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# BULLETIN DU GROUPEMENT

**d'informations mutuelles**

# AMPERE

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

*November – December 2004*

No. 216/217

*Secretariat and administration:*
ETH Zürich
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**http://www.ampere.ethz.ch**

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## Other Events



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Varian Deutschland GmbH, Postfach 11 14 35, D-64229 Darmstadt, Germany

Magnetic Resonance Group, Institute Jozef Stefan, Jamova 39, SI-61111 Ljubljana, Slovenia

## Report on the Second Course of the

# "International School on Magnetic Resonance and Brain Function"

Erice, Italy 23-27 May 2004

The human brain has still an enormous amount of unknown features. The central role of this organ, which controls senses, motion, decision making, memory, thinking, and several other functions, is hardly affordable in a reductionist vision. However fundamental progress is occurring both from the cellular and biochemical approach on one side and from the "in vivo" approach on the other side. Still the lack of tools which provide, on a real time scale, detailed information, about the transformations occurring while the brain is operating either in healthy or diseased conditions, is limiting the possibility of comprehension and modelization of the microscopic and collective phenomena which determine the crucial functions of the human brain.

It is well established that any fundamental step for brain investigation lies in the discovering of new physical ways and consequently in the invention of new original modalities which will allow the observation of the physiological and metabolic processes occurring during the brain activity. Such processes have a time scale which ranges from milliseconds to several seconds and some of the most successful modalities, like fMRI or MRS are rather slow. It is then more and more urgent on one hand to find new efficient techniques, on the other hand to try to combine the existing modalities in order to gather information from the better features of each of them.

The "International School on Magnetic Resonance and Brain Function" is a permanent institution, located in Erice (Sicily) at the Ettore Majorana Foundation directed by Prof. Zichichi. The main purpose of this School is to gather some of the best researchers at the frontiers of magnetic resonance, of brain physiology and metabolism, of neurology and of other techniques relevant to specific targets of brain research, in order to create a Permanent Forum for discussion, confrontation of ideas, promotion of collaboration and formation of new talents.

The main purpose of this Second Course "Frontiers of Brain Functional MRI and Electrophysiological Methods" is to begin a comparison and an integration of the investigation by Magnetic Resonance and the electrophysiological methods. In fact the Blood Oxygen Level Dependent (BOLD) fMRI although widely used in several applications, is intrinsically complicated to be interpreted. The cause of the BOLD effect is actually due

to a combination of physiological changes during neurons activation. The interlacing and localization of such physiological changes is at the moment not quite solved. BOLD fMRI is also too slow to detect the quick response of the nervous system. Hopefully by the contemporaneous use of the two modalities better insight will be achieved. Therefore this new branch was selected as a very promising frontier, which allows the combination of the fast and well established electrical information with the morphological and functional data arising from the slow NMR. Particularly worth of attention are also the implications of this joined measurement with pathologies like Epilepsy. Other fast techniques like MEG, whose fundamental development has been stagnating for decades while having only technical enrichment, are cut off from the possibility of combined measurements with fMRI, for magnetic incompatibility.

The frontier of high magnetic field fMRI , also in connection with electro-physiology, was introduced in this course with the purpose of deepening the advantages arising from the higher fields but at the same time of evaluating the increasing problems due to susceptibility effects and relaxation times deterioration.

Reports on neuronal currents detection were also given. This sort of seedling is still rather far from reliable feasibility, yet the great importance that this tool might have makes it very worth deepening. An eventual success of this approach would in fact allow a real functional imaging, being the currents the direct manifestation of the neuronal activation. The present stage of this technique has shown some preliminary positive results; still the substantial insensitivity of this method to the magnetic field intensity does not allow too much optimism for the future, unless some smart innovation is introduced.

This School confirms the crucial role of small size, very qualified and interdisciplinary meetings for the frontier of brain understanding. The next Course ($3^{rd}$) of the School will be entitled “Brain Function by: Magnetic Resonance, Electrophysiology, and Molecular Probes”, and it will be held on May 23-29 2005, in Erice. The scientific success of the second course was great but beyond this, a small outstanding community was formed ,which shares complementary scientific fields and is strongly attracted, in the evening, towards the “Marsala room” were the music ensemble is getting stronger and more sophisticated.

Bruno Maraviglia

## Report on the AMPERE/EENC Congress in Lille

6 - 11 September 2004

The first joint AMPERE/EENC congress stood in Lille-France from September Monday 6th morning to Saturday 11th noon.

On Monday morning and afternoon, the three main vendors (Bruker, Varian and Jeol) presented their latest technical developments concerning mainly NMR: consoles, magnets, and probes.

On Monday evening, after the introductory talk from Richard Ernst (Nobel prize), four prizes were attributed: the Ampere prize to Paul Callaghan, the Andrew prizes to Elena Vinogradov and Fabien Ferrage, and the Russel-Varian prize to Erwin Hahn.

From Tuesday morning to Friday noon, every morning, six plenary sessions were organized with 15 speakers (including the Nobel prize Kurt Wüthrich)

From Tuesday morning to Saturday noon, twelve parallel sessions were organized, with altogether seventy one speakers.

The number of participants was approximately of 800 people: 725 who registered, plus 70-80 people who came for 1 day only.

The number of students (less than 30 years old) was approximately of 400 people.
Vendor's hospitality evening were organized: Monday: Varian, Tuesday: Bruker, Friday: Jeol.
On Thursday evening, after the banquet, an hospitality event with belly dancers was organized by the congress.

J.P. Amoureux

## PLENARY SESSIONS

**Monday, September 6, 2004**

*17:00 - 17:15* ***Opening*** : ***Hans Spiess (AMPERE), Stefano Caldarelli (EENC)***

*17:15 - 18:00* ***Richard Ernst*** : NMR and its Nobel glory **(chair : Hans Spiess)**

*18:00 - 18:30* ***Ampere Prize*** : ***Paul Callaghan*** **(chair : Hans Spiess)**

*18:30 - 19:00* ***Andrew Prize*** : ***Elena Vinogradov, Fabien Ferrage*** **(chair : Beat Meier)**

*19:00 - 19:40* ***Russell VarianPrize*** : ***Erwin Hahn*** **(chair : Vladimir Sklenar)**

**Tuesday, September 7, 2004 (chair : Stanley Opella)**

*8:30 - 9:15* ***Lucio Frydman*** : Spatial encoding and the acquisition of multidimensional NMR spectra within a single scan

*9:15 - 10:00* ***Kurt Wüthrich*** : Recent advances with solution NMR in structural biology

**Wednesday, September 8, 2004 (chair : Stefano Cladarelli)**

*8:45 - 9:30* ***Chrit Moonen*** : MR temperature mapping in vivo and its applications in thermal therapies

*9:30 - 10:15* ***Gunnar Jeschke*** : EPR at interfaces - The nanosecond and nanometer scales

*10:15 - 11:00* ***Alex Pines*** : Recent developments in "ex situ" and "remote" NMR and MRI

**Thursday, September 9, 2004**

**Chair : Dieter Michel**

*8:30 - 9:15* ***Dominique Massiot*** : A tool for structural diagnosis in material sciences : high field improvements and J-mediated homo- and hetero-nuclear correlations

*9:15 - 10:00* ***Daniella Goldfarb*** : High field ENDOR for the characterization of metal sites and trapped radicals in porous media

**Chair : Beat Meier**

*10:30 - 11:15* ***Ad Bax*** : Weak alignment : what can we learn?

*11:15 - 11:45* ***Robert Griffin*** : High frequency dynamic nuclear polarization

*11:45 - 12:15* ***Jürgen Haase*** : First 60T experiments and recent progress with NMR of superconductors

**Friday, September 10, 2004**

**Chair : Malcom Levitt**

*8:30 - 9:15* ***Arno Kentgens*** : Microcoils, mechanical detection and applications in solid-sate NMR

*9:15 - 10:00* ***Iain Campbell*** : Recent NMR experiments on multi-domain proteins

*10:30 - 11:15* ***Jeremy Nicholson*** : NMR approaches in metabonomics and multivariate metabolic modeling

**Chair : John Strange**

*11:15 - 11:45* ***Patrick Berthault*** : Laser polarized Xenon for the study of hydrophobic cavities

*11:45 - 12:15* ***Richard Bowtell*** : Feasability of direct detection of neuronal activity using MRI

## Parallel Sessions

**Tuesday, September 7, 2004**

***New liquid state NMR experiments for biological applications*** **(chair: Christian Griesinger)**

*14:00 – 14:30* ***Roberta Pierratelli*** : Progress in direct detection $^{13}C$ spectroscopy in solution

*14:30 – 14:50* ***Geoffrey Bodenhausen*** : Cross correlation provides insight into internal protein dynamics: effects of complexation of proteins with pheromones

*14:50 – 15:10* ***Teresa Carlomagno*** : A new approach for determining the orientation of a weakly bound ligand in the receptor binding pocket. The epothilone-tubulin complex

*15:10 – 15:30* ***Guy Lippens*** : NMR studies of the aggregation of the neuronal tau protein

*15:30 – 15:50* ***Davide D'Emiliano*** : Rafts formation on lipid bilayers by high resolution $^{1}H$ NMR

*15:50 – 16:20* ***Markus Zweckstetter*** : Becoming Mr. Hyde: Residual structure and slow dynamics in $\alpha$-synuclein

*16:20 – 16:40* ***Phineus Markwick*** : A theoretical study of carbonyl CSA tensor variations in proteins

## *New methodologies in solid state NMR* (chair : Lucio Frydman)

*14:00 – 14:30* ***Stephen Wimperis*** : Satellite-transition MAS NMR of low-gamma nuclei

*14:30 – 15:00* ***Hans Spiess*** : Supramolecular assembly of functional nanostructures from solid sate NMR

*15:00 – 15:20* ***Francis Taulelle*** : Double quantum MAS NMR spectroscopy of homonuclear dipolar-coupled quadrupolar nuclei

*15:20 – 15:40* ***Francesco Mauri*** : First-principles calculation of NMR parameters in solids: a new tool for the interpretation of NMR spectra in crystalline and amorphous materials

*15:40 –16:00* ***Sergey Dvinskikh*** : Measurements of heteronuclear dipolar couplings in liquid crystals, lipid bilayers, and solids under MAS

*16:00 – 16:30* ***Beat Meier*** : Fast magic angle spinning methods for proteins and peptides

## *NMR in Biomedicine* (chair : Anne Leroy-Willig)

*14:00 – 14:30* ***Kishore Bhakoo*** : Application of MRI to stem cell imaging

*14:30 – 14:50* ***Thomas Lange*** : Functional spectroscopic imaging at 3 Tesla to assess lactate changes in healthy brain during visual simulation

*14:50 – 15:10* ***Al Bach*** : Novel application of NMR based metabonomics in rat brain neuroscience research

