

ANZMAG NEWS - August 2023

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

Dear all, Welcome to August 2023 edition of **ANZMAG News**. I hope you have all had a great month.

ANZMAG NEWS CALL

Before we can start this month just a quick request that if you have any items you would like to see in the newsletter please just send me an e-mail anytime. Even if you just send me a random link to a job or news story or you want to recommend your latest paper for paper of the month it all helps.

PAPER OF THE MONTH

This month's **Paper of the Month** is on the topic of Carbon NMR. The title is "**Synergistic Combination of NAPROC-13 and NMR ^{13}C DFT Calculations: A Powerful Approach for Revising the Structure of Natural Products**" by Sánchez-Martínez et al. Correcting misassigned structures and correctly assigning each signal is essential for elucidating new structurally related compounds. The paper article describes how misassigned structures were found by chemical shift searches in the NAPROC-13 database (see <https://c13.materia-medica.net>) the results of which provided two or more different compounds with the same ^{13}C NMR data. DFT calculations were then used to determine the most likely structural proposal in agreement with the NMR data. This led to the revision of the structure of nine triterpenoids that have been reported corresponding to the same ^{13}C NMR data set. The authors also show that some chemical shift assignments needed to be swapped. The work also removes the ambiguity of several compounds, the structure of which differs in the literature and the Sci-Finder database. I thought it was an interesting approach and I am sure we see more of the use of DFT and predicted NMR spectra in future. See <https://pubs.acs.org/doi/10.1021/acs.inatprod.3c00437> for more.

MEETINGS

Although we are getting towards the end of 2023, for those keen, there are conferences scheduled for 2024.

- The Experimental Nuclear Magnetic Resonance Conference will take place 7-11 April 2024 in Asilomar, Pacific Grove, CA (same location in 2025). See <https://enc-conference.org>
- EUROMAR 2024 will be held on the 30th June to 4th July in Bilbao, Spain - <https://euromar2024.org>
- The International Council on Magnetic Resonance in Biological Systems (ICMRBS) for 2024 will be held on August 18-23 in Seoul, South Korea (Davos, Switzerland in 2026). See <http://icmrbs2024.org> for more.

Awards

- Nominations for the 2024 Medals and Awards of the **Linnean Society of London** are now open and it is not just UK citizens who are eligible. Find out more about the awards and how to nominate at <https://www.linnean.org/the-society/medals-awards-prizes-grants>
- The prestigious **Wolf Prize** is awarded to outstanding scientists and artists from around the world for achievements in the interest of humanity and friendly relations among people. The 2024 Prize is now accepting nominations in the areas of Physics, Mathematics, Medicine, Agriculture, and Music. See <https://wolffund.org.il/the-wolf-prize/> for details. Note that there are some restrictions on who can apply so you may need to go via your University Research office.
- Nominations are open for the 2024 **Institution of Chemical Engineers (IChemE)** medals and prizes See <https://www.icheme.org/sustainable-world/medals-and-prizes> for details.

NB: Even if you are not eligible for any of the prizes listed above please do consider if you can tap a worthy colleague on the shoulder and/or help them apply. Especially candidates from culturally diverse groups.

JOBS

- Monash University are looking for a senior lecturer in Biological Engineering and Systems. Please see <https://careers.pageuppeople.com/513/cw/en/job/655965/senior-lecturer> for details.
- Bruker is looking for a service Engineer in greater Melbourne area, see <https://englishcareers-bruker.icims.com/jobs/14193/service-engineer%2c-anz/job> for more info.
- The University of Oxford is looking for a head of organic and biological NMR - https://my.corehr.com/pls/uoxrecruit/erq_jobspec_version_4.display_form?p_company=10&p_internal_external=E&p_display_in_irish=N&p_process_type=&p_applicant_no=&p_form_profile_detail=&p_display_apply_ind=Y&p_refresh_search=Y&p_recruitment_id=167342
- The University of Manchester in the UK is looking for a Research Associate in NMR Spectroscopy - <https://www.jobs.manchester.ac.uk/Job/JobDetail?JobId=26186>
- Charles Sturt Uni is looking for a Head of School of Agricultural, Environmental & Veterinary Sciences. <https://www.seek.com.au/job/69379132?type=standout#sol=b4c78fab75b91df7e9701c37959f71f7c084e2b8>

There is a new website - <https://facultyvacancies.com> which is dedicated to job opportunities for professors, lecturers, researchers, post docs, PhD students and academic managers, located in Europe, Americas, Oceania, Asia and the Middle East. I have not tried it but perhaps it may be worth a look.

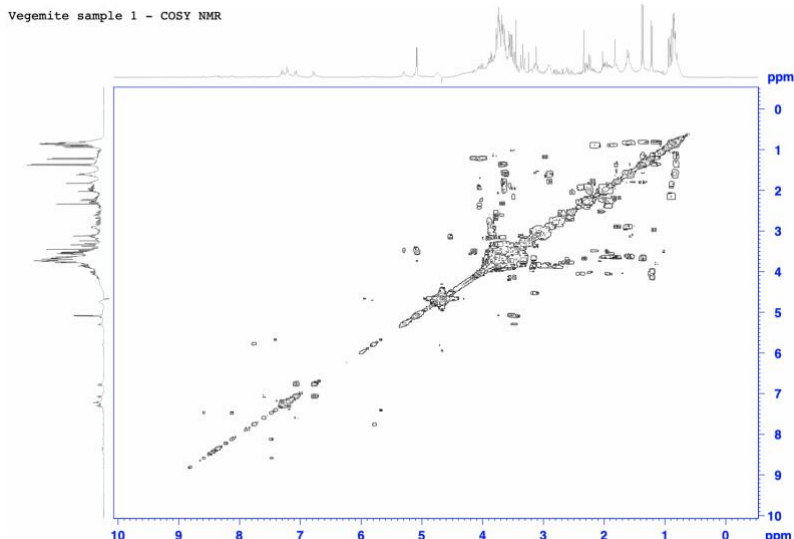
Other sites that may be of use include <http://www.unijobs.com.au/> www.seek.com.au
<http://www.nature.com/naturejobs/science/> <http://jobs.newscientist.com/> www.jobs.ac.uk
<http://www.findaphd.com/> <http://www.findapostdoc.com>

The first two links above are Australian sites, the others all carry Australian adverts (just search by country).

VEGEMITE NMR

I came across an old blog post where someone did **NMR of Marmite** (I think the New Zealand variety not the UK version – sold as Our Mate in Aus). See <https://web.archive.org/web/20131026154300/https://www.labsolutely.org/2013/06/13/marmiteyou-know-the-black-tar/>

So, just for a little bit of fun this week, here is a COSY of Vegemite (extracted with D₂O) for comparison. There are quite a few compounds.



STORIES FROM THE WEB

- <https://www.imperial.ac.uk/news/246215/giving-research-new-spin/> – Imperial College London (where I did my PhD) held a symposium on the future of EPR Spectroscopy recently.
- <https://physicsworld.com/a/iron-oxide-nanoparticles-boost-the-contrast-in-low-field-mri-scanners/> – Could iron oxide nanoparticles boost the contrast in low-field MRI scanners? Find out here.
- <https://www.news-medical.net/whitepaper/20230801/Using-Benchtop-NMR-as-an-Emerging-Asset-for-Regulated-Assays.aspx> – Find out how benchtop NMR is an emerging tool in regulated assays.