 2013: Entry deadline for student design competition during IMS.

September 2, 2013: 82nd conference abstract/summaries due

Oct. 1, 2013: Student fellowship applications due

Fall 2012 ARFTG Microwave Measurement Symposium: Advances in Wireless Communications Test and Measurement

OVERVIEW



The Hilton San Diego Bayfront, site for the Fall 2012 ARFTG Symposium

The Fall 2012 ARFTG Microwave Measurement Symposium took place at the Hilton San Diego Bayfront Hotel in San Diego, California, over four days from Tuesday, November 27th, to Friday, November 30th. The Symposium consisted of a 1 ½ day short course on microwave measurements, two workshops, a users' forum meeting and the main conference. The theme of this year's symposium was "Advances in wireless communication test and measurement". The symposium 'main event' was the 80th ARFTG Microwave Measurement Conference, which took place on Thursday and Friday. In addition to these technical events, there was an awards banquet on Thursday evening and a vendor exhibition during the main conference. Taken together, this amounted to four days packed with exciting activities for RF, microwave, and millimeter-wave engineers and technologists.

This newsletter gives reviews of these activities. To obtain more information on ARFTG and its activities, including details of conferences past, present and future, visit the ARFTG website at www.arftg.org.

SHORT COURSE ON MICROWAVE MEASUREMENTS

A tutorial short course on practical microwave measurements for wireless communications was organized by Patrick Roblin and was held on November 27th-28th. About 15 people attended this course with topics covering everything from basic power, S-parameter, noise, oscilloscope, and spectral measurements to wireless standards, nonlinear characterization, and load pull. Many thanks are due to the twelve instructors who made this short course successful.

WORKSHOPS

Two workshops were held as part of the symposium. The first, entitled "Design for wireless communications: from transistor to system-level characterization," was held on the afternoon of Wednesday, November 28th and was organized by Antonio Raffo. About 30 people attended and heard lectures from Andrea Ferrero (Politecnico di Torino, Italy), Dominique Schreurs (K. U. Leuven, Belgium), Peter Zampardi (Skyworks, US), and Kate Remley (NIST, US).

Attendees at the workshops heard lectures on both topics directly related to the conference theme and those related to emerging measurement fields.

The second workshop, held on the afternoon of Friday, November 30th, was entitled "Measurement techniques for RF nanoelectronics" and was organized by Mitch Wallis. Attendees at this workshop on an emerging measurement field heard lectures by Jeong-Sun Moon (HRL Laboratories, LLC, US), Peter Burke (UC-Irvine, US), Hassan Tanbakuchi (Agilent Technologies, US), and Mitch Wallis (NIST, US). About 20 people attended the session.

CONFERENCE TECHNICAL SESSIONS

The 80th ARFTG Microwave Measurement Conference began on Thursday, November 29th with introductions by ARFTG President Nick Ridler and the conference chair, Rusty Myers. On this occasion, about 60 people attended the conference. ARFTG is pleased to thank the sponsors of this conference:

Gold sponsors: RFMD, Maury Microwave, AWR/National Instruments, and Anritsu.

Silver sponsors: Mesuro, Focus Microwaves/Electro Rent Corp., and Agilent Technologies.

For future sponsorship opportunities, contact the Sponsorship Chair, Joe Gering (sponsorship@arftg.org).

The conference consisted of five general sessions spread over the two days organized by Technical Program Chair, Ali Boudiaf. All papers have been published in the conference digest (copies of which can be ordered from www.arftg.org). In addition to five invited speakers, there was a special anniversary session commemorating 80 conferences with talks presented on the past, present and future of ARFTG. On the ARFTG website, video screencasts of presentations by John Barr IV (http://www.arftg.org/beta/John_Barr.mov), Kevin Kerwin (http://www.arftg.org/beta/Kevin_Kerwin.mov), and Ronald Ginley are available for viewing (http://www.arftg.org/beta/Ron_Ginley.mov). The installation of QuickTime is required http://www.apple.com/quicktime/download/).

Interactive discussions with the audience after each technical session paper contributed to the conference.