*15:10 – 15:30* ***Brian Cutting*** : Signal enhancement in saturation transfer experiments with applications to carbohydrate-glycoprotein interactions

*15:30 – 15:50* ***Christian Roumestand*** : Structural basis for the coactivation of protein kinase B by TCL1 family proto-oncoproteins

*15:50 – 16:20* ***Klaas Nicolay*** : MRI and the *in vivo* visualization of specific molecular targets

**Thursday, September 9, 2004**

## *New solid state NMR experiments for biological applications* (chair : Stephen Wimperis)

*14:00 - 14:30* ***Stanley Opella*** : NMR methods for structure determination of membrane proteins

*14:30 – 15:00* ***Marc Baldus*** : High resolution solid-state NMR methods to study (membrane) protein structure

*15:00 – 15:30* ***Philip Williamson*** : A solid state NMR structure of acetylcholine bound to the membrane embedded nicotinic acetylcholine receptor

*15:30 – 16:00* ***Hartmut Oschkinat*** : Protein structure determination by magic-angle spinning solid-state NMR

*16:00 – 16:30* ***Anja Böckmann*** : Solid state NMR studies of the *Bacillus subtilis* regulatory protein Crh

## *Paramagnetic systems* (chair : Jozef Kowalewski)

*14:00 – 14:30* ***Andrew Byrd*** : Novel applications of paramagnets in structural studies of non-metallo proteins: asymmetry, alignment, RDCS and pseudocontact shifts

*14:30 – 15:00* ***Claudio Luchinat*** : Exploiting paramagnetic centers to elucidate protein structures and dynamics

*15:00 – 15:30* ***Christian Griesinger*** : Exploring structural dynamics by projection restraints and paramagnetic tagging

*15:30 – 16:00* ***Konstantin Pervushin*** : Membrane protein in the remodelling shop: new properties to solve old problems

*16:00 – 16:30* ***Marcellus Ubbink*** : Using paramagnetic NMR to study protein interactions

## *Analytical applications of NMR* (chair : Guy Lippens)

*14:00 – 14:30* ***Jacques Courtieu*** : Chiral recognition through NMR in liquid crystal solvents: an order affair

*14:30 – 14:50* ***Flore Legrand*** : Site-specific natural isotope abundance determination by $^{2}$H-NMR with the reference ERETIC

*14:50 – 15:10* ***Hanumantha Marepalli*** : LC/NMR with a solid phase extraction interface: a revolutionary breakthrough for automated impurities analysis of pharmaceuticals

*15:10 – 15:30* ***Gianni Valensin*** : PFG-NMR studies of ferulic acid derivatives interacting with human erythrocyte membranes

*15:30 – 15:50* ***Rudolph Willem*** : Solution and HR-MAS tin NMR as tools for monitoring catalytic processes in transesterification reactions

*15:50 – 16:20* ***Charlotte Gotfredsen*** : High-resolution magic angle spinning NMR in solid phase chemistry

**Friday, September 10, 2004**

## *EPR* (chair : Arthur Schweiger)

*14:00 - 14:30* ***Thomas Prisner*** : Structural investigation on membrane bound protein complexes by pulsed EPR methods

*14:30 – 14:50* ***Sabine van Doorslaer*** : Unraveling the structure and structure-function relationship of neuroglobin and cytoglobin

*14:50 – 15:10* ***Alex Smirnov*** : Magnetic resonance of membrane proteins in lipid nanotube arrays

*15:10 – 15:30* ***Jurek Krzystek*** : High-frequency and -field EPR spectroscopy of high-spin transition metal complexes: newest developments

*15:30 – 15:50* ***Hervé Vezin*** : EPR studies of spontaneous ionization of aromatic amine by sorption of faujasitic zeolites

*15:50 – 16:20* ***Joerg Wrachtrup*** : Manipulating single electron and nuclear spins: more than just a game?

## *Emerging Techniques* (chair : Ray Freeman)

*14:00 – 14:30* ***Eriks Kupce*** : Fast multidimensional projection-reconstruction NMR

*14:30 – 14:50* ***Stephen Cottrell*** : New science with radio frequency muon spin resonance

*14:50 – 15:10* ***Werner Kremer*** : Intermediate states and implications for the species barrier of the human prion protein revealed by high pressure NMR

*15:10 – 15:30* ***Klaus Woelk*** : A new concept to perform spin-echo experiments in largely non-uniform $B_1$ gradients

*15:30 – 15:50* ***Mineyuki Hattori*** : Automated hyperpolarized $^{129}$Xe gas generator for biomedical MRI/MRS applications

*15:50 – 16:20* ***Malcom Levitt*** : Extending the memory time of nuclear spins

## *Spin Relaxation and Calculation of NMR parameters* (chair : Martin Blackledge)

*14:00 – 14:30* ***Vladimir Sklenar*** : Temperature-dependent spectral density analysis and molecular dynamics simulation of major urinary protein- pheromone interactions

*14:30 – 14:50* ***David Fushman*** : Determining domain orientation and dynamics in macromolecules by using spin-relaxation and residual dipolar coupling measurements

*14:50 – 15:20* ***Pierre Mutzenhardt*** : Novel (and less novel) experimental approaches for accessing to chemical shift anisotropy-dipolar interference terms. From small molecules to proteins

*15:20 – 15:40* ***Eric Guittet*** : What can spin relaxation tell us on protein folding?

*15:40 – 16:00* ***Jozef Kowalewski*** : NMR relaxation study of a protonated proton sponge in solution: anisotropic motion outside of extreme narrowing and ultrafast proton transfer

*16:00 – 16:30* ***Peter Güntert*** : Automated NMR structure calculation with Cyana

**Saturday, September 11, 2004**

## *Materials as studied by magnetic resonance* (chair : Dominique Massiot)

*9:00 – 9:30* ***Subramanian Ganapathy*** : Addressing structural issues in catalysis through new experimental strategies of solid state NMR

*9:30 – 9:50* ***Robert Blinc*** : $^{93}$Nb and $^{47}$Ti NMR of $^{18}$O isotopically enriched $NbTiO_3$ and other classical perovskites

*9:50 – 10:10* ***Christian Bonhomme*** : Aluminophosphate clusters, a complete study by solid state NMR: experiments, methodology and *ab initio* calculations

*10:10 – 10:30* ***Paul Hodgkinson*** : Characterization of oxygen exchange in negative thermal expansion materials by $^{17}$O solid-state NMR

*10:30 – 10:50* ***Christian Jaeger*** : Nanocrystalline biomaterial hydroxyapatite: the story of the structure as seen by NMR

*10:50 - 11:10* ***Jean-Paul Amoureux*** : SPAM, a method to increase S/N ratio in all high-resolution methods for quadrupolar nuclei

## *New methodologies in liquid state NMR* (chair : Eric Guittet)

*9:00 – 9:30* ***James Keeler*** : Zero-quantum suppression

*9:30 – 9:50* ***Miquel Pons*** : Protein-protein and domain-domain interactions: a global approach

*9:50 – 10:20* ***Jan Wolber*** : Enhancing NMR sensitivity

*10:20 – 10:40* ***Christina Thiele*** : Using residual dipolar couplings for the structure determination of organic molecules: PELG as alignment

*10:40- 11:00* ***Tommaso Gili*** : Boson operators approach to describe NMR signals

*11:00 – 11:30* ***Gerhard Wider*** : NMR with large biological macromolecules in solution

## *Magnetic Resonance Imaging, transport phenomena, and particular techniques* **(chair : Narcyz Pislewski)**

*9:00 - 9:30* ***Janez Dolinsek*** : NMR of quasicrystals, approximants and complex metallic alloys

*9:30 – 9:50* ***Peter Blümler*** : Buffer gases as a structural contrast agent in gas MRI

*9:50 – 10:10* ***Frederico Casanova*** : Velocity distributions measured by single-sided NMR: Application to porous media

*10:10 – 10:30* ***Pieter Magusin*** : Mobility of mixed molecules on zeolites observed with NMR

*10:30 – 10:50* ***Jadwiga Tritt-Goc*** : Dynamics of solvent ingress into HMPC Polymer

*10:50 – 11:20* ***Rainer Kimmich*** : Visualization of hydro-, electro-, and thermodynamic transport. NMR experiments with porous model objects

# Report on the European School on Solid-State NMR in Gandia (Valencia)

September 12th to 17th 2004
Organized by Teresa Blasco (Valencia) and Stefano Caldarelli (Marseille)

The school was rather a success in terms of response from the public.
The places made available to students had to be increased from 25 to 31, in order to accommodate the very motivated people who wanted to attend. Most of the candidatures came the first week after opening the registrations. Although almost half of the attendees came from Spain, seven countries were represented, including Canada and India.

The program was under the responsibility of Malcolm Levitt, and covered the following topics, shown by teacher:

*Malcolm H Levitt (Southampton, UK)*
Nuclear Spins
States of Matter
Spin Interactions
Rotations
Theory of MAS

*Matthias Bechmann (Exeter UK , and Bayreuth D)*
SIMPSON exercises

*Angelika Sebald (Exeter, UK)*
Applications

*Andreas Brinkmann (NL)*
Heteronuclear decoupling
Recoupling

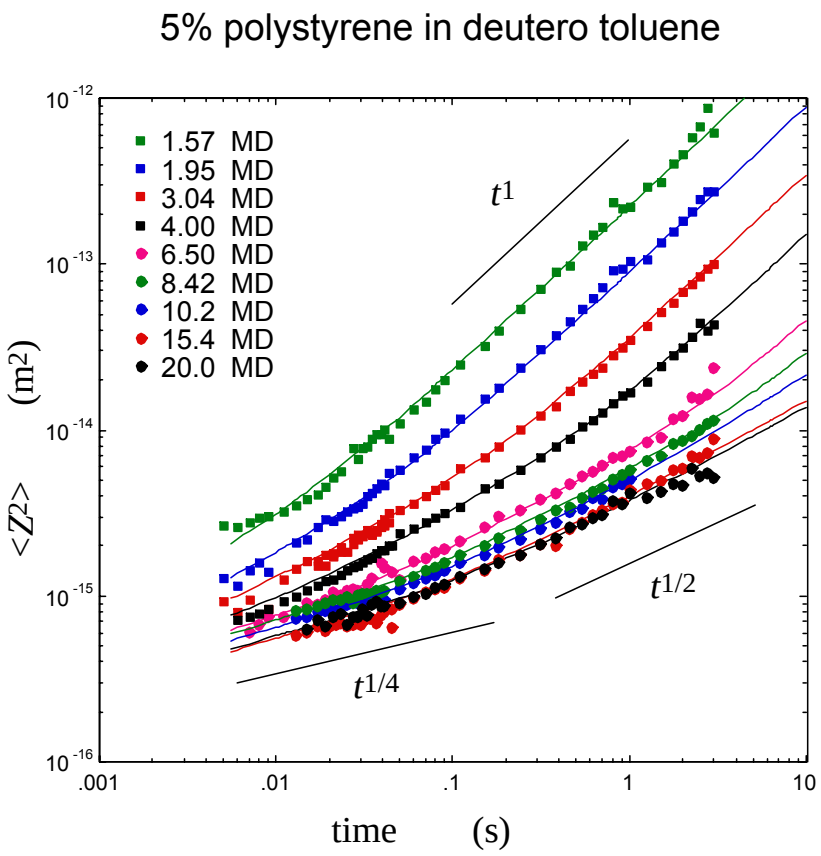
*Thomas Vosegaard (Aarhus, DK)*
Quadrupolar Nuclei
Introduction to Simpson

