

ANZMAG NEWS – June 2020

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Dear all,

Welcome to the June 2020 edition of ANZMAG News. I hope that everybody and their families are well, especially with the current COVID19 cases coming out of Victoria?

TEACHING/EDUCATION

The following list of upcoming **NMR webinars** was kindly created by Dr Ann Kwan. Thanks for this Ann 😊

The ICMRBS YouTube channel is up and running and now features six emerging MR webinars (typically featuring one new webinar per week): <https://www.youtube.com/channel/UCsxup-QiNEeBrfo-4d5w33Q>

CCPNMR recently held a YouTube Conference and you can watch the talks on the following playlist: <https://www.youtube.com/playlist?list=PLbkpEPCjTbbphm1Fv1okulnB32XELRk6j>

The Protein Society Webinar Series delivers timely research reports from experts in protein science and are free of charge. Unfortunately, timing can be a bit awkward for most of us in Oz and NZ: <https://www.proteinsociety.org/page/webinars>

The educational biomolecular ssNMR and DNP lecture series given by Prof Tatyana Polenova at the end of 2019 is now available at the ANZMAG Youtube channel. The playlist can be found on <https://www.youtube.com/playlist?list=PLE20foNk9J6L1ARXz7oHnMTstirPED-r>

The ANZMAG educational channel can be found on <https://www.youtube.com/user/ANZMAG/playlists>

Special thanks to Tatyana Polenova (our Superstar), Bruker and the Georgina Sweet Award (workshop sponsors), Frances Separovic (for slide editing) and a team of volunteer proof-watchers (Bill Bubb, Biswaranjan Mohanty, Yanni Chin, Marc-antoine Sani and Karoline Sanches).

We also have a draft, updated **ANZMAG list of online Educational Resources**, written by me, available online at <https://tinyurl.com/yxpcxrxg>

PAPER OF THE MONTH

This month's paper of the month is again from the hallowed pages of Analytical Chemistry. The title is Single-Chip Dynamic Nuclear Polarization Microsystem by Solmz et al. The paper describes the integration on a single silicon chip of the front-end electronics of NMR and ESR detectors that allow one to perform dynamic nuclear polarization (DNP) experiments using a single-chip-integrated microsystem having an area of about 2 mm². The authors report DNP-enhanced NMR experiments on liquid samples of ~1 nL performed at 10.7 GHz (ESR)/16 MHz(NMR) You can read it at <https://pubs.acs.org/doi/10.1021/acs.analchem.0c01221>? If you are interested.

SNOW FELLOWSHIPS

The Snow Medical Foundation will award two prestigious 8 year Fellowships valued at approximately \$8million for early to mid-career researchers in the areas of medicine, biology and biomedical disciplines (including chemistry, physics, engineering and computing that are directly related to medicine). Applicants must have had their PhD conferred between 2010 – 2015 (with up to 2 years of career interruptions) eligible. See <https://snowmedical.org.au/snow-fellowships/> for details.

INDUSTRY MENTORING NETWORK IN STEM (IMNIS)

The Industry Mentoring Network in STEM (IMNIS) provides PhD student mentees the opportunity to increase their understanding of the industry sector, strengthen their skills to be successful within any part of the science, technology, engineering and mathematics (STEM), including health and medicine sector, and extend their professional network. [Early career postdoctoral fellows](#) (within 5 years of graduation) will also have the opportunity to apply for the 2020 programs. See <https://imnis.org.au/> for the details and please pass on to your postdocs and PhD students.

PhD OPPORTUNITY

Hong Kong Baptist University is looking for a PhD student in protein/RNA crystallography and biochemistry (see attached). The position is fully funded. The advert with all the details can be seen online at <https://www.dropbox.com/s/qwz4b2cs444sf6x/Aik%20Lab%20-%20PhD%20studentship%202021.pdf?dl=0>

For any queries, please contact Dr Wei Shen Aik at aikweishen@hkbu.edu.hk or visit <https://www.aiklab.org/join-us> Thanks to Ivanhoe Leung at the University of Auckland for this.

