

BULLETIN DU GROUPEMENT

d'informations mutuelles



Groupement
AMPERE

SE CONNAÎTRE, S'ENTENDRE, S'ENTRAIDER

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Editorial



Dear members of the Groupement AMPERE,

time often passes faster than we like, and it is already time for another AMPERE Bulletin. There is some internal news from AMPERE that happened during the past year which I would like to share with you. The [AMPERE NMR School](#) organized by Danuta Kruk from Olsztyn and Roksana Markiewicz from Poznan has joined the Groupement AMPERE officially and became a new subdivision. I would like to take this opportunity to thank them for continuing the long tradition of the school after the untimely death of Stefan Jurga two years ago.

As a new Young Member, Dariya Savchenko from Kyiv has joined the AMPERE Bureau. She has started a collection of links to job advertisements on the AMPERE web site (http://www.ampere-society.org/MR_jobs.html) related to Magnetic Resonance that will be updated regularly. You can either email new job listings directly to her at jobs@ampere-society.org but she will also add jobs advertised on the AMPERE NMR mailing list or on X (Twitter).

There are also subpages with resources for NMR and EPR on our web site at (http://www.ampere-society.org/NMR_resources.html and http://www.ampere-society.org/EPR_resources.html). If you have suggestions for addition, please let us know and we will add them if we think they are appropriate and helpful.

There are five conferences organized by AMPERE and its subdivisions this summer and fall and I hope to see many of you at one of our events.

Matthias Ernst
Secretary General
Groupement AMPERE

Portrait:

Ana Maria Pissarra Coelho Gil

Why magnetic resonance and why NMR and MRI?

I guess it runs in the family, as my father was a chemist and introduced NMR spectroscopy in Portugal, in the 60s. At home, the enthusiasm about the dancing nuclear spins was almost daily and every pretext was used to dwell about nuclei, atoms and molecules – swimming or playing with the sand on the beach, accompanying the growth of a plant or how food changes with cooking... And when one is a child, if you are lucky enough to have a good teacher that helps you understand things, then you start to like those things too. NMR was one of the reasons for me to study Chemistry (in my case, NMR came before Chemistry!), within which any kind of spectroscopy was always fascinating to me. The way radiation and matter conspire to let you into the molecular world, bit by bit, turning you into a detective, I find fantastic.

What is your favorite frequency?

500 MHz or above, for the obvious attraction of more information being retrievable on all sorts of complex biological samples. However, 100-130 kHz has a particular ring to me, not as a nuclear frequency, but as rotor spinning rates! As I started doing research, magic angle spinning probes that reached 12-15 kHz (with “huge” 4mm rotors) were a real achievement...the current incredibly small size of rotors and the achievable spinning rates were difficult to envisage then.

What do you still not understand?

Practically everything...

Luckiest experiment you have ever done.

A long time ago, I spent a sabbatical in a physics NMR lab where a chemist like me felt somewhat in awe and frightened by the hands-on approach of building coils and probes. Almost any kind of experiment was possible and involved improvising and building something new – this was Paul Callaghan’s lab back in Massey University. The crazy idea was to squeeze a ball of dough inside the magnet (to study the molecular origins of polymer elasticity), using a simple motor and piston on top of the magnet... and make it stop at the right moment, without breaking the probe... I think it was just pure luck, that we didn’t!

What was the worst mistake you have made during your lab time?

Among many, I am sure, perhaps the most painful mistake may have been trying hard to spin a difficult sample (under MAS) until the rotor opened, sprayed the sample all

around, and broke in several pieces that lodge themselves inside the probe... An expensive mistake.

Most memorable conference story.

I often laugh to myself when I remember a talk I gave at a conference on NMR in food science, organized by my good friend Luisa Mannina in Campobasso, in Italy. I remember that at the end of the talk I was presented with the most beautiful and heavy wooden box that looked as if it could contain...a revolver. I thought to myself (and I may have tried to joke...) “My God, they really didn’t like my talk!...”, only to find the most delicious cured ham roll inside! I remember we all had a good laugh, audience and the relieved speaker!

I also have dear memories of the first Luso-Brazilian NMR Meeting, in 2001, held in the paradise spot of Angra dos Reis, where lectures intermingled with beach volleyball games, dance contests and quick dives in the sea.

With whom (historical person) would you like to meet?

Martin Luther King...and hope for his deep wisdom and intelligence to somehow lend a helping hand to today’s societies and the enormous and desperate struggles they are up against today. Science is important and fascinating, but people, their relationships and their mark on this planet need more urgent help than science is, perhaps, able to provide in a timely manner.

When do you get your best ideas?

I have to say that, given the desperate environmental situation, I have yet to do my share of giving up flying and opt for land travel. For now, I have some of my best ideas and at airports to/from conferences or visiting colleagues, scribbling away by hand, or occasionally by the sea, during a stolen lunchtime, a short distance away from the lab.

If you had just one month time for travelling - where would you go to?

Antarctica would be a possible choice, the edge of the world, a place seen by only a few and which is unfortunately changing too quickly. Also, a place where one learns to live with the basics, with no luxury or superfluous comforts. I wonder if I would survive it and perhaps come out wiser!