The location chosen was Gandia (http://www.hotelesbayren.com/), a tourist resort on the beautiful Valencia coast, which also hosts some building of the University of Valencia, where the actual teaching took place.
The principal sponsors were local (University UPV, Local adminsitration) together with Bruker, Varian, the Spanish association for NMR (GERMN) and Suraj Manrao.of Spectra Stable Isotopes.
The next summer school of this series of event will take place in 2006. The location will be decided shortly and communicated on the site http://www.ssnmr-school.org.
This September the twin event organized by Norbert Müller will take place in Austria (http://www.orc.uni-linz.ac.at/AGNMR/ssss2005.shtml).
Stefano Caldarelli

# AMPERE Awards presented at the AMPERE/EENC Congress in Lille

## AMPERE PRIZE 2004 to Prof. Paul T. Callaghan

The AMPERE Prize 2004 was awarded to Professor Paul T. Callaghan from the MacDiarmid Institute for Advanced Materials and Nanotechnology, Wellington, New Zealand, during the AMPERE Congress in September 2004 in Lille. The prize was awarded to Prof. Callaghan in recognition for his seminal work on the use of nuclear magnetic resonance (NMR) methods to study complex fluids. In particular his experimental developments and the introduction of novel concepts in visualizing the dynamics of fluids led to a new era in the rheology of fluids in confined geometries.




**Prize Committee:**

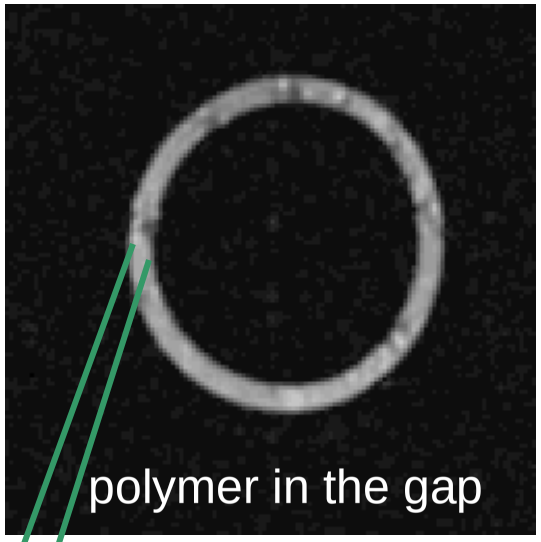
M. Mehring (President)

