The best of 2017: Australian MedTech

18 Dec 2017

Author:
Photography:
Video:

Australians have developed groundbreaking medtech with the potential to transform lives around the world. Read more about the innovations featured on Australia Unlimited this year.

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