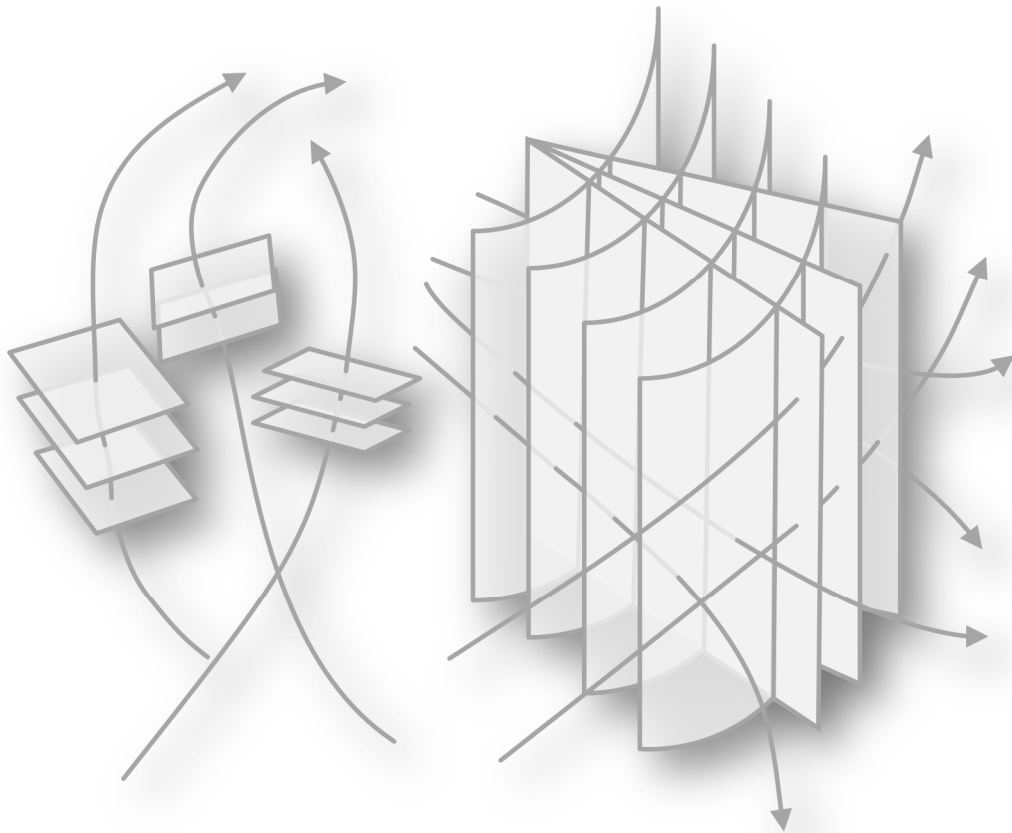


Short Course:

Geometric Methods and Applied Computational Electromagnetics

in the language of Differential Forms

9-13 June 2014, A Coruña, Spain



For Whom?

The course is oriented to anyone with a basic knowledge of electromagnetism; engineers, mathematicians, and physicists who want to take a step beyond the basics to the latest topics in topological electromagnetics.

Program

Monday 9th: J. Brégains (A Coruña University)

- Matrices and tensor algebra
- Introduction to differential forms
- Maxwell equations in DF formalism

Tuesday 10th: R. Kotiuga (Boston University)

- Differential forms, variational principles, and topology as a barometer of dimensional issues
- A fictionalized history of the FEM in computational E&M
- Geometric inverse problems

Wednesday 11th: Ch. Geuzaine (Liège University)

- Domain decomposition approaches for high-frequency problems
- Curved meshes

Thursday 12th: A. Nicolet (Aix-Marseille University)

- Principles of transformation optics
- Exotic optical devices: invisibility cloaks and super-lenses
- Perfectly matched layers

Friday 13th: B. Auchmann (CERN)

- Discrete Maxwell equations
- Discrete boundary-value problems / cell method
- Finite elements and cell methods. Applications

Sponsors:



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