MEDIA RELEASE

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Research strikes gold

A team of researchers at the University of Tasmania has settled a long-running debate over the origins of the world's largest and deepest gold deposit.

The team, led by Professor Ross Large, Director of the ARC Centre for Excellence in ore Deposits (CODES) at UTAS, released the groundbreaking findings recently at the Geological Society of London Fermor Conference, where Prof Large was an invited keynote speaker.

The source of the renowned Witwatersrand ore deposit in South Africa has been a topic of debate among geologists for more than a century.

This giant ore-body has been one of the cornerstones of South Africa's economy, producing more than 40,000 tonnes of gold since its discovery in 1884.

Not surprisingly, there has been a lot of interest in how this geological phenomenon occurred. The theorists fall into two camps: the 'placerists' and the 'hydrothermalists'.

Prof Large said it turned out both camps were correct.

"We developed a novel analytical technique that scans a very narrow laser beam across the gold and associated minerals to determine the origin and history of the gold.

"We found that the placerists were correct in how the initial concentration of gold had formed in the conglomerates about three billion years ago, but then, about 800 million years later, the reef was hit by a pulse of fluids rich in gold, which supported the 'hydrothermalists' theory.

Professor large commented that it was very satisfying to show that both lines of previous research had proved to be correct. He said major research advances in science are commonly borne from debates and controversies of this type, however the outcome usually comes down on one side of the fence.

“In this case, the excellent research over many previous decades by hundreds of geologists, had proved right on both counts.

“This result explains why the Witwatersrand deposit is the biggest and richest in the world,” said Prof Large.

“These two major geological events combined to produce a greater volume of gold.”

Prof Large said very few laboratories in the world have this technological capability and for this reason the UTAS team was invited to assist in resolving the debate.

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