The best oral paper presentation, as voted on by conference attendees, was "An innovative waveguide interface and quarter-wavelength shim for the 220-325 GHz band" by D. Vondran and Y. Lau (OML, Inc., Morgan Hill, US). The best interactive forum paper was selected to be "A procedure for measurement of S-parameters and eye-diagram of backplane using two-port VNA," by K. Hoffman (Czech Technical University, Prague, Czech Republic). The best exhibitor was voted as Maury Microwave.

Some of the past presidents of ARFTG (along with the current) gathered for the 80th ARFTG meeting.

CONFERENCE EXHIBITS

The exhibits area gave conference attendees an excellent opportunity to see the latest range of products available from some of the leading suppliers in the RF and microwave test and measurement industry.

Extended breaks allowed for ample interaction between attendees and exhibitors.

The following companies chose to exhibit at this conference: Agilent Technologies, Anritsu, Cascade Microtech, Duocommun, Focus Microwave, OML, Inc., Maury Microwave, National Instruments, Rohde & Schwarz, Roos Instruments, Tektronix, and Times Microwave Systems

To exhibit at future conferences, please contact the ARFTG Exhibits Chair, Rusty Myers, at exhibits@arftg.org.

ANNUAL BUSINESS MEETING

The annual ARFTG Business Meeting was held on November 29th, 2012, during the 80th conference. A significant part of this meeting consisted of electing five members to the ARFTG Executive Committee (ExCom). Biographies for the candidates were distributed prior to voting. The outcome of the voting was the re-election of five existing members of ExCom, Ronald Ginley, Nick Ridler, Patrick Roblin, Dominique Schreurs, and Mitch Wallis.

CONFERENCE AWARDS

ARFTG President, Nick Ridler, presided over the conference awards ceremony, which took place during the awards banquet on Thursday evening. Certificates of appreciation were presented to the organizers of the conference, namely: Rusty Myers, Conference Chair; Ali Boudiaf, Technical Program Chair; Gayle Collins, Conference Host; Joe Gering, Sponsorship Chair; Rusty Myers, Exhibits Chair; Patrick Roblin, Short Course Organizer; Antonio Raffo and Mitch Wallis, Workshop organizers; and the Session Chairs – Mohamed Sayed, Leonard Hayden, Andrea Ferrero, Joe Gering, and Gayle Collins. Ken Wong and Ronald Ginley were also recognized for organizing the special session.

Awards were also given for best papers and exhibitors from the previous (79th) conference held in Montreal, Canada. The best oral paper presentation award went to "Synchronizing modulated NVNA measurements on a dense spectral grid" by Y. Rolain, M. Schoukens, R. Pintelon, and G. Vandersteen (Vrije Universiteit Brussel, Belgium). The best interactive forum paper presentation award went to "What can ABCD parameters tell us about TRL" by J. A. Reynoso-Hernandez[1], M. A. Pulido-Gaytan[1], M. C. Maya-Sanchez[1], and J. R. Loo-Yau[2] ([1]CICESE, Mexico and [2]Centro de Investigacion y Estudios Avanzados del I.P.N., Mexico). The best exhibitor award was a tie between Anritsu and Virginia Diodes, Inc.

On a separate note, John Barr IV received the ARFTG Career Award for meritorious achievement in the field of automated microwave measurements and tireless professional society leadership. Also, Ronald Ginley received the Distinguished Service Award for outstanding leadership and dedicated service to ARFTG.

NVNA USERS' FORUM

The two fall 2012 meetings of the NVNA Users' Forum were held in conjunction with the EuMW and ARFTG conferences. The first meeting was on Sunday, October 28th at EuMW 2012 in Amsterdam and was moderated by Dominique Schreurs where 20 people attended. A student update on digital network analyzer calibration issues and a research update on the LSNA round robin were presented by Diogo Ribeiro (University of Aveiro, Portugal) and Paul Hale (NIST, US), respectively. The second meeting, with about 20 attendees, was on Wednesday, November 28th in San Diego and was moderated by Joe Gering. A research update on the latest developments with the NVNA round robin was presented by Paul Hale, Dylan Williams, and Kate Remley (NIST, US), and a research update on recent improvement on nonlinear measurements was given by Andrea Ferrero (Politecnico di Torino, Italy). A discussion topic on how to measure nonlinear characteristics and nonlinear parameters on very linear devices was led by Joe Gering (RFMD, US). More information can be found at http://www.arftg.org/about_nvna.html.