Your idea of happiness.

...It has to be the feeling of openness and comfort of just being with my dear family and friends, without haste or worries, enjoying each other's simple presence...

If I can add a venue...perhaps in a lovely café in Paris, or in a bubbly neighborhood in Rio (watching people dancing forró and wishing I could do it too...I have to thank my friend Sonia Menezes for living such an unforgettable moment with me, some time ago).

Position: Associate professor with "Habilitation", University of Aveiro

Awards: Mainly several student-earned awards (best NMR thesis, orals and posters), which fill me with pride for having been part of their scientific lives.

Homepage:

<https://www.ciceco.ua.pt/?tabela=peessoaldetail&menu=218&language=eng&user=391>

Education: Studied Chemistry at the University of Coimbra, Portugal; obtained a PhD in Chemistry and the University of East Anglia, UK.

Interests:

My research interests are centered in NMR metabolomics to study biological systems related to disease, therapeutics or toxicological stresses, for identification of novel biomarkers with possible clinical use in human health management and precision medicine. Recent interests include metabolomics of stem cell differentiation to find biomarkers able to guide lineage development and regeneration of engineered tissues; and, in a different context, development of new food products (mainly plant-based), and nutritional studies (biofluids and gut microflora) related to new (plant-based) diets.

Non-scientific interests include singing (choir and musicals), playing the piano (Debussy and Mozart are among my favorites, and I wish I had the proficiency for Bach!), dancing, running and going to the gym (therapy for mind, mainly!). More recently, I find it particularly rewarding to tend to the small family orchard I have inherited, watching over the growth and renewal of new and old trees.

AMPERE Prize for Young Investigators

Ass. Prof. Dr. Ashok Ajoy

Euromar 2023, Glasgow

The prize was given in recognition of his achievements in optical hyperpolarization and quantum sensing.

Ajoy's research program has focused on improving the spatial resolution and sensitivity of NMR via coupling to optical degrees of freedom, hyperpolarization, and the excellent coherence properties of nuclear spins in unusual regimes. Some of these are highlighted below:

"Quantum sensor" magnetic resonance: Ajoy's early work focused on fundamental research developing quantum sensing methodologies with the aim of shrinking down the sensitive length scale of NMR from macroscale radio-coils to nanoscale volumes. This leveraged developments in the quantum information field, where Nitrogen Vacancy (NV) defect centers in diamond—highly coherent single electron spins whose spin state can be initialized and read out optically—were developed as qubit candidates. Experiments were centered on NV-center mediated optical detection of magnetic resonance signals at sub-micron length scales [1].

Ajoy made several impactful contributions in choreographing spin dynamics in these quantum sensor systems to efficiently extract information of practical relevance, including novel methods for "Hamiltonian tomography," towards unraveling the couplings between spins in a network, using relayed polarization walks through the network [4]. Another noteworthy method was "quantum interpolation" [5], which enabled linear interpolation of the Hamiltonian dynamics of a quantum sensor to boost the frequency (and hence spatial) resolution of nano-NMR. Ajoy proposed the ability of optically polarized ^{14}N nuclear spins in diamond to serve as rotational sensors (gyroscopes) [7-9], with advantages of high stability, optical interrogation, and ability to interface with existing MEMS devices.

Room temperature optical hyperpolarization in nanoparticle media:

Ajoy has made noteworthy contributions to optical hyperpolarization methodologies. This exploits the ability of optically polarizable electrons (e.g NV centers) to be *completely* (100%) optically polarized at room temperature, even at Earth's magnetic field. Transferring this polarization to nuclei of interest can hyperpolarize them into athermal spin populations with vastly enhanced NMR signals. Ajoy contributed to practical and theoretical approaches for "orientation independent" hyperpolarization from optically polarizable electrons [10], demonstrating hyperpolarization of diamond

powder. This employed multiple frequency sweeps at low field [11], was remarkably robust and simple to produce, and introduced new mechanistic features to dynamic nuclear polarization [12] because it was carried out in a low-field regime where the electron-nuclear hyperfine coupling is of the same order of magnitude of the nuclear Larmor frequency. This produced a miniature solid-state device to generate this hyperpolarization in NV-rich nanodiamonds [13]. Hyperpolarization also unraveled fundamental aspects of the mechanisms driving nuclear relaxation in electron-rich solids [14], with broad implications.

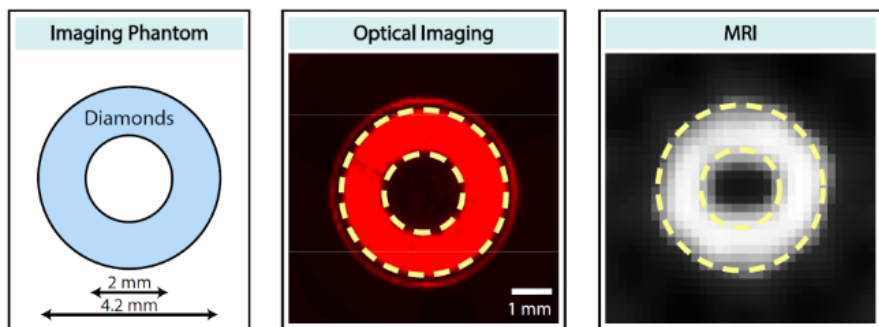


Figure 1: Dual-mode optical and MRI imaging. (A) Ring-shaped phantom filled with 40mg diamond particles (B) *Fluorescence image* captured through a 630nm long-pass filter. (C) ^{13}C MRI image.