R. Blinc, R.R. Ernst,

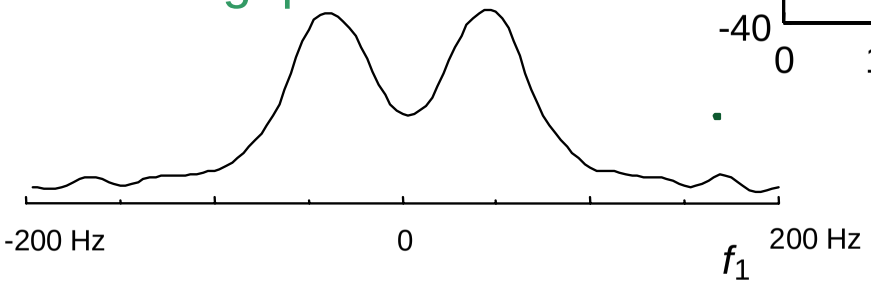
J. Schmidt

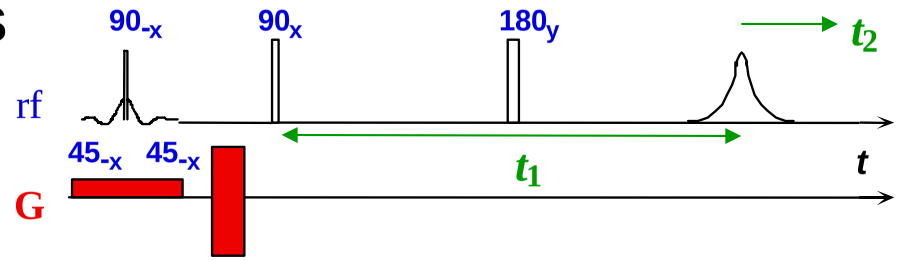
# d-benzene in sheared PDMS

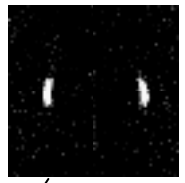
scan of complete cell

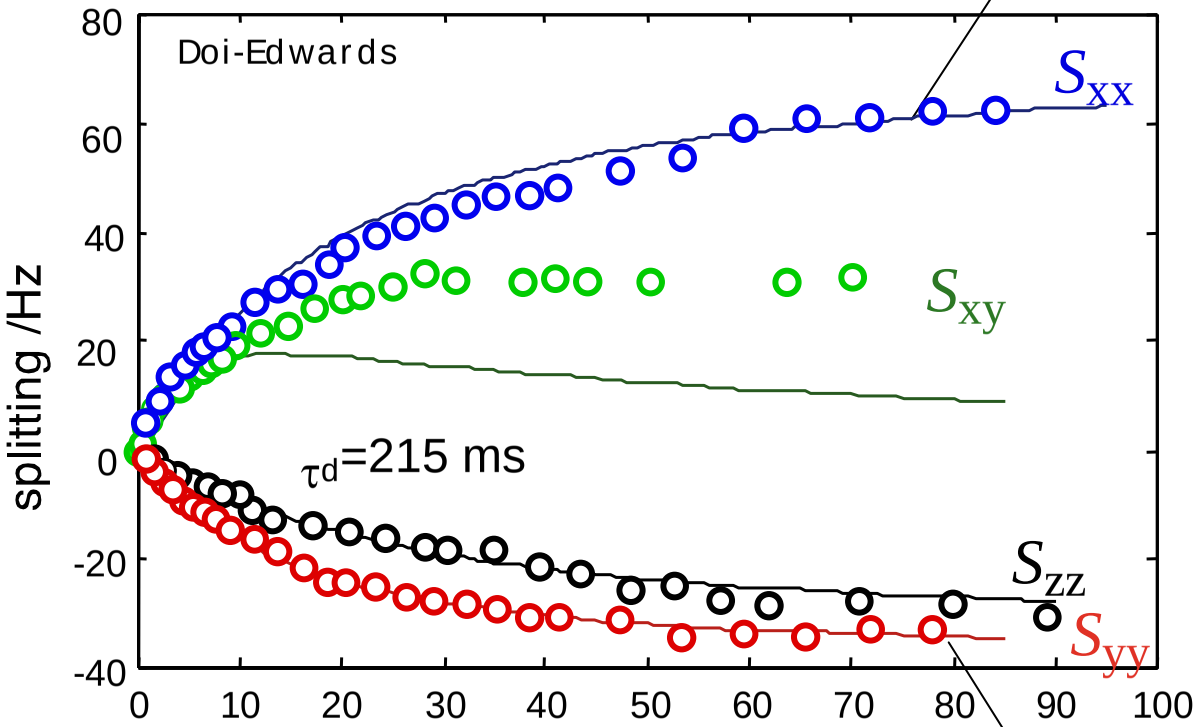


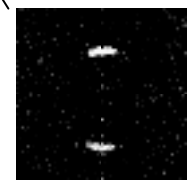

0.5 mm gap



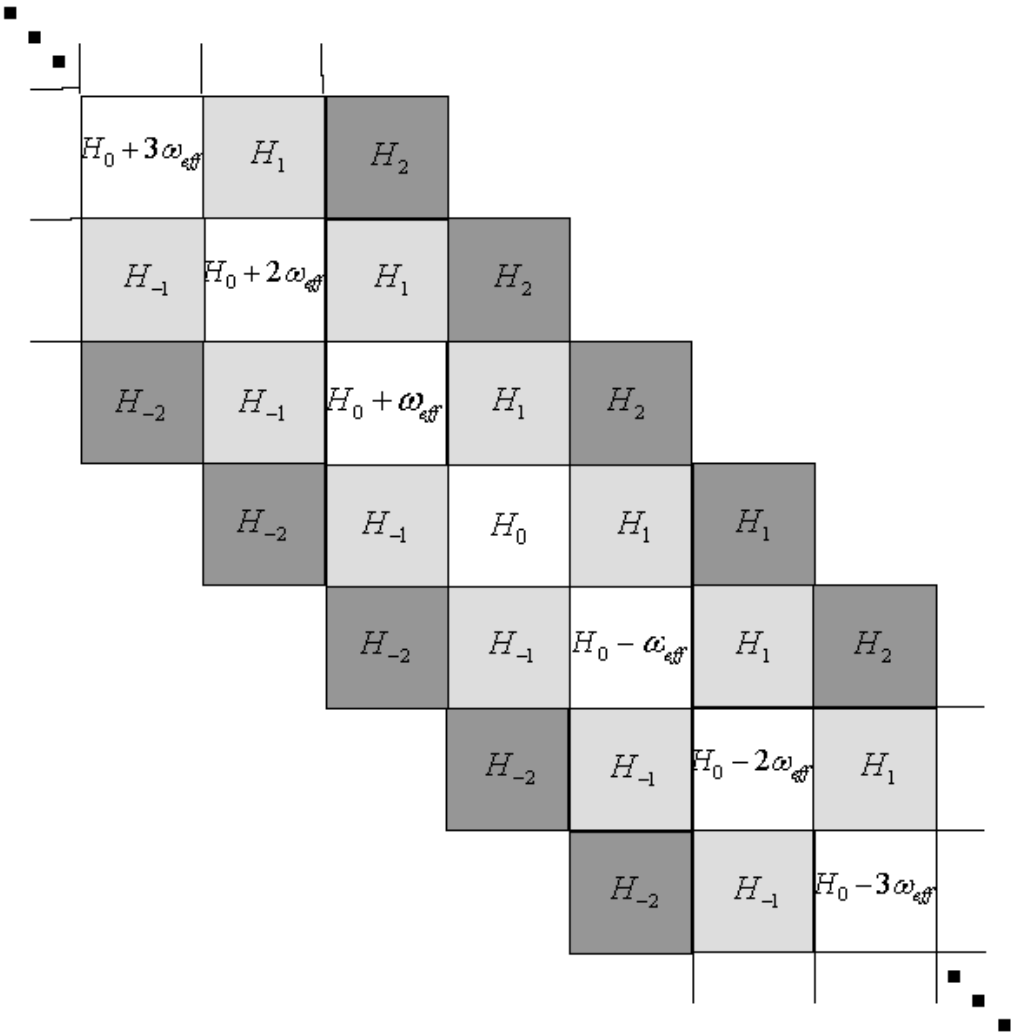


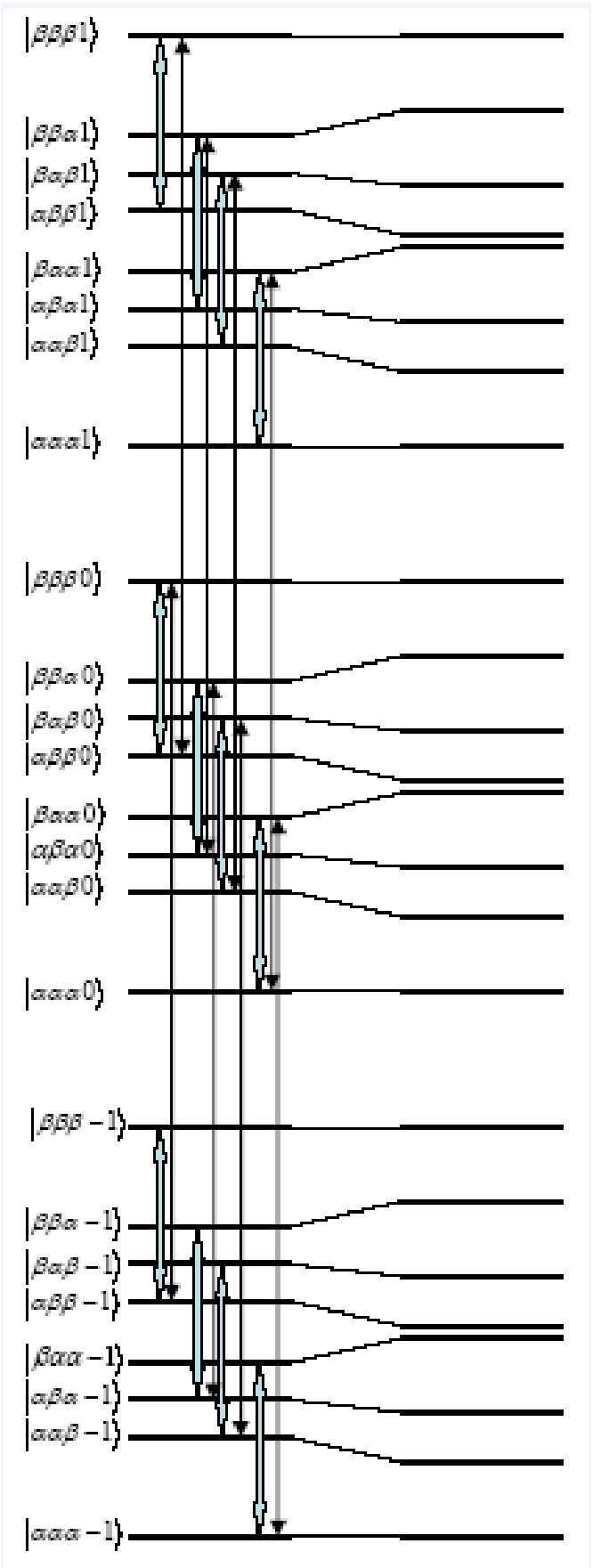



## Winner of the Raymond Andrew Prize 2003

**Dr. Elena Vinogradov**

The Raymond Andrew Prize 2003 was awarded to Dr. Elena Vinogradov in recognition of her outstanding doctoral thesis **"Protons in Solid State MAS NMR Spectroscopy"** which she had completed at the Weizmann Institute of Science, Rehovot, Israel. In the thesis a **pulsed-NMR phase modulated Lee-Goldburg approach (PMLG-*n*)** was developed and **Floquet Theorie**, describing these experiments, was extended to deal with **bimodal time dependences**.

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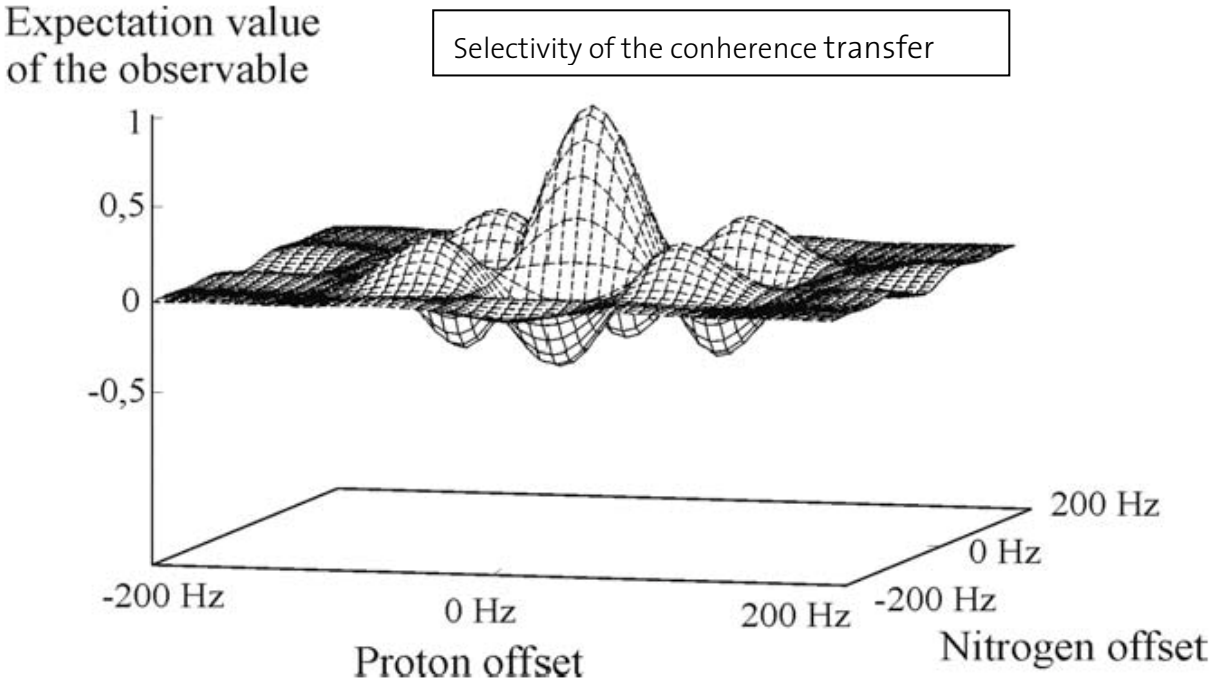
## Winner of the Raymond Andrew Prize 2004

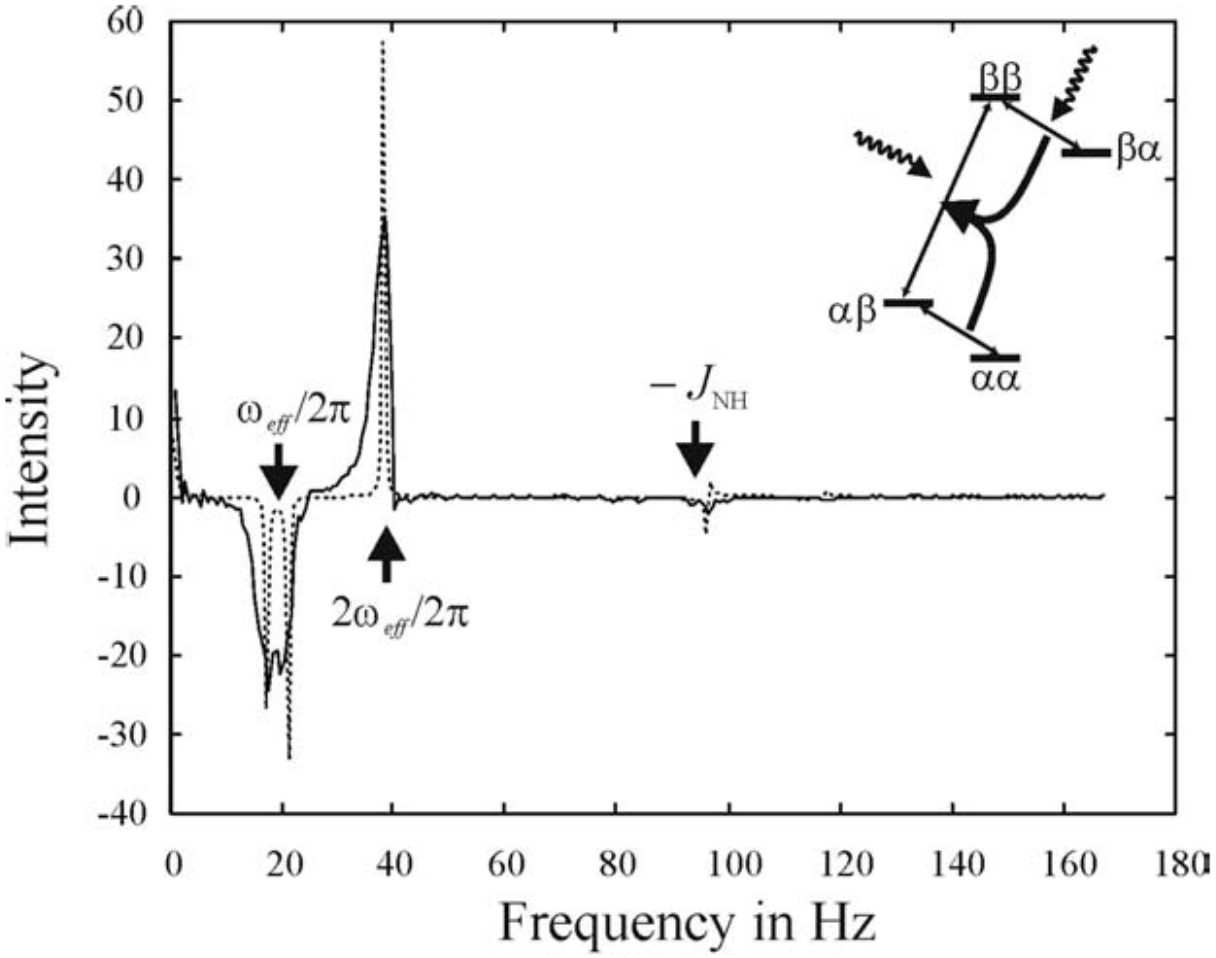
**Dr. Fabien Ferrage**

The Raymond Andrew Prize 2004 was awarded to Dr. Fabien Ferrage in recognition of his outstanding doctoral thesis **"Proton Spectroscopy in Heteronuclear NMR of Biomolecules. Single-Transition Cross Polarization and Heteronuclear Stimulated Echoes"** which he had completed at the Université Paris 6, France. In particular his developments in **semi-selective cross-polarization** and **adiabatic and frequency switched single-transition cross-polarization** in liquids were recognized.

