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Innovation

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NASA scientist and driverless car pioneer crowned top Aussie expats

Paul Smith *Technology editor*

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The first Australian to become a scientific lead on a NASA mission to Mars and the founder of a pioneering billion-dollar company making driverless cars have been jointly crowned as Australia's top expatriates in the [annual Advance Global Australian Awards](#), which recognise the country's far-flung high achievers.

Dr Abigail Allwood and Tim Kentley Klay were chosen from more than 250 nominations for the federal government-backed award, which has demonstrated the calibre of science and technology talent exported in recent years.



NASA scientist Dr Abigail Allwood and Zoox co-founder Tim Kentley Klay have been recognised for their achievements as expat Australians excelling overseas.

Last year's [winner was David Putrino](#), a neuroscientist and physical therapist who creates innovative ways to rehabilitate patients at Mount Sinai Hospital in New York.

Dr Allwood has a huge responsibility on her shoulders. She is a geologist, astrobiologist and [research scientist working at NASA's prestigious Jet Propulsion Laboratory](#) and is leading a team that has developed a cutting-edge Planetary Instrument for X-ray Lithochemistry (PIXL). This is an artificial intelligence-equipped tool that will examine rock chemistry on Mars and search for signs of life, as part of the Mars 2020 rover mission.

She is the first female and first Australian scientific lead on a NASA Mars mission. Dr Allwood told *The Australian Financial Review* the pressure of the mission was clear, and that she felt nervous for the team, rather than herself. The mission was launched on July 30 and is due to touch down on Mars on February 18 next year.

"This is the first time a Mars mission has had such a bold objective, in answering the 'life question', and we have such a short time to address it," she said.

It was important for me when I was young to see that women were actively contributing to planetary exploration in leadership roles.

— Dr Abigail Allwood, NASA scientist

"A lot of planning has occurred, but we are also trying to remain flexible to what we might find. I have no doubt that we will find ourselves pressured to make decisions and commit to certain interpretations when we would – under any other circumstances – want to take much more time to make such important and irreversible choices.

"We know that we have selected a really compelling landing site for this mission to answer questions on past life and other significant science questions. We are equipped with an awesome payload of instruments to study the site. Accordingly, I expect that we will – at the very least – provide future generations of sample scientists with a very comprehensive and information-rich set of 'geological field notes' to go with the samples that we select for return to Earth.

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"Together, I hope that the samples and field notes will provide those scientists the means to make paradigm shifting discoveries for humankind."

Asked about her relatively low profile at home in Australia, Dr Allwood said she was not bothered about fame, but wished Australia had a similar willingness as America to recognise and celebrate its science and scientists. This was mainly because such recognition lead to much more philanthropic support for scientific research in the US.

She said the significance of being the first woman in such a prominent position on a Mars mission was not lost on her, and that Australians should know the country was considered a scientific leader on the world stage.

"It was important for me when I was young to see that women were actively contributing to planetary exploration in leadership roles. I hope that I provide an example to the next generation of Australian kids and girls in general that it is perfectly reasonable for them to expect to have a career in planetary science and space exploration," Dr Allwood said.

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Mr Kentley Klay's award comes after a trying couple of years, following his [surprise firing from Zoon](#) in August 2018. He was ousted from the company he had grown from scratch to a \$US3.2 billion valuation in just four years, and went on to be [sold to Amazon for about \\$1.5 billion](#) in June.

He is being recognised for the extraordinary achievement of moving to the US as a creative founder of a [commercial animation studio](#) and a [video post production studio](#), and building a company that was on many metrics beating giants such as Google Uber Tesla and Apple in creating the next generation of autonomous

Google, Uber, Tesla and Apple in creating the next generation of autonomous transport.

No longer a fringe idea

"It can seem like a company appears out of nowhere when it is suddenly in the media, but it is a tremendous degree of hard work and thinking and talking," Mr Kentley Klay said.

"I think what founders do is they see a new way that something can be done, a new vibration if you will, and then share it with other people and see if it amplifies.

