



# AUTOMATIC RF TECHNIQUES GROUP

## NEWSLETTER

Summer 2017

NUMBER 57

### *Summer 2017 ARFTG Microwave Measurement Symposium: Advanced Technologies for Communications*

#### OVERVIEW



*Ala Moana Hotel, Honolulu, Hawaii, location of the  
Summer 2017 ARFTG Symposium*

The Summer 2017 ARFTG Microwave Measurement Symposium took place at the beautiful Ala Moana Hotel, Honolulu Hawaii. The event was as part of Microwave Week along with the International Microwave Symposium. The symposium was held on Friday June 9<sup>th</sup> and there were two co-sponsored workshops and technical sessions with the International Microwave Symposium (IMS2017) on Monday June 5<sup>th</sup> and Thursday June 8<sup>th</sup>. In addition, the symposium also hosted the NVNA user's forum and the on-wafer users' forums.

The main event was the 89<sup>th</sup> ARFTG Microwave Measurement Conference, which took place on Friday. The theme of this year's symposium was "Advanced Technologies for Communications". In addition to these technical events, there was an awards luncheon on Friday and a vendor exhibition during the conference. Two joint IMS/ARFTG Workshops were also held: "WMG: New Developments in Microwave Measurement for Planar Circuits and Components for your RF Design Flow Improvement" and "WMI: Novel

5G Applications of Nonlinear Vector Network Analyzer for Broadband Modulation and Millimeter Wave Characterization" In addition, two joint IMS/ARFTG Technical Sessions were also held "TH1A: Advanced Network and Materials Analysis Topics" and "TH2A: Novel Nonlinear Measurement Techniques for 5G Modulation Schemes"

Definitely a packed agenda with exciting activities for RF, microwave, and millimeter-wave engineers and technologists.



*Prof. Ali Shakouri presenting his keynote talk on  
'Thermal Transport in Transistors Based on GaN and  
Novel 2D Materials'.*

#### TECHNICAL SESSIONS

The 89<sup>th</sup> ARFTG Microwave Measurement Conference began on Friday, June 9<sup>th</sup> with introductions by ARFTG Vice-President, J. Martens, and the conference chair, Peter Aaen and the TPC-Chair Nick Ridler. The

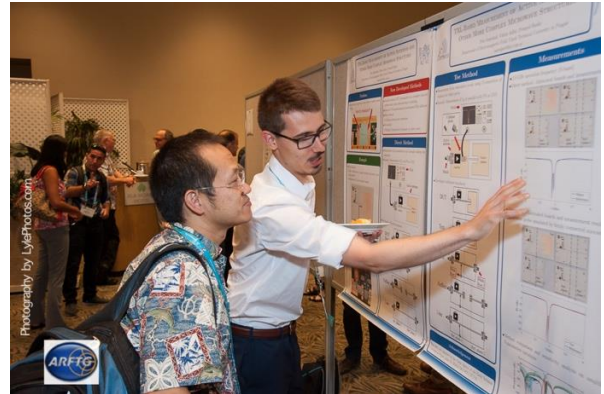
conference consisted of 4 oral sessions and an interactive forum, defined by Technical Program Chair, Nick Ridler. During the technical sessions there were two keynote speeches. The keynote in the morning session was from Prof. Ali Shakouri, from Purdue University, who gave a talk on ‘Thermal Transport in Transistors Based on GaN and Novel 2D Materials’. At the start of the afternoon sessions, Dr. Mitch Wallis gave his keynote talk on “Radio Frequency Nanoelectronics: Microwave Measurements in Miniature”.

ARFTG is pleased to thank the sponsors of this conference: Gold sponsors: Qorvo. Silver sponsors: Anritsu, Copper Mountain Technologies, Keysight Technologies, Maury Microwave., MPI Corporation, our media sponsor Microwave Journal.

For future sponsorship opportunities, contact the Sponsorship Chair, at [sponsorship@arftg.org](mailto:sponsorship@arftg.org).



*Thanks to the ARFTG sponsors! (photo by LylePhotos)*



*ARFTG attendees discuss with interactive forum presenters (photo by LylePhotos).*

## CONFERENCE EXHIBITS

The exhibition provides an excellent opportunity to see the latest range of products available from some of the leading suppliers in microwave measurement industry.

This conference’s exhibiting companies were: MPI Corporation, Spinner, Microsanj, Anritsu, Copper Mountain Technologies, FormFactor, OML, Rhode & Schwarz Keysight Technologies, Focus Microwaves, , Junkosha, , Maury Microwave, and Spinner.

To exhibit at a future conference, please contact the Exhibits Chair, at [exhibits@arftg.org](mailto:exhibits@arftg.org).



*ARFTG allows for extensive interaction between attendees and exhibitors. (photo by LylePhotos).*

## CONFERENCE AWARDS



*ARFTG Awards Banquet: place for social interactions.*

ARFTG President, J. Martens, presided over the conference awards ceremony, which took place during the luncheon. Certificates of appreciation were presented to the organizers of the 89<sup>th</sup> conference, Peter Aaen Conference Chair and Nick Ridler as Technical Program Chair.



*ARFTG President Jon Martens presents the Award for Best Oral paper to Gary Simpson of Maury Microwave.*

Awards presented at the 89<sup>th</sup> ARFTG: were the conference best oral presentation paper from the 88<sup>th</sup> conference: "The impact of ENR and coaxial calibration in accurate on-wafer noise testing for ultra-low noise devices" by K. Kellogg, L. Dunleavy, S. Skidmore and G. Simpson.; and the best exhibitor from the 87<sup>th</sup> was Spinner.

## FUTURE EVENTS

### Fall 2017 ARFTG activities

#### *Microwave Measurement Conference*

The 90<sup>th</sup> ARFTG Microwave Measurement Conference will be held from November 28<sup>th</sup> – December 1<sup>st</sup>, 2017 in Boulder Colorado. Students interested in obtaining financial assistance to attend the conference should contact the Conference Chair. Any awards will be discretionary, and preference will be given to authors of accepted papers.

For more information, be welcome to contact the Conference Chair, Ron Ginley or the Technical Program Co-Chairs, Mitch Wallis or visit [www.arftg.org](http://www.arftg.org).

#### NVNA Users' Forum

ARFTG is continuing to organizing NVNA Users' Forums. This is an excellent opportunity for an informal exchange of ideas related to nonlinear vector measurements. Please contact the organizers for more information: P. Roblin, A. Reynoso Hernandez, D. Schreurs, and J.-P. Teyssier.

## ARFTG STUDENT PROGRAMS

ARFTG can award one or more graduate fellowships annually to students working in RF/microwave measurement related topics. The application instructions and criteria for the next award cycle are published at [www.arftg.org](http://www.arftg.org). ARFTG can also provide sponsorships to support student attendance. For information on sponsorships at future conferences, see [www.arftg.org](http://www.arftg.org) or contact the sponsorships chair at [sponsorship@arftg.org](mailto:sponsorship@arftg.org).

## ADDENDUM

Every effort has been made to publish correct information in this newsletter. Significant errors should be reported to the ARFTG Executive Committee Secretary Peter Aaen ([paaen@ieee.org](mailto:paaen@ieee.org)), so that corrections can be reported in the next issue.