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Biomanufacturing incubator opens at University of Sydney

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To complement existing research programmes and collaborations in drug discovery and organoid innovation

The Biomanufacturing Incubator, recently opened at the University of Sydney, Australia, will pair cell biologists who work across vascular systems, facial reconstruction, eyesight, dentistry and diabetes with bioprinting experts to plug them into a 'biomanufacturing way of thinking'.

Biomanufacturing uses 3D bioprinting to fabricate organoids and cell models that imitate natural tissue.?Currently, it's most common use is a one size fits all model which prints cells within biomaterial scaffolds that provide basic tissue cues.

That's where the Faculty of Medicine and Health's newly established Biomanufacturing Incubator comes into play. It is a multidisciplinary initiative that aims to unify areas around the University of Sydney already independently working in the field, led by Professor Steven Wise, cardiovascular bioengineering researcher and a National Heart Foundation Future Leader Fellow, and Associate Professor Khoon Lim, biomedicine researcher and Australian Research Council Future Fellow.

Currently, industry practice is to have companies make and sell 3D bioprinters to individual researchers or labs, who conduct their research in silos. Professor Wise says this is what's holding back progress.

"There's little translation of this research into commercialisation," says Professor Wise from the School of Medical Sciences.

Professor Wise co-chairs the biomanufacturing working group for the Sydney Biomedical Accelerator (SBA), a visionary partnership between the University of Sydney, Sydney Local Health District and the NSW Government that will see a world-leading health, education and biomedical research complex established in Sydney in 2027. The working group, including researchers and technicians from science, medicine, engineering and the Sydney Local Health District, have designed biomedical advanced manufacturing facilities for the SBA that will integrate fundamental, pre-clinical, and clinical research with expertise in biomedical and tissue engineering and advanced manufacturing.

The Biomanufacturing Incubator adds another important element to the University's strength in this area. It will complement existing research programmes and collaborations in drug discovery and organoid innovation, and core research facilities such as Sydney Analytical.

Following a tremendously successful two years of research development and impact, the Heat and Health Research Incubator has transitioned to an Impact Centre, and will now be known as the Heat and Health Research Centre (HHRC).