



ISSUE 70
OCTOBER 2011

EDITORIAL

Following elections at the OGA at the Toulouse conference the new structure of the MC is shown below.

Also in this issue Koenraad Van Reusel from the University of Leuven and a member of AMPERE's Management Committee reports on the 13 International AMPERE Conference held in Toulouse a few weeks ago.

This conference was another milestone in the annals of our association and on behalf of all those who participated I wish to extend their thanks to Professor TAO Junwu and his team

at ENSEIHT-LAPLACE for their unfailing support in bringing such a venue to a successful conclusion. This biennial event will next return to the UK in 2013.

Finally, Kama Huang a member of AMPERE's Management Committee reports on two Chinese meetings, first The 8th Chinese Microwave Chemistry Conference held in 2010 and secondly, the 15th National Conference on the Application of Microwave Energy (NCAME) held in 2011

Ricky Metaxas
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NEW MANAGEMENT COMMITTEE ELECTED AT THE OGA WITH AREA OF RESPONSIBILITY INDICATED



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Website Master



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Honorary President
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Juan Monzo
General Secretary
Ampere Newsletter



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Treasurer
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NEW MANAGEMENT COMMITTEE ELECTED AT THE OGA WITH AREA OF RESPONSIBILITY INDICATED



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MAJIC



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**Industry and Past
Chairman**



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Marilena Radoiu
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Junwu Tao
IEEE

A BRIEF SUMMARY OF THE 13TH INTERNATIONAL CONFERENCE ON MICROWAVE AND HIGH FREQUENCY HEATING TOULOUSE, 5 – 8 SEPTEMBER 2011



K. Van Reusel
Member of the AMPERE
Management Committee

From Monday 5th to Thursday 8th of September 2011 the 13th International AMPERE Conference on Microwave and Radiofrequency Heating took place in Toulouse, France.

Those embarking on the exciting dielectric heating field of study could take benefit from

the short course on Basics of Microwave and High Frequency Heating, organized on Monday 5th of September. The short course was chaired by Prof. Catala-Civera, who lectured together with Professors Monzo, Veronesi, Yakovlev, and Metaxas.

A very nice reception at the city hall of Toulouse already gave a first taste of the French hospitality.

AMPERE members and their partners could enjoy meeting once again in a luxurious scenery of sumptuous wall paintings and gilded stuccowork, reflecting the Toulouse evening colours.



A BRIEF SUMMARY OF THE 13TH INTERNATIONAL CONFERENCE ON MICROWAVE AND HIGH FREQUENCY HEATING



Opening ceremony at the City Hall

The conference proper started on Tuesday with an Opening Session at ENSEIHT (Ecole Nationale Supérieure d'Electrotechnique, d'Electronique, d'Informatique, d'Hydraulique et des Telecommunications" – part of the National Polytechnical Institute of Toulouse), the host of the AMPERE 2011 conference. At the opening session, AMPERE President, Prof. Leonelli, expressed her gratitude to be back in France, reminding the audience that the 3rd in the series of what became AMPERE conferences was held back in 1991 in Nice. The first was held in 1986 at St John's College Cambridge UK and the second one in Arnhem, the Netherlands in 1989. Prof. Leonelli also announced the establishment of a specific session on Industrial Applications by invited speakers and the addition of Induction Heating topic to the usual AMPERE conference subjects.

Prof. Tao, organizer of the 13th AMPERE conference, informed the delegates that 148 abstracts had been submitted from 23 countries. These contributions were presented as 73 oral and 64 posters papers. Plenary sessions were additionally organized for 6 invited lectures. Europe takes the lion's share (71%) in contributions, followed by Asia (20%), South America (5%), North America (2%), and Oceania (2%).



A plenary session



Exhibitors area

Various topics were covered by the invited lecturers. Health aspects of electromagnetic fields in general and microwave exposure in particular were presented by Drs. De-Seze and Schiffmann respectively. Prof. Pons gave a talk on wireless sensors while Dr. Vaucher focused on the response of materials to high power microwave irradiation. A model for a theoretical approach to multiphysics problems was expounded by Prof. Maurice. I myself was invited to explain the rationale in support of the enlargement of the AMPERE scope by including induction technology.

