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BULLETIN DU GROUPEMENT

d'informations mutuelles

AMPERE

SE CONNAITRE, S'ENTENDRE, S'ENTR'AIDER

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Secretariat: ETH Zürich, Laboratory of Physical Chemistry
8093 Zürich, Switzerland

http://www.ampere.ethz.ch

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Executive Officers and honorary members of the AMPERE BUREAU

R. BLINC, Institute Jozef Stefan, Department F5, Jamova 39, SI-1000 LJUBLJANA, Slovenia
Tel. ++386 1 4773 900, Telefax ++386 1 4263 269, e-mail robert.blinc@ijs.si
B. BLÜMICH, Makromolekulare Chemie, RWTH, D-52056 Aachen
Tel. +49 241 80 26421/26420, Telefax ++49 241 8022185, e-mail Bluemich@mc.RWTH-Aachen.de
G. BODENHAUSEN, ICMB, EPFL - BCH, CH-1015 Lausanne,
Tel. ++41 21 693 94 31, Telefax ++41 21 693 94 35, e-mail Geoffrey.Bodenhausen@epfl.ch
J.Y. BUZARE, Lab. de Physique de l'Etat Condensé CNRS UMR 6087, Université de Maine, Avenue Olivier Messiaen,
F-72085 LE MANS CEDEX, Tel. ++33 243 83 32 90, Telefax ++33 243 83 35 18, e-mail jean-yves.buzare@univ-lemans.fr
J. DOLINSEK, Institute Jozef Stefan, Department F5, Jamova 39, SI-1000 Ljubljana, Slovenia
Tel. ++386 1 4773 740, Telefax ++386 1 4263 269, e-mail: jani.dolinsek@ijs.si
M. ERNST, Laboratorium für Physikalische Chemie, ETH Zürich, CH-8093 ZURICH, Switzerland,
Tel. ++41 44 632 43 66, Telefax ++41 44 632 16 21, e-mail maer@nmr.phys.chem.ethz.ch
D. GOLDFARB, Chemical Physics, Weizmann Institute of Science, IL-76100 REHOVOT, Israel,
Tel. ++972-8-934 2016, Telefax ++972-8-934-4123, e-mail daniella.goldfarb@weizmann.ac.il
G. JESCHKE, Laboratorium für Physikalische Chemie, ETH Zürich, CH-8093 ZURICH, Switzerland
Tel.++41 44 632 57 02, Telefax ++41 44 633 14 48, e-mail gunnar.jeschke@phys.chem.ethz.ch
ST. JURGA, Instytut Fizyki, Uniwersytet im. A. Mickiewicza, Zaklad Fizyki Makromolekularnej, Umultowska 85, PL-61-614 POZNAN, Poland, Tel. ++48 61 829 5290, Telefax ++48 61 829 5290, e-mail stjurga@main.amu.edu.pl
B. MARAVIGLIA, Dipartimento di Fisica, Università di Roma "La Sapienza", P.le Aldo Moro 2, I-00185 ROMA, Italy,
Tel. ++39 06-4454859, Telefax ++39 0649913484, e-mail maraviglia@roma1.infn.it
B.H. MEIER, Laboratorium für Physikalische Chemie, ETH Zürich, CH-8093 ZURICH, Switzerland,
Tel.++41 44 632 44 01, Telefax ++41 44 632 16 21, e-mail beme@nmr.phys.chem.ethz.ch
G. SMITH, University of St. Andrews,School of Physics & Astronomy, North Haugh, ST. ANDREWS, KY16 9SS, U.K.
Tel. ++44 1334 462669, Telefax ++, e-mail gms@st-andrews.ac.uk
H.W. SPIESS, Max-Planck Institut für Polymerforschung, Ackermannweg 10, POB. 3148, D-55021 MAINZ, Germany,
Tel. ++49 6131 379120, Telefax ++49 6131 379320, e-mail spiess@mpip-mainz.mpg.de
S. STAPF, TU Ilmenau, Fak. Math. Nat., Inst. f. Physik, 98684 Ilmenau, Germany
Tel. ++49 3677 69 3671, Telefax ++49 3677 69 3770, e-mail siegfried.stapf@tu-ilmenau.de

