## MEDIA RELEASE

## Thursday 4 October, 2018

**Breast cancer detection breakthrough on the horizon**

**A new and innovative application of an advanced imaging technique is being prepared for clinical application by Australian researchers at ANSTO’s Australian Synchrotron to improve breast cancer detection and diagnosis.**

**The research, made possible by the Coalition Government’s $520 million investment in the facility in 2016 as part of the National Innovation and Science Agenda, will provide better patient outcomes.**

The research is being conducted by a group of imaging scientists led by Professor Patrick Brennan of the University of Sydney and Dr Tim Gureyev of the University of Melbourne and uses the Imaging and Medical Beamline at the Australian Synchrotron with the support of Instrument scientist Dr Daniel Häusermann.

The technique, called in-line phase-contrast computed tomography (PCT), is due to be used on the first patients by 2020 and is being developed because of the high error rate that still exists with current screening techniques.

The method, which used convention X-rays, was pioneered by Melbourne researchers in the late 1990s, including Professor Keith Nugent the late Dr Stephen Wilkins.

Approximately 30 per cent of cancers are still missed by radiologists and for patients with high breast density the missed cancer rate is over 50 per cent. This can lead to late detection of the cancer, and regrettably, often fatal outcomes from metastasis.

Speaking at ANSTO’s Australian Synchrotron campus to mark Breast Cancer Awareness Month, Minister for Industry, Science and Technology, the Hon Karen Andrews MP, said the research was vitally important for women throughout Australia.

**“Breast cancer is the most common cancer that affects women. There are currently over 800,000 mammograms performed in Australia each year,” Minister Andrews said.**

**“As many women will know, the experience of getting a mammogram can be uncomfortable and in too many cases the existing technology means cancers are missed.**

**“This research will mean better image quality, a more accurate diagnosis, and a smaller radiation dose. Importantly, there will be no discomfort for patients as the breast compression process will no longer be necessary.”**

The work is being supported by ANSTO and an NHMRC grant of $687,000 over three years, to ready the technique for use with the first patients by 2020.

“This investment highlights the Federal Government’s commitment to supporting world-leading research, which has real world benefits for the community.”

Professor Andrew Peele, Director of the Australian Synchrotron, ANSTO said, “This vitally important research, enabled by lead researchers using ANSTO’s world-class Synchrotron and our scientists, highlights the very real benefits that science and technology can deliver to the community,” Professor Peele said.

“This is the first application of the technique using synchrotron radiation in human patients, so there is a great deal of preparation and many things that have to take place before its use. Nonetheless we are greatly encouraged by findings so far.”

**A 3D animation of the screening process can be found** [**here**](https://www.dropbox.com/s/scuabp9a99w88lc/MoviesTest9.avi?dl=0)**.**

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