A special session on Induction Heating Applications took place indeed, where delegates from well-known competence centers on this field (Hannover, Prague, Katowice, Padua) gave an overview of their respective ongoing research.

The special session on Industrial Applications



A BRIEF SUMMARY OF THE 13TH INTERNATIONAL CONFERENCE ON MICROWAVE AND HIGH FREQUENCY HEATING

showed how some specific academic research can find its way into industrial implementation. Coordinated use of different technologies of energetic transfer, sustainable production, environmental concerns, efficient and controlled processing were key-words in the talks given by speakers from a broad range of industrial sectors.

Prof. Metaxas chaired a Round Table "Industrial applications: an update of the European production in the past 10 years". Ten panellists from industry gave their views on questions and remarks posed by the audience that was present in large numbers. It was heard that the industrial breakthrough of a new application (e.g. the use of microwave for desserts in the food industry) takes 5 to 10 years. The economic visibility of the implementation of a new technology together with the fact that dielectric techniques can only be linked to a niche industry explain why this industrial breakthrough is far from evident. Prof. Metaxas pointed out, however, that one technology in this area is not niche, as over 5000 RF dryers ranging from 20-50 kW were operating in industry throughout the world drying loose stock, packages or broadloom fabrics. Some panel members insisted on the necessity to have expertise in the product to which the microwave technology is applied. In order to ensure that research can make its way to industrial implementation, partnership between end users, manufacturers, and research institutes seems to be of paramount importance. Although one would like magnetrons with better efficiency, this does not currently present a huge handicap in the translation from research to industrial application.

Finally, CETIAT, RADIANT, and SAIREM offered a very generous buffet reception after this lively and inspiring Round Table discussion.



The Reception after the Round Table



Delegates taking a leisurely lunch

The AMPERE General Assembly was scheduled on Thursday morning, 8th September where a new Management Committee was elected. The President mentioned that the next AMPERE conference will be held in 2013 in the United Kingdom and amendments to the AMPERE statutes were approved. In addition, the General Assembly made a call for national delegates. The rationale for this nomination out of the Management Committee structure is to facilitate contact with the national societies that might be interested in radiofrequency and microwave heating technologies.

The Assembly expressed, by a generous applaud, their gratitude to Dr. Lambert Feher, Chairperson of the 12th AMPERE conference in Karlsruhe 2009, for the substantial fund, which was transferred to the AMPERE



A BRIEF SUMMARY OF THE 13TH INTERNATIONAL CONFERENCE ON MICROWAVE AND HIGH FREQUENCY HEATING

treasury.

On Thursday afternoon the conference participants and their accompanied persons were taken on a tour of the Airbus Industry in the surroundings of the city of Toulouse. It was fascinating to witness one of these large cargo-aircrafts in which a whole aircraft wing can be carried as a spare part from the manufacturing country to another site for assembly.

Some colleagues were dreaming of coming to the next AMPERE conference on board of the AIRBUS 380. This aircraft fully loaded would weigh about 500 tonnes out of which just less than half is fuel. The guide also pointed out that in this colossus the level of comfort makes it even possible to have a shower during your flight. Fasten your seatbelts!

Before the gala dinner a visit of the Bemberg Foundation was organized, where we witnessed a treasury of art history with master paintings from the late Middle Ages to modern times!

It was in the exceptional setting of the courtyard of the "Hôtel d'Assézat", a monumental building in fine renaissance style, that it was communicated that the AMPERE Management Committee elected Prof. Leonelli as President of the association for the next two years.

The winning posters were proclaimed from the balcony as well. By offering three best poster awards the AMPERE Management Committee wanted to express its appreciation indeed for this efficient way of scientific communication. Further, SAIREM awarded a price for a most relevant industrial contribution presented at the conference.



The "classic" photo



Professors Tao and Lefeuve with colleagues in courtyard of the "Hôtel d'Assézat"

It was after midnight when the gala dinner – superior French wines and a selection of exquisite dishes! - ended. A masterly example of the French "savoir vivre" concluded the 13th AMPERE conference!