NB: You can also find a lot of NMR related PhDs and jobs on twitter using the #nmrchat. You don't even need to be on twitter for this. See https://twitter.com/search?q=%23nmrchat&src=typed_query

SUPERSTARS OF STEM 2020

Applications for the 2020 round of the Science and Technology Australia Superstars of STEM program will open on the 4th August and close 31st August. See <https://scienceandtechnologyaustralia.org.au/what-we-do/superstars-of-stem/applicant-info/>

STORIES FROM THE WEB

- [https://www.news-medical.net/life-sciences/Spin-Labels-in-Electron-Spin-Resonance-\(ESR\)-Spectroscopy.aspx](https://www.news-medical.net/life-sciences/Spin-Labels-in-Electron-Spin-Resonance-(ESR)-Spectroscopy.aspx)

An Interesting story on the use of Spin Labels in ESR Spectroscopy.

- <https://sciencebusiness.net/taking-magnetic-resonance-imaging-new-dimension>

This article is on how EU-funded ATTRACT consortium explores how to enrich MRI scans with mixed reality headsets and other high-tech wizardry.

- <https://www.bruker.com/news/successful-installation-of-eth-12-ghz-nmr-system-enables-novel-research-capabilities-in-solid-state-nmr.html>

A story on the successful installation a 1.2 GHz NMR system at the ETH that enables new research capabilities in solid-state NMR.

We end this month with a tribute to Mark Rance forwarded by Prof Ray Norton

It is with great sadness that we inform the magnetic resonance community of the passing of our colleague and friend Mark Rance, on June 22, 2020. Mark was a quiet, powerful intellect who made numerous seminal contributions to our field. He was also one of the gentlest and caring of friends and colleagues. We miss him very much and will regret missing out on contributions that were still in the making.

Mark was born and raised in the small town of Blenheim, Ontario (Canada) and entered the magnetic resonance field as a Ph.D. student in Physics with Ken Jeffrey at the University of Guelph. He was among the early contributors to the use of solid-state ^2H and ^{14}N NMR studies of membranes. Following an initial postdoctoral period at the National Research Council in Ottawa, where he became a friend and collaborator with Andy Byrd working on solid-state NMR of membranes, Mark moved to a unique postdoctoral position between the laboratories of Richard Ernst and Kurt Wüthrich, both at the ETH, to test the most recently developed NMR experiments on proteins. This collaboration brought us the DQF-COSY experiment and many other significant contributions to the development of the field of protein NMR spectroscopy.

Following his time in Zürich, Mark joined the powerhouse NMR Center at the Scripps Research Institute, led by Peter Wright, and in turn helped recruit ETH postdoc colleague, collaborator and friend Walter Chazin. It was there that he collaborated intensively with the cadre of postdoctoral scientists that became his co-authors of the well-known textbook "Protein NMR Spectroscopy": John Cavanagh, Wayne Fairbrother, Nick Skelton, and Arthur Palmer. In 1996 Mark moved to the University of Cincinnati, where he joined his life partner Pearl Tsang and established an NMR Center in the School of Medicine. Mark made seminal contributions to bio-NMR spectroscopy throughout his career, including revealing the principles of sensitivity enhancement in TOCSY and heteronuclear correlation experiments, leading to what is commonly referred to as the Rance-Kay method. In addition, his career-long interest in NMR spin relaxation has been fundamental to our understanding of conformational dynamics in proteins, most recently through relaxation dispersion spectroscopy.

Mark impacted so many areas of NMR spectroscopy, yet always remained a very low-key and kind person, setting an excellent example for all. Everyone fortunate to know Mark has been enriched by his presence in our field, his wisdom, and his friendship.

Andy Byrd, Walter Chazin, and Art Palmer