

# ESR SPECTROSCOPY GROUP NEWS

## UK cwEPR National Service at the University of Manchester

The current contract for the Service ended in February 2010, but EPR spectroscopy was identified as a priority under EPSRC's review of mid-range facilities, for which the UK EPR community submitted a Statement of Need. A call for tendering for a new facility in EPR spectroscopy is expected to be published in June with an announcement of the decision in summer; the present Service will continue until a new facility starts.

**Current facilities:** multi-frequency continuous wave and variable temperature at L-, S-, X-(|| and  $\perp$  mode), K-, Q- and W-bands; simulation software for  $S = \frac{1}{2}$  and  $S > \frac{1}{2}$  systems; *in situ* electrochemical and optical excitation; on-site training, remote access to software, user group meetings, biannual training workshops. Further information is available at: <http://www.epr.chemistry.manchester.ac.uk>

To discuss applications for time on the Service, please contact Eric McInnes ([eric.mcinnes@manchester.ac.uk](mailto:eric.mcinnes@manchester.ac.uk), 01612 754 469) or David Collison ([david.collison@manchester.ac.uk](mailto:david.collison@manchester.ac.uk), 01612 754 660). For information about other EPSRC services and facilities, please contact Martin Sweet ([martin.sweet@epsrc.ac.uk](mailto:martin.sweet@epsrc.ac.uk)).

## Joint EUROMAR 2010 and 17th ISMAR Conference

Florence, July 4-9, 2010

<http://www.cerm.unifi.it/wwmr2010/>

ISMAR Prize Lecture to be given by Robert G. Griffin (Massachusetts Institute of Technology, USA): "*High Frequency Dynamic Nuclear Polarization in Rotating Solids and Liquids*". The full conference programme is now available at the conference web site.

## Asia-Pacific EPR/ESR Symposium

Jeju, South Korea, October 10-14, 2010

<http://www.apes2010.org/>

APES 2010 will cover the frontiers of all aspects of EPR/ESR ranging from theoretical and experimental advances in CW EPR/ESR, pulsed EPR, high frequency and high field EPR, ENDOR, time resolved EPR, FMR, EPRI, CIDEP and ODMR to applications in medicine, biology, chemistry, materials science and nanotechnology.

## ACKNOWLEDGEMENTS

Thanks go to retiring committee members. To Fraser MacMillan, who was elected as the new Treasurer at the AGM, David Collison (Chair) and Victor Chechik (Treasurer). The organisation of our conference in Cardiff has been due in large part to the efforts of the local organising team chaired and led by Damien Murphy and assisted by Emma Carter, Lucia McDyre and Marie-Elena Owen. Also thanks to Aberdare Hall for hosting the conference banquet, Cardiff University for use of the Large Lecture Theatre, Viriamu Jones Gallery and other conference rooms, and to the staff of the Parc Thistle Hotel for their welcome, together with Chris Kay (Secretary) and Ilya Kuprov (Web Master).

Membership of the ESR Spectroscopy Group currently stands at about 100. All scientists who are members of the Royal Society of Chemistry, and have an interest in ESR/EPR spectroscopy, are invited to join by ticking the ESR Spectroscopy Group box on their RSC membership renewal forms. The individual subscription fee of £5 is included in the annual RSC membership / ESR Group fee.

**Website:** <http://www.esr-group.org> (editors: Chris Kay and Ilya Kuprov)

Newsletter editors: David Collison and Mark Newton

The 43<sup>rd</sup> Annual ESR Conference took place from Sunday 21st – Thursday 25th March 2010 at Cardiff University, with lectures in the Large Chemistry Lecture Theatre, posters in the Viriamu Jones Gallery and the conference banquet in Aberdare Hall.

The 2010 Bruker Prize Lecture by Dr Ronald P Mason (NIEHS, USA) spoke under the title: The Fidelity of Spin Trapping. Dr Peter Höfer introduced the lecture, and there followed an entertaining and hugely informative talk from Dr Mason about the philosophy of the application of spin traps and both the limitations of their use and the fundamental understanding that they can reveal.



Left to right: **Dieter Schmalbein** (Bruker BioSpin), **Ron Mason** (2010 Bruker Prize), **David Collison** (ESR Group Chair).

There were 92 attendees representing 15 different countries, and over a third of the participants (even more than in recent years) were graduate students, a situation that continues to suggest a healthy future for ESR spectroscopy.



The scientific programme was supported by social evenings and receptions sponsored by the ESR Group of the RSC, JEOL and Bruker. The free Tuesday afternoon allowed delegates the chance to explore Cardiff and have a guided tour of Cardiff Castle in the pouring rain.

The JEOL prize medal attracted several excellent applications from which three were selected to present their talks. The JEOL prize medal for the best oral presentation by a young scientist was awarded to Hans Moons (Antwerp) for his talk: “CW and pulsed EPR characterisation of soluble metal phthalocyanines lacking C-H bonds”.



Left to right: **Peter Meadows** (JEOL), **David Collison** (Chair) and **Hans Moons** (Antwerp).

