



THE UNIVERSITY  
of ADELAIDE

# R-IQ

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

**APRIL 2020**



## AUSTRALIAN INSTITUTE FOR MACHINE LEARNING

- The intersection of art and artificial intelligence: AIML and the Sia Furler Institute hosted Laurie Anderson as their [inaugural Artist-in-Residence](#) and held an 'Arts Intelligence' Hackathon.
- Anton van den Hengel has joined Amazon Research, but will remain part-time with the University, and as Co-Director of AIML until February 2021.
- Professor Tat-Jun Chin has been awarded \$600,000 SmartSat funding for his work on 'Ultra-Fine Attitude Control via Event-based Star Tracking and Piezoelectric Stabilisation'.

*The Premier of South Australia, the Hon Steven Marshall MP officially opened the new AIML Building on Lot Fourteen on 17 February 2020.*



## ENVIRONMENT INSTITUTE

- Justin Brookes, Michelle Waycott, Luke Moseley and others led successful negotiations for an \$8-10M grant over ~3 years to tackle important environmental issues in the Coorong.
- Lee Arnold and Martina Demuro co-authored the 27 March 2020 Science paper '[Last Interglacial Iberian Neandertals as Fisher-Hunter-Gatherers](#)' which counters the theory that the success of sapiens relates to a competitive advantage over Neandertals associated with marine resource exploitation and brain development.
- Prof. Bob Hill has been invited to join the South Australian Minister for Environment and Water's 'Bushfire Recovery Task Force' which will play a strategic role in the recovery effort of our natural environment.

*Damaged plane tree leaves after one day above 45°C. The Environment Institute is discussing a major research initiative on the effect of extreme heat conditions on Adelaide street trees with several Adelaide councils, DEW and SA Water.*





## INSTITUTE FOR MINERAL AND ENERGY RESOURCES

- IMER has been consulting with stakeholders on a refined and sharper focus (IMER: Modern Energy Systems), which is likely to be submitted to the University for approval in April.
- IMER is leading the development of the Heavy Industry Low-Carbon Transition (HILT) CRC bid which has strong partner interest: \$75,000 pledged for Stage One bid costs to-date. Please contact [Chris Matthews](#) if you are interested in engaging in the bid.
- Alan Collins and Martin Hand co-authored the Nature.Com Scientific Reports paper: '[Isotopic systematics of zircon indicate an African affinity for the rocks of southernmost India](#)' which suggests that the tip of southern India has an African affinity and an ancient ocean basin must geologically separate it from the remainder of India.

*The Hi-TeMP-2 forum ran successfully in March with 120 attendees, mostly virtually connected, from around world discussing pathways for heavy industry's transition to zero carbon.*



## INSTITUTE FOR PHOTONICS AND ADVANCED SENSING

- A Defence Science and Technology Group (DSTG) research contract has been awarded to Andre Luiten for 'Development of Clocks for GPS-Denied Maritime Environments' (\$890,000).
- IPAS researchers from the ARC Ozgrav Centre of Excellence have developed a [deformable mirror](#) that will raise the performance of gravitational wave detectors.
- IPAS is developing a CRC bid in the field of Quantum Communications and Sensing. Please contact [Piers Lincoln](#) if you are interested in engaging in the bid.

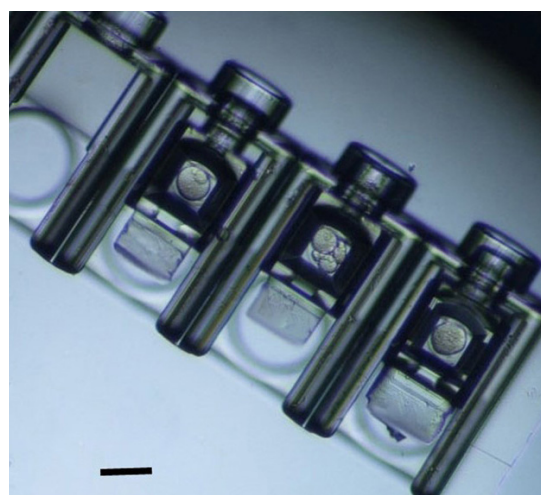
*Additive manufacturer Amaero launched its 3D printing facility in partnership with the University of Adelaide in Adelaide's northern suburbs on 12 March 2020. The facility contains three state-of-the-art Renishaw AM 400 3D printing machines.*



## ROBINSON RESEARCH INSTITUTE

- In 2017 and 2018, 237 schools from across South Australia participated in the world's biggest Meningococcal B Herd Immunity Study: '[B Part of It](#)'. The outcomes of the GlaxoSmithKline-sponsored study, led by Helen Marshall, were published on [23 January 2020](#) in the New England Journal of Medicine (IF ~70).
- Funding has been secured from the Australian Phenomics Network and NCRIS to develop the SA Functional Genomics Facility (previously the Robinson Research Institute GSEx Core Facility) with the Faculty of Health and Medical Sciences.
- There has been rapid progress on COVID-19 projects including the SA COVID-19 Biobank led by Simon Barry, and low cost ventilator technology developed by David Parsons.

*3D-printed, embryo micro-culture device developed by Jeremy Thompson and team to advance automated IVF, with funding from Robinson Research Institute Priority Research Scheme, in partnership with University's Centre for Nanoscale Biophotonics (CNBP).*







## STRETTON INSTITUTE

- Adam Graycar was appointed as inaugural Director of the Stretton Institute commencing 1 January 2020. (Editor's note: one can only wonder whether 2020 will transpire to be an inspired or intimidating year to kick off an institute for public policy research!)
- Four research work programmes and leaders have been confirmed: Rachel Ankeny (Agrifood), Emma Baker (Building a City for the Future), Ashok Khurana (Energy) and Chris Leishman (Population and Productivity)
- The Stretton Institute is developing a Master's degree in public policy with the School of Social Sciences, intended to commence in 2021.

*The Stretton Institute held its first seminar on 7 February 'Policy Analysis and Policy Advice: Perspectives from Canada', by [Michael Howlett](#) (Simon Fraser University, Canada).*



## WAITE RESEARCH INSTITUTE

- The ARC Training Centre for Innovative Wine Production (team including Vladimir Jiranek, David Jeffery, Kerry Wilkinson, Steve Tyerman and Renata Ristic) has won the 2020 Australian Council of Graduate Research (ACGR) Award for Excellence in Graduate Research Supervision.
- Matt Denton's paper on the rhizosphere microbial metagenome in agricultural soil has been accepted by the prestigious international journal *Genome Biology*.
- The Waite Research Institute is supporting the University's partnership with the University of Nottingham partnership through establishment of the Global Agri-Food Hub, home to a growing cohort of joint PhD Students and new projects focused on sustainable future food production.

*A multidisciplinary Barley Excellence Cluster involving key industry stakeholders is currently in development.*



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