

ANZMAG NEWS - July 2024

By Oliver A.H. Jones (RMIT University - oliver.jones@rmit.edu.au)

Dear all, Welcome to July 2024 edition of ANZMAG. I hope you have all had a great month and that you enjoy the newsletter. Do feel free to send in any news, views or new papers you would like to see here. I am happy to include them.

NEWS

- Congratulations to Dr Neil Robinson from UWA who is a finalist in the WA Premier's Science Awards (for the Early Career Scientist of the Year award) and the 2024 WA Energy Awards. Neil is a Forest Fellow and well known for his work using magnetic resonance to study functional porous media. Well done Neil.
- The ARC Future Fellowships were announced this week. I can't see any magnetic resonance projects listed but you can see the full list at <https://rms.arc.gov.au/RMS/Report/Download/Report/a3f6be6e-33f7-4fb5-98a6-7526aaa184cf/266>

CONFERENCES

- The joint Experimental Nuclear Magnetic Research Conference (ENC) - ISMAR Conference will be held April 6 - 10, 2025. See <https://www.enc-conference.org/ENC-ISMAR-2025> for details

JOBS AND FELLOWSHIPS

- The Victorian Government has announced the **Fostering Achievement in Research (FAIR) Fellowships** with early to mid-career researchers who narrowly missed out on national funding opportunities set to share in up to \$1 million in funding. More details at <https://www.premier.vic.gov.au/helping-victorias-emerging-researchers-make-their-mark>
- The **University of Melbourne** is looking for a Lecturer in Analytical/ Environmental Chemistry (NB this one is women only). The deadline is **6th August**, see - <https://jobs.unimelb.edu.au/en/job/917571/lecturer-in-analytical-environmental-chemistry-women-only>
- The **University of Newcastle** is looking for a Lecturer in Computational and Synthetic Organic Chemistry. The deadline is **12th August**, See - <https://www.livehire.com/careers/universityofnewcastle/job/QKFCM/63TJ0IF1HA/lecturer-computational-and-synthetic-organic-chemistry>
- **UNSW** are still advertising for an Associate Professor/Professor in Chemistry (NB this one is also women only). Closing date **26th August**. See <https://external-careers.jobs.unsw.edu.au/cw/en/job/525342/associate-professorprofessor-in-chemistry>
- **Bruker ANZ** are still advertising for a Regional Sales Specialist but be quick as the closing date is 4th August. Details are on the ANZmAG website at <https://anzmag.com.au/jobs/> Please contact Daphne Kok (daphne.kok@bruker.com) or Yas Tesiram (yas.tesiram@bruker.com) for further information.

NMRtist

NMRtist is a cloud computing service for the fully automated analysis of protein NMR spectra (e.g. peak picking, chemical shift assignment, structure determination) using deep learning-based approaches. Check it out at <https://nmrtist.org>

GRANTS AND AWARDS

- There is a call out for Nominations for the 2025 Anatole Abragam Prize in magnetic resonance. Candidates are eligible within seven years of completing their PhD (excluding career delays due to childbirth, illness and other special family circumstances). They can be nominated by any regular member of ISMAR. See <https://ismar.org/prizes-anatole-abragam-prize/> for details
- Applications for the 2024 Metcalf Prizes for Stem Cell Research are now open. See https://www.stemcellfoundation.net.au/metcalf_prizes for details. deadline of the **12th August**.
- The [Institution for Chemical Engineers](https://www.icheme.org/sustainable-world/medals-and-prizes/) has a call out for its awards. See <https://www.icheme.org/sustainable-world/medals-and-prizes/> I think the deadline vary between awards but most seem to have a deadline of the **31st Oct**.

PAPER OF THE MONTH

Before we start paper of the month I thought I'd I would answer a question that has cropped up me a few times which is how do you decide what paper to include? Well, most of the time it is me just trying to find a paper I think looks interesting and trying to keep a rough balance between NMR, MRI and EPR. However, I am happy to promote the work of the ANZMAG community. If you have a paper you would like to see here just send me the link and a brief paragraph about what the paper is and why it is cool, and I'll be happy to include it.

This week's paper of the month is on the topic of increasing sensitivity of NMR. This is a common issue and while it can be addressed using method like dissolution dynamic nuclear polarization and parahydrogen induced hyperpolarization can help they are not so easy to use in solution state NMR. The paper "Overhauser enhanced liquid state nuclear magnetic resonance spectroscopy in one and two dimensions" by Levien *et al* describes the design of an 9.4 Tesla liquid-state dynamic nuclear polarization system that enabled enhanced high-resolution NMR spectra in one and two-dimensions for small molecules, including drugs and metabolites. It can apparently achieve signal acquisition gains up to a factor of 10,000. Hyperpolarization can be transferred between nuclei, allowing DNP-enhanced two-dimensional ^{13}C - ^{13}C correlation experiments at ^{13}C natural abundance. The enhanced sensitivity could give new perspectives for structural determination of natural products or characterization of drugs, available in small quantities. Read more at <https://www.nature.com/articles/s41467-024-50265-5>

STORIES FROM THE WEB

- <https://www.dataweek.co.za/22370r> - Bridge12, located near Boston in the USA, has launched a next-generation EPR spectrometer that is apparently about half the cost of current instruments.
- <https://www.abc.net.au/news/2024-04-28/magnetic-resonance-imaging-of-a-ruptured-anterior-cruciate/103774266> - Since the Olympics are on. This link shows an MRI of a ruptured anterior cruciate ligament. Could be good for teaching.
- <https://thebusinessmagazine.co.uk/property/work-starts-on-home-for-uks-most-powerful-nuclear-magnetic-resonance-instrument/> - Work has started to create a home for the UK's most powerful NMR (1.2 GHz) at the University of Warwick. Time to get another LIEF grant ready ;-)