Hyperpolarized nuclear spin sensors and imaging agents:

Subsequent work in Ajoy's independent research group at UC Berkeley has further explored the fundamentals and technological applications of optical hyperpolarization. One recent research direction combined optical and magnetic resonance (MR) imaging in a "dual" imaging mode [15] (**Fig. 1**). These are attractive in combination because they offer complementary advantages of resolution and speed, especially in the context of imaging in scattering environments. The experiments employed microdiamond particles that fluoresce brightly under optical excitation while ^{13}C is simultaneously hyperpolarized, making them bright under MR imaging. Experiments demonstrated the inherent advantages of the dual-mode approach to allow background-free particle imaging and showed that, because the two imaging modes proceed in Fourier-reciprocal domains (real and k-space), the combination of the two modes can accelerate image reconstruction in sparse-imaging scenarios.

Another effort recently showed that, once hyperpolarized, strongly interacting nuclear spins attain long coherence times, which can be exploited for practical purposes. Ref. [16] reported the observation of long-lived transverse spin states in hyperpolarized

^{13}C nuclei, showing extremely long lifetimes $T_2' > 90\text{s}$ at room temperature [16]. These experiments involved quasi-continuous observation of the ^{13}C nuclei along with application of $>6\text{M}$ pulses and demonstrated a lifetime extension over the free induction decay by $>60,000$ -fold (**Fig. 2**). The combination of minute-long transverse nuclear lifetimes and continuous interrogation engendered new quantum sensors, [17] where densely packed, hyperpolarized ^{13}C nuclei are exploited as sensitive magnetometers of time-varying fields in high bias-field environments (1-20T). Newer work has revealed interesting features in these sensors that exploit many-body dynamics between the dipolar-coupled hyperpolarized nuclei.

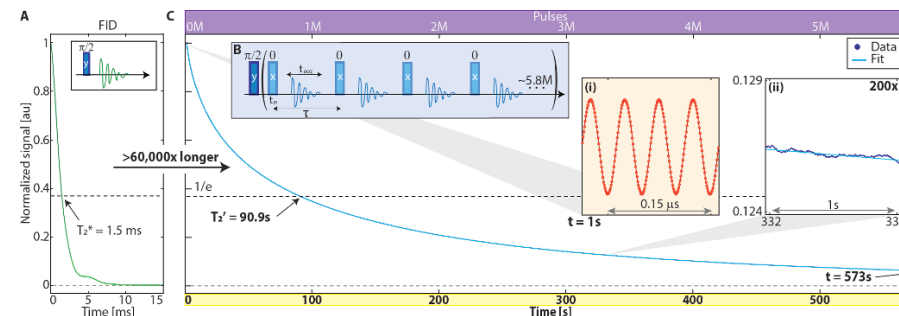


Figure 2: Ultralong ^{13}C transverse lifetimes. (A) Conventional ^{13}C free induction decay with $T_2^* \sim 1.5\text{ms}$. (B) Floquet drive consists of a train of pulses applied spin-locked with the ^{13}C nuclei. Spins are interrogated in windows between the pulses, with the nuclear precession sampled every 1ns. (D) *Minutes-long lifetimes* of the transverse state. Data (blue points) shows *single-shot* measurement and solid line is a fit. Here we apply $\sim 6\text{M}$ pulses (upper axis). *Inset (i)*: Raw data showing measurement of the ^{13}C spin precession, here at 1s into the decay. *Inset (ii)*: Data zoomed 100x in a 1s window demonstrates high measurement SNR. Using a $1/e$ - intersection as a proxy for the decay lifetime, we estimate $T_2' \sim 90.9\text{s}$

[1] Ajoy et al., *Phys. Rev. X* 5, 011001 (2015); [2] Lovchinsky et al., *Science* 351, 836 (2016); [3] Abobeih et al., *Nature* 576, 411 (2019); [4] Burgarth and Ajoy, *Phys. Rev. Lett.* 119, 030402 (2017); [5] Ajoy et al., *PNAS* 114, 2149 (2017); [6] Glenn et al., *Nature* 555, 351 (2018); [7] Jaskula et al., *Phys. Rev. Applied* 11, 054010 (2019); [8] Ajoy and Cappellaro, *Phys. Rev. A* 86, 062104 (2012); [9] Jarmola et al., *Sci. Adv.* 7, eab13840 (2021); [10] Ajoy et al., *Sci. Adv.* 4, eaar5492 (2018); [11] Ajoy et al., *PNAS* 115, 10576 (2018); [12] Zangara et al., *PNAS* 116, 2512 (2019); [13] Ajoy et al., *Rev. Sci. Instr.* 91, 023106 (2020); [14] Ajoy et al., *Nature Comm.* 10, 1 (2019); [15] Lv et al., *PNAS* 118, e2023579118 (2021); [16] Beatriz et al., *Phys. Rev. Lett.* 127, 170603 (2021); [17] Sahin et al., *Nat. Comm.* 13, 5486 (2022)

