

ANZMAG NEWS - June 2023

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

ANZMAG UPDATES

- A reminder that early bird registration of the ISMAR 2023 conference (20-25 August, Brisbane), ends next week. See <https://www.ismar2023.org> for more.
- If you are keen to help beta test the new ANZMAG website (<https://anzmag.com.au>) please email gareth.nealon@uwa.edu.au (website admin).
- The 2nd Annual Global #NMR Twitter Conference will take place on July 19-21 2023. Join online to share your work to the global NMR community. Check out the video promo at <https://goto.bruker.com/3NN251k> and sign up directly at <https://goto.bruker.com/3NNtRei>
- A number of chemists were honored in the Kings Birthday honors list including:
 - Professor David Craik, awarded AO for “distinguished service to science in the field of biological and medicinal chemistry, to tertiary education, and as a mentor.
 - Professor Maria Forsyth was appointed the AM for “significant service to chemistry education, research, and scholarship”.

For a full list please see <https://www.qg.gov.au/kings-birthday-2023-honours-list>

NB Anyone can nominate any Australian for an award in the Order of Australia. If you know someone worthy head over to <https://www.qg.gov.au/australian-honours-and-awardsorder-australia/nominate-someone-order-australia>

AWARDS

- Nominations are open for the Analytical and Environmental Division Awards of the RACI. These include the Paul Haddad medal, The Graeme Batley Medal, The Environmental Chemistry Medal and the Original Research Publication Award. See <https://www.raci.org.au/Web/Awards/Division-Awards/Analytical.aspx> for details.
- NB The RACI National Awards close 30th June – You still have time (just) - nominate yourself *or* a *deserving colleague* - https://www.raci.org.au/RACI/Web/Awards/National_Awards.aspx
- There is a call for nominations for the 2024 the L'Oréal-UNESCO For Women in Science International Awards. See <https://www.forwomeninscience.com/authority/international-awards> for more information.

PAPER OF THE MONTH

This month's **Paper of the Month** is by Tang et al. and is entitled “Quantitative Low-Field ¹⁹F NMR Analysis of Carbonyl Groups in Pyrolysis Oils”. This may not sound so exciting, but it is clever work to create a cheaper and easier analytical technique for the analysis of pyrolysis bio-oils (one of the products of lignocellulosic biomass pyrolysis). The chemical composition of bio-oils is very complicated as they contain hundreds, if not thousands, of different, mostly oxygen-containing, compounds with a wide distribution of physical properties, chemical structures, and concentrations. Detailed knowledge of bio-oil composition is crucial for optimizing both the pyrolysis processes and for any subsequent upgrading into a more viable fuel resource. In this paper the authors report the successful use of benchtop, NMR in the analysis of pyrolysis oils. Oils obtained from four different feedstocks were derivatized and analysed using ¹⁹F NMR. The results compare favourably with titrations for total carbonyl content. The benchtop NMR was also able to allow the quantification of different carbonyl groups, such as aldehydes, ketones and quinones. Read more at <https://chemistry-europe.onlinelibrary.wiley.com/doi/10.1002/cssc.202300625> if you are interested.

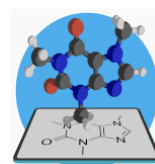
JOBS

- The University of Melbourne has a number of jobs advertised at present. These include -
 - Analytical Biochemist with experience in metabolomics. Take a look at <https://careers.pageuppeople.com/422/ci/en/job/913081/analytical-biochemist-metabolomics>.
 - Lecturer / Senior Lecturer in Environmental and Analytical / Bioanalytical Chemistry (female identifying applicants only) - <https://jobs.unimelb.edu.au/en/job/912992/lecturersenior-lecturer-in-environmental-and-analyticalbioanalytical-chemistry-women-only>
 - Lecturer in Environmental Geoscience - https://jobs.unimelb.edu.au/en/job/912784/lecturer-in-environmental-geoscience?mc_cid=24e97e4c5b&mc_eid=ddc7241af9
 - Head of Professor and Head of Department of Biochemistry and Pharmacology - <https://jobs.unimelb.edu.au/en/job/912657/professor-and-head-of-department-biochemistry-and-pharmacology>
- Continuing with the executive theme, Griffith University is looking for a Dean (Academic) a Dean (Learning & Teaching) and a Dean (Research). See more on this at <https://www.griffith.edu.au/recruit-griffith-sciences>
- The Australian National University is looking for a Director, Research School of Chemistry, see <https://www.anu.edu.au/jobs/director-research-school-of-chemistry>

SOFTWARE

I came across some useful software tools that I thought might be of interest.

- <https://chemix.org> is a great online editor for drawing lab diagrams and experiment apparatus. It is simple and intuitive. Most of fun features are free and the images you create belong to you. I think it's very useful for students and researchers. No more inserting shapes into PowerPoint. See <https://help.chemix.org/article/5-about> for more background.
- <https://www.biorender.com> Is commercial design software for scientific illustrations. It has > 50,000 very detailed and useful icons and templates from over 30 fields of life science, curated and vetted by industry professionals. It is free to use, but you have to pay if you wish to use the illustrations you've created for journals. The free version is still very useful.
- Chemomx Version 10 is now available. Paid software but very useful for small molecule mixture analysis. See <https://www.chemomx.com/products/>
- ARChem is a free app on both Apple and Android that uses augmented reality to help students learn some concepts in organic chemistry.



STORIES FROM THE WEB

- <https://phys.org/news/2020-06-single-spin-electron-paramagnetic-resonance-spectrum.html> – Did you know paramagnetic resonance technology based on a NV quantum sensor can achieve both high spatial and high spectral resolution? You will if you read this.
- <https://www.opensourceimaging.org/2023/01/09/first-open-source-mri-scanner-presented-the-osii-one/> - A quick overview of the first open-source MRI scanner. Quite a milestone.
- <https://spectrum.ieee.org/nmr-spectroscopy> Diamond rotors for solid state NMR carry less risk of exploding than ones currently in use (good to know). Read more in this story.