Media Release

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$38m centre: new tools for ‘seeing’ into the body

New tools for ‘seeing’ inside the living human body at the cellular level will be developed at a $38 million research centre being launched at the University of Adelaide today.

The Australian Research Council (ARC) Centre of Excellence for Nanoscale BioPhotonics is bringing together physicists, biologists and chemists to develop ways of using light and optical fibres to measure biological processes. Using light as a tool inside biological systems is called biophotonics.

“With these new tools, we will be able to measure things we have never been able to measure before and look at significant health issues in completely new ways,” says Centre Director Professor Mark Hutchinson. “We are creating new windows into the body.”

The ARC Centre of Excellence for Nanoscale BioPhotonics will be launched this afternoon by Senator Bridget McKenzie, representing the Federal Government. Led by the University of Adelaide, the Centre brings together leading researchers from the University of Adelaide, Macquarie University and RMIT University with key international and industry partners.

“The ARC Centres of Excellence are prestigious centres where some of the nation’s best researchers are brought together to further research in fields of national priority in a transformational way,” says Senator McKenzie.

“The ARC Centre of Excellence for Nanoscale BioPhotonics will not only help Australia develop as global leaders in biophotonics, but will help us understand and tackle major health issues not possible with existing technologies.”

These breakthrough photonic technologies will impact three main areas of clinical need:

- The Spark of Life – sensing in and around developing embryos for the best start in life;
- Origins of Sensation – understanding the basis of pain by sensing inside the brain;
- Inside Blood Vessels – investigating cardiovascular disease at the nanoscale and why blood vessels fail.

“Our new generation sensors, using the latest optical fibre and nanotechnologies, will be able to see inside the reproductive tract at the very start of life; see what’s happening in the brain as pain is registered; and measure changes inside the vessels and cells of a heart as it beats,” says Professor Hutchinson.

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