



R-IQ

Research Institutes
Quarterly A summary of key
happenings in University of
Adelaide research institutes

JULY 2020



AUSTRALIAN INSTITUTE FOR MACHINE LEARNING

- AIML researchers had 23 papers in the highly influential CVPR2020 (computer vision convention), a level of representation seen only amongst the world's top groups in the field.
- \$1M funding has been secured from the Defence Artificial Intelligence Centre to establish a Poppy@AIML Lab for rapid development of AI and ML prototypes.
- The Smarter Regions CRC Bid, to be submitted late July, will empower regional Australia to gain the maximum benefit from the AI revolution. Please contact Javen Shi or Paul Dalby if you are interested in engaging in the bid.

Senator Rex Patrick (right) visits AIML to discuss a new National Centre for Augmented Reasoning to be hosted in South Australia at AIML.



ENVIRONMENT INSTITUTE

- Prof. Hugh Possingham, Chief Scientist at the Nature Conservancy, has been appointed Chair of the Environment Institute's Advisory Board.
- Profs Christian Doonan and Chris Sumby signed a contract for \$340,000 with Petronas to undertake research on clean methanol synthesis.
- A/Prof. Phill Cassey is a Chief Investigator in the 'Securing Antarctica's Environmental Future' research program recently awarded \$36M in federal funding.

The Echidna CSI (Conservation Science Initiative) has won a grant from the Foundation for National Parks & Wildlife Recovery to study the impact of bushfires on Kangaroo Island echidnas.

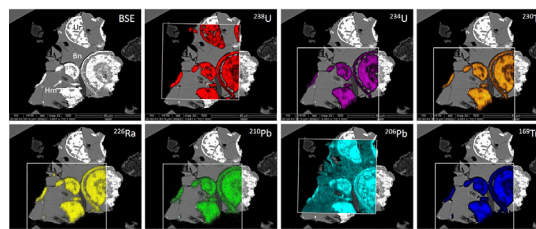




INSTITUTE FOR MINERAL AND ENERGY RESOURCES

- Prof. Graham Heinson is a partner on two South Australian Government Accelerated Discovery Initiative (ADDI) grants and will be working with Havilah Resources and Fleet Space Technologies.
- A/Prof Carl Spandler delivered his inaugural professorial lecture on Rare Earth Elements on 29 June to an empty Braggs Lecture theatre, but a large online crowd. Plans are advancing with the SA Museum and other partners to establish a [Critical Minerals](#) research centre.
- The [ARC ITRP Cu-U Hub](#) has completed, outputting 50 publications, new technologies, spin-off projects, and continued engagement with stakeholders. The Hub's name and identity will be retained until mid-2023.

The world's first nanoscale resolution, ultra-trace sensitivity mapping of radionuclides in mineral grains from copper concentrates (produced by the ARC ITRP Cu-U Hub).



INSTITUTE FOR PHOTONICS AND ADVANCED SENSING

- First research contract awarded to the new CSIRO/IPAS joint lab led by A/Prof. Martin O'Connor and Prof. Andre Luiten: 'Development of Satellite Optical Systems for Earth Observation Science' (\$890,000).
- 'Tailor-engineered plasmonic single-lattices: harnessing localized surface plasmon resonances for visible-NIR light-enhanced photocatalysis' featured on the cover of Catalysis Science & Technology, co-authored by IPAS members: Siew Lim, Cheryl Law, Andrew Abell and Abel Santos.
- IPAS is developing an ARC Training Centre bid in the field of Quantum Materials. Please contact Elodie Janvier if you are interested in engaging in the bid.

Australia's Chief Defence Scientist highlights IPAS' Sapphire Clock Technology in her National Press Club Address, May 2020. Photo provided courtesy DSTG.



ROBINSON RESEARCH INSTITUTE

- NHMRC Investigator Grants totalling \$5.2M awarded to Profs Sarah Robertson and Jodie Dodd. This represents over 50% of the University's Investigator Grant funding awarded in 2020.
- \$7.8M of MRFF funding awarded to four projects, including \$3M for Prof Michael Davies to fund research in maternal exposures, congenital heart defects, and child development.
- 'The Illusion of Evidence-Based Medicine: Exposing the crisis of credibility in clinical research' a soon-to-be-released book by Prof Jon Jureidini of the Institute and Leemon McHenry.

The Institute has worked with the Victorian Assisted Reproductive Treatment Authority (VARTA) to upgrade the 'Your Fertility' Healthy Conception Tool.



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STRETTON INSTITUTE

- Stretton Program Directors, Profs Emma Baker and Chris Leishman were, [awarded two of eight priority COVID-19 research projects](#) announced by the Australian Housing and Urban Research Institute (AHURI), related to renting and the housing market in the COVID-19 pandemic.
- The Institute ran its first masterclass online on [Data for Policy](#), delivered by David Kalisch, the former Head of the Australian Bureau of Statistics.
- Director, Prof. Adam Graycar and Institute member Prof. Lisa Hill delivered the University's May 2020 Research Tuesday on [Compulsory Voting: Strengthening Democracy](#).

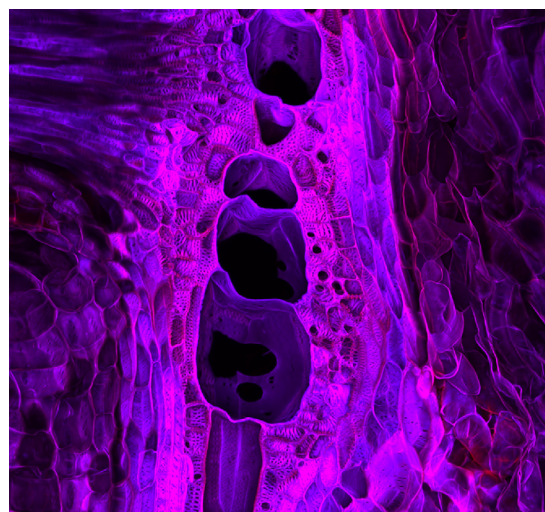
COVID-19 saw the Institute pivot to hosting events online. Webinars were held between April and June on [COVID-19 and food security](#), [COVID-19 and schooling](#), [good governance](#) and [water sharing in the Murray-Darling Basin](#). The webinars garnered over 1000 registrants and recordings have been viewed over 2000 times.



WAITE RESEARCH INSTITUTE

- WRI is a key partner in the new \$7M South Australian Genomics Centre (SAGC) headquartered at SAHMRI, and is driving new initiatives in agricultural and environmental genomics.
- A/Prof. Matthew Harrison is the University's new Top Talent appointment in Decision Agriculture (commencing September 2020). With a background in agricultural systems modelling, he is already developing joint WRI/AIML initiatives.
- Prof. Dabing Zhang recently co-authored a paper in [Nature Plants](#) that reveals the importance of pollen aperture formation in rice for developing hybrid rice plants with high yield and quality.

High-resolution 3D image of nematode-infected wheat roots (Kara Levin). WRI researchers have uncovered how a common parasite affects wheat crops by applying new technology to address an old problem (Scientific Reports: <https://www.nature.com/articles/s41598-020-66080-z>).



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