FUTURE EVENTS

Summer 2013 ARFTG activities

Microwave Measurement Conference

The 81st ARFTG Microwave Measurement Conference will be held on June 7th, 2013, in Seattle, Washington, as part of Microwave Week 2013 (June 2nd-7th), which also includes the IEEE MTT-S International Microwave Symposium (www.ims2013.org), the Radio Frequency Integrated Circuits symposium (www.rfic2013.org) and workshops. The theme for the ARFTG conference is "Metrology for high speed circuits and systems" and the summary submission deadline is February 15th, 2013. For more information, contact the Conference Co-Chairs, Brett Grossman, (brett.grossman@intel.com) or Leonard Hayden (Leonard.Hayden@ieee.org), or the Technical Program Chair, Dave Blackham, (dave_blackham@agilent.com) or visit www.arftg.org. ARFTG will also be co-sponsoring a workshop during Microwave Week entitled "The Importance of Low-frequency Measurements on High-frequency Characterization" organized by Nuno Borges Carvalho, Kate Remley, and Jon Martens and to be held on Monday, June 3rd.

The Grand Hyatt Seattle, site for the 81st ARFTG Microwave Measurement Conference

Student Design Competition

ARFTG and the NVNA Users' Forum together with MTT-11 are supporting a measurement design competition at IMS2013 entitled "Development of a Large-Signal-Network-Analyzer Round-Robin Artifact." Interested students are encouraged to participate. For more information, see www.ims2013.org or contact Rashaunda Henderson (rmhen@ieee.org). The entry deadline is March 31, 2013 with the actual measurements/judging to occur at IMS on June 4, 2013.

NVNA Users' Forum

ARFTG organizes three NVNA Users' Forums during the year in conjunction with IMS, EuMW, and the fall ARFTG conference. Please contact the Users' Forum moderators listed below if you wish to present a research update at an NVNA Users' Forum.

- Spring 2013 IMS/ARFTG Conference: June 2-7, Seattle, US. Moderators: Patrick Roblin (roblin.1@osu.edu) and Dominique Schreurs (Dominique.Schreurs@esat.kuleuven.be).
- 2013 European Microwave Week: October 6-11, Nuremberg, Germany. Moderators: Kristoffer Andersson (kristoffer.andersson@chalmers.se) and Dominique Schreurs (Dominique.Schreurs@esat.kuleuven.be).
- Fall 2013 ARFTG Microwave Measurement Symposium: November 18-21, 2013, Columbus, US. Moderators: Joe Gering (jgering@rfmd.com) and Jean-Pierre Teyssier (j-pierre.teyssier@brive.unilim.fr).

Fall 2013 ARFTG Symposium

The Fall 2013 ARFTG Microwave Measurement Symposium will be held in Columbus, Ohio, from Monday, November 18th, to Thursday, November 21st. It is planned to hold the 82nd ARFTG Microwave Measurement Conference, a short course, a workshop and the NVNA Users' Forum during this symposium. The conference theme is "Characterization, Modeling, and Design of RF Devices and Circuits." For more information, contact the Conference Chair, Patrick Roblin (roblin.1@osu.edu) or the Technical Program Co-Chairs, Peter Aaen (paaen@ieee.org) or Robert Rojas. Abstracts/summaries will be due September 2, 2013. More information will be available, in due course, at www.arftg.org.

ARFTG FELLOWSHIP PROGRAM

ARFTG can award one or more fellowships each year to students working in RF/microwave measurement-related topics. This year, a fellowship was awarded to Stergios Papantonis (Imperial College London, UK). The application instructions and criteria for the next award cycle are published at www.arftg.org.

ARFTG AND SOCIAL MEDIA

The ARFTG group on LinkedIn now has over 500 members. This is a good place to get reminders of upcoming meetings and for discussions with others interested in ARFTG. To join: become a LinkedIn member, search for ARFTG in the groups list, and submit a membership request.

ADDENDUM

Every effort has been made to publish correct information in this newsletter. Significant errors should be reported to the ARFTG Executive Committee Secretary, Jon Martens (jmartens@ieee.org), so that corrections can be reported in the next issue.