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Editorial1

Microwave Chemistry at UCLAN1

NCIMP at Nottingham Joins New TPN2

Obituaries2

Events3

Ampere Disclaimer5

EDITORIAL

This issue welcomes Gary Bond, a member of AMPERE's Management Committee who describe the activities with microwaves at the University of Central Lancashire.

In this issue we also announce the initiative from the National Centre for Industrial Microwave Processing (NCIMP) at Nottingham University to join the IET's newly

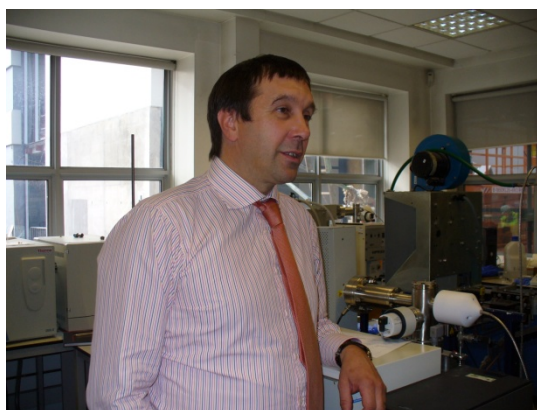
formed Technical and Professional Network on RF and Microwave Technology.

Finally, we sadly announce the passing away of Prof Rustum Roy of Penn State University who pioneered many processes involving microwaves in the field of material processing.

Ricky Metaxas

Editor
EUG St John's College
Cambridge UK

MICROWAVE CHEMISTRY AT UCLAN



by Prof. Gary Bond
Microwave Chemistry Group
University of Central Lancashire (UCLan)

The Microwave Chemistry Group at the University of Central Lancashire (UCLan) is headed by Dr Gary Bond. The group have a range of bespoke cavities, microwave generators and microwave transparent temperature probes which can operate in the range -40°C to 800°C. While the group have worked with a number of companies on a variety of topics ranging from the microwave pre-treatment of plant material for enhanced sugar recovery in biodigestion to the regeneration of diesel particulate filters for automotive applications, they tend to

specialise in the application of microwaves to catalysis and catalytic processes and have a wide range of chemical analysis techniques for on-line monitoring.

Gary developed an interest in the application of microwaves to chemical systems during his postdoctoral studies at the University of Hull in the mid 1990's. Working with Drs David Whan and Richard Moyes, they investigated the controlled application of microwaves to the drying and calcinations of heterogeneous catalysts. During this period they also started studying the effect of microwave radiation on catalytic reactions and produced some of the early data on the oxidative coupling of methane under conditions of microwave radiation; a topic which has since received considerable attention by a number of groups world wide.

While studying at the University of Hull, Gary also developed the concept of microwaves being capable of modifying the equilibrium concentration of species at the surface of catalysts. This concept has been used to explain differences in selectivity which have been observed when microwaves have been applied to a number of catalytic systems.



NCIMP AT NOTTINGHAM JOINS NEW TPN

Since 1995, Gary has been based at UCLan, where he now heads the multidisciplinary Materials Research Centre. He has had a long standing and fruitful collaboration with Prof Phil Barnes and Dr Gareth Parkes at the University of Huddersfield. Jointly they developed a range of thermoanalytical techniques whereby microwaves can be used to simultaneously heat and also monitor / detect thermally induced transformations in materials.

Gary has always had an interest in the potential for using microwaves to solve problems where there is an environmental impact. In collaboration with Jaguar cars, he developed a microwave heating system for the regeneration of diesel particulate filters. The almost unique interaction of carbon and carbon based materials with microwaves has

always been a phenomenon which has been of interest to Gary since his early experiments with microwaves during his postdoctoral work. He has utilised the localised plasma which are generated at the surface of certain carbons when irradiated with microwaves, to develop technologies for the destruction of organic contaminants in both gaseous and aqueous environments which can be achieved at near ambient temperatures.

More recently, he has been involved in the application of microwaves to anaerobic digestion and the upgrading of biogas. As for the future; work is just commencing in collaboration with Prof Al-Shamma'a (Liverpool John Moores University) in which microwaves will be used for the detection of biomolecules.

NCIMP AT NOTTINGHAM JOINS NEW TPN

The National Centre for Industrial Microwave Processing at Nottingham University has recently become part of a newly formed Institution of Engineering and Technology (IET) Technical and Professional Network (TPN) on RF and Microwave Technology. The aim of the network is to provide a focus for a significant number of researchers with common interests in RF and microwave technology but from highly diverse backgrounds and will allow coordinated technology transfer to industry and the broader community.

The network will also allow the creation of a globally significant critical mass in a technology which has the ability to address many key industrial and Government drivers,

such as cost, Energy reduction, sustainability, increased capacity and improved product quality.

One key aspect of the TPN is to provide opportunities for networking, training and to showcase the latest research and developments in our field. The NCIMP and IET will host a one day student conference in March 2011 consisting of short presentations and poster sessions and aiming to provide an opportunity for PhD and Masters students to present their work and discuss ideas in an informal setting. More information will be made via the IET.

OBITUARIES

Professor Rustum Roy, Evan Pugh Emeritus Professor of the solid state, died at his home in State College, Pa., on Thursday Aug. 26. Founder of the materials Research Institute at Penn State University he and his collaborator

produced many seminal papers, particularly on heating metals with microwaves. He was also the founder in 1973 of the Materials Research Society.



