



A report on

IEEE CASS FRANCE CHAPTER WORKSHOP

on Environmental impact of RF 5G communications

and IoT growth :

Towards Green Technologies

November 15th, 2017

University of Bordeaux, France

Organizers

Dr Nathalie Deltimple, *IMS Laboratory, co-chair of the CAS-F chapter*

Pr. Patricia Desgreys, *Telecom Paris Tech, chair of the CAS-F chapter*



IEEE CASS FRANCE CHAPTER WORKSHOP

on Environmental impact of RF 5G communications and IoT growth :

Towards Green Technologies

1. Title: IEEE CASS FRANCE CHAPTER WORKSHOP on Environmental impact of RF 5G communications and IoT growth : Towards Green Technologies

2. Name of the proposer: Dr Nathalie Deltimple, IMS Laboratory, University of Bordeaux / Pr. Patricia Desgreys, Telecom Paris Tech

3. Date: November 15th, 2017

4. Place: AGORA du Haut carré, University of Bordeaux, France

5. Participants: 80 (50 IEEE member, 30 undergraduate student, non-IEEE member, hopefully they will be member in the few days

6. Brief description of the activity:

During the last two decades, the number of electrical and electronic equipment has grown exponentially, especially smartphones and tablets. Such a trend is expected to continue to a similar extent over the next decade with IoT and 5G. Watching videos, follow the news and (besides that) make phone calls, became very usual for billions of people. So what is the environmental bill of the crazy number of communications and electronic devices?

The objective of this workshop is to define some guidelines for green electronic devices: biocompatible materials, energy harvesting and solutions to decrease transmitters power consumption. The main goal is to determine new energy-efficient and environmentally friendly transmitters systems.

The workshop includes :

- An invited IEEE CAS DL: “Adapted Compressed Sensing for IoT Applications”, Prof R. Rovatti, *University of Bologna*,
- An invited keynote: “Communications environmental cost”, Prof. JM Pierson, *IRIT, Toulouse*,
- A technical session with 6 presentations

Detailed program

10h	<i>General Introduction</i>
11h-12h	IEEE CAS DL “Adapted Compressed Sensing for IoT Applications”, Prof Riccardo Rovatti, <i>University of Bologna</i>
14h	CASS France, General Assembly Prof. Patricia Desgreys
15h30	Keynote: “Communications environmental cost”, Prof. Jean-Marc Pierson, Univ. Toulouse
16h30	Technical session (poster session)
17h30	Best poster award
18h	End of the Workshop

Poster session detailed

Simulation Approach for Energy Management in Wireless Sensor Networks, *Yohann Rioual, Jean-Philippe Diguët, Johann Laurent, Eric Senn, Lab-STICC - Université de Bretagne Sud*

Effect of passivation annealing on the electromigration properties of hybrid bonding stack, *J. Jourdon¹²³, S. Moreau³, D. Bouchu³, S. Lhostis¹, N. Bresson³, D. Guiheux¹, R. Beneyton¹, S. Renard¹, H. Frémont², ¹ STMicroelectronics, ² University of Bordeaux - IMS Laboratory, ³ CEA, LETI.*

Wave-based Resonant (Bio)Chemical Microsensors towards Green Technologies and IoT Growth, ONDES / WAVES group: *Corinne Dejous, L. Bechou, H. Hallil, S. Hemour, S. Joly, J.L. Lachaud, L. Oyhenart, V. Raimbault, D. Rebière, O. Tamarin*

Energy Efficient VCMA-MeRam Design for Green IoTs, *Hao Cai¹, You Wang¹, Lirida Alves de Barros Naviner¹, and Weisheng Zhao², ¹ Télécom ParisTech, Université Paris-Saclay, ² Fert Beijing Institute, Beihang University*

Récupération d'énergie RF sur substrat souple, *Romain Bergès, Ludivine Fadel, Laurent Oyhenart, Valérie Vigneras and Thierry Taris, University of Bordeaux - IMS Laboratory*

Projet CLAQH : Perception et comportements face aux risques de la contamination au mercure des lacs Aquitains, *Pierre GILFRICHE, Jean-Marc ANDRE, Véronique LESPINET-NAJIB, University of Bordeaux - IMS Laboratory*

Best poster award

Hereafter, the form in order to evaluate the best poster of the session

Criteria list					
i. Originality (0-10)					
-novelty of the work					
-technical Significance					
ii. Technical Content (0-10)					
-justification of the approach					
-design methodology					
-interpretation of achieved results					
-completeness					
iii. Clarity in both interaction and poster (0-10)					
-clear and easily understood visually					
-clear verbal explanation of the technical content					
-use of good English					
-good use of charts, tables and diagrams (not too wordy)					
-coverage of all main points of the paper					
iv. Interest to audience (0-10)					
-topic of interest to large number of attendees					
-practicality to industry					
-poster and presentation something people want to hear and read					
Name of Judge:					
Scores for each criteria					
Paper	Originality	Technical Content	Clarity	Interest	Total

Results :

The best paper award was attributed to : Yohann Rioual from Lab-STICC - Universite de Bretagne Sud

For his work intitlled:

Simulation Approach for Energy Management in Wireless Sensor Networks,

With co-authors: *Jean-Philippe Diguët, Johann Laurent, Eric Senn*

Event photographies



CAS general information



Coffee break



Workshop Audience



CAS-F General Assembly

