

**10<sup>th</sup> Seminar**  
**Computer Modeling &  
Microwave Power Engineering**

**S E M I N A R   P R O G R A M**

**Thursday, February 28, 2008**

**On-Site Registration**

12:00-18:00

**Opening Remarks**

**The Jubilee 10<sup>th</sup> Seminar – History & Introduction**  
*V.V. Yakovlev, Seminar Founder and Chair*  
Worcester Polytechnic Institute, MA USA

13:30-13:45

**Modeling Workshop**

**COMSOL Multiphysics**  
C. Tozzo  
COMSOL S.r.l.

13:45-15:00



**Microwave Studio**  
E. Genovese  
CST GmbH

15:15-16:30

**COMPUTER SIMULATION TECHNOLOGY**

[www.cst.com](http://www.cst.com)



**QuickWave-3D/Concerto**  
M. Celuch and W. Gwarek  
QWED Sp. z o.o.

16:45-18:00



**General Discussion**

18:00-18:30

# Friday, February 29, 2008

## On-Site Registration

8:30-9:30 am

## Morning Session 1

*Chair: V. Yakovlev*

### **Electromagnetic Modeling Activities at the Technical University of Cartagena: a Review (*Invited Talk*)**

J. Monzo-Cabrera, A. Diaz-Morcillo and A. Lozano-Guerrero

Departamento de Tecnologías de la Información y las Comunicaciones, Universidad Politécnica  
de Cartagena, Cartagena, Spain

9:00-10:00

## Coffee Break

10:00-10:15

## Morning Session 2

*Chair: C. Leonelli*

### **Use of Synchrotron Radiation Methods for the In-Situ Real-Time Monitoring of Microwave Heating**

S. Vaucher and R. Nicula

EMPA – Swiss Federal Laboratories for Materials Testing and Research, Thun, Switzerland

10:20-10:40

### **A Numerical Model of the Plasmaline Microwave Plasma Source**

C. Hunyar, E. Räuchle, L. Alberts, R. Emmerich, M. Graf, M. Kaiser and K.-D. Nauenburg

Department of Polymer Engineering/Microwave and Plasma, Fraunhofer-Institut Chemische  
Technologie (ICT), Pfaffzettel, Germany

10:40-11:00

### **Numerical Simulation of a Novel Microwave Plasma Source**

P. Veronesi<sup>1</sup>, R. Rosa<sup>1</sup>, C. Leonelli<sup>1</sup>, and M. Garuti<sup>2</sup>

<sup>1</sup>Department of Materials and Environmental Engineering, University of Modena and Reggio Emilia,  
Modena, Italy

<sup>2</sup>Alter s.r.l., Reggio Emilia, Italy

11:00-11:20

### **Numerical Simulation of Large Structures with Moving Parts**

P. Veronesi and C. Leonelli

Department of Materials and Environmental Engineering, University of Modena and Reggio Emilia,  
Modena, Italy

11:20-11:40

## Tour over University of Modena's Engineering Facilities

11:40-12:30

## Lunch (University Cafeteria)

12:30-14:00

## **Panel Session**

*Moderator: V. Yakovlev*

### **New Trends and Computational Options in CAD for Microwave Power Engineering**

*Panelists: M. Celuch, C. Leonelli, S. Vaucher*

14:00-15:00

## **Coffee Break**

15:00-15:30

## **Afternoon Session**

*Chair: P. Veronesi*

### **Modeling and Measurements of Susceptors for Microwave Heating Applications**

W.K. Gwarek<sup>1</sup>, M. Celuch<sup>1</sup> and J. Krupka<sup>2</sup>

<sup>1</sup>Institute of Radioelectronics, Warsaw University of Technology, Warsaw, Poland

<sup>2</sup>Institute of Micro- and Optoelectronics, Warsaw University of Technology, Warsaw, Poland

15:30-15:50

### **Neural Network Technique for Gaussian Reconstruction of Spatial Distributions of Complex Permittivity**

A.V. Brovko<sup>1</sup>, E.K. Murphy<sup>2</sup> and V.V. Yakovlev<sup>2</sup>

<sup>1</sup>Department of Applied Information Technologies, Saratov State Technical University, Saratov, Russia

<sup>2</sup>Department of Mathematical Sciences, Worcester Polytechnic Institute, Worcester, MA USA

15:50-16:10

### **Modeling-Based Synthesis of a Microwave Heating Process Resulting in a Uniform Temperature Field**

B.C. Cordes<sup>1,2</sup>, E.E. Eves<sup>1</sup> and V.V. Yakovlev<sup>2</sup>

<sup>1</sup>The Ferrite Company, Inc., Nashua, NH, USA

<sup>2</sup>Department of Mathematical Sciences, Worcester Polytechnic Institute, Worcester, MA USA

16:10-16:30

## **Closing General Discussion**

16:30-17:00

### **Seminar Banquet (Location TBD – Downtown Modena)**

19:30

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