AMPERE COMMITTEE

J-P. AMOUREUX, Université de Lille, Lab: LCPS, Bat. C7, USTL, F-59652 VILLENEUVE D'ASCQ, France
V. ATSARKIN, Russian Academy of Sciences, Institute of Radio Engineering & Electronics, 11 Mokhovaya Str.,
RU-125009 MOSKOW, Russia
J.S. BLICHARSKI, Jagellonian University, Institute of Physics, ul. Reymonta 4, PL-30-059 KRAKOW, Poland
R. BOSCAINO, Instituto di Fisica, Università di Palermo, Via Archirafi 36 I-90123 PALERMO, Italia
R. BOELENS, Bijvoet Center for Biomolecular Research, Utrecht University, Padualaan 8, NL-3584 CH UTRECHT, The Netherlands
St. CALDARELLI, CRRMN Université d'Aix Marseille III, case 511, Faculté de Sciences, Site de Saint-Jerôme,
F-13013 MARSEILLE, France
V. CHIZHIK, University of St. Petersburg, Quantum Magnet.Phen.,Fac.of Physics, RU-198504 ST. PETERSBURG, Russia
D.E. DEMCO, RWTH Aachen, Makromolekulare Chemie, Worringerweg 1, D-52056 AACHEN, Germany.
J. DOLINSEK, Institute Jozef Stefan, Jamova 39, SI - 1000 LJUBLJANA, Slovenia
L. EMSLEY, Ecole Normale Supérieure de Lyon, 46 Allée d'Italie, F-69364 LYON, France
P. FANTAZZINI, Università di Bologna, Dipartimento di Fisica, Via Irnerio 46, I-40126 BOLOGNA, Italy
R. FARRANT, GloxoSmithKline, Analytical Sciences, Gunnels Wood Road, STEVENAGE SG1 2NY, U.K.
N. FERRER ANGLADA, Departament de Fisica Aplicada, Universitat Politechnica de Catalunya, Jordi Girona Salgado,s/n., Campus Nord-modul B4, 08034 BARCELONA, España

Contents

AMPERE Society

Future Conferences

Application form for AMPERE membership

If you are not a member of the AMPERE Group at present and would like to become a member, please fill in the form and return it to the contact address stated below.

Online registration under: http://www.ampere.ethz.ch

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Student	❑ yes	Reduction of 50 % of membership fees Age limit 30 years
Title		
Institute/ Department		
University/ Organisation		
Street		
ZIP Code before		
Town, ev. State		
ZIP Code after		
Country		
Telephone		
Telefax		
E-Mail		

Date:.....

Signature:.....

Correspondence Address:

Prof. Dr. Gunnar Jeschke
ETH ZÜRICH
Laboratory of Physical Chemistry
HCI F 227
Wolfgang-Pauli-Str. 10
CH-8093 Zürich, Switzerland

ampere@ethz.ch
Tel.: +41 44 632 57 02
Fax: +41 44 632 10 21

One year membership fee Swiss Francs 35,-- / three years membership fee Swiss Francs 100.--

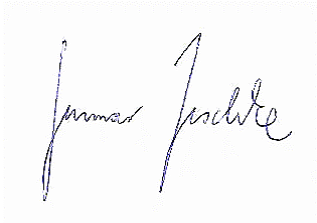
Editorial

Dear AMPERE colleagues,

this year's EUROMAR conference in July in Göteborg showed that the share of method development in magnetic resonance research is again increasing after a period where application work was dominating. This rejuvenation of the field is certainly welcome. Nevertheless, the high level of application work, as it is traditionally found in solid state physics and structural biology is maintained and both NMR and EPR are applied to systems that are hardly accessible to other techniques for structural characterization. Another trend is the increasing use of computational approaches for reliable interpretation of spectroscopic data, in particular in EPR spectroscopy, and for speed-up of experiments, in particular in NMR spectroscopy. On behalf of Groupement AMPERE, I want to thank Göran Karlsson, the EUROMAR board, and all other people involved in the organization of this exciting congress.

EUROMAR was also the event where two prestigious awards in magnetic resonance spectroscopy were presented. Starting with the young generation, Nils Lakomek won the Raymond Andrew Prize 2009 for his thesis "New Methods in NMR Spectroscopy for the Study of Protein Dynamics" written at MPI for Biophysical Chemistry in Göttingen, Germany (see p. 5). The Russell Varian Prize winner 2009 was Albert W. Overhauser, who explained in an insightful lecture, how things happened in the first few years of magnetic resonance. Unfortunately we cannot print the whole lecture in this Bulletin, but if you missed it you can catch a glimpse on pp. 7-8.

After the conference is before the next conference. Please reserve the date of EUROMAR 2010 combined with the 17th ISMAR Conference in Florence (Italy), July 4th-9th 2010. As you can see on pp. 14-19, this promises to be another exciting congress in one of the most beautiful cities of Europe.



