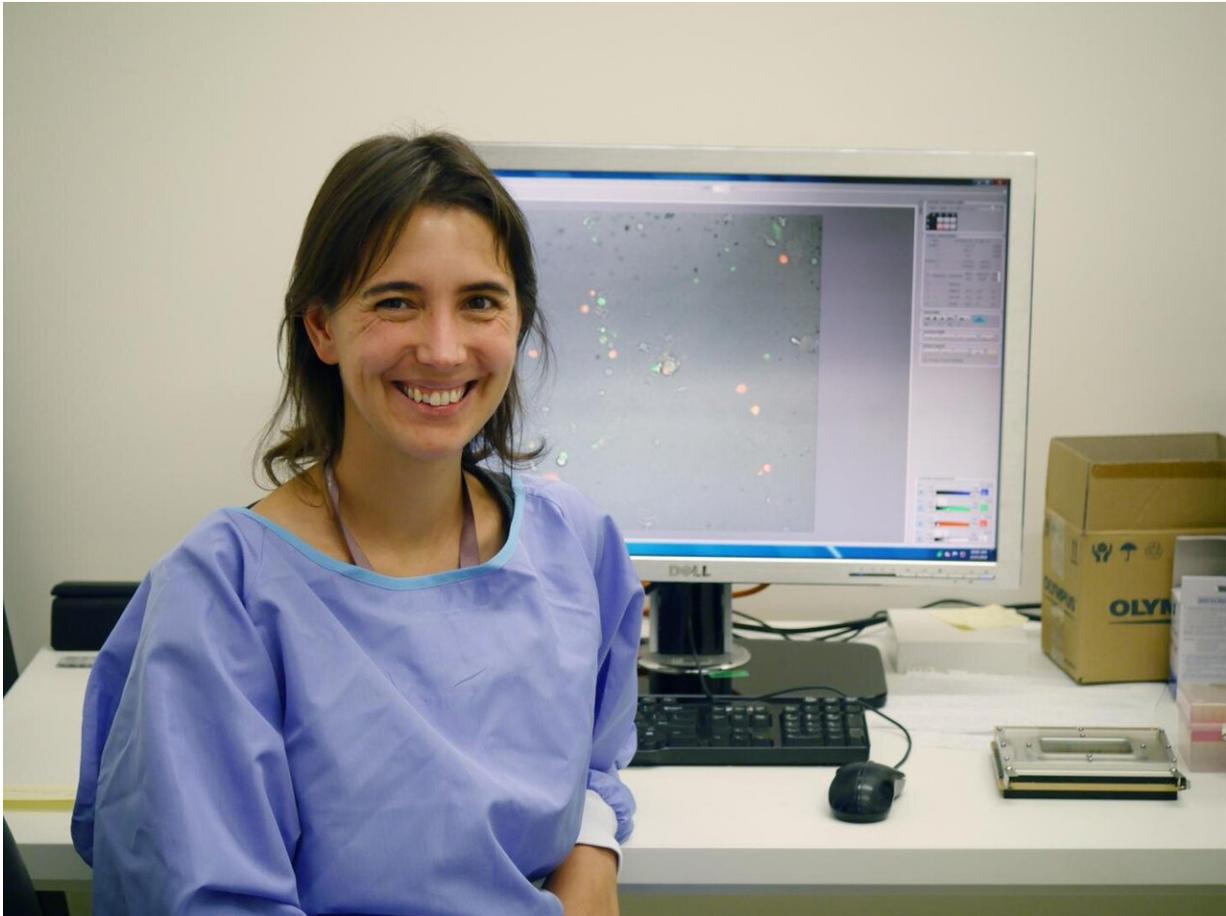


# Super-powered immune cells

August 22 2019

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UniSA's Dr Tessa Gargett working in her lab. Credit: University of South Australia

The phase 1 clinical trial will test the feasibility and safety of CAR-T cells—genetically modified white blood cells harvested from a patient's

own blood with the unique ability to directly attack and kill cancers—to treat advanced solid tumours including small cell lung cancer, sarcomas and triple negative breast cancer

The new clinical trial will allow researchers to learn more about how CAR-T [cells](#) interact with solid tumours in the hope that this form of immune-based therapy may one day treat a wide range of different cancers.

Led by the Centre for Cancer Biology—an alliance between University of South Australia, the Central Adelaide Local Health Network (CALHN) and the Royal Adelaide Hospital, the trial is funded by Cancer Council's Beat Cancer Project and sponsored by CALHN.

The research scientist in charge of manufacturing the CAR-T cell product and following the patients' responses to treatment is UniSA's Dr. Tessa Gargett, a Cancer Council Beat Cancer Project Early Career Fellow from the Centre for Cancer Biology .

She says the CAR-T immune therapy shows great potential for developing cancer treatments.

"Chimeric antigen receptor (CAR) T cells are a promising new technology in the field of cancer immunotherapy," Dr. Gargett says.

"Essentially, CAR-T cells are super-powered immune cells which work by enlisting and strengthening the power of a patient's immune system to attack tumours.

"They've had astounding results in treating some forms of chemotherapy-resistant blood cancers, but similar breakthroughs are yet to be achieved for solid cancers—that's where this study comes in."

The research forms part of the 'CARPETS' phase 1 clinical trial initiated by Professor Michael Brown, Director of the Cancer Clinical Trials Unit at the RAH to treat advanced melanoma patients, now extended to include patients with other advanced solid tumours including, [small cell lung cancer](#), sarcomas and triple negative breast cancer.

Cancer Council SA Chief Executive Lincoln Size says the study is a critical element in working towards the next cancer breakthrough.

"Cancer Council SA is committed to funding and conducting research in all aspects of cancer," Size says.

"Through Cancer Council's Beat Cancer Project and generous donations from the community over the past eight years, we've been able to contribute over \$15 million towards ground-breaking research initiatives.

"Advances in medical research allow us to treat more cancers successfully, with [clinical trials](#) providing the vital clues that bring us closer to a cancer free future.

"Partnering with the University of South Australia, the RAH and CALHN on this leading immunotherapy trial is bringing this future just one step closer, and we're proud to be a part of this very important work."

This Friday, 23 August is Daffodil Day, the national day to donate to [cancer](#) research. All the money raised through Daffodil Day in South Australia will go towards funding leading South Australian researchers like Dr. Gargett.

Provided by University of South Australia

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