

Australia designs molecule chip for modern manufacturing of drug, vaccines

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Invented a unique way to synthesise molecules on a tiny electronically controlled chip, or silicon wafer

Australia's University of Queensland (UQ) researchers have pioneered a new chemical process to manufacture the molecules that are the building blocks for lifesaving medicines and vaccines.

Professor Matt Trau from UQ's Australian Institute for Bioengineering and Nanotechnology (AIBN) has been awarded an ARC Laureate Fellowship worth \$2.9 million to further understand and develop the process.

"We have been able to accelerate and control chemical reactions on a tiny nano-scaled chip. This could enable on-demand, miniaturised, remote manufacturing in a much more economical and environmentally friendly way. Much like 3D printing has disrupted manufacturing on a larger scale, this could change modern manufacturing on the molecular scale", Professor Trau said.

According to Professor Trau the technology could be applied to the production of life-saving products.

"The more research we undertake to understand exactly what's happening to these molecules at the nanoscale, we see more and more applications for entirely new ways to manufacture products such as medicines, vaccines and energy storage materials," he said.