"I always saw Zoox as what I was pointing to, which is that combining a zero-emission powertrain, electric in this case, with autonomy could really create some breakthroughs in how we move on the planet, across pollution, safety and lifestyle."

He said autonomous mobility was still a fringe idea when he started thinking about Zoox in 2012, and the industry was virtually non-existent, but he was able to build a team of experts and leave traditional automotive industry players for dust.

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While it might seem intimidating to be competing against such big, rich companies, and established car industry giants, he had approached the challenge from the perspective that they were the wrong people to be envisaging the next generation of transportation.

"In California, they have the sequoia tree, the redwood, which is one of the tallest trees in the world, but its seed will sit under soil and will only germinate when it senses the heat of a bushfire because it has learnt that if it germinates when there hasn't been a fire, it won't get past the low-lying scrub," Mr Kentley Klay said.

"So, in a sense, it's up against all these other established trees, but if it's the right opportunity and the right moment, it has a really good chance, which is an analogy for Zoox.



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"When the internal combustion engine took us from the age of the horse and carriage to the age of the automobile, it meant a whole new range of companies, because the problems changed from stabling horses and turning wood and leather to mechanical engineering, which was alien to the people that did horses and carriages.

"It's the same thing now. Artificial intelligence, digital computers, sensors, these are what make autonomy work, and they are really different to people that got into the automotive world, because they love bending metal and driving fast cars."

Advance chairman [Yasmin Allen](#) said it should be a source of national pride that Australia produced many exceptional leaders and trailblazers, who were making a significant impact around the world. She said it was critical that the expatriate community remained strongly connected to Australia while they lived and worked overseas.

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"Dr Abigail Allwood is a name every child in Australia should know. A true hero in her field of space technology," Ms Allen said.

"Tim Kentley Klay embodies that rare and wonderful mix of commercial and creative nous that stretches possibilities. He has demonstrated what it takes to create and commercialise ideas, scale and shape new companies and markets."

The two main honours come from a group of award winners, who were recognised in their areas of achievement.

Other award winners

Alumni Award: Premesh Chandran, CEO and co-founder at Malaysiakini; Asia

Malaysiakini

MODIII

Arts Award: Christopher Doyle, filmmaker at Hong Kong Society of Cinematographers

Commercial Creatives Award: Tim Kentley Klay, Zoox, XYZ Studios and Crayon.

Education Award: Olivia Humphrey, founder and executive chairman at Kanopy

Financial Services Award: Jennifer Nason, global chairman, investment banking, at JPMorgan

Life Sciences Award: Professor Jill Banfield, Professor of Earth Science, Ecosystem Science and Materials Science and Engineering departments at the University of California, Berkeley

Social Impact Award: Nicholas Wyman, CEO and founder at the Institute For Workplace Skills and Innovation

Sustainability Award: Dr Bart Kolodziejczyk, chief scientist and managing director at Fortescue Metals Group

Technology & Science: Dr Abigail Allwood, world-leading field geologist, astrobiologist and research scientist with NASA's prestigious Jet Propulsion Laboratory

Advance Global Icon Award: Sophie Blackall, illustrator, artist and designer

Asia Impact Award: Dr Rossa Chiu, a professor in the department of chemical pathology and Associate Dean for Development at the Chinese University of Hong Kong

Emerging Leader Award: Dr Susan Graham, chief executive and co-founder of Dendra Systems

Global Impact Award: Dr John McHutchison AO, CEO and president at Assembly Biosciences

Paul Smith edits the technology section and has been a leading writer on the sector for almost 20 years. He covers big tech, how businesses are using technology, fast growing start-ups, telecommunications and national innovation policy. *Connect with Paul on [Twitter](#). Email Paul at psmith@afrr.com*

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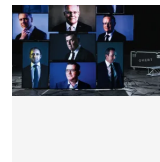
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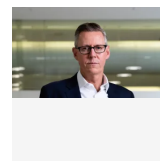
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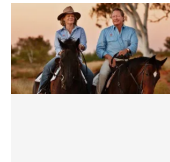
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