Gunnar Jeschke

New EF-EPR representative

During the 7th European Federation of EPR Groups Meeting in Antwerp, Belgium (September 6-11, 2009) **Dr. Graham Smith** was elected President of the European Federation of EPR groups.

Graham Smith obtained a BSc(Hons) in theoretical physics from York University and an MSc in laser physics and optoelectronics from the University of St Andrews before studying for a PhD in millimetre wave instrumentation with the mm-wave group at St Andrews . His thesis focused on Gunn diodes for mm-wave applications. As a post-doc with the mm-wave group he undertook various projects involving state-of-the-art mm-wave instrumentation. In 1995 he developed a high performance quasi-optical high-field ESR spectrometer and this area has dominated his research interests since. In 1998 he was appointed as a lecturer at St Andrews and was also awarded an EPSRC advanced fellowship to work on high-field ESR detection using force detection methods. He is currently the manager of the EPSRC high-field ESR facility.

Graham acted as vice-chair of COST P15 action “Advanced Paramagnetic Resonance Methods in Molecular Biophysics” (2005-2010) and organized the 4th EF-EPR Summer School in Advanced Techniques in EPR in 2008.

Groupement AMPERE thanks Prof. Etienne Goovaerts, the leaving president of EF-EPR for his contributions.

For more information on EF-EPR, see http://www.physics.ua.ac.be/EFEPR/.

Raymond Andrew Prize 2009

The Raymond Andrew Prize 2009 was awarded to **Dr. Nils Lakomek** during the EUROMAR congress in Göteborg, Sweden in July 2009 for the thesis:

"New Methods in NMR Spectroscopy for the Study of Protein Dynamics."

written in the group of Christian Griesinger.

The Raymond Andrew Prize commemorates the pioneering contributions of Dr. Raymond Andrew, one of the inventors of the magic angle spinning (MAS) technique in solid-state NMR, to the field of magnetic resonance. This prize is awarded annually to young scientists for an outstanding PhD thesis in magnetic resonance.

The winner of the Raymond Andrew Prize 2010 will be announced during EUROMAR 2010, July 4-10, in Florence, Italy.

Former Raymond Andrew Prize winners:

2002 Dr. Song-I Han
2003 Dr. Elena Vinogradov
2004 Dr. Fabien Ferrage
2005 Dr. Christian Beat Hilty
2006 Dr. Carlos Mattea
2007 Dr. Christian Degen
2008 Dr. Boaz Shapira

see also: http://www.ampere.ethz.ch/andrew_prize.htm

Groupement AMPERE Secretariat

Zurich, September 2009

Call for Nominations for the Raymond Andrew Prize

for an outstanding PhD thesis in the field of magnetic resonance

For the Raymond Andrew Prize 2010 the AMPERE Prize Committee is seeking your help in searching for qualified candidates who completed their dissertation during the period of 2008/2009. The prize will be presented during the joint EUROMAR/ISMAR conference in Florence (Italy) from 4th to 9th July 2010.

You are kindly invited to submit nominations by e-mail to

andrewprice@nmr.phys.chem.ethz.ch

Suggestions must be received by 15th February 2010 and should include the following documents:

- Nomination letter
- Curriculum vitae
- List of publications and presentations at conferences
- PhD thesis in PDF

The thesis should be written in English. In exceptional cases, the thesis may also be submitted in triplicate as a hardcopy to the AMPERE Secretariat.

Submissions that arrive too late will automatically be transferred to the next year. The prize committee will reconsider excellent contributions for two years in a row.

Sincerely yours,

Gunnar Jeschke
General Secretary

Russell Varian Prize 2009

The Russel Varian Prize 2009 was awarded during the EUROMAR conference in Göteborg, July 5th-9th 2009 to

***Albert W. Overhauser*,** Stuart Distinguished Professor of Physics, Purdue University, West Lafayette, IN, US.

Awarded contribution

The talk given by Albert Overhauser at the American Physical Society meeting on May 1, 1953, of which
an abstract appeared as
Albert W. Overhauser, Polarization of Nuclei in Metals, Phys. Rev. 91, 476 (1953),
and full detail as
Albert W. Overhauser, Polarization of Nuclei in Metals, Phys. Rev. 92, 411-415 (1953).

