



Making it anti- matter

By **JOHN RYGIEL**

GRIFFITH University is to play a major role in the new Australian Research Council Centre of Excellence in Anti-matter Studies, Federal Minister for Education Dr Brendan Nelson announced last week.

Dr Nelson said the Australian Research Council had provided \$11 million to the leading edge anti-matter research centre.

The centre will develop tools and techniques for researching physical, chemical and biological sciences.

Griffith University head of science professor Birgit Lohmann will lead the research team at the facility being built at the Nathan campus.

Prof Lohmann said anti-matter science was in its very early stages but already had applications in nuclear medicine.

She said electrons and anti-electrons, or positrons, annihilated each other.

"The electron and positron disappear, and two gamma rays are produced.

By detecting the gamma rays, it is possible to map the structure of the material," Prof Lohmann said.

She said the difficulty in applied anti-matter technology was the capture of positrons.

The electron experiments will be at Griffith while positron experiments will be at Australian National University in Canberra.

"Anti-matter could potentially have applications in nanotechnology, controlled drug delivery to minimise side effects, the creation of advanced membranes for use in water filtration and desalination, and the detection of cracks and defects in materials in critical areas," Prof Lohmann said.

The centre of excellence is expected to be in operation by the end of this year.

The futuristic research project will include teams from Flinders University, the University of Western Australia and Murdoch University, and the CSIRO and the Australian Nuclear Science and Technology Organisation.



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■ Professor Birgit Lohmann will lead the research team at Griffith. **Picture: Adam Armstrong**