



MEDIA RELEASE

**MBE laboratory opening UNSW
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Minister Birmingham opens new industry-focused laboratory for advanced materials at UNSW Australia.

Today the federal Minister for Education and Training, Senator Simon Birmingham, opened a new \$3 million epitaxial growth laboratory for the creation of advanced new materials for the health, energy and telecommunications sectors.

“The new [epitaxial growth] facilities, combined with our existing ANFF laboratories, will enable Australia’s researchers to address key national and global challenges, for the well-being of everyone on our planet”, said Scientia Professor Andrew Dzurak, who is Director of the NSW Node of the Australian National Fabrication Facility (ANFF) at UNSW.

“The research to be supported includes new solar energy technologies, advanced quantum devices, and new sensors for medicine and the environment,” he adds.

In his speech at today’s event, Senator Birmingham said facilities such as this laboratory “will be critical to our future prosperity” referring to the “exciting and revolutionary” research they will be supporting.

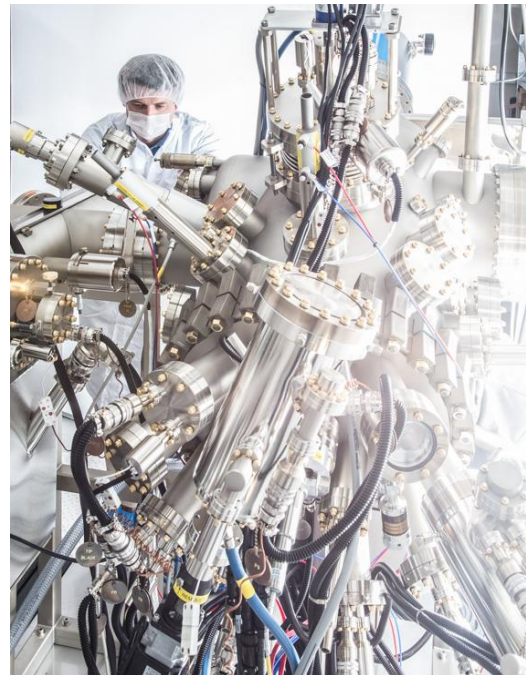
The new laboratory forms part of the NSW Node of ANFF at UNSW Australia, which provides a major complex of advanced “clean-room” laboratories valued in excess of \$30 million. It houses three new tools that use an advanced crystal growth technique known as *molecular beam epitaxy* (MBE) which allows the fabrication of materials *one atomic layer at a time*. These facilities are available for use by both university and industry researchers.

Senator Birmingham also acknowledged industry representatives at the event, including UNSW spinout company Zedef, medical device start up Kimiya, defence giant Thales, and Australian semiconductor manufacturer Silanna.

“The business / University relationship is a two-way street,” said Senator Birmingham referring to how ANFF, can inspire collaborations between research and business.

“This is what investment in research is all about.”

Australia is already providing significant leadership in a number of these fields with internationally renowned researchers in quantum computing and solar cell technologies having strong linkages to the laboratory. Earlier this month Professor Dzurak announced that his group had performed the [first ever calculations between quantum bits in silicon](#), using devices fabricated using the ANFF facilities at UNSW.



One of the epitaxial growth tools within the new ANFF laboratory at UNSW. Credit: Grant Turner, UNSW Australia.

The launch was also attended by a number of Australia's leading research scientists and representatives from industry. Guests included; the NSW Chief Scientist and Engineer, Professor Mary O'Kane; UNSW Australia Deputy Vice Chancellor of Research and Vice President, Professor Les Field; ANFF Chair, Professor Chris Fell; and ANFF CEO, Rosie Hicks.

Background on the Australian National Fabrication Facility

The Australian National Fabrication Facility (ANFF) was established under the federal government's National Collaborative Research Infrastructure Strategy (NCRIS) and links 8 university-based nodes to provide researchers and industry with access to state-of-the-art fabrication facilities. Since 2007 the NCRIS investment in ANFF of over \$100 million has made available more than 500 advanced tools and over 90 skilled technical staff nationally.

ANFF provides researchers with access to state-of-the-art micro- and nano-fabrication facilities and expertise, supporting the key role research plays in building competitiveness into Australia's economic future, with an emphasis on fostering the development of new Australian technology from fundamental research to market readiness.

www.anff.org.au

The NSW Node of ANFF

The NSW node of ANFF at UNSW supports over 50 tools for micro- and nano-fabrication and receives funding from the federal government NCRIS program, the NSW state government, and UNSW.

The new MBE tools were funded under the Australian Research Council's (ARC) Linkage Infrastructure, Equipment and Facilities (LIEF) program, and the laboratory is operated via support from NCRIS. This support includes provision of highly skilled technical personnel to operate the complex machinery and provide expertise in materials development to researchers and industry.

UNSW Australia

UNSW has 52,000 students from 120 nations, and is ranked #1 in Australian Research Council funding (\$68.3 million in 2014), ranked #1 in Australia for producing millionaires (and #33 globally); and ranked #1 in Australia for graduates who create technology start-ups.

Further information

Links

- [Australian National Fabrication Facility at UNSW](#)
- [Professor Andrew Dzurak](#)

Photos available upon request

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