

ANZMAG NEWS - JULY 2015

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

Dear all,

Welcome to the ANZMAG e-newsletter for July 2015. I hope you enjoy the news this month. As per usual, I'm happy to accept feedback and additions so please feel free to send suggestions, comments etc.

FELLOWSHIPS AND AWARDS

The ARC last week released the rules for the 2015 round of **Future Fellowships**. There will only be 50 of them this year and so competition will be very high but then again, somebody has to get them. Good luck if you are applying; please see http://www.arc.gov.au/ncgp/futurefel/future_default.htm for the details.

The Victorian Endowment for Science, Knowledge and Innovation (VESKI) has released details of the **Inspiring Women Fellowships**. These support female research and science leaders who are planning for, experiencing, or returning from a career break. Details can be found on the VESKi website at <http://www.veski.org.au/inspiring-women-criteria> for those that are interested.

Applications are now open for the **2015 Hugh Rogers Fellowships**. These support a self-contained and sustainable research project of a short duration (2-8 weeks) to be undertaken in an institution in Boston. Each fellowship is worth \$20,000 may be awarded to those working in Melbourne only (sorry it is because Melbourne and Boston are sister cities) in the early stages of their careers. This could be a great chance to make connections in the USA and visit institutions such as Harvard, MIT, Boston College, Tufts University and more. The details are at <http://www.melbourne-boston.org/apply-now> if you are keen.

The analytical scientist magazine is currently asking for nominations for their **Analytical Power list 2015**. It is only a short form but I think it would be good to get some magnetic resonance people on there if we can. Just click the link below to vote <https://theanalyticalscientist.com/surveys/The-Analytical-Scientist-Power-List-2015/> I hope we can show the panel that analytical science is not just about chromatography.

Magnetic Resonance Related Apps for Teaching

Atom in a Box HD (<https://itunes.apple.com/au/app/atom-in-a-box-hd/id427644901?mt=8>) is an aid for visualizing the Hydrogen atomic orbitals, the three-dimensional states that the electron occupies in Hydrogen, a prime and otherwise unwieldy example of Quantum Mechanics.

MRI Simulator (<https://itunes.apple.com/au/app/mri-simulator/id493830304?mt=8>) helps teach MRI, it uses the Bloch equations to demonstrate signal result of specific tissues in the human body (a normal Brain MRI slice is used for the purposes of simulation) when MRI parameters are changed, very handy for teachers.

There are a series of apps for NMR on the Apple store. These include **Touch NMR** (<https://itunes.apple.com/us/app/touch-nmr/id564986048?mt=8>) which is a data processing app. **Insensitive** (<https://itunes.apple.com/us/app/insensitive/id385275424?mt=8>) which simulates the quantum mechanical models that are used to describe the nuclear magnetic resonance (NMR) experiment. **Learn NMR FID** - which you can probably guess the function of (<https://itunes.apple.com/us/app/learn-nmr-fid/id785450176?mt=8>) and **Orange NMR** (<https://itunes.apple.com/us/app/orange-nmr/id662859811?mt=8>) for predicting ^{13}C and ^1H NMR spectra.

There don't seem to be any EPR apps on the Apple store but if/when any crop up, I will let you know.

UPCOMING CONFERENCES

There are a lot of MR related workshops, symposia and conferences coming up in 2015.

NMR

A list of upcoming NMR events and conferences can be found at http://nmr900.ca/nmr_events.html

The next ANZMAG conference will be held from the 29th November to the 3rd December 2015. It will take place in the Copthorne Hotel and Resort near Paihia in the Bay of Islands. The website is now up and running and abstract submission is open so please see <http://anzmag2015.co.nz/> for all the details.

MRI

There is a very nice list of information on courses, workshops and seminars being held within Australia, New Zealand and overseas at the Royal Australian and New Zealand College of Radiologists website at <http://www.ranzcr.edu.au/news-a-events/classifieds/coursesworkshops> for those that are keen.

EPR

In a similar vein to the above the International EPR (ESR) society has a comprehensive list of many recent and upcoming EPR-related conferences at <http://www.ieprs.org/meetings.php> if EPR is your thing.

PUBLICATIONS CORNER

This month I thought I would cover some introductory NMR textbooks, I'll cover MRI next time, then EPR.

Spin Dynamics: Basics of Nuclear Magnetic Resonance, 2nd Edition by Malcolm H. Levitt (<http://au.wiley.com/WileyCDA/WileyTitle/productCd-0470511184.html>). Rumor has it there will be a new edition of this classic introduction to NMR coming out soon but the 2nd edition is still a worth a look.

Understanding NMR Spectroscopy by James Keeler. Now in its 2nd Edition this is a great introduction to NMR and the basis of the first ANZMAG lecture series recorded at University of Queensland Moreton Bay Research Station (https://www.youtube.com/playlist?list=PLE20foNk9J6L1dh9X27RaPioul8_7wrAY).

NMR: The Toolkit: How Pulse Sequences Work (another) 2nd edition by Peter Hore, Jonathan Jones and Stephen Wimperis. Just out this year and part of the excellent Oxford chemistry primer series (<http://www.amazon.com/NMR-Toolkit-Sequences-Chemistry-Primers/dp/0198703422>).

STORIES FROM THE WEB

- <http://taunton.wickedlocal.com/article/20150608/NEWS/150607453> (EPR continues to impress. This story is about researchers used EPR to discover a new enzyme link to iron in vitamin A synthesis).
- <http://www.news-medical.net/whitepaper/20150615/Identifying-imitation-cheese-and-ice-cream-using-NMR-spectroscopy.aspx> (Food adulteration is a growing area of interest for many. This story shows how imitation cheese and ice cream can be identified using NMR spectroscopy).
- <http://medicalphysicsweb.org/cws/article/research/61691> (This I thought this was a very clever study, German and Irish researchers have completed what they are calling the first sodium MR images of the heart at 7 tesla to deliver high-resolution images at acceptable scan times).