Joint runners-up were Lisa Castelli (Florence) with Coexistence of quantum and classical behaviour in EMR spectra of magnetic nanoparticles and molecular nanomagnets, and Richard Brown (Oxford) with Electron spin coherence times of metallofullerenes. All the student talks were of a very high calibre. The three students were also presented with cash prizes by Dr Peter Meadows (JEOL).

Keynote lectures were presented by: Damien Murphy (Cardiff), “*Stereoselective interactions in asymmetric metal complexes probed by EPR spectroscopy*”, John Enemark (University of Tucson), “*Pulsed EPR Spectroscopy and DFT calculations for “difficult” nuclei*” (sponsored by the EPSRC National Service for cw EPR Spectroscopy), Bill Rutherford (CEA Saclay), “*EPR of photosystem II*” and Takeji Takui (Osaka), “*Pulse-based electron magnetic resonance*”



*spin technology and a chemists' materials challenge: A few steps towards molecular spin quantum computers and quantum information processing*".

As well as the Keynote lectures, we had a series of excellent invited and offered short talks, two poster sessions, the Bruker Lecture and the JEOL student talk session.

This year there were 35 posters and one was selected to win the poster prize with the traditional bottle of whisky going to Gunnar Reginsson (St Andrews) for his poster: PELDOR measurements using spin-labelled nucleobase  $\zeta$  that binds non-covalently to guanine opposite an abasic site in DNA.

The poster prize winner and two runners-up, Petra Lueders (Zurich) with Double electron-electron resonance measured between gadolinium ion and nitroxide radical, and Igor Tkach (Göttingen) with W-band PELDOR with a dual-mode microwave resonator will receive a copy of Phil Reiger's textbook on ESR Spectroscopy, these copies being generously donated by the publishers, the Royal Society of Chemistry.

Full abstracts of the Keynote lectures, invited and offered short talks, posters and a photo gallery are on the ESR Group website: <http://www.esr-group.org>

And finally... a big thankyou from the Committee to the Chair, Secretary & Treasurer for all their efforts.



**Chris Kay** (UCL; Secretary), **David Collison** (Manchester; Chair), & **Victor Chechik** (York; Treasurer)

## Next International Meeting of the RSC ESR Group

York, 3-7 April 2011

<http://www.esr-group.org>

# INTERNATIONAL EPR/ESR SOCIETY (IES)

## IES Fellows of the Society

James R. Norris Yuri D. Tsvetkov

Further information in the International EPR Society (IES) can be found on their website: [www.ieprs.org](http://www.ieprs.org).

Each year one issue of the EPR Newsletter is a public issue which can be downloaded from:

<http://www.epr-newsletter.ethz.ch/>

## IES Awards Schedule 2010-2012

2010 - Physics/Materials

2011 - Gold + Instrumentation + Young Investigator

2012 - Biology/Medicine + Chemistry

EPR Conferences 2010-2012

A list of forthcoming EPR meetings is available at: [www.ieprs.org](http://www.ieprs.org)

## THE INTERNATIONAL ZAVOISKY AWARD 2009

Daniella Goldfarb - distinguished for her contribution to pulsed high-field ENDOR methodology and applications to metalloproteins and zeolites.

## ESR GROUP COMMITTEE

The ESR Spectroscopy Group committee was elected at the AGM held in Cardiff on the 24th March 2010.

<b>Chairman</b>	Dr Mark Newton	2010-2013	<a href="mailto:m.e.newton@warwick.ac.uk">m.e.newton@warwick.ac.uk</a>
<b>Secretary</b>	Dr Chris Kay	2006-2011	<a href="mailto:c.kay@ucl.ac.uk">c.kay@ucl.ac.uk</a>
<b>Treasurer</b>	Dr Fraser MacMillan	2010-2014	<a href="mailto:fraser.macmillan@uea.ac.uk">fraser.macmillan@uea.ac.uk</a>

Dr Rachel Haywood	2008-2011	<a href="mailto:haywoodr@raft.ac.uk">haywoodr@raft.ac.uk</a>
Dr Rob Hill	2008-2011	<a href="mailto:rob.hill@bruker.co.uk">rob.hill@bruker.co.uk</a> (Companies' representative)
Dr Damien Murphy	2008-2011	<a href="mailto:murphydm@cf.ac.uk">murphydm@cf.ac.uk</a>
Dr Ilya Kuprov	2009-2012	<a href="mailto:ilya.kuprov@oerc.ox.ac.uk">ilya.kuprov@oerc.ox.ac.uk</a> (Web Master)
Dr David Norman	2009-2012	<a href="mailto:d.g.norman@dundee.ac.uk">d.g.norman@dundee.ac.uk</a>
Dr Christiane Timmel	2009-2012	<a href="mailto:christiane.timmel@chem.ox.ac.uk">christiane.timmel@chem.ox.ac.uk</a>
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Dr Graham Smith	2010-2013	<a href="mailto:gms@st-and.ac.uk">gms@st-and.ac.uk</a>
Dr Victor Chechik	2010-2011	<a href="mailto:vc4@york.ac.uk">vc4@york.ac.uk</a> (Local Organiser, York)
Prof David Collison	2010-2011	<a href="mailto:david.collison@manchester.ac.uk">david.collison@manchester.ac.uk</a> (Past Chair)