Centre for Nanoscale BioPhotonics
ARC CENTRE OF EXCELLENCE

MEDIA RELEASE

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Then the cells light up

Senator Bridget McKenzie, Martin Bean CBE, Vice Chancellor and President of RMIT University, and Professor Calum Drummond, RMIT Deputy Vice-Chancellor Research and Innovation and Vice-President, will jointly open the RMIT Research Node of the ARC Centre of Excellence for Nanoscale BioPhotonics (CNBP) at a formal event later today.

It is here, in a new $3m state-of-the-art laboratory facility, that researchers will study the florescent properties of nano-particles and biomaterials, and more particularly how they can be used to 'light up' areas in the living body, to explore what is happening deep inside cells at the nano or molecular level.

"Our goal is to incorporate advanced nanoscale materials into new biomedical devices that will let us deliver light directly into targeted cells inside of the body", said RMIT Associate Professor and CNBP Node Leader, Brant Gibson.

"We can then look for specific molecular substances inside of those cells, measuring and analysing these substances to see how the body is working. This will help us better understand fertility, pain, heart disease and a whole host of other human related health conditions."

The research is challenging. In some cases, the cellular substances being examined may only be a few atoms across or about a nano-metre in size. To date, they have been incredibly difficult to detect.

New laboratory facilities, housing specialized optical and nano-material work areas, high end instrumentation as well as two state-of-the-art microscopy systems will support this high-tech activity. One of the work areas will operate at cryogenic temperatures down to -269 degrees Celsius. "This mitigates potential thermal effects," said Gibson. "Heat and temperature can impact what is extremely complex experimentation. We have here a laboratory facility that is extremely well equipped."

Said Senator McKenzie, "Truly innovative world-class research will take place at this Centre, advancing our scientific knowledge immensely. The pioneering technology devised, will take us on an incredible journey of exploration, opening up our understanding of living cells and the living body. Discoveries will lead to the development of next generation health devices, which will improve our ability to identify and treat disease."

RMIT's Professor Drummond was enthusiastic noting, "We're delighted to be a research node of the Centre for Nanoscale BioPhotonics and proud to be supporting such an exciting and progressive area of nano-discovery. With

the investment in these new facilities, we'll see ambitious and transformational science, revolutionizing our ability to understand how the human body works."

In support of the opening, a free public lecture will be undertaken by CNBP Chief Investigator and RMIT Professor, Andrew Greentree. He will be discussing light and how it is leading to new biological insights. Taking place on Wednesday 30th September, the lecture is titled 'Seeing into the body, one photon at a time'. Registration for this event is available online - https://www.rmit.edu.au/events/all-events/public-lectures/2015/september/seeing-into-the-body-one-photon-at-a-time/

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IMAGES AVAILABLE:

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ABOUT:

The CNBP is a collaborative Centre, with research focussed nodes at the University of Adelaide, Macquarie University and RMIT University, and is a $40m initiative. It is focused on developing new light-based imaging and sensing tools that can provide new ways of understanding cellular processes taking place within the living body.

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