Raymond Andrew Prize

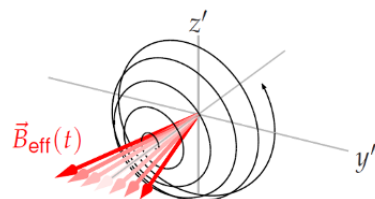
Dr. Nino Wili

Euromar 2023, Glasgow

Spinlocked electrons: From electron-electron distance measurements to dynamic nuclear polarization

In this presentation, I will describe two seemingly disconnected topics from my PhD thesis.

1) The use of spinlocking, together with pulse sequences in the nutating frame, to measure electron-electron dipolar couplings. The spinlock decouples the electron spin from the surrounding nuclear spin bath, increasing its phase memory time and allowing for the measurement of longer distances. In the rotating frame, bursts of phase modulation, where the modulation frequency matches the nutation frequency, can be used to manipulate the spins.



Wili, Hintz, Vanas, Godt, Jeschke, Magn. Reson, 1, 75-87, 2020

2) Pulsed Dynamic Nuclear Polarization. The simplest pulsed DNP sequence (NOVEL) is also a spinlock sequence, where the irradiation strength matches the Nuclear Larmor frequency. In this case, the nuclear spin bath is “recoupled”, and the electron polarization is “lost” to the nuclei. While NMR spectroscopist seem generally happy about this, I will show experiments (at low field) where the nuclear polarization is transferred back to the electrons again. This way, one can investigate how the polarization on nuclei close to the unpaired electrons decays and diffuses away. Hopefully, this opens a new way to do electron-nuclear double resonance (ENDOR) experiments.

Wili, Ardenkjaer-Larsen, Magn. Reson, 3, 161-168, 2022

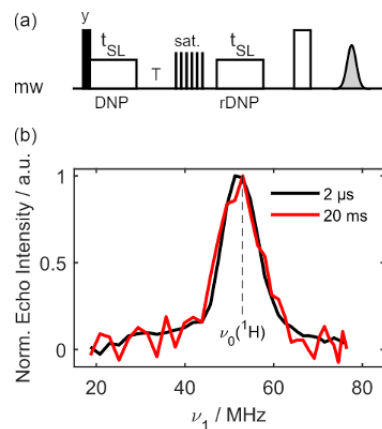
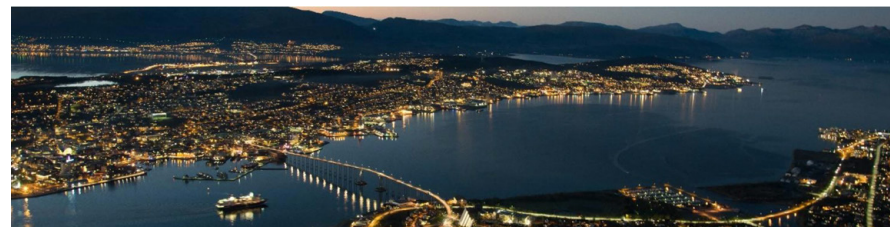


Figure 1: (a) Pulse sequence for reverse DNP. (b) Electron spin echo intensity in (a) as a function of the nutation frequency in the first DNP step for two different values of T . Note that 20 ms is longer than the electron T_1 .

I would also like to acknowledge everyone who supported me during my PhD. Including Gunnar Jeschke and Matthias Ernst who were my principal and co-supervisor, respectively. The whole EPR group at ETH, my family, and my partner.

First Announcement



The 16th Biennial Magnetic Resonance and Porous Media Conference

will be held from August 26th-30th, 2024 in Tromsø, Norway
<http://mrpm2024.org>

Abstract Submission and Registration now open.
Abstract Submission Deadline is April 19th, 2024

The Magnetic Resonance in Porous Media (MRPM) conference is dedicated to advancing magnetic resonance in porous media and enhancing our comprehension of these materials. As in previous years, participants can expect a rich and diverse program that showcases the latest developments in the field and fosters interdisciplinary collaboration.

MRPM's primary aim is to promote connections among individuals from various sectors of academia and industry. Porous media are present in a wide variety of materials, making the research presented at MRPM relevant to a broad range of fields. Researchers spanning Physics, Chemistry, Medicine, Engineering, Life Sciences, Mathematics, Computer Sciences, and Industrial Applications all stand to gain from the exchange of ideas, experiences, and innovative approaches.

The conference will cover a diverse range of topics, including groundbreaking techniques for studying the structure and behavior of fluids in natural and artificial materials such as rocks, cements, biological tissues, food, wood, particle packs, sediments, pharmaceuticals, zeolites, and bioconstructs. Discussions on new data acquisition and processing methods will also be key features.

A significant component of the conference is the 18th Colloquium on Mobile Magnetic

Resonance (CMMR 18), which addresses the expanding realm of mobile NMR technologies and applications.