Bob Schiffman, President of IMPI, states in their Newsletter, "Roy also made important advances in microwave science and processing, according to his collaborator, Dinesh Agrawal, Professor of Materials at Penn State. Their lab was the first to apply microwaves to the processing of metals, and they also discovered a technique to separate

the electrical and magnetic fields in microwaves and use them in materials processing. The microwave community will definitely miss his guidance and visionary approach to popularize the microwave research throughout the scientific community."

EVENTS

MICROWAVE/FLOW CHEMISTRY CONFERENCE 2011

Sharm el Sheikh, Egypt, Feb 25-28, 2011.

C. Oliver Kappe

Chairman

Zing Conference on Microwave and Flow Chemistry 2011

www.maos.net

COMPUTER MODELING IN MICROWAVE ENGINEERING AND APPLICATIONS

Thun, Switzerland, 7-8 March 2011

The theme will be on "Advances in determining material parameters". For more information and registration visit:

<http://www.wpi.edu/+CIMS/IMMG/Seminars/>

SEMINAR ON MICROWAVE APPLICATIONS

NCIMP Nottingham University 22 March 2011

PhD and MSc student presentations of their work

Details from IET London UK or e-mail Dr C Dodds at chris.dodds@nottingham.ac.uk

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www.nottingham.ac.uk/ncimp

PIERS 2011

29th PIERS meeting

Marrakesh, Morocco, 20-23 March, 2011.

The conference information

can be found at <http://directevent.net/piers/>

PIERS OFFICE: tpc@piers.org

Inquiry about paper submission, registration, and program schedule

PIERS 2011 General Chair

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ACES

Williamsburgh, Virginia, USA, March 27-31, 2011

27th International Review on Progress of Applied

Computational Electromagnetics

For more information contact:

<http://aces.ee.olemiss.edu/conference/>

IMS 2011

IEEE MTT-S International Microwave Symposium

Baltimore, MD USA, June 5-11, 2011

<http://www.ims2011.org>

The list of technical areas of the IMS 2011 includes:

Topic 33 – High Power Industrial Application: Design of microwave industrial and laboratory applicators, multiphysics modeling/optimization of microwave heating systems, physics of microwave processing of materials, NDE/NDT and dielectric property measurements, systems for microwave chemistry, plasma processing, microwave sintering, microwave-assisted comminution, microwave processing of wood and food.

For details, contact: Dr. Malgorzata Celuch,

e-mail: m.celuch@ire.pw.edu.pl, or

Dr. Vadim V. Yakovlev, e-mail: vadim@wpi.edu.



COUPLED 2011

Island of Kos, Greece, 20 - 22 June, 2011.
Fourth conference on Computational Methods for Coupled Problems in Science and Engineering (Coupled 2011).

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guarnieri@die.unipd.it
skype guarnierimax
or visit the conference website:
<http://congress.cimne.com/coupled2011/>

ICMAT 2011

Suntec, Singapore, 26 June-1 July 2011
Materials Research Society of Singapore will be organizing International Conference on Materials for Advanced Technologies (ICMAT) 2011. One of the symposiums will be on "Microwaves in Science and Engineering Applications" chaired by Profs Dinesh Agrawal and Manoj Gupta.

For details please contact Mr Kenneth Tan (icmat@dawnyx.com) or visit <http://www.mrs.org.sg/icmat2011/s37.htm>

PACRIM9

Cairns Convention Centre, Cairns Australia, 11-14 July 2011
Symposium 17 Microwave and RF Processing of ceramics

For more information e-mail guest editors:
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m.la.robina@tpg.com.au
(See also issue AMPERE Newsletter 66 for further details)

CEM 2011

Sydney, Australia, 12-15 July 2011.
18th International Conference on The Computation of Electromagnetics Fields
More information can be found in www.compumag2011.com
For conference organisation visit secretariat@compumag1011.com

13TH INTERNATIONAL AMPERE CONFERENCE 2011

5-8 September 2011,
Toulouse, ENSEEIHT, France

The Management Committee of AMPERE is pleased to announce that the 13th International AMPERE conference on Microwave and High Frequency Heating will be staged in Toulouse during Monday to Thursday September 2011. The conference will be held at the Ecole Nationale Supérieure d'Electrotechnique, d'Electronique, d'Informatique, d'Hydraulique, et des Telecommunications

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or visit www.ampereurope.org

PIERS 2011

30th PIERS meeting
Suzhou, China, 12-16 September, 2011.
The conference information can be found at <http://directevent.net/piers/>

Please use ON-LINE registration or to
PIERS OFFICE
Suite 207
777 Concord Avenue,
Cambridge, MA 02138, USA
Fax: +86-571-87952380
E-mail: tpc@piers.org

MS&T'11

Columbus, Ohio, USA, 16-20 October 2011
Materials Science and Technology Conference and Exhibition Microwave Processing of Materials Symposium Abstract submission deadline 15 March 2011
For more information visit <http://www.matscitech.org>



AMPERE DISCLAIMER

GCMEA 2012 MAJIC 2st

Global Congress on Microwave Energy
Applications
Long Beach California USA
Organised by Microwave Working Group

International Committee Chairperson B Krieger
Cober Electronics USA
<http://www.jemea.org/majic2012/>

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