## Semi-Selective Coherence Transfer



**Single-Transition Cross-Polarization**



# Groupement AMPERE Secretariat

Zürich, January 2005

## Call for Nominations for the Raymond Andrew Prize 2005

**for an outstanding PhD thesis in the field of magnetic resonance**

For the Raymond Andrew Prize 2005 the AMPERE Prize Committee is seeking your help in searching for qualified candidates who completed their dissertation during the period of 2003/2004. The prize will be presented during the EUROMAR joint EENC/AMPERE/British NMR-dg meeting in Veldhofen (The Netherlands) from 3rd to 8th July 2005.

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

andrewprice@nmr.phys.chem.ethz.ch.

Suggestions must be received by 1st April 2005 and should include the following documents:

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

The thesis must 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 price committee will reconsider excellent contributions for two years in a row.

Sincerely yours,

Beat H. Meier
General Secretary

**First Circular**

# AMPERE XIII NMR SCHOOL Zakopane (Poland), June 5 - 10, 2005

## GENERAL INFORMATION ABOUT THE SCHOOL

The AMPERE XIII Nuclear Magnetic Resonance School (about 80 participants) is organized by the Radiospectroscopy Division of the Institute of Physics, Jagellonian University, Cracow, Poland, under the auspices of the GROUPEMENT AMPERE and the Jagellonian University. The School takes place in Zakopane (Tatra Mountains) - about 100 km. south of Cracow.

## INTERNATIONAL ADVISORY COMMITTEE

Hans W. Spiess (Mainz) - President of the Groupement AMPERE,
Stefan Jurga (Poznan) - Vice President of the Groupement AMPERE,
Myer Bloom (Vancouver),
Bernhard Bluemich (Aachen),
Paul T. Callaghan (Wellington),
Daniel Canet (Nancy),
Jacek W. Hennel (Cracow),
Rainer Kimmich (Ulm),
Jacek Klinowski (Cambridge),
Olga Lapina (Novosibirsk),
Bruno Maraviglia (Rome),
Fanny Milia (Athens),
Peter G. Morris (Nottingham),
Alex Pines (Berkeley),
Narcyz Pislewski (Poznan)

## LOCAL ORGANIZERS

Jerzy S. Blicharski - Chairman
Barbara Blicharska
Hubert Haranczyk

## LIST OF INVITED SPEAKERS

The following speakers have confirmed their participation:
Elena Y. Bagryanskaya (Novosibirsk, Russia),
Bruce J. Balcom (Fredericton, Canada),
Mladen Barbic (Pasadena, USA),

Robert Botto (Muenster, Germany),
Gerd Buntkowsky (Berlin, Germany),
Elliott Burnell (Vancouver, Canada),
Cornelius A. de Lange (Amsterdam, Netherlands),
Jean-Baptiste d'Espinose de la Caillerie (Paris, France),
Ronald Y. Dong (Brandon, Canada),
Andrzej Ejchart (Warsaw, Poland),
Edward Feldman (Moscow, Russia),
Jacques Fraissard (Paris, France),
Franz Fujara (Darmstadt, Germany),
Eiichi Fukushima (Albuquerque, USA),
Marco Geppi (Pisa, Italy),
Farida Grinberg (Stuttgart, Germany),
Stefan Jurga (Poznan, Poland),
Rainer Kimmich (Ulm, Germany),
Danuta Kruk (Darmstadt, Germany),
Serge Lacelle (Sherbrooke, Canada),
Zdzislaw T. Lalowicz (Cracow, Poland),
Olga B. Lapina (Novosibirsk, Russia),
Hans-Heinrich Limbach (Berlin, Germany),
Alex MacKay (Vancouver, Canada),
Bruno Maraviglia (Rome, Italy),
Dieter Michel (Leipzig, Germany),
Peter Morris (Nottingham, UK),
Hartwig Peemoeller (Waterloo, Canada),
Wlad T. Sobol (Birmingham, USA),
Hans W. Spiess (Mainz, Germany),
Boguslaw Tomanek (Calgary, Canada),
Jadwiga Tritt-Goc (Poznan, Poland),
Shimon Vega (Rehovot, Israel),
Roderick Wasylishen (Edmonton, Canada),
Iwona Wawer (Warsaw, Poland).

## ACCOMMODATION AND FEE

The accommodation takes place at the University Conference Centre "Pod Berlami", address: ul. Grunwaldzka 9, 34-500 Zakopane, phone/fax (++48-18)-201-3221 or (018)-201-3221 in Poland, at Pension "Carlton", ul. Grunwaldzka 11, phone/fax (018)-201-4415 and at the University house "Lada", ul. Szymanowskiego 3, phone (018)-201-2783.

The lectures will be held at the Conference Centre "Pod Berlami" ("Under Sceptres"). Meals will be served at the Pension "Carlton" and the Centre "Pod Berlami". The conference fee will be about 900 Polish zloty (about 220 Euro). It should be paid at the conference office just after arrival to Zakopane. The fee includes the accommodation and meals during the School as well as conference materials (Proceedings).

## SCHOOL DETAILS

The participants of the School are asked to arrive Zakopane on Sunday, June 5. The conference office in Zakopane will be open on June 5, since 1 p.m. at the Centre "Pod Berlami". The School will start on Sunday, June 5, at 4.00 p.m. There will be two scientific sessions in the first day and three sessions in the next working days, i.e. two sessions with plenary lectures in the morning and one session in the evening. At the evening sessions on Monday, June 6, and Wednesday, June 8, there will be presentations of posters. During the afternoon breaks we are planning common walks to beautiful valleys of Tatra Mountains.
The participants, who want to present a poster, should send one-page abstract to the organizers as Word for Windows file, by e-mail till April 15. For sending the abstracts please use the e-mail address:

nmr@netmail.if.uj.edu.pl

## TRAVEL

There are nonstop flights from Amsterdam, Berlin, Budapest, Chicago, Cologne, Copenhagen, Dortmund, Frankfurt, London, Milan, Munich, Paris, Prague, Rome, Stuttgart, Tel Aviv, Vienna, Warsaw and Zurich to Cracow, frequent connections by bus and train from Krakow to Zakopane and direct trains from Poznan and Warsaw to Zakopane. A special bus for invited speakers and other guests (on e-mail request) will be organized on Sunday, June 5, at 1 p.m. from the Institute of Physics of the Jagellonian University in Cracow at Reymonta street 4.

## REGISTRATION

The deadline for the registration at the School is April 15, 2005. All participants (except the SPEAKERS and those who were registered earlier) should send by e-mail or fax to the organizers a short registration form, which is enclosed below. A chronological order of the applications will be taken into account. The next circular of the School will be sent by e-mail in March 2005.
Current updated information about the AMPERE XIII NMR SCHOOL will be available at http://users.uj.edu.pl/~ufjblich/xiiinmr.htm

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**REGISTRATION FORM**

**AMPERE XIII NMR SCHOOL in Zakopane on June 5 - 10, 2005**

First name and surname:

_____

Scientific degree: _____

Postal address:

_____

_____

E-mail address:

_____

Title and authors of the poster:

_____

_____

_____

Date: _____

==========

Address of the organizers:
Jerzy S. Blicharski
Institute of Physics, Jagellonian University
ul. Reymonta 4, 30-059 Krakow, Poland.
E-mail: jsb@netmail.if.uj.edu.pl
fax: +48-12-6337086, phone: +48-12-6635543

## Specialized Colloque AMPERE

# "EPR and ENDOR Spectroscopy of Metal Proteins and Spin-Labelled Proteins"

June 29 - July 1, 2005

This meeting will take place in the Lorentz Center of Leiden University in The Netherlands and will start on Wednesday June 29, 2005 at 12.30 with a lunch and end on Friday July 1, 2005 at 14.00 again with a lunch. It will preceed the large European conference on magnetic resonance "EUROMAR" that is planned for the period Sunday July 3, till Friday July 8, 2005 in the conference center Koningshof in Veldhoven in The Netherlands.

The aim is to bring together about 50 EPR scientists that are actively involved in the following two subjects:

- EPR and ENDOR spectroscopy on metal proteins. It has been demonstrated that with EPR on single crystals of these proteins it is possible to determine the g-tensors of the paramagnetic metal center and with ENDOR the spatial distribution of the electronic wave function. On the other hand there has been a considerable progress in the theoretical description of the electronic structure with the help of DFT methods. The idea is to discuss this subject with EPR experimentalists and DFT theorists.
- Distance measurements in "spin-labelled" proteins to study the conformation and dynamics of proteins in relation to their function. It is known that this kind of distance measurements can also be performed with optical techniques by using donor and acceptor labels that have been introduced on specific positions in the proteins. We have invited an optical expert who applies FRET (Fluorescence Resonant Energy Transfer) to present the merits of this particular technique.

This "Specialized Colloque AMPERE" will be primarily a discussion meeting which concentrates on the merits and problems of these two subjects. With this in mind we plan oral presentations followed by extensive discussions. The meeting is primarily meant to stimulate young scientists and they will be given a priority in the registration.

The following invited speakers have accepted to participate:
Jack H. Freed, USA
Daniella Goldfarb, Israel
Brian M. Hoffman, USA
Gunnar Jeschke, Germany

F. Neese, Germany
Ben Schuler, Switzerland
Heinz-Jürgen Steinhoff, Germany

The 50 available places will be handed out on a first-come, first-served basis. The accepted persons are stimulated to submit a scientific contribution to the program. Their contribution will be selected either for an oral or a poster presentation. Please send the title of your proposed contribution (oral or poster) and a short abstract (1/2 page) with the name(s) of the author(s) **before March 1 2005** to mat@molphys.leidenuniv.nl. The registration costs are € 100,- and the accepted persons are expected to pay their own travel and lodging expenses.

Interested persons can register at the website of the Lorentz center www.lc.leidenuniv.nl where all relevant information is displayed and continuosly updated.

We hope to welcome you in Leiden.

Local organizing committee:
Prof. Dr. E.J.J. Groenen
Dr. P. Gast
Prof. Dr. J. Schmidt

**Second Announcement** **Call for Posters**

# "Magnetic Resonance for the Future"
# EUROMAR, Veldhoven, The Netherlands

3 - 8 July, 2005

The European Magnetic Resonance Community is moving towards an integration of Magnetic Resonance Conferences in Europe. In this the Ampère, EENC and UK NMR-DG Committees are working together for joining their meetings into one common annual series. This **EUROMAR** conference, which will take place at the Koningshof Conference Center in Veldhoven, represents a way point in this move. It is organised under the auspices of the EENC International Organising Committee with support from the Ampère and UK NMR-DG Committees. **EUROMAR** is organised by the "Stichting Chemische Congressen I", which is affiliated to the Royal Dutch Chemical Society and the Dutch NMR Discussion Group. An Ampère Conference on advanced EPR techniques will be organised in Leiden as a satellite conference to the Veldhoven Meeting.