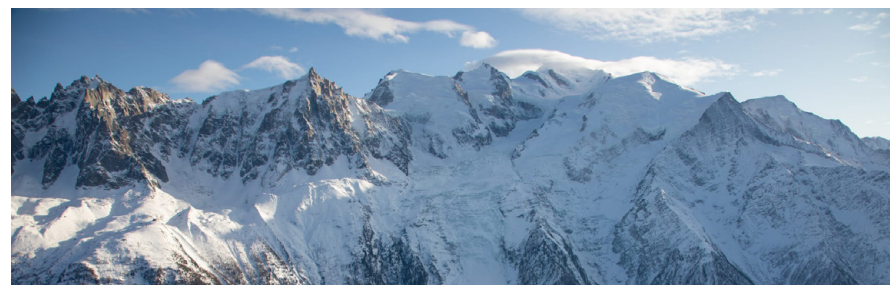
MRPM 16 will be held at the Scandic Ishavshotel in the center of Tromsø



The welcome reception will be held at the Polaria and the Conference Dinner at Skirri in the Kystenshuset



<https://mrpm2024.org/registrations/>



Report: Alpine Conference on Magnetic Resonance in Solids 2023

10-14 September 2023, Chamonix, France

Scientific committee: David Bryce (University of Ottawa), Matthias Ernst (ETH Zürich), Sabine Hediger (CNRS, CEA Grenoble)

Organizing committee: Jean-Nicolas Dumez (CNRS, Nantes Université), Daniel Lee (University of Manchester) Michal Leskes (Weizmann Institute), Józef Lewandowski (University of Warwick), Charlotte Martineau-Corcós (CortecNet), Giulia Mollica (CNRS, Aix-Marseille Université)

The Alpine Conference on Magnetic Resonance in Solids 2023 took place in Chamonix, France, from Sunday 10 to Thursday 14 September 2023. The conference gathered over 150 participants from 20 different countries, for 4 intense days of scientific exchanges on Magnetic Resonance in Solids, with over 110 submitted abstracts.

For the first time, pre-conference tutorials were organised on Sunday morning, to give an introduction to the main concepts of magnetic resonance in solids for organic and inorganic materials. An audience composed mainly of Ph.D. students and postdoctoral researchers enthusiastically followed the lectures given by members of the organising committee.

The talks given at the conference were organized in four plenary sessions including a prize session. They covered a broad range of topics including both methods developments and applications, in systems ranging from zeolites to tissues. There were 9 invited lectures, including one in the field of EPR, and 17 promoted talks selected from the abstracts.



The **Regitze R. Vold Memorial Prize** was awarded to Prof. Robert Shurko, from the National High Magnetic Field Laboratory and Florida State University. Rob Schurko has made a large number of important contributions to the field of solid-state NMR over the past 25 years. His research interests are very diverse, and he has made particularly impactful discoveries in the areas of quadrupolar nuclei and applications to pharmaceuticals. He contributed to the development of several useful broad-band pulse sequences and related techniques which have enabled the routine acquisition

of ultrawide-line NMR spectra. His ongoing work on crystal structure prediction using novel NMR crystallography methods holds promise for the characterization of novel crystal forms used in the pharmaceutical industry.



The **Caldarelli Prize in Magnetic Resonance for Young Investigators** was awarded to Prof. Frédéric A. Perras, from Ames National Laboratory. Frédéric A. Perras is recognized for his rigorous, original, and creative contributions to fundamental and applied aspects of solid-state NMR, including dynamic nuclear polarization (DNP) and the application of solid-state NMR to study the structure of inorganic materials and catalysts. This prize acknowledges Fred's insightful contributions to both experimental and theoretical aspects. The Caldarelli Prize

recognises the contribution of young scientists (within 10 years of completing their Ph.D. degree), and is sponsored by Bruker Biospin.

Two afternoons were dedicated to **round-table sessions**, during which small groups of participants engage in focused discussions on the basis of someone's abstract and pitch presentation. Roundtables were first introduced to the Alpine Conference in 2017, and they have again been very enthusiastically received by the participants, resulting in two afternoons of lively scientific discussions.

A **Young Scientist awards**, sponsored by Elsevier, was given based on the roundtable sessions. The prize went to David M. Halat, UC Berkeley, whose roundtable presentation was the highest-rated by the participants.

A **perspective session** was held on Tuesday evening, during which a panel of invited lecturers discussed on the question: "Higher NMR fields for solids: utopia or dystopia?". The session took place after a free afternoon during which participants had the opportunity for a walk or a hike.

The conference was held at the *centre des congrès de* Chamonix, in the familiar setting of the Majestic building. Industrial and academic sponsors were present and contributed to the scientific content and exchanges, as well as to the social dimension of the conference. An aperitif was organised by Bruker Biospin on the evening of the third day.

Thanks to the generosity of sponsors, the conference was able to award **13 student stipends**, which covered registration costs and accommodation, on the basis of their scientific abstract and CV. Participation of young scientists is an important aspect of the conference.

