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New centre to build next generation of industry-engaged researchers

The **Australian Technology Network of Universities (ATN)** has announced a new Doctoral Training Centre designed to help address Australia's need for researchers who are both engaged with industry and who possess the associated skills to be effective and productive beyond conducting research itself.

The ATN Industry Doctoral Training Centre (Mathematics) (IDTC-M) will be a national first and will provide longer postgraduate courses and a form of higher education that currently does not exist in Australia. Cohorts of doctoral students will be created with capabilities generally not currently acquired during Australian PhD candidature.

All PhD projects undertaken within the Centre will have an industry context. Discussions have commenced with industry partners who see great potential for more industry engaged PhDs in mathematics, with benefits to industry and candidates.

Discussing the new centre, Professor Ross Milbourne, ATN Chair, said that it was time to explore more formally incorporating 'industry leadership skills' into research degrees.

"The need for graduates to possess advanced skills and the ability to innovate has been an ongoing theme for business and industry for years, with the prevailing opinion being that these skills are not only vitally important, but that they are an area of concern when recruiting researchers.

This Centre will formally embed these skills during a 4-year PhD program and will see candidates undertaking study in disciplines which complement their primary focus, producing more well-rounded graduates.

"Similar centres have been established in the UK for some time with great success, and it behoves us to learn from their experience to help build the quality of Australian PhD training. We look forward to collaborating with industry and support from government in establishing this new model of PhD training."

The IDTC-M will act as a pilot for similar centres in other discipline areas. Mathematics was chosen both due to the rise in demand for doctorates in the field, projected to rise 37% between 2011 and 2020, and its application in a wide range of fields.

Mathematicians are in demand in many areas, including cryptography, network analysis, optimisation, finance, operations research, physics and astronomy, computer science and various areas of the biological sciences. It is used, for example, to understand the spread of infectious diseases.

"Our universities need to be innovative and creative in their doctoral training, in order to produce the kind of 21st century graduates that will drive Australia's productivity" Professor Milbourne said. "This new initiative is an innovative response to the challenges we face building Australia's research workforce and we believe it is an idea whose time has come."

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