

2015 IEEE CAS Special Latin American Outreach

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Event Title: 2nd Workshop on RF and Microwave Technology, November 25-27, 2015 - Universidade Federal de Santa Catarina, Florianópolis, Brazil

1 - Description of the activities

The 2nd Workshop on RF and Microwave Technology was held at the dependencies (laboratories and auditoriums) of the Universidade Federal de Santa Catarina (UFSC), Florianópolis, Brazil, between November 25-27. The event included short courses and lectures from international and local university professors, students and from local entrepreneurs. We created banners, fliers, posters and a website (<http://rfic.ufsc.br/second-workshop-on-rf-and-microwave-technology/>) to advertise the event. Fig. 1 presents some of this material. To gain attention for the event we also advertised and gave away two Arduino development kits to the participants.



Fig. 1 - Workshop promotional material.

The short courses schedule was as follows:

When	25 and 27/11-Wednesdayday (Radiofrequency Laboratory)
08:00	Course # 1: RFIC Desing Flow on CADENCE Virtuoso – part 1
10:00	Course # 2: RF and Microwave Circuit Design on ADS Keysight – part 1

The lectures schedule was as follows:

When	26/11-Thursday(Auditorium FEESC)
10:30	Maicon D. Pereira
11:00	Germán Andr�ea �lvarez Botero
14:00	Hassan Aboushady
16:00	Jos�e Lu�s A. Guntzel and Vin�cius dos Santos Livramento

When	27/11-Friday(Auditorium Teixeira � - EEL/CTC)
14:00	Fabian Leonardo Cabrera Ria�o
14:30	Maysam Gnovanloo
16:30	Victor Rocha Pusch

On the first day, November 25th, we had practical activities through short courses on RF design of integrated circuits and antennas using Cadence Virtuoso and Keysight ADS, where the basic design flow were exposed, covering design, simulations, layout, post layout verification and statistical analysis, with some measurements on lab equipment.



Fig. 2 - Dr. Germ n  lvarez Botero during his lecture about VNA calibration.

On the second day, November 26th, in the morning we had two lectures: one flash talk by Maicon D Pereira, a PhD student from UFSC that talked about his research on Human Body Communication channel measurements and modeling, followed by a talk by Dr. Germán Andréa Álvarez Botero (Fig. 2), from Universidad Nacional de Colombia, Bogotá, Colombia about RF measurement using VNA, where he talked about the many issues that can influence measurements, calibration techniques and standards.

At the afternoon two lectures we offered. The first one by Dr. Hassan Aboushady (Fig. 3), from University of Pierre & Marie Curie, Paris VI, France about Sigma Delta ADC, where he exposed his research group work on high speed ADC to enable multi standard cognitive radios. The second talk was given by professor Dr. José Luís A. Guntzel from UFSC and his PhD student and Vinícius dos Santos Livramento, about time-driven placement flow, where they detailed the techniques used by their research group to create a placement algorithm that won the first place on the ICCAD 2015 Contest on Incremental Timing-Driven Placement.

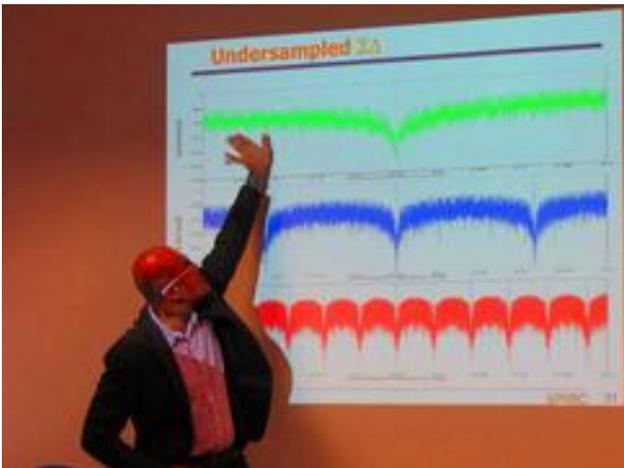


Fig. 3 - Dr. Hassan Aboushady during his lecture about Sigma-Delta ADCs.

On the last day, November 27th, we had the conclusion of the short courses in the morning and in the afternoon three lectures. First a flash talk by Fabian Leonardo Cabrera Riaño, a PhD student at UFSC, about his research on Wireless Power Transfer. In the following, Dr. Maysam Ghovanloo (Fig. 4) from Georgia Institute of Technology, Atlanta, United States talked about power and data transmission on near field communication, where he exposed his group achievements on communication and energy transfer design of inductive links, AC-DC converters and novel modulation schemes. The last talk was given by

Victor Push, from Sensorweb, a local company specialized on remote temperature measurements, he talked about internet of things, the developments on this new technology and the challenges for start up companies that want to succeed on this market of ever changing technologies.



Fig. 4 - Dr. Maysam Ghovanloo during his lecture about power and data transmission.

The event attendance was around 40 people per day between professors, undergraduate and graduate students, and engineers from local companies. The feedback given by some spectators was that we had an interesting event with varied lectures and very engaged attendants. On a next opportunity we should organize and advertise the event with more time in advance to be able to reach a wider audience and bring more lecturers. Some positive aspects were evident: initial conversations about partnerships between research groups connected to the lecturers and attendees; the motivation given to students that participated on lectures and, specially, on short-courses, to engage in laboratory research as well as to get informed about the work of the industry connected to the technical areas discussed.

2 - Financial Report

We had financial support of the 2015 IEEE CAS Special Latin American Outreach.

Budget report is under preparation.

3 - Additional event photos



Fig. 5 - Prof. Fernando Rangel introducing the talk of Prof. Hassan Aboushady.



Fig. 6 - Audience during Vinícius dos Santos Livramento, lecture about time-driven placement.



Fig. 5 - Dr. José Luís A. Guntzel during his lecture about time-driven placement.



Fig. 7 - Audience interacting during the lecture about wireless power transfer.



Fig. 8 - Coffee break table during interval between lectures.