## International Scientific Committee

| | | |
|---|---|---|
| C. Griesinger (EENC), Chairman | D. Goldfarb (AMPÈRE) | H. Oschkinat |
| M. Akke | A. Haase (AMPÈRE) | M. Pons |
| I. Bertini | J. Keeler (EENC) | T. Prisner |
| G. Bodenhausen (EENC) | B. Meier (EENC/AMPÈRE) | V. Sklenar |
| L. Frydman | C. Moonen | M. Williamson (UK NMR-DG) |

## National Scientific and Local Organising Committees

| | |
|---|---|
| R. Boelens, Utrecht University, Chairman | P.C.M.M. Magusin, Dutch NMR-DG |
| H. de Groot, Leiden University | J.P.M. van Duynhoven, Dutch NMR-DG |
| A. Kentgens, Radboud University | M.J.A. de Bie, Conference Director |
| S.S. Wijmenga, Radboud University | H. Angad Gaur, Conference Treasurer |
| J. Schmidt, Leiden University | N.A.J. van Nuland (EENC), Member |
| | B.R. Leeflang, Executive Member |

## The Conference

The key elements of the scientific program are twelve plenary keynote and main lectures, next to some 50 invited lectures and 36 selected young scientist presentations in parallel sessions. Posters are continuously on display during the conference. In the breaks coffee, tea and refreshments will be served at several locations in the poster hall to maximize the

impact of posters. On Sunday and Monday several training workshops for young scientists are planned. The workshops include one under the direction of John S. Waugh and one offered by EUMatrix on multi-variate analysis. On Tuesday and Wednesday there will be guided poster tours in which experienced scientists will guide groups of young scientists to a series of representative posters highlighting recent developments. A series of meet the speakers sessions will be organised for young scientists. Vendors of magnetic resonance related products will have the opportunity for vendor presentations in the poster sessions next to their activities in vendor suites.

## The Veldhoven meeting covers all areas of magnetic resonance in its lectures and poster sessions

*Methodological developments*

- New liquid and solid state NMR experiments for biological applications
- New methods in solid state NMR
- New ESR experiments
- Developments in Magnetic Resonance Imaging

*Computational aspects*

- Calculation of NMR/ESR parameters
- From experimental data to information

*Emerging technologies*

- Ultra-fast NMR
- Quantum Computing
- Molecular imaging

*Exploiting polarisation*

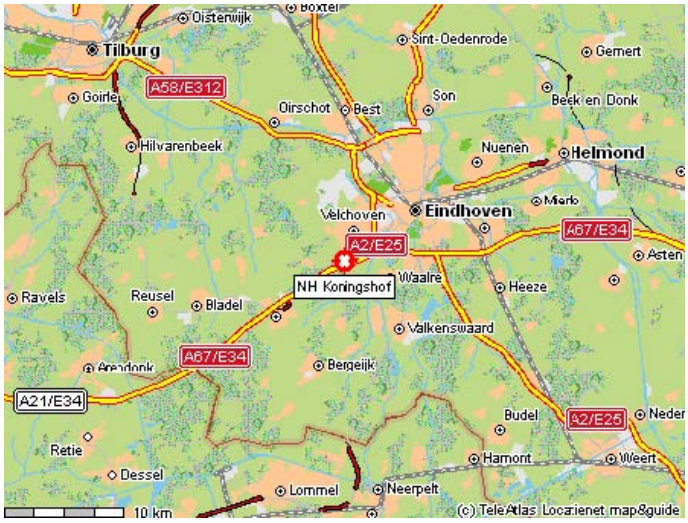
- Broad line NMR/ESR
- Dynamic Nuclear Polarization
- Sensitivity enhancement in Magnetic Resonance
- Spin relaxation

*Advanced Application Areas*

- Materials research
- Nanoscience research
- Systems biology
- Dynamic and transport phenomena
- Screening and metabolomics
- Analytical applications of MR

The meeting starts on Sunday afternoon and ends on Friday morning. More information on EUROMAR, on-line registration, poster submission, and grant application is available on our WEBsites: www.eenc2005.org and www.euromar.org, and from info@euromar.org.

## The Koningshof




The Koningshof, which has all conference facilities under one roof, is located close to Eindhoven. It lies relatively isolated in a splendid environment with many leisure activities in the vicinity. It offers accommodation in single and double rooms for some 725 conference delegates. The rooms have direct-dial telephone, cable TV and (wireless) internet access. There are rooms. specially adapted for the disabled and non-smoking rooms.

The facilities include a restaurant (Porticato), bars, outdoor summer bar-café, laundry service, vending machines, sports facilities (gymnasium, fitness centre, sauna, indoor swimming pool, tennis and squash courts) and bicycling. The participants will take all meals at the center. Vendor suites will be open to the participants daily from 16.00. This ambiance ensures intensive social contacts between all participants, and offers excellent opportunities for vendor activities

## Social Program

The social program includes a welcome mixer followed by a snacks buffet dinner on Sunday afternoon, wine and cheese parties during the poster sessions, special events offered by various vendors and a farewell dinner in Caribbean style on Thursday evening.

## Travel

The Koninghof is easily reached by car. There are extensive parking facilities. Bus services connect the Eindhoven Central Station to the Koningshof. Eindhoven CS is easily reached from the airports of Eindhoven, Schiphol and Maastricht/Aachen, that are served by several low-cost airlines. Other useful nearby airports that are served by low-cost airlines are located in Charleroi (B) and the Ruhr area (D). Some shuttle services will be available on Sunday afternoon from Eindhoven CS and Eindhoven Airport.

## Call for posters

Prospective participants are urged to submit poster abstracts on the subjects indicated above. In case the poster should be considered for a contributed oral presentation, the

deadline for submission is 18 March 2005. The deadline for all other posters is 20 May 2005. Posters received after this date will not be included in the Abstract book. All poster abstracts will be peer reviewed; authors will be informed timely on the acceptation or rejection of their poster. Poster submission forms will be available on the EUROMAR WEBsites from 24 January 2005.

## Call for nominations for the Russell Varian Prize 2005

The prize honors the memory of the pioneer behind the first commercial Nuclear Magnetic Resonance spectrometers and co-founder of Varian Associates. The prize is awarded to a researcher based on a *single* innovative contribution (a single paper, patent, lecture, or piece of hardware) that has proven of high and broad impact on state-of-the-art NMR technology. The prize aims to award the initial contribution that laid the ground for the specific technology of great importance in state-of-the-art NMR. It is sponsored by Varian Inc. and carries a monetary award of 15,000 Euro. The award ceremony will take place at the EUROMAR 2005 on Tuesday evening before the keynote lecture. Nominations must be forwarded by e-mail to the Secretary of the Prize Committee, Vladimir Sklenář, at sklenar@chemi.muni.cz. The deadline for nominations is 11 February 2005. More information is available on the EUROMAR WEBsites.

## Satellite meetings

The organisers are planning to attract satellite meetings for participants in European projects. Co-ordinators of such projects are cordially invited to contact the Conference Director (e-mail: secr@euromar.org).

## Sponsoring

The organisers cordially invite vendors of MR equipment and related products to contact the Conference Director for sponsoring the meeting, planning of vendor activities, and the reservation of vendor suites (secr@euromar.org).

## Draft program for EUROMAR 2005

The names of the invited speakers, that are being invited, and the complete topics of the workshops will be announced 20 February 2005. The final program will be available from 22 April 2005 on the EUROMAR WEBsites.

| Sunday, 3 July 2005 | |
|---|---|
| 12.00 - 19.30 | Arrival and registration |
| 15.30 - 17.30 | Workshops (among others by John S. Waugh and by Eumatrix) |

| | | | | | |
|---|---|---|---|---|---|
| 17.30 - 19.45 | Get-together with snacks buffet | | | | |
| 20.00 - 21.00 | Keynote Opening Lecture: R. Kaptein | | | | |
| 21.00 - 01.00 | Mounting of posters; hospitality suites | | | | |
| **Monday, 4 July 2005** | | | **Tuesday, 5 July 2005** | | |
| 07.00 - 08.30 | Breakfast | | 07.00 - 08.30 | Breakfast | |
| 08.30 - 10.00 | Plenary lectures: Beat Meier and Dan Rugar | | 08.30 - 10.00 | Plenary lectures: Lucio Frydman and Claire Grey | |
| 10.00 - 10.30 | Break | | 10.00 - 10.30 | Break | |
| 10.30 - 12.40 | Parallel Session Ia Dynamics: Liquids I | Parallel Session Ib EPR I | 10.30 - 12.40 | Parallel Session IIIa Biomolecular Interactions: Liquids II | Parallel Session IIIb Materials: Solids II |
| 10.30 - 12.00 | 3 Invited Lectures | 3 Invited Lectures | 10.30 - 12.00 | 3 Invited Lectures | 3 Invited Lectures |
| 12.00 - 12.40 | 2 Contributed lectures | 2 Contributed lectures | 12.00 - 12.40 | 2 Contributed lectures | 2 Contributed lectures |
| 12.45 - 14.00 | Lunch | | 12.45 - 14.00 | Lunch | |
| 14.00 - 16.10 | Parallel Session IIa Methods: Solids I | Parallel Session IIb MRI | 14.00 - 16.10 | Parallel Session IVa Fast NMR: Liquids III | Parallel Session IVb Methods: Solids II |
| 14.00 - 15.30 | 3 Invited Lectures | 3 Invited Lectures | 14.00 - 15.30 | 3 Invited Lectures | 3 Invited Lectures |
| 15.30 - 16.10 | 2 Contributed lectures | 2 Contributed lectures | 15.30 - 16.10 | 2 Contributed lectures | 2 Contributed lectures |
| 16.10 - 16.30 | Break | | 16.10 - 16.30 | Break | |
| 16.30 - 18.30 | Workshops | | 16.30 - 18.00 | Guided poster tours, meet the speakers for young scientists | |
| 16.30 - 17.30 | Vendor presentations | | 16.30 - 17.30 | Vendor presentations | |

