Scientia Professor Nigel Lovell: Technology advances

Scientia Professor Nigel Lovell is leading a widespread change at Randwick to make biomedical engineering more clinically relevant and known for its outstanding benefits for improving patient care and health outcomes.

'While it may not be immediately obvious, the vast majority of diagnostics and therapeutics used in modern medicine has come into existence or been improved because of biomedical engineers, from ultrasound and MRI scans, to the algorithms and systems for genetic screening, to the monitoring systems in intensive care and telehealth' he said.

As Head of the Graduate School of Biomedical Engineering at UNSW, Scientia Professor Lovell is overseeing a shift from a technology-driven approaches, to clinically-driven research and development of medical technologies. He will also become the inaugural Director of a new Institute for Health Engineering (IHealthE).

This has been supported by investments by UNSW and the NSW Government in new spaces for research and resources to bring experts together.

The structural changes and new investment being made within the School are also attracting other world-leading researchers in fields such as medical imaging and bioengineered materials.

'We are expanding the collaborations we are involved with as we work more closely with clinicians and industry to design a technology or technologies to meet a defined need, so that the work we do feeds the translation pipeline and impacts directly on patient health.

"We're seeing a great alignment of visionary thinking and collaboration at Randwick. The new investment, new people and how we're working differently across the precinct, and around the world, is changing how we use technology to improve patients' lives."

Scientia Professor Nigell Lovell
Head, Graduate School of Biomedical Engineering
President, Institution of Electrical and Electronic Engineers (IEEE) Engineering in Medicine and Biology Society (EMBS) 2017-2018

'UNSW has a great track record such as developing a next generation bionic eye, wireless ambulatory monitoring for managing chronic disease in the frail, and bionanophotonics which is paving the way for cancer diagnosis, to name just a few' he said.

'We're also looking at the interactions between technology solutions, changing models of care and change management, and how improved collaborations will ensure that solutions can be implemented sooner and more successfully in a wider range of fields' he said.

The work being undertaken at the Randwick Health and Education Precinct is being promoted around the world in two of Scientia Professor Lovell's global appointments as President of the Engineering in Medicine and Biology Society and as a Sydney Ambassador.

'These roles help me raise the global profile and showcase our work at Randwick. It plugs me and the School of Biomedical Engineering into a network of high-profile medical researchers as the impact of technology is becoming more prevalent and critically important to reduce healthcare costs' he said.