Awarded technology

This contribution is the seed of two important techniques in modern NMR: the Nuclear Overhauser Effect (NOE) and Dynamic Nuclear Polarization (DNP). NOE describes the mutual influence of the polarizations of two spin species by spin-lattice relaxation. Originally, the spins were those of the nuclei of a metal and those of its conduction electrons. Soon after Overhauser's prediction, the effect was demonstrated by C. P. Slichter on metallic lithium, and was shown by Ionel Solomon to also exist between different nuclei in ordinary liquids. The NOE has played a key role in liquid state NMR over several decades, notably in establishing the overall structure of biological macromolecules in solution DNP describes the often impressive enhancement of the nuclear polarization by strong irradiation of an electron resonance in the sample. Particularly within recent years, DNP technology has evolved considerably to a powerful sensitivity enhancement method in a growing variety of NMR applications.

Short biography of Albert W. Overhauser

Albert W. Overhauser was born on 17 August 1925 in San Diego, California. He attended high school in San Francisco where his family had moved in 1935. Luckily for our field of research, his high school physics teacher Ralph Britton convinced him not to become a civil engineer but rather a physicist. He studied this subject, as well as mathematics, at University of California, Berkeley (1942-48) with an interruption by military service as a radar specialist. His Ph. D. ambitions were initially complicated by the impact of post-war political realignments on academia, which led to a lack of prospective supervisors. Finally, Charles Kittel agreed to supervise Al.

As told by Al during his very amusing and moving speech at the EUROMAR conference, his task was to explain the failure of some magnetic resonance experiments by relaxation theory. Although these experiments had failed for different reasons, he developed such theory and convinced Charles Kittel in 1951 that it was worth a Ph. D. He must have been very convincing, since Charles Kittel immediately concluded that Al might now need a new position and found one for him at the very

same day at University of Illinois. At this point Al concluded that he should ask his fiancée, Margaret Mary Casey, whether she could imagine moving to Illinois and, by implication, to marry him. She could and the couple is now married for 58 years.

During his "post-doc" stay at the University of Illinois (1951-53) Al developed the first theory of dynamic nuclear polarization (DNP), based on the Overhauser effect, which is also manifest in other experiments in magnetic resonance. When he first presented his results at the American Physical Society meeting on May 1, 1953, almost the whole first row (Felix Bloch, Edward M. Purcell, Isidor I. Rabi, Norman F. Ramsey) was rather sceptical. However, it did not take the table round of magnetic resonance too long to accept the idea, indeed Norman F. Ramsey explicitly did so in a letter dated July 27th 1953. Ramsey's rethinking was caused by being selected as a referee of Overhauser's paper and by not being able to prove that it was wrong.

Albert Overhauser was appointed Assistant Professor in Cornell in 1953 and promoted to Associate Professor in 1956. In 1958 he started an industrial career at Ford Motor Co. in Dearborn, Michigan which lasted until 1973 when he returned to academia to become Professor of Physics at Purdue University. He was named the Stuart Distinguished Professor of Physics in 1974 and remained at this position to date.

Prof. Albert Overhauser was awarded many times for his groundbreaking work. Among the prizes are the Oliver E. Buckley Solid State Physics Prize (1975) and the Alexander von Humboldt Senior Scientist Award (1979-80). In 1979 he also received the Honorary Doctor of Science from the University of Chicago and in 1998 the Honorary Doctor of Laws degree from Simon Fraser University (Canada). The most prestigious honour is the National Medal of Science of the USA 1994, which he received personally in the White House from the then president Bill Clinton.

Throughout his life full of interesting science, Al Overhauser has kept a pleasant personality and the ability to capture and amuse big audiences. His speech on the occasion of receiving the Russell Varian Award 2009 was one of the highlights of EUROMAR 2009.

For pictures and a more detailed biography see:

http://www.physics.purdue.edu/about_us/history/Albert_W_Overhauser.shtml

Report on the AMPERE NMR SCHOOL, Zakopane (The Tatra Mountains) 21-27 June, 2009

Introduction

The AMPERE Nuclear Magnetic Resonance School was organized by the Department of Macromolecular Physics, of Adam Mickiewicz University in Poznań, Poland, under the auspices of the GROUPEMENT AMPERE and with the financial support of the SoftComp Programme and the European Universities' Association "Santander Group".

The Director of the School is Prof. Stefan Jurga, the Head of Macormolecular Physics Department.

The School in Poland has existed for 16 years and attracts many lecturers and participants from the whole world. The School is addressed to post graduate students, PhD students and post-docs and focuses on theoretical and experimental aspects of NMR methods and their applications, especially in nano-science, materials-science and soft-materials. Apart from the scientific programme the School gives an opportunity to initiate joint studies and cooperation between research groups, to share experience and to simply establish new contacts.