Cristina Leonelli and colleagues at the gala dinner



AMPERE AND IMPI PRESIDENTS MEET THE CHINESE MICROWAVE ASSOCIATION AT THE 15TH NATIONAL CONFERENCE ON THE APPLICATION OF MICROWAVE ENERGY IN KUNMING

During the whole conference, manufacturers had a stand to present and clarify their newest products. By this exhibition, the conference could have the sponsorship of ALTER POWER SYSTEMS, CETIAT, COMSOL, CST, RADIANT, SAIREM, and S-TEAM.

The conference proceedings are printed in "Junwu Tao (Ed.), *Microwave and RF Power Applications. 13th International Conference AMPERE Toulouse 2011*, Cépaduès-Editions, Toulouse, France" (ISBN: 978.2.85428.978.7). This publication counts 457 pages, has an index of all authors, and the conference papers are classified in 12 chapters: Chemistry and Biochemistry, Combined Electroheat Applications for Materials Processing,

Dielectric Property Measurement and Non-destructive Testing, Microwave and RF Material Interaction, Industrial Applications (food, textile, ceramics, polymers, paper and board), Medical Applications and Safety, Microwave and RF Supply Design, Modelling, Plasma Processing, Waste Treatment and Remediation, RF and Microwave Assistance on Bio Energy Production, and Industrial Applications Part II.

Prof. Junwu Tao and his team spared no effort to ensure that the 13th AMPERE conference could take its position in the famous gallery of successful AMPERE conferences. Congratulations and many thanks!

AMPERE AND IMPI PRESIDENTS MEET THE CHINESE MICROWAVE ASSOCIATION AT THE 15TH NATIONAL CONFERENCE ON THE APPLICATION OF MICROWAVE ENERGY IN KUNMING



Kama Huang
Member of the AMPERE
Management Committee

The 15th National Conference on the Application of Microwave Energy (NCAME), was held at Kunming University of Science and Technology (KUST), in Kunming Yunnan province of China from 12th to 14th August, 2011.

The local secretariat under the chairmanship of Prof. Zhu Shouzheng together with the staff of the Key Laboratory of Unconventional Metallurgy, Ministry of Education worked hard to organized the conference which run very successfully indeed.

The conference consisted of some focused sets of sessions, such as microwave system and design, microwave measurements and instrumentation, microwave theory and simulation, microwave chemistry, microwave biomedicine, microwave plasma and others.



Prof. Bob Schiffmann gave the talk on "The microwave manufacture of muesli: a case study"



AMPERE AND IMPI PRESIDENTS MEET THE CHINESE MICROWAVE ASSOCIATION AT THE 15TH NATIONAL CONFERENCE ON THE APPLICATION OF MICROWAVE ENERGY IN KUNMING

The 15th National Conference on the application of microwave energy hosted nearly two hundreds registered participants from all over the country. In the conference, more than 70 high quality papers have been received.

Some international famous experts, such as Prof. Robert F. Schiffmann from USA, Prof.

Cristina Leonelli from Italy Prof. Dinesh K. Agrawal from USA, Prof. Vadim V. Yakovlev from USA, Prof. Roger Ruan form USA and Prof. Juan Antonio Aguilar-Garib form Mexico, were invited to give review presentations and to receive the title of guest professor at Kunming University of Science and Technology.



The participants at the 15th NCAME



Profess'a Cristina Leonelli gave the talk on "Future perspective of high power microwave and RF application in materials processing."

The attendees had many interesting discussions during the conference and the banquet dinner.

This conference was completed successfully and achieved the anticipated aim. The next NCAME will be held in the Beijing, China in two years. The academic and industrial researchers for microwave energy applications are welcome to join us in 2013 conference.



Prof. Dinesh Agrawal, Director of Microwave Processing and Engineering Center, Penn State University, USA, receiving the Guest Professorship



AMPERE AND IMPI PRESIDENTS MEET THE CHINESE MICROWAVE ASSOCIATION AT THE 15TH NATIONAL CONFERENCE ON THE APPLICATION OF MICROWAVE ENERGY IN KUNMING

Sunday 14th August was fully dedicated to the visit to the Stone Forest in Lunan Yi Nationality Autonomous County, located at 120 kilometers (75 miles) km from Kunming city.



