

Man of Mars and opals

Expat French geologist Patrice Rey is making his mark on our 'Big Red', **David Wilson** writes.

Geologist Patrice Rey was a school boy in southern France when Australia appeared to him on his black-and-white television. The show – a documentary about opal mining – captivated the humble son of a plumber and housewife.

Now, Rey, 51, is borderline famous thanks to this theory that Australia's opal-rich Red Centre bears a clone-like resemblance to the surface of Mars. His enthralling research, which sheds light on how opals form, has featured everywhere from the Huffington Post to Space.com.

"It certainly feels great when what we do as scientists catches the interest and imagination of the broader community," says Rey.

Australian Journal of Earth Sciences editor Anita Andrew was the first to see his Mars theory's special Australian appeal, after attending a seminar Rey gave to CSIRO colleagues in North Ryde. Andrew duly published [<http://tiny.cc/ay620w>] Rey's interplanetary paper, which his employer, the University of Sydney, promoted. The story gathered viral momentum.

Its implication is that the Red Centre – in particular the Great Artesian Basin – could be an awesome space science resource. Already, because of the high cost of sending orbiters and rovers on Mars missions, scientists are scouring this planet for geological "planetary analogues", according to Rey.

Painting Central Australia as a natural and unique Mars laboratory, he has applied for an Australian Research Council grant to gauge the area's full mineral characterisation. He is also trying to persuade the American space agency, Nasa, to invest research dollars in Central Australia.

Rey – based in Helensburgh, New South Wales – came to Australia in 1995. He was working as a researcher in chilly Potsdam, Germany, when Monash University contacted him with a lecturing job offer.

"It took me 0.01 seconds to choose Melbourne over Potsdam. Boy, I was lucky," he says.

"I landed in Melbourne on a hot and stormy day – I still remember the smell of the gum trees," he says. He remained at Monash until 2000 when he switched to the University of Sydney, where he is an associate professor on a \$142,000 gross salary. His opal Red Centre research that spawned his Mars mission came about by chance.

In 2003, the Lightning Ridge Miners Association (LRMA) "randomly" contacted him, seeking a geologist game for researching the formation of opal.

"Being relatively new in Australia, I didn't know where was Lightning Ridge – to the obvious disappointment of the person on the phone," he says.

"That day I learned that: 1, Lightning Ridge was a short eight hours' drive north of Sydney; 2, opal was Australia's official gemstone; and 3, the secret of its formation in central Australia and almost nowhere else on Earth was still to be discovered. To me, this was looking like a free meal," he says, adding that he saw that the mission with clear national significance would have a keen audience – opal miners.

Better still, Rey would be breaking new ground. Despite 150 years of opal mining, scientists have conducted scant research on how our national gemstone arose, according to Rey.

His two-phase plan is to first publish a map showing where opals can no longer be found – to save time, money and environmental impact, he says.

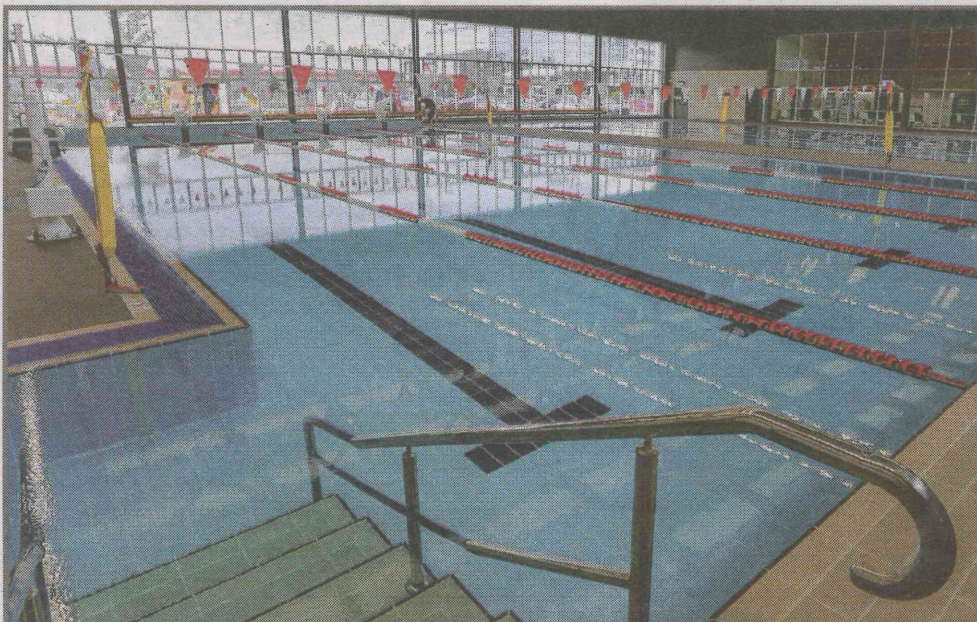
In the second phase, he wants to establish where the best Central Australian opal mining areas lie. The research could be capitalised on heavily, with "huge potential for smart investors".

His dream is to strike his own rich seam that yields a fortune – enough money to pursue his research interests at liberty.

He would gladly kiss goodbye to research grant applications, key performance indicators and all other forms of ranking because it rewards playing "the metrics" – anathema to the news-making seer with one eye on Mars.



Never a dull moment: With one eye on Mars and one on opal research, Patrice Rey doesn't get bored.



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