The lectures covered the following topics:

- NMR relaxometry
- NMR diffusometry
- NMR in solid-state
- NMR in soft matter
- NMR in biology and medicine
- MRI and MRS
- NMR and quantum information

Organizing Committee

Stefan Jurga – Director

Joanna Morawska - Executive Secretary

Eugeniusz Szcześniak

Barbara Peplińska

Grzegorz Nowaczyk

Mariusz Jancelewicz

Bakyt Orozbaev

Jacek Jenczyk

Wiktor Waszkowiak

Kosma Szutkowski

Organisation

The registration for the School was opened in February 2009 and closed in May. The participants registered through school's website (www.staff.amu.edu.pl/~school). They were regularly informed via e-mail about the most important facts regarding the event, such as the programme, fee payment, abstracts submission, accommodation and travel.

The organizers provided transport from Kraków to Zakopane on Sunday, 21st June, and from Zakopane to Kraków on Saturday, 27th June.

Fee

The School fee was: 400euro and covered full board, accommodation, proceedings, social events, and transportation to and form Kraków.

Programme

The programme of the School was designed for 6 days and consisted of plenary lectures (16), oral presentations (7), workshops (4) and two poster sessions.

Participants

The School was attended by 72 participants in total, representing 13 universities and 18 countries such as Poland, Germany, Canada, the Netherlands, Slovenia, Switzerland, France, the UK, Italy, Czech Republic, Israel, Argentina, Moldova, Vietnam, Iran, Bangladesh and South Korea and Kirgistan.

Venue

Conference Centre "Geovita Hotel", Zakopane

Description

The School was officially opened on June 21st by Prof. Beat Meier, the President of the Groupement AMPERE, Prof. Stefan Jurga, the Head of the Department of Macromolecular Physics and Vice-President of the Groupement AMPERE and Prof. Ryszard Naskręcki, the Dean of Faculty of Physics.

The lecture sessions started in the morning and ended in the early afternoon. Each lecture session was chaired by a professor. The oral presentations were given in late afternoons and the workshops were conducted on Monday, 22nd and Tuesday, 23rd evenings.

The students had the opportunity to present their results during 2 poster sessions. The posters were evaluated by the members of "the poster committee": Prof. Elliot Burnell, Prof. De Lange Kees, Prof. Alex Mackay, Prof. Franz Fujara. Two main factors were taken into account by the committee: the merit content of a poster and the way it was presented. The committee decided to award 3 students: PhD Stanislav Vrtnik form the Josef Stefan Institute (Slovenia) (first prize), Dr. Andrea Valori from the University of Surrey (UK) and PhD Christiane Hackel from Martin-Luther-Universität Halle/Wittenberg (Germany) . The winners were given small gifts.

The abstracts of lectures, oral presentations and posters were published as printed proceedings **(AMPERE NMR BOOK OF ABSTRACTS)** and some of the tutorial lectures and oral contributions are available on the website (under a password).

The social programme included "All together party", the tour around Zakopane and its neighbourhood, the organ concert given by Prof. Dieter Michel and Polish folklore – dancing and singing performances.

It should be stressed that the workshops, which appeared in the programme of the School for the second time, were received by the participants with great enthusiasm.

The evaluation questionnaires show that the school has fulfilled the expectation of the participants and has met their scientific needs.
The next edition of the School has already been planned for 2010 (20th-26th June).

Lectures:

<u>The opening lecture</u>: prof. Hans W. Spiess, (Mainz, Germany), Advanced NMR Methods for Studying Structure and Dynamics of Soft Matter