| | | | | | |
|---|---|---|---|---|---|
| 16.10 - 18.30 | Poster Session with Refreshments | | 16.10 - 18.30 | Poster Session with Refreshments | |
| 19.00 - 20.30 | Dinner | | 19.00 - 20.30 | Dinner | |
| 20.30 - 21.30 | Keynote lecture: Alex Pines | | 20.30 - 22.00 | Keynote lecture: Ad Bax Presentation of Russell Varian Award | |
| 16.30 - 01.00 | Hospitality Suites | | 16.30 - 01.00 | Hospitality Suites | |
| **Wednesday, 6 July 2005** | | | **Thursday, 7 July 2005** | | |
| 07.00 - 08.30 | Breakfast | | 07.00 - 08.30 | Breakfast | |
| 08.30 - 10.00 | Plenary lectures: Jeremy Nicholson and Bob Griffin | | 08.30 - 10.00 | Plenary lectures: Malcolm Levitt and Lewis Kay | |
| 10.00 - 10.30 | Break | | 10.00 - 10.30 | Break | |
| 10.30 - 12.40 | Parallel Session Va BioNMR: Solids IV | Parallel Session Vb MRI II | 10.30 - 12.40 | Parallel Session VIIa Screening: Liquids V | Parallel Session VIIb EPR III |
| 10.30 - 12.00 | 3 Invited Lectures | 3 Invited Lectures | 10.30 - 12.00 | 3 Invited Lectures | 3 Invited Lectures |
| 12.00 - 12.40 | 2 Contributed lectures | 2 Contributed lectures | 12.00 - 12.40 | 2 Contributed lectures | 2 Contributed lectures |
| 12.45 - 14.00 | Lunch | | 12.45 - 14.00 | Lunch | |
| 14.00 - 16.10 | Parallel Session VIa Dynamics: Liquids IV | Parallel Session VIb EPR II | 14.00 - 16.10 | Parallel Session VIIIa Computing | Parallel Session VIIIb Materials: Solids V |
| 14.00 - 15.30 | 3 Invited Lectures | 3 Invited Lectures | 14.00 - 15.30 | 3 Invited Lectures | 3 Invited Lectures |
| 15.30 - 16.10 | 2 Contributed lectures | 2 Contributed lectures | 15.30 - 16.10 | 2 Contributed lectures | 2 Contributed lectures |
| 16.10 - 16.30 | Break | | 16.10 - 16.30 | Break | |
| 16.30 - 18.00 | Guided poster tours, meet the speakers for young scientists | | 16.30 - 18.30 | Parallel Session IXa Protein folding: Liquids VI | Parallel Session IXb General: Solids VI |

| | | | | |
|---|---|---|---|---|
| 16.30 - 17.30 | Vendor presentations | 16.30 - 17.30 | 2 Invited Lectures | 2 Invited Lectures |
| 16.10 - 18.30 | Poster Session with Refreshments | 17.30 - 18.30 | 3 Contributed lectures | 3 Contributed lectures |
| 19.00 - 20.30 | Dinner | 18.30 - 19.30 | Take down of posters | |
| 20.30 - 21.30 | Keynote lecture: To be announced | 19.30 - 23.00 | Farewell dinner in Caribbean Style | |
| 16.30 - 01.00 | Hospitality Suites | | | |
| **Friday, 8 July 2005** | | | | |
| 07.00 - 08.30 | Breakfast | | | |
| 08.30 - 12.00 | Departure | | | |
| 10.00 - 17.30 | Opportunity to visit Dutch NMR Centers; Opportunities for Excursions | | | |

## Conference fees for EUROMAR 2005

| | | |
|---|---|---|
| Full registration fee | 350 € | |
| Student registration fee | 175 € | Applies to participants born in 1975 or later. |
| Accompanying persons registration fee | 120 € | Also for non-participating vendor delegates |
| Registration surcharges: | | |
| Participants not accommodated at the Koningshof | 25 € | |
| Late registration or payment | 100 € | Due for any registration and/or payment of conference fees received after 20 May 2005. |
| Full board and lodging per day, single room | 145 € | (includes breakfast, lunch and dinner) |
| Full board and lodging per day, shared double room | 125 € | (includes breakfast, lunch and dinner) |
| Lunch and dinner vouchers per day | 50 € | These vouchers are needed for participants that are not staying in the Koningshof |

*EUROMAR offers and recommends the special conference package. The reduced conference package fees include the applicable registration fee and awarded grant, and full board and lodging, with arrival after lunch on Sunday and departure Friday after breakfast. Late registration surcharges apply.*

| | | | | |
|---|---|---|---|---|
| Conference package with full registration | Single room | 980 € | Double room | 880 € |
| Conference package for accompanying persons | | 650 € | | |
| Conference package for vendor delegates | Single room | 750 € | | |
| Conference package for students | Single room | 805 € | Double room | 705 € |
| Conference package with EUROMAR grant | Single room | 490 € | Double room | 390 € |
| Conference package with Marie Curie grant | | 0 € | | |

On-line secure registration for EUROMAR will be possible from 24 January 2005 through its WEB sites. After registration the participant will receive an invoice via e-mail for the total of the conference costs. Payment is only possible by check or via the bank account of the conference:
IBAN: NL96RABO 010 51 44 096 of "Stichting Chemische Congressen I", 6997AX Hoog Keppel, The Netherlands
Bank: RABO Bank Doesburg-Giesbeek (BIC Code: RABONL2U), Kraakselaan 5, 6981HA Doesburg, The Netherlands

## Grants

Two types of grants are available for young scientists wanting to attend the conference: Marie Curie and EUROMAR grants. EUROMAR has obtained support from the European Commission, under its Marie Curie Large Conference Programme, for granting full support (conference package and travel expenses) to some 50 young scientists. Support for some 100 EUROMAR grants, that cover part of the normal conference package costs, has been obtained from the manufacturers of NMR equipment, vendors of NMR related products and several scientific organisations and industries. EUROMAR gratefully acknowledges the received support. A prospective grantee is required to present a poster. A grantee is eligible for presenting the poster in a contributed lecture. Grant applications will be evaluated by the National and International Scientific Committees. Grants will be awarded on a competitive basis, taking into account the scientific quality of the proposed contribution and the innovative aspects thereof, and the criteria for both types of grant. Grants will only be awarded to participants that attend the full conference and that are accommodated at the Koningshof. Except for the travel allowances, all grants will be directly deducted from the costs of the selected conference package.

## Marie Curie grants

Marie Curie grants are intended for researchers that have at the time of their attendance less than four years (full-time equivalent) research experience since obtaining the diploma that gives them direct access to doctoral studies. In awarding these grants gender and

geographic considerations are taken into account. In the handbook for Marie Curie supported conferences athttp://www.cordis.lu/fp6/mobility.htm the nature of these grants is explained. A recipient of a Marie Curie grant is required to attend one workshop and at least one guided poster tour.

## EUROMAR grants

Scientists born in 1965 or later are eligible for an EUROMAR grant. In allocating these grants there will be a positive discrimination towards candidates selected for a contributed lecture and for candidates from less-favoured regions.

## Grant application

The deadline for the submission of a grant application is 18 March 2005. Applicants will be informed on the result of their application by 15 April 2005. Forms for grant applications will be available on the EUROMAR WEBsite from 24 January 2005. In applying for a grant the candidate should submit:

-an abstract of the poster to be presented;

-a short (not more than one page A4) curriculum vitae with personal data;

-a short letter of recommendation of his/her research team leader

# 18th Colloque Int. Hertzian Optics and Dielectrics OHD'2005

Hammamet, Tunis, 6 - 8 September 2005

## Présentation du Colloque OHD 2005

Le 18 ème Colloque International " Optique Hertzienne et Diélectriques" se tiendra à Hammamet du 6 au 8 Septembre 2005. Il est organisé par la division OHD du groupement AMPERE et le Laboratoire des Systèmes de Communications (SYS'COM) de l'Ecole Nationale d'Ingénieurs de Tunis (ENIT) de l'Université Tunis El Manar avec la collaboration de l'Association des Spécialistes Eléctriciens de Tunisie, la Faculté des Sciences de Tunis, l'Ecole Supérieure des Communications de Tunis, l'Ecole Polytechnique de Tunisie et l'Institut National des Sciences Appliquées et de la Technologie de Tunis.

## Thèmes du Colloque

Ondes électromagnétiques
Interactions ondes matières
Optiques et spectroscopie hertziennes
Résonance paramagnétique électronique
Diélectriques, Matériaux, Composants et Systèmes pour micro-ondes et optiques
Systèmes de communications numériques

## Inscriptions

L'inscription et l'envoi des résumés des communications proposées doivent se faire en ligne.

## Dates importantes

Soumission des résumés : Avant le 31 Janvier 2005.
Notification d'acceptation : Avant le 15 Mars 2005
Réception des versions finales : Avant le 28 Mai 2005.

## Comité international

Président: ALQUIE G.; Présidents honoraires : BAUDRAND Henri, RAOULT Gaston,SERVANT Yves; Membres :BOUALLEGUE Ammar, BUZARE Jean-Yves, CARRU Jean-Claude, CHANDEZON Jean, CHILO Jean, CORVAJA Carlo, DANIEL Jean-Pierre, DEGARDIN Annick, FORNIES - MARQUINA José Maria, PICON Odile, THEOBALD Jean-Gérard, ZANGAR Habib

## Comité local d'organisation:

Président: BOUALLEGUE Ammar

Membres: AGUILI Taoufik, ATTIA Rebeh, BOUALLEGUE Ridha, CHIBOUB Chokri, CHOUBANI Fathi, GARBOUT Abdelhéni, REZIG-CHOUKRI Houria, SAMET Abdelaziz, ZANGAR Habib

## Droits d'inscription

Plein Tarif : 250 € TTC (400 TND)

Tarif réduit : 160 € TTC (250 TND) pour les membres du Groupement AMPERE, étudiants doctorants et post-doctorants (sur demande).

Ces droits d'inscription incluent uniquement les actes du Colloque, les poses cafés et les repas de midi.

## Secrétariat du colloque OHD2005

Mme Sana Jouida

ENIT, B.P. 37, Belvédère

1012 Tunis - Tunisie

Tel : (+216) 71 874 700 Fax : (+216) 71 872 729

E-mail : ohd2005@enit.rnu.tn

# 8th ICMRM in Utsunomiya - 8th „Heidelberg“ Conference

August 22 - 26, 2005

## Dates

Abstract deadline: April 30, 2005
Conference: August 22-26, 2005

## Venue

Dokkyo University School of Medicine
http://www.dokkyomed.ac.jp/index-e.html
Mibu-machi, Shimotsuga-gun, Tochigi 321-0293
Phone: +81-282-87-2125 Fax: +81-282-86-7835
30 minutes from JR Utsunomiya Station
Shuttle bus service will be available.