From left to right: Prof. Ji Tianren; Prof. Juan Antonio Aguilar-Garib (Chief Editor of JMPEE); Prof. Cristina Leonelli (AMPERE President); Dr. Robert Schiffmann (IMPI President); Prof. Zhu Shouzheng (President of the Chinese Microwave energy application Association); Prof. Peng Jinhui (Chair of the Conference)

The Forest is a spectacular location where bright grey pinnacles exists of dolomite rock tower in the green vegetation. Stone Forest is a typical example of karsts topography which 400 square kilometres.



Traditional costume of Yi ethnic group



Prof. Roger Ruan, Department of Food Science and Nutrition, University of Minnesota, USA, receiving the Guest Professorship



Prof. Juan Antonio Aguilar-Garib, Universidad Autónoma de Nuevo León, Facultad de Ingeniería Mecánica y Eléctrica, NL, México receiving the Guest Professorship



Prof. Vadim V. Yakovlev, Department of Mathematical Sciences, Worcester Polytechnic Institute, USA, receiving the Guest Professorship



OBITUARY

In the area visited by the conference attendees artificial lakes with their light blue colour created a scenic landscape worth a picture with traditional Yi ethnic group representative.

Since 2007, two parts of the site, the Naigu Stone Forest and Suogeyi Village, have been UNESCO World Heritage Sites.



Professors Leonelli and Aguilar-Garib by an artificial lake at the Stone Forest.

OBITUARY



Michal Soltysiak

It is with great sadness that I inform the AMPERE community that Michal Soltysiak, 31, passed away on September 7, 2011. Michal was a Ph.D. student at the Warsaw University of Technology and a project engineer at QWED. Although he was around for a really short time and made just a few appearances at conferences, Michal became a visible figure in the areas of modeling and determination of material parameters.

He made his reputation as a young determined scholar by his extended expertise in the use of FDTD modeling for microwave processing as well as his dedication to the field and sincere desire to generate valuable contributions to it. Michal

will also be missed for his warm personality, openness, and sincerity.

Michal was diagnosed with a severe illness just a few days before the 13th AMPERE meeting and had to cancel his attendance of the conference. But nobody of course expected such a reckless development of the disease, and his sudden death was a heavy shock for all who had known Michal and worked with him. It turned out that his paper “Simulation of Microwave Heating of Static Objects with Low Dielectric Losses” presented in Toulouse by Michal's colleague was his last conference contribution.

However, I believe that the findings and developments made by Michal for his short professional career will stay with us (in quotations and references) due to their value and importance for the field.

Vadim V. Yakovlev



MICROWAVE SESSION ON CHEMISTRY AT THE NEXT AIChE CONFERENCE

MICROWAVE SESSION ON CHEMISTRY AT THE NEXT AIChE

A microwave chemistry is proposed at the next AIChE meeting at Minneapolis in October 2011. In addition to microwaves the session will promote ultrasound and the use of photons to enhance reactions. For more details contact:

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or visit

<http://aiche.confex.com/aiche/2011/webprogrampreliminary/Session16873.html>

REPORT ON THE 8TH CHINESE CHEMISTRY CONFERENCE



Kama Huang

Member of the AMPERE Management Committee

The 8th Chinese Microwave Chemistry Conference (CMCC10), was held in Huangshi, Hubei province of China on 18th, November, 2010. Under the chairmanship of Prof. Jin Qinhan and Prof. Huang Kama, the Local Secretariat with the Management Committee of CMCC10 worked hard to ensure an enjoyable venue and organized a very impressive venue.

More than seventy attendees, from academia and industry all over the country, took part in the conference and interacted well with each other. More than 60 papers

were presented. The oral papers were well attended with session topics on microwave chemistry theory, dielectric property measurements and calculation, microwave chemistry reactor design, microwave enhanced synthesis, microwave chemistry industry application as well as a few other topics.

The highlights of this conference were the papers about dielectric property measurements, multiphysics calculations and microwave plasma treatment of waste materials. In his presentation, Prof. Huang Kama introduced to participants the AMPERE Association and the pending 13th International Conference on Microwave and High Frequency Heating to be held in Toulouse in Sept 2011. The representatives had a lively discussion during the conference while the aims of the organizing committee were thoroughly achieved.