- **Prof. Beat Meier (Zürich, Switzerland), MIRRORS and DREAMS**
- **Prof. Franz Fujara (Darmstadt, Germany), Deuteron NMR studies in high pressure ice phases**
- **Prof. Ernst Rössler (Bayreüth, Germany), DYNAMICS OF LIQUIDS AND POLYMER MELTS - PERSPECTIVES FROM FIELD CYCLING NMR**
- **Prof. Shimon Vega (Rehovot, Israel), Proton NMR in solids; Theory and Applications**
- **Prof. Dieter Michel (Leipzig, Germany), Investigation of nanostructured ferroelectric materials by means of NMR spectrsocopy and spin lattice relaxation**
- **Prof. Siegried Stapf (TU Ilmenau, Germany), Spatially resolved monitoring of drying and reaction processes in polymeric films by low-field NMR**
- **Prof. Janez Stepišnik (Ljubljana, Slovenia), Studies of molecular dynamics by NMR gradient spin echo**
- **Prof. Hartwig Poemoeller (Waterloo, Canada), IS CHEMICAL EXCHANGE RESPONSIBLE FOR COALESCENCE OF OH AND WATER RESONANCES IN LOW HYDRATION MCM-41? A 2D TIME DOMAIN NMR STUDY**
- **Prof. Alex MacKay (Vancouver, Canada), Information about water exchange, reading ability and injury due to spinal stenoses from T2 and other MRI techniques**
- **Prof. Elliott Burnell (Vancouver, Canada), NMR of solutes in nematic and smectic liquid crystals: order parameters and the intermolecular potential**
- **Prof. Janez Seliger (Ljubljana, Slovenia), Field cycling NMR relaxometry and detection of low nuclear quadrupole resonance frequencies**

- **Prof. David L. Lurie (Aberdeen, UK), 1000 field strengths in one scanner - Fast Field-Cycling MRI**
- **Prof. Cornelius De Lange Kees (Amsterdam, The Netherlands), Novel strategies for solving highly complex NMR spectra of solutes in liquid crystals**
- **Prof. Jürgen Senker (Bayreüth, Germany), NMR Crystallography – Approaching the Structure Elucidation of Amorphous, Nano- and Microcrystalline Materials**
- **Prof. Jadwiga Tritt-Goc (Poznań, Poland), NMR in the gel systems**

Oral presentations:

- B. Blicharska (Kraków, Poland): Hydration water dynamics in biopolymers from NMR relaxation in the rotating frame
- H. Harańczyk (Kraków, Poland): Nano-scale water structure in ultra-dry lichen thalli by proton NMR
- A.M. Olaru (Aachen, The Netherlands): Water ingress in polymer-modified cement: a magnetic resonance imaging study
- A. Valori (Surrey, UK): A 1H Double Quantum Filter study of water in Hydrated Cement Pastes
- F. Bajd (Ljubljana, Slovenia): Current density imaging aided design of electrode setup for electroporation
- J. Kaszyńska (Poznań, Poland): Relaxation in the feeroelectric polymers. Dielectric, mechanical and nuclear magnetic resonance studies
- D. Tietze (Jena, Germany): Investigations on the catalytic mechanism of Nickel Superoxide Dismutase

Workshops:

D. Kruk, R. Rössler: *NMR relaxometry in soft matter*
J. Stepišnik, K. Szutkowski: *Basics of NMR diffusometry*

M. Giersig: *Nanomaterials and their Applications in Electronic and Biomedicine*

E. Burnell, C.A. de Lange: *NMR of Ordered Liquids*

Joint EUROMAR 2010 and 17th ISMAR Conference

Florence, Italy, July 5th-10th 2010

The challenge of World Wide Magnetic Resonance 2010 is to gather, in the stunning setting of Florence, the entire polyhedral world of Magnetic Resonance. I trust that this will be a major event, offering participants many opportunities to learn about the latest developments and improve communication and cooperation for fruitful research developments. Arrivederci!

wwmr2010@cerm.unifi.it Ivano Bertini

Program Committee

Silvio Aime (Univ. Turin)

Betty J. Gaffney (Florida State Univ., Tallahassee)

Malcolm H. Levitt (Univ. Southampton)

Ad Bax (NIH, Bethesda)

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Sabine van Doorslaer (Univ. Antwerp)

Lucio Frydman (Weizmann Inst., Rehovot)

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Warren S. Warren (Duke Univ.)

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Paola Turano, *Treasurer*

Simone Ciofi Baffoni, Marco Fragai, Roberta Pierattelli, Francesca Cantini, Giacomo Parigi, Antonio Rosato, Isabella C. Felli, Mario Piccioli

Topics

Alternative detection methods
Bio EPR
Chemical engineering
Catalysis
Computational: classical mechanics
Computational: quantum mechanics
Diffusion
DNP
Fibrils
Force microscopy
Food
High pressure
Hybrid systems
Hyperpolarization
Imaging
Instrument development
In vivo
Liquid crystals
Liquid state NMR
Low field NMR
Magnetic materials
Mechanistic systems biology
Metabolomics
Metalloproteins
Methods
Methods in structural biology
Molecular imaging
Nanomicroscopy and spectroscopy
NMR and art
NMR and geophysics
Pharma
Physics and magnetic resonance
Porous media
Protein dynamics
Protein structure
Quadrupolar nuclei
Quantum computing
Quantum dots and semiconductors
Small molecule liquid NMR
Solid state NMR
Solid state NMR (biological)
Spin labeling
Spin dynamics
Strongly correlated systems
Theory

Plenary Speakers

Each day of the conference will start and end with a fifty-minute plenary lecture.

The following speakers have so far agreed to give plenary lectures at the conference:

Lyndon Emsley, Université de Lyon, Villeurbanne, France

Clare P. Grey, Stony Brook University, New York (NY), USA

Christian Griesinger, MPI for Biophysical Chemistry, Göttingen, Germany

Robert G. Griffin, Massachusetts Institute of Technology, Cambridge (MA), USA

Sarah J. Nelson, University of California, San Francisco (CA), USA

Hitoshi Ohta, Kobe University, Kobe, Japan

Daniel Rugar, IBM Almaden Research Center, San Jose (CA), USA

Frances Separovic, University of Melbourne, Victoria, Australia

Session lectures

Up to now, the following scientists have accepted to present a session lecture at the WorldWide Magnetic Resonance Conference 2010, tentatively distributed into the following macro-sessions.

Biological systems

Enrica Bordignon, ETH Zurich, Zurich, Switzerland

Rafael Bruschweiler, Florida State University, Tallahassee (FL), USA

G. Marius Clore, NIDDK, Bethesda (MD), USA

David J. Craik, University of Queensland, Brisbane, Australia

Juli Feigon, University of California, Los Angeles (CA), USA

Daniella Goldfarb, Weizmann Institute of Science, Rehovot, Israel

Angela M. Gronenborn, University of Pittsburgh, Pittsburgh (PA) USA

Stephan Grzesiek, University of Basel, Basel, Switzerland

Brian M., Hoffman, Northwestern University, Evanston (IL), USA

Peter Hore, University of Oxford, Oxford , England

Masatsune Kainosho, Tokyo Metropolitan University, Tokyo, Japan

Wolfgang Lubitz, Max Planck Institute of Bioinorganic Chemistry, Mulheim an der Ruhr, Germany

Francesca M. Marassi, Burnham Institute for Medical Research, La Jolla (CA), USA

Gottfried Otting, Australian National University, Canberra, Australia

Masahiro Shirakawa, Kyoto University, Kyoto, Japan

In vivo/Imaging

Kevin M. Brindle, University of Cambridge, Cambridge, England

Herve Desvaux, CEA IRAMIS, Gif Sur Yvette, France

Klaes Golman, Imagnia AB, Malmo, Sweden

Michal Neeman, Weizmann Institute of Science, Rehovot, Israel

Klaas Nicolay, Eindhoven University of Technology, Eindhoven, Netherlands

Kamil Ugurbil, University of Minnesota, Minneapolis (MN), USA

Small molecules

Louis S. Bouchard, University of California, Los Angeles (CA), USA

Teresa Carlomagno, Max Planck Institute for Biophysical Chemistry, Gottingen, Germany

Elaine Holmes, Imperial College of London, London, England

Jukka Jokisaari, University of Oulu, Oulu, Finland

Gareth A. Morris, University of Oulu, Oulu, Finland

Christina M. Thiele, Technical University of Darmstadt, Darmstadt, Germany

Gerhard Wagner, Harvard University, Boston (MA) USA

Solids/Quadrupolar nuclei

Sharon E. Ashbrook, University of St Andrews, St Andrews, Scotland

Pavel G. Baranov, AF Ioffe Physical-Technical Institute, St Petersburg, Russia

Anne-Laure Barra, CNRS, Grenoble, France

Claude Berthier, CNRS, Grenoble, France

Jerry C.C. Chan, National Taiwan University, Taipei, Taiwan

Mattias Eden, Stockholm University, Stockholm, Sweden

Arno P.M. Kentgens, Radboud University Nijmegen, Nijmegen, Netherlands

Alessandro Lascialfari, S3 CNR INFM, Modena, Italy

P.K. Madhu, Department of Chemical Sciences, Mumbai, India

Masashi Takigawa, University of Tokyo, Chiba, Japan

Theory/Methods

Michael K. Bowman, University of Alabama, Tuscaloosa (AL), USA

Robert G Bryant, University of Virginia, Charlottesville (VA), USA

Bastiaan Driehuys, Duke University, Durham (NC), USA

Bertil Halle, Lund University, Lund, Sweden

Gunnar Jeschke, ETH Zurich, Zurich, Switzerland

Martin Kaupp, University of Wurzburg, Wurzburg, Germany

Malcolm H. Levitt, University of Southampton, Southampton, England

Daniel Loss, University of Basel, Basel, Switzerland

Klaas P. Prüssmann, ETH Zürich, Zürich, Switzerland

Dimitris Sakellariou, CEA Saclay, F-91191 Gif Sur Yvette, France

Olav Schiemann, University of St Andrews, St Andrews, Scotland

Graham M. Smith, University of St Andrews, St Andrews, Scotland

Takeji Takui, Osaka City University, Osaka, Japan

Key Dates

26th February, 2010	Young Researchers Grant Request deadline
31st March, 2010	Early Registration deadline
31st May, 2010	Abstract Submission deadline

Timetable

The conference starts on Sunday, July 4th at 6 p.m. with a pre-conference lecture. Registration opens earlier that day. The lecture program runs until Friday, July 9th at about 7 p.m.

Venue

Palazzo dei Congressi and Palazzo degli Affari
Piazza Adua, 1
50123 Florence, Italy

The Palazzo dei Congressi is hosted in a 19th century villa, Villa Vittoria. The villa was built by the Strozzi family and it is located a few steps away from the historical center of the city. The building has a large auditorium with a seating capacity of 1,000.

Villa Vittoria is surrounded by a park that links with the nearby Palazzo degli Affari.

The Palazzo degli Affari is a modern building combining contemporary art and sophisticated technology. It is a versatile, multipurpose facility, suitable for conferences, exhibitions, poster sessions, and more.

The top floor offers a splendid 360° panorama over the vast park and the city of Florence. The park is a pleasant spot for conference participants to relax during breaks under its centuries-old trees.

The Conference Venue is located in the centre of Florence, just a few steps from Central Rail Station, all hotels and main museums, at only 4 km from the Florence International Airport.

Universität Konstanz

ETH
Eidgenössische Technische Hochschule Zürich
Swiss Federal Institute of Technology Zurich

5th EF-EPR Summer School on Advanced EPR Spectroscopy

The 5th EF-EPR Summer School on Advanced EPR Spectroscopy will take place at University of Konstanz (Germany), 5-1[illegible] September 2010. It is supported by Zukunftskolleg (http://cms.uni-konstanz.de/en/zukunftskolleg/home/) .

Organization

G. Jeschke, ETH Zürich (Switzerland)

M. Drescher, Universität Konstanz (Germany)

Scope

- introductory lectures on basics of magnetic resonance, density operator formalism, instrumentation, spin labeling, ENDOR, ELDOR, ESEEM, EPR imaging and *ab initio* computation of spin Hamiltonian parameters
- tutorials on density operator formalism, spectrum analysis, spectrum simulation, computation of spin Hamiltonian parameters and modeling of protein structure
- laboratory courses on basics of pulse EPR/advanced pulse EPR (Konstanz) and high-field EPR (Zürich)
- advanced lectures on DNP, multi-frequency EPR, applications to materials, metalloproteins, radical enzymes, and spin-labeled biomacromolecules
- auxiliary lectures on protein crystallography, optical techniques and general approaches in structural biology
- student poster session

Dates

Registration will start on January 1st 2010 with a deadline on March 31st 2010.

FUTURE CONFERENCES

see also: http://www.ampere.ethz.ch/future_conferences.htm

AMPERE EVENTS

2009

DNP school 2009	Safed (Israel)	**October 11-16**, 2009

2010

Joint EUROMAR 2010 and 17th ISMAR	Florence (Italy)	**July 4-9**, 2010
EF-EPR Summer School on Advanced EPR Spectroscopy	Konstanz (Germany)	**September 6-12**, 2010
MRPM 10	Leipzig (Germany)	**September 12-16, 2010**

2011

EUROMAR 2011	Frankfurt a. M. (Germany)	**August 21-25**, 2011

OTHER EVENTS

2010

51st ENC	Dayton Beach, FL (USA)	**April 18-23**, 2010
18th ISMRM Meeting	Stockholm (Sweden)	**May 1-7**, 2010
International Conference on EPR Spectroscopy and Imaging of Biological Systems	San Juan (Puerto Rico)	**May 2-6**, 2010
International Conference on MR in Biological Systems	Cairns, QLD (Australia)	**August 22-27**, 2010

2011

52nd ENC	Asilomar, CA (USA)	**April 9-15**, 2011
19th ISMRM Meeting	Montréal, Québec (Canada)	**May 7-13**, 2011

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