

# Special Session of the EurAAP WG on Software: “*Electromagnetic Energies: An Emerging Tool in Computational Electromagnetics*”

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9 April 2014 – 09:00 – 12:40

Room Oceania

Since the start of EuCAP in 2006, the EurAAP WG on Software has organized yearly special sessions at the conference. In the later years, they have been organized in close cooperation with the software vendors. These sessions have become a yearly contact point between the software vendors and the antenna research community. The general idea is clear: to stimulate, initiate, foster, etc. cooperation between the pool of software vendors on the one hand and the antenna software community at large on the other hand. Some ideas to be addressed in the session for EuCAP 2014:

- Introduce and discuss a new emerging field in antenna design algorithms and software: the use of the concept of “electromagnetic energies”, for example in optimization problems.
- Complete benchmarking started in previous editions, including analyses of challenging structures, including a full analysis of the complete connector topology and state-of-the-art measurements.
- Report from progress made since previous year about EDX/EDI.
- Group discussion.

## **Organisers:**

G. A. E. Vandenbosch (KU Leuven)

Y. Antar (Royal Military College of Canada)

M. Gustafsson (Lund University)

## **Preliminary Programme:**

09:00 – 09:20 – Introduction

*G. A. E. Vandenbosch (KU Leuven)*

09:20 – 09:40 – EDX/EDI paper: Exchange of geometrical data for e.m. modelling

*F. Mioc, F. Rossi, M. Sabbadini, P. E. Frandsen*

09:40 – 10:00 – On Conceptual and Computational Aspects of Generalized Electromagnetic Energy Exchange in Antenna Systems: A New Approach to Mutual Coupling

*S. Mikki and Y. Antar*

10:00 – 10:20 – Computational Challenges for Antenna Analysis Using Current Optimization  
*M. Gustafsson*

10:20 – 10:40 – Group discussion

10:40 – 11:00 – Break

11:00 – 11:20 – On-Going Progress of SoftLAB Benchmark in 2014  
*R. Gillard and G. A. E. Vandenbosch*

11:20 – 12:20 – Presentations by software vendors and overview of benchmarking results

12:20 – 12:40 - Discussion