## Schedule

**August 22 (Mon)**
Educational session (all day)
Welcome reception
**August 23 (Tue)**
Scientific session (all day) , Poster session
Opening Lecture
**August 24 (Wed)**
Scientific session (half day)
Conference events
**August 25 (Thr)**
Scientific session (all day), Poster session
**August 26 (Fri)**
Scientific session (half day)
Conference excursion and Dinner

## Invited Speakers

**Opening Lecture**
Seiji Ogawa

**Educational Session: tentative**

*Introduction to NMR: Nuts and bolts approach*

Eiichi Fukushima

*Hardware: NMR in inhomogeneous fields*

Bernhard Blumich

*MRI, flow, and diffusion*

Paul Callaghan

*MRI of Solid-like Materials*

Bruce Balcom

*Biomedical MR microscopy*

Axel Haase

*X-Nuclei*

Gil Navon

**Invited Lectures (Partial list)**

Ichio Aoki , Meiji University of Oriental Medicine, Japan

*Manganese-enhanced MRI*

Nobuaki Ishida, Food Research Institute, Japan

*MRI of Foods: tentative*

Michael Johns, University of Cambridge, UK

*Magnetic Resonance Studies of Droplet Freezing Processes*

Rainer Kimmich, Ulm University, Germany

*NMR mapping of electroosmotic flow in pore networks*

Igor Koptyung, International Tomography Center, Russia

*Multinuclear imaging of liquids, gases and solids:applications in catalysis and beyond*

Kuniyasu Ogawa, Keio University, Japan

*MRI for Mechanical Engineering*

Joseph Seymour, Montana State University, USA

*Studying transport phenomena related to bioactivity in porous media by MRM*

Yi-Qiao Song, Schlumberger-Doll Research, USA

*Simultaneous measurement of diffusion along multiple directions and imaging application*

Yang Xia, Oakland University, USA

*MR microscopy of articular cartilage and related topics: tentative*

## Second Announcement

# The 4th Alpine Conference on Solid-State NMR

A European Conference on Solid-State Nuclear Magnetic Resonance
New concepts and applications
**Chamonix-Mont Blanc, France, 11-15 September, 2005**

## Aims and scope of the meeting

The aim of the conference is to provide an international forum for high-level discussions to physicists, chemists, biologists and other scientists with both an academic or industrial background, interested in the latest developments in solid-state NMR. The meeting will focus on the state of the art in theoretical and methodological developments, as well as on recent applications of solid-state NMR in fields as diverse as: organic and inorganic chemistry, catalysis, structural biology, materials science and polymer science. Young scientists are particularly encouraged to participate.

## Programme

The programme will consist of plenary lectures and contributed communications, with one special session dedicated to young scientists, and two poster sessions. The programme also includes a highlight special lecture delivered by an outstanding personality from a related field. David Klug (London) has agreed to give this lecture.

## Pines Symposium

The conference will start on Sunday 11th September with a full-day special symposium in honour of Alex Pines on the occasion of his 60th birthday.-

## General Details

### Main lectures

The following speakers have already accepted to participate:

S.E. Hayes (St. Louis)
F. Jelezko (Stuttgart)
P.D. Ellis (Richland)
L. Emsley (Lyon)
A. Pines (Berkeley)
D. Rugar (Almaden)
M. Tomaselli (Zürich)
D.P. Weliky (East Lansing)

### Venue and accommodation

All conference activities will take place at the conference centre "Le Majestic", a converted turn of the century grand hotel, situated in the centre of the picturesque city of Chamonix

Mont-Blanc in the heart of the French alps. Chamonix Mont-Blanc is about 1 hour from Geneva airport and 2 hours from Lyon by car. Single and double bedroom accommodation has been reserved in comfortable hotels, close to the conference centre. The Mont Blanc is an elegant and charming four star hotel next door to the conference centre. The Prieuré is a comfortable recent three star hotel next to the conference centre. The Alpina is a modern three star hotel located a little further (5 minutes walk) from the conference centre. We have negociated the following prices for these hotels: (Hotel tarifs include breakfast. All prices are per person per night based on double occupancy for twin rooms)

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|---|---|
| Mont Blanc **** | single 115,50€/night, twin 85,50 €/night |
| Prieuré *** | single 86 €/night, twin 63 €/night |
| Alpina *** | single 86 €/night, twin 63 €/night |

For hotel reservation a one night deposit for your stay is required. The conference fee includes registration costs as well as all lunches and dinners from Sunday through Wednesday, including a banquet on Wednesday. Dinners will be taken together in local restaurants. In addition, this year, the conference fee includes participation in the special symposium in honour of Alex Pines on Sunday 11th September.

## Special Symposium in Honour of Alex Pines

**The scientific part of the meeting will start on Sunday at 10:00 am**, with a celebration in honour of Alex Pines on the occasion of his 60th birthday. Confirmed participants in this symposium include some of Alex's senior friends and colleagues, inlcuding :

| | | |
|---|---|---|
| Sir M.V. Berry | R.G. Griffin | M. Mehring |
| P. Callaghan | E.L. Hahn | J.S. Waugh |
| R. Freeman | C. Jameson | K. Wüthrich |

Short presentations will be given by many of Alex's ex-students and post-docs, inlcuding:

| | | |
|---|---|---|
| S. Caldarelli | M. Hong | D.P. Weitekamp |
| B.F. Chmelka | D. Raftery | D.E. Wemmer |
| G. Drobny | R. Tycko | Y. Wue |
| L. Frydman | S. Vega | K.W. Zilm |
| P.J. Grandinetti | W.S. Warren | |

**IMPORTANT:** This symposium will be accessible to all registered participants of the Alpine conference. However, a small number of extra places will be available for scientists who would like only to attend the symposium on Sunday. If you are interested in this formula you must complete and return the registration form together with the payment of the symposium fee (100 €). The symposium fee includes Sunday lunch and dinner.

**Cancellation**

No refunds will be provided for cancellation after the 31 July 2005 at the conference or the symposium. For written requests for cancellation post-marked before this date, 75 € will be deducted to cover the cost of handling and processing.

**The number of places at the conference and at the symposium is limited. Register early.**

## Abstract Submission Deadline: 31 May 2005

We require electronic submission of abstracts. Abstracts must be submitted through our web page: http://www.alpine-conference.org/.
Visit the web page for detailed submission instructions. We accept submissions for both oral and poster presentations at the conference. The oral presentations will be selected from submitted abstracts by the scientific committee shortly after the deadline.
If you really cannot gain access to the web for abstract submission, please contact us.

## Application for Student Stipend Deadline: 30 April 2005

A limited number of student stipends are available.
If you would like to apply for a stipend, enclose four copies of the following:
1. the completed registration form,
2. a printout of the abstract for which you are the presenting author,
3. a letter of recommendation from your supervisor,
4. a current student identification.

Send to: Alpine Conference Secretariat, Laboratoire de Chimie, Ecole Normale Supérieure de Lyon, 46 allée d'Italie, 69 364 LYON Cedex 7, France, **before the 30 April 2005**

## Registration Form Deadline: 31 May 2005

Conference Fee (includes registration, lunches and evening meals during the conference (banquet on Wednesday night)):

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|---|---|
| full participant | 590 € |
| Sunday symposium only participant | 100 € |
| accompanying PERSONAL | 320 € |

***Organised under the auspices of the Groupement Ampère and the International Society of Magnetic Resonance.***

**Scientific Committee:**

Malcolm Levitt (Southampton), Chairman
Dieter Suter (Dortmund)
Stanley Opella (San Diego)

**Organising Committee:**

L. Emsley (Lyon)
S. Caldarelli (Marseille)
A. Lesage (Lyon)
M. Bardet (Grenoble)
S. Hediger (Lyon)

**Address for correspondence:**

Alpine Conference Secretariat
Laboratoire de Chimie,
Ecole Normale Supérieure de Lyon
46 allée d'Italie,
69 364 LYON Cedex 7, France
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Fax: +33 (0)4 72 72 88 6

Information via Internet:
http://www.alpine-conference.org

# Future Conferences

## AMPERE Events

### 2005

| | | |
|---|---|---|
| International School on Magnetic Resonance and Brain Function 3nd Course, Brain Function Research by Magnetic Resonance, Electrophysiology and Molecular Probes | Erice (Italy) | **May 23-29**, 2005 |
| AMPERE XIII NMR School | Zakopane (Poland) | **June 5-10**, 2005 |
| Specialized Colloque AMPERE Meeting on EPR and ENDOR Spectroscopy of Metal Proteins and Spin-Labelled Proteins | Leiden (The Netherlands) | **June 29 - July 1,** 2005 |
| EUROMAR joint EENC/AMPERE/British NMR-DG meeting<br>Second Announcement/Call for Papers (PDF, 170.3 KBytes) | Veldhoven (The Netherlands) | **July 3-8**, 2005 |
| Nuclear Magnetic Resonance in Condensed Matter | St. Petersburg (Russia) | **July 11-15**, 2005 |
| EPR Summer School | Wiesbaden (Germany) | **July 17-24**, 2005 |
| 8th International Conference on Magnetic Resonance Microscopy | Utsunomiya (Japan) | **August 22-26**, 2005 |
| 18th Colloque International Hertzian Optics and Dielectrics | Hammamet (Tunisia) | **September 5-7**, 2005 |
| 4th Alpine Conference on Solid-State NMR Second Announcement/Call for Papers | Chamonix (France) | **September 11-15**, 2005 |

### 2006

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|---|---|---|
| EUROMAR joint EENC/AMPERE/British NMR-DG meeting | York (U.K.) | **July 17 - 21**, 2006 |
| The 8th International Bologna Conference on Magnetic Resonance in Porous Media | Bologna (Italy) | **September 10-14**, 2006 |

## OTHER Events

**2005**

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|---|---|---|
| 21st ICMRBS | Hyderabad (India) | **January 16-21**, 2005 |
| 46th ENC | Providence, Rhode Island, (USA) | **April 10-15**, 2003 |
| 13th ISMRM Meeting | Miami Beach, Florida (USA) | **May 7-13**, 2005 |
| 10th Brazilian NMR Users Meeting/3rd Brazil-Portugal NMR Meeting/1st Ibero-American NMR Meeting<br>For information please contact Sonia Cabral de Menezes | Angra dos Reis, Rio de Janeiro (Brazil) | **May 9-13**, 2005 |
| 16th European Symposium on Polymer Spectroscopy | Rolduc Abbey, Kerkrade (The Netherlands) | **May 29 - June 1**, 2005 |
| Gordon Research Conference Magnetic Resonance | New London, Connecticut (USA) | **June 5-10**, 2005 |
| 22nd Meeting of the ESMRMB | Basel, (Switzerland) | **September 15-18**, 2005 |
| SMASH 2005 Conference | Verona (Italy) | **September 25-28**, 2005 |

**2006**

| | | |
|---|---|---|
| 14th ISMRM Meeting | Seattle, Washington (USA) | **May 6-12**, 2006 |

**2007**

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|---|---|---|
| 15th ISMRM Meeting | Barcelona, (Spain) | **May 12-18,** 2007 |

**2008**

| | | |
|---|---|---|
| 16th ISMRM Meeting | Toronto, Ontario, (Canada) | **May 3-9**, 2008 |

**2009**

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|---|---|---|
| 17th ISMRM Meeting | Honolulu, Hawaii, (USA) | **April 18-24**, 2009 |