Seminar

"Advances in Modeling of Microwave Sintering"

March 8-9, 2010

Institut Polytechnique de Grenoble
Grenoble, France

Second Call for Papers

The 12th meeting in the series of seminar/workshops **"Computer Modeling in Microwave Engineering and Applications"** carried out by the **Industrial Microwave Modeling Group (IMMG)** of **Worcester Polytechnic Institute (WPI),** Worcester, MA, USA, in 2010 will be co-organized by the **SIMaP Laboratory** of the **Grenoble Institute of Technology (Grenoble-INP)**. This interdisciplinary forum will bring together *scientists with expertise in microwave sintering* and *researchers working on the techniques of mathematical/computer multiphysics modeling*. The attendees will share their experience in the related fields aiming to work out the concepts and computational schemes which would help develop realistic (that is, sufficiently adequate and accurate) *macroscopic models for microwave sintering*.

Organizing Committee

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Sébastien Vaucher, EMPA, Thun, Switzerland
Paolo Veronesi, University of Modena and Reggio Emilia, Modena, Italy
Suzanne Weekes, WPI, Worcester, MA, USA

Venue

The Seminar will be held on campus of the PHELMA School of the Grenoble-INP, 1130 rue de la Piscine, 38402 St Martin d'Heres, France

Important Dates

Submission of titles and abstracts:	**January 15, 2010**
Notification of acceptance:	**January 25, 2010**
Submission of summaries:	**February 5, 2010**
Preliminary program:	**February 22, 2010**
Seminar & Final program:	**March 8-9, 2010**

Objectives

The Seminar invites contributions related to:

- modern advances in *experimental development of the technology of microwave sintering* – control over the process; measurable and non-measurable physical characteristics; design of associated microwave systems, etc.
- state-of-the-art techniques of *multiphysics simulation of microwave sintering* – compatibility and applicability of numerical models representing electromagnetic, thermal, and structural processes; challenges in the related numerical mathematics and implementation of the algorithms; efficient use of computational resources (hardware and software), etc.
- determination of *effective media parameters of processed particulate materials* – measurement techniques; non-destructive evaluation and microwave imaging.
- *interaction of microwaves with dielectric and metallic powders*: physics and mathematics.

Profile

- *Technical sessions* dedicated to experimental studies of microwave sintering, modeling techniques and computational results, reconstruction of material parameters, etc.
- *Lectures and presentations* regarding:
  - ☑ Conformal FDTD technique and its implementation in *QuickWave-3D*; demonstration of the software in operation – electromagnetic-thermal coupled problems.
  - ☑ Principles of FEM modeling of structural deformation of sintered materials with *Abaqus*; demonstration of the software in operation – structural problems .

Preliminary Schedule

March 8: 12:00 to 6 pm

- Registration. Opening. Lectures and presentations.

March 9: 8:30 am to 5 pm

- Technical sessions. Panel session. Concluding discussion. Social program. Seminar *Gala Dinner* (8 pm).

Organized in cooperation with the Society for Industrial and Applied Mathematics (SIAM)

Endorsed by the Association for Microwave Power in Europe for Research and Education (AMPERE)

Seminar web site (including forms for online submission and registration): http://www.wpi.edu/+CIMS/IMMG/Seminars/