The **next edition** of the Alpine Conference will take place in Chamonix from Sunday 14 to Thursday 18 September 2025. The scientific committee is composed of Sharon Ashbrook (University of St-Andrews), Songi Han (Northwestern University), and Patrick van der Wel (University of Groningen).

The organising committee is very grateful to the sponsors: Bruker, CEA, CortecNet, Doty Scientific, Elsevier, Jeol, NMR Service, Phoenix NMR, RMN GBP, Rototec/Spintec, Nantes Université, and NHMFL for supporting the conference. The contribution of Bruker, whose major support is essential to the conference, is especially acknowledged. The organising committee would also like to thank the scientific committee and all the participants for their active participation. The dedication of Ms. Roudier and the personnel of the centre des congrès, and the support of Hélène Bonin and Stéphanie Teissier, from Nantes Université, are warmly acknowledged.

Minutes of the meeting of the Ampere Bureau online, on March 14, 2024

Members present (19):

A. Böckmann, J. Dolinšek, P. Giraudeau, M. Ernst, S. Hiller, G. Mathies, D. Savchenko, G. Jeschke, J. v. Duynhoven, G. Otting, A. Lesage, M. Baldus, B. Blümich, B.H. Meier, K. Anderssen, V.-V. Telkki, A. Kentgens, O. Millet, G. Mollica

Excused (5):

L. Ciobanu, Y.-Q. Song, G. Bodenhausen, H. Oschkinat, R. Markiewicz

Agenda:

1. Approval of the agenda.
2. Approval of the minutes of the AMPERE Bureau meeting Glasgow on July 11, 2023
3. Report on the state of the AMPERE Society (A. Böckmann)
4. Financial Report (M. Ernst)
5. Report EUROMAR Division (A. Lesage)
6. Financial report EUROMAR division (M. Baldus)
7. Report Publication Division (Magnetic Resonance) (G. Otting)
8. Report AMPERE Café (G. Mathies)
9. Report on Andrew prize and funds to support meetings (B. Blümich)
10. The Role of AMPERE and the Divisions (M. Ernst/A. Böckmann)
11. Preparation of Committee elections (M. Ernst)
12. Updated Bylaws of SRMR (L. Ciobanu/M. Ernst)
13. Final reports past meetings 2023:
 - AMPERE Biological Solid-State NMR School, Aarhus (DK) June 4-9 (H. Oschkinat)
 - EUROMAR 2023, Glasgow (UK), July 9-13 (J. Parkinson)
 - AMPERE NMR School, Zakopane (Poland), June 18-24 (R. Markiewicz)
 - 17th ICMRM, Singapore (Singapore), August 27-31 (L. Ciobanu)
 - Alpine Conference, Chamonix (France), September 10-14 (G. Mollica)
 - HYP23, Leipzig (Germany), September 24-28 (G. Bodenhausen)
14. Future meetings 2024:
 - MR Food 2024, Foy do Iguaçu-PR (Brazil), June 3-7 (J. van Duynhoven)
 - AMPERE NMR School, Zakopane (Poland), June 16-22 (R. Markiewicz)
 - EUROMAR 2024, Bilbao (Spain), June 30-July 4 (O. Millet)
 - MRPM 2024, Tromsø (Norway), August 26-30 (Y.-Q. Song)
 - EFEP 2024, Marseille (France), September 8-12 (G. Jeschke)
15. Report on Sustainability (A. Kentgens)
16. Varia
17. Date of next meeting

At 12:00 hours, Matthias Ernst opened the meeting. He welcomed and introduced all new members and guests.

Ad 1. The agenda was approved as is.

Ad 2. The minutes of the AMPERE Bureau were approved unanimously.

Ad 3. The president A. Böckmann mourned society members that recently passed away. Tony Keller, an industrial pioneer driving core activities at Bruker, Johan Lugtenburg from University of Leiden, Wallace Brey, the founding editor of the Journal of Magnetic Resonance, and Dieter Ziessow, a chemist at TU Berlin. After a moment of silence, she highlighted recent events, acknowledged the successful conferences in the past year and highlighted the various upcoming conferences to be discussed later in the meeting. She announced the various activities of the Groupement AMPERE, and highlighted the new job opening page on the AMPERE website, pioneered by D. Savchenko.

Ad 4. M. Ernst presented the financial report. Finances are continuing to be stable, even with a positive tendency that allows additional room for activities such as scholarships. The financial situation of all subdivisions are stable and partially very positive.

Ad 5. A. Lesage reported on the EUROMAR division. The conferences 2024 and 2025 are well under way. EUROMAR 2026 was initially foreseen to take place in Israel. Unfortunately, they had to withdraw their application, due to the developing political situation in the Middle East. The EUROMAR committee is currently looking into alternative organizers. The committee is also looking into organizers for the joint EUROMAR-ISMAR in 2027. The division website is currently being renewed.

Ad 6. M. Baldus reported on the finances of the EUROMAR division. Finances are stable and particularly positive since the two recent EUROMARs were financially successful.