Participants of the 8th Chinese Microwave Chemistry Conference

EVENTS

MS&T'11

Columbus, Ohio, USA, 16-20 October 2011
Materials Science and Technology
Conference and Exhibition
Microwave Processing of Materials
Symposium
For more information visit
<http://www.matscitech.org>

IMPI Fall short course 2011

Chicago, Illinois, USA, 25-26 October 2011
Tremont Chicago Hotel at Magnificent Mile
For more information contact
Molly Poisant
Executive Director
molly.poisant@impi.org

EuroDrying'2011

Palma de Mallorca, Spain, 26-28 October,
2011.
The conference themes are:
Fundamentals, physical properties,
modeling, simulation. Drying processes.
Industrial processes and equipment.
Energy and environmental issues.
Additional information can be found on the
conference web site:
<http://www.eurodrying2011.org>

64th Gaseous Electronics Conference

Salt Palace Convention Center

Salt Lake City, Utah, USA

14 - 18 November 2011

Topics include: plasma processing and
plasma chemistry

The deadline for receipt of abstracts: July 15,
2011

For more information visit:

<http://conferences.wsu.edu/gec>

14th Seminar "Computer Modeling in Microwave Engineering and Applications"

Bayreuth, Germany, March 5-6, 2012

<http://www.wpi.edu/+CIMS/IMMG/Seminars/>
Seminar Topic: Multiphysics Modeling in
Microwave Power Engineering

Abstract submission deadline: January 9,
2012

PIERS 2012

Kuala Lumpur, Malaysia, 27-30 March, 2012

The conference information can be found at

<http://piers.org/piers2012KualaLumpur/>

Upcoming & Recent PIERS visit:

<http://piers.org/>

IMS 2012

IEEE Microwave Theory and Techniques
Society's 2012 International Microwave
Symposium (IMS 2012)

Montreal, Canada, June 17-22, 2012

<http://ims2011.mtt.org>



Technical Area No 33 – High Power Microwave Industrial Applications:

Design of microwave industrial and laboratory applications, multiphysics modeling/optimization of microwave heating systems, physics of microwave processing of materials, NDE/NDT and dielectric property measurements, microwave chemistry, plasma processing, microwave sintering.

Paper submission deadline: December 5, 2011.

IMPI Congress 2012

Bally's, Las Vegas USA, 20-22 June 2012

For more information contact

Molly Poisant

Executive Director

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GCMEA 2012 MAJIC 2st

Global Congress on Microwave Energy Applications

Long Beach California USA, 23-27 July 2012

Organised by the Microwave Working Group

International Committee Chairperson

B. Krieger

Cober Electronics USA

<http://www.jemea.org/majic2012/>

PIERS 2012 Moscow

Progress in Electromagnetics Research Symposium (PIERS)

Moscow, Russia, August 19-23, 2012

<http://piers.org>

Special Session "Advances in Microwave Processing of Materials"

For more info, contact Vadim Yakovlev, Session Chair and Organizer

vadim@wpi.edu

Abstract submission deadline: February 20, 2012

SCEE 2012

Scientific Computing in Electrical Engineering

ETH, Zürich Switzerland, 11-14 September 2012

Topics

1. Computational Electromagnetics
2. Circuit and Device Modelling & Simulation
3. Coupled Problems
4. Mathematical and Computational Methods

Last SCEE 2010 to browse through

<http://sites.onera.fr/SCEE2010/node/1>

14th International AMPERE Conference 2013

The Management Committee of AMPERE is pleased to announce that the 14th International AMPERE conference on Microwave and High Frequency Heating will be staged probably in the UK during September 2013. Details will be published online in due course www.ampereurope.org

The information contained in this Newsletter is given for the benefit of AMPERE members

All contributions are believed to be correct at the time of printing and AMPERE accepts no responsibility for any damage or liability that may result from information contained in this publication

Readers are therefore advised to consult experts before acting on any information contained in this Newsletter

Association of Microwave Power in Europe for Research and Education (AMPERE Europe)