Ad 7. G. Otting reported on the publication division. The journal Magnetic Resonance is now listed in PubMed and Scopus. The flow of articles coming to the journal is stable but should ideally be increasing, because for recognition of the journal by Web of Science, more articles are required. The competitor journal JMR Open by Elsevier is no longer waiving the submission fees, which should be in favor of MR. G. Otting urges everyone to submit articles.

Ad 8. G. Mathies reported on the AMPERE Café, an interactive online event. There were 3 editions since last Bureau meeting, attended by around 50-80 persons. The Cafés have established themselves as a friendly meeting point for the community. The organizing team will newly be joined by David Joseph.

Ad 9. B. Blümich reported on the Andrew Prize 2024. There were 24 nominations, including 9 women. 6 candidates, thereof 3 women came into closer consideration. The top ranked candidate is Dr. Tamar Wolf from the Weizmann Institute of Science, who graduated in the group of Lucio Frydman.

B. Blümich reported further that two applications for competitive funding of events were received. The AMPERE summer school asked for 8000 EUR and a shuttle NMR symposium attached to the EUROMAR 2024 asked for 1000 EUR. The Bureau decides to support the summer school with 5000 EUR and 1000 EUR for the shuttle meeting. The subdivisions are reminded to request support, which is still available for events this year.

Ad 10. M. Ernst discusses the handling of membership fees in subdivisions. So far, all conferences required AMPERE membership, and in return the conferences were supported by the society. The Bureau discussed how to streamline the situation and decided that from now on schools, but not conferences, will give out free AMPERE memberships to student participants, hence lowering their effective participation costs. The Bureau decides also to newly include two junior members at PhD level into the Bureau.

Ad 11. M. Ernst presented that for nine members of the AMPERE committee, their term runs out by end of 2024. These are S. Ashbrook, UK, V. Chizhik, RU, J. Dolinšek, SL, I. Felli, IT, P. Giraudeau, FR, W. Kozminski, PL, M. Pons, ES, W. Telkki, FI, and C. Thiele, DE. These members have all served for two terms and cannot be reelected. In particular, new representatives will be needed for the countries Spain, Slovenia, France, and Finland. The other countries have a second representatives. Among the members of the Bureau, only one member, G. Mathies has a term ending in 2024. M. Ernst proposes her re-election at the Committee meeting in Bilbao.

Ad 12. M. Ernst presented some changes in the bylaws of the SRMR division. These were accepted.

Ad 13. Reports of past meetings in 2023:

- M. Ernst reported on the Biological Solid-State NMR School in Aarhus. There were around 50 participants, all went well.

- There was no formal report regarding the EUROMAR in Glasgow. Attempts to contact the organizers were so far unsuccessful.

- AMPERE NMR school in Zakopane was reported by A. Böckmann. The conference worked out well and was well attended, in a geographically attractive location. The organization was remarkably good.

- The ICMRM in Singapore had already been reported in the last AMPERE Bulletin (293).

- The Alpine conference in Chamonix was reported by G. Mollica. There were more than 150 participants from more than 20 countries. More than 110 submitted abstracts.

There were pre-conference tutorials for students and postdocs. Rob Schurko received the Regitze Vold prize and Frederic Perras the Caldarelli Price for Young investigators. The young scientist award was received by David Halat. 13 student stipends could be financed. The next edition of the conference is scheduled for 14-18 September 2025.

- HYP23 in Leipzig was organized by J. Matysik and reported by M. Ernst. The meeting was very successful and broadly attended. The next meeting of this series will be in 2025 in Göttingen.

Ad 13. Reports of planned meetings in 2024:

- 16th MRFOOD was presented by J. v. Duynhoven. It will be held on June 3-7, in Foy do Iguaçu-PR, Brazil. The conference expects around 100 participants. It will include a workshop on relaxometry, diffusometry and statistical validation.

- M. Ernst presented the AMPERE NMR School in Zakopane (Poland), which will be held on June 16-22. It will be held in similar format as previous years. Latest scientific results are presented in an educational way.

- O. Millet presented the EUROMAR 2024, which will be held in Bilbao (Spain), June 30-July 4. Everything is well under way. The website is online and contains all relevant information including speaker lists and venue. So far, around 50 registrations have been received which is normal at this time point.

- The EFEPR 2024 was presented by G. Jeschke. It will be held in Marseille (France), September 8-12. Program and plenary lectures are already invited. The committee expects around 200 attendants.

- The Magnetic Resonance in Porous Media (MRPM) Conference in Tromsø (Norway) was presented by K. Anderssen. It will be held August 26-30. Local Room and Food costs have strongly increased, which poses a challenge to the organizers. Consequently, the registration prices are comparably high.

Ad 15. This item was discussed before 13 and 14. A. Kentgens and B. Meier present different measures to reduce CO₂ emissions. This shall be further prepared and presented at the next meeting.

Ad 16. There were no topics under Varia.

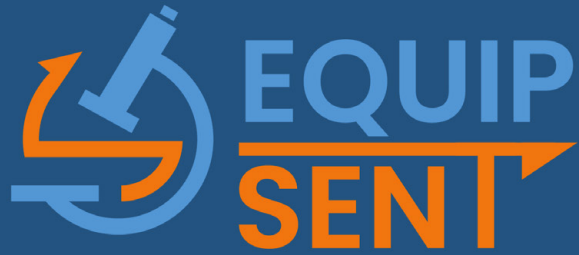
Ad 17. The upcoming AMPERE Committee and Bureau meetings will be held at EUROMAR in Bilbao, in person; Bureau on July 2, Committee on July 3, at lunchtime. The envisaged date of the next spring meeting of the AMPERE Bureau: Wednesday, March 12, 2025 on Zoom at 12:00.

The meeting closed at 14:18,
Basel / the internet, 14 March 2023,
Minutes: Sebastian Hiller

Balance of the Accounts of the Groupement AMPERE and Subdivisions

Period from February 28. 2023 to February 29. 2024

	Balance on February 28. 2023	Membership Fees / Registration Payments	Donations/ Licence Fees Copernicus / Seed money unused	Conferences Grants / Travelgrants/ Ernst-Prize / Andrew Prize / Ampere Café prizes	Conference Sponsoring / Conference Organizers / donation to CARA / Seed money	Conference Surplus	Payments made by Ampere Euro account reimbursed to CHF account	Administration Bulletin print Web, Bureau Meetings / MR design / CreditCard/ Domainname/ Café prizes	Bank Charges / Depot Charges / further Bank Charges	Losses on Value Paper / Payments to Ampere CHF account <u>Withholding tax</u>	Bank Interests Dividends / tax withholding Copernicus / Gains on Value Paper	Balance on February 29. 2024
Groupement Ampere												
Ampere (CHF)	20'756.26	195.02			100.00		81.35	697.80	66.00			20'169.00
Ampere (Euro)	48'528.41	25'897.60		3'000.00	10'300.00				116.22	83.90		60'925.89
Andrew (CHF)	20'797.23			656.75					379.35	45.20	129.15	19'845.08
Andrew Depot (CHF)	88'342.29										2'396.79	90'739.08
Subdivisions												
Biol. Solid State (Euro)	13'693.26							72.16	38.72			13'582.38
EPR (CHF)	7'407.30							20.00			46.85	7'434.15
Food NMR (CHF)	7'156.19										45.30	7'201.49
MRPM (CHF)	29'502.30										181.20	29'683.50
SMRM (CHF)	61'900.38							81.52		110.25	315.05	62'023.66
Hyp (CHF)	4'121.40										26.10	4'147.50
Publication (Euro)	3'887.66		1'036.02					86.95				4'836.73
Euromar												
Euromar (Euro)	88'474.18		10'000.00	10'000.00		55'917.50		541.20	112.06			143'738.42



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The AMPERE BUREAU includes the executive officers (which take the responsibility and the representation of the Groupement between the meeting of the committee), the honorary members of the Bureau and the organizers of forthcoming meetings.

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Anja Böckmann, CNRS/University of Lyon, France
anja.boeckmann@ibcp.fr

Vice President

Janez Dolinšek, Jožef Stefan Institute, Slovenia
jani.dolinsek@ijs.si

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patrick.giraudeau@univ-nantes.fr

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maer@nmr.phys.chem.ethz.ch

Executive Secretary

Sebastian Hiller, University of Basel, Switzerland
sebastian.hiller@unibas.ch

Young Member

Guinevere Mathies, University Konstanz, Germany
guinevere.mathies@uni-konstanz.de

Young Member

Darya Svachenko, Institute of Physics of the CAS, Czech Republic
dariyasvachenko@gmail.com

EF-EPR

Gunnar Jeschke, ETH Zurich, Switzerland
gieschke@ethz.ch

SRMR

Luisa Ciobanu, CEA/Neurospin, France
luisa.ciobanu@gmail.com

MRPM

Yi-Qiao Song, Schlumberger-Doll Research, USA
ysong@slb.com

MR-Food

John van Duynhoven, Wageningen University & Research, The Netherlands
john-van.duynhoven@unilever.com

Hyperpolarisation

Geoffrey Bodenhausen, ENS, France,
geoffrey.bodenhausen@ens.fr

Publication Division

Gottfried Otting, Australian National University, Australia
gottfried.otting@anu.edu.au

Biological Solid State NMR

Hartmut Oschkinat, Leibniz Forschungsinstitut für Molekulare Pharmakologie, Germany
oschkinat@fmp-berlin.de

Euromar

Anne Lesage, Centre National de la Recherche Scientifique (CNRS), France
anne.lesage@ens-lyon.fr

Euromar Treasurer

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m.baldus@uu.nl

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bluemich@itmc.rwth-aachen.de

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beme@nmr.phys.chem.ethz.ch

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Future conferences

Ampere Event 2024

MRFood 2024	Foz do Iguaçu, Brazil	June 5-7
Ampere NMR School 2024	Zakopane, Poland	June 16-22
Euromar 2024	Bilbao, Spain	June 30 to July 4
16 th MRPM	Tromsø, Norway	August 26-30
XII th EFEPR Conference	Marseille (France)	September 8-12

Ampere Event 2025

Alpine Conference on Magnetic Resonance in Solids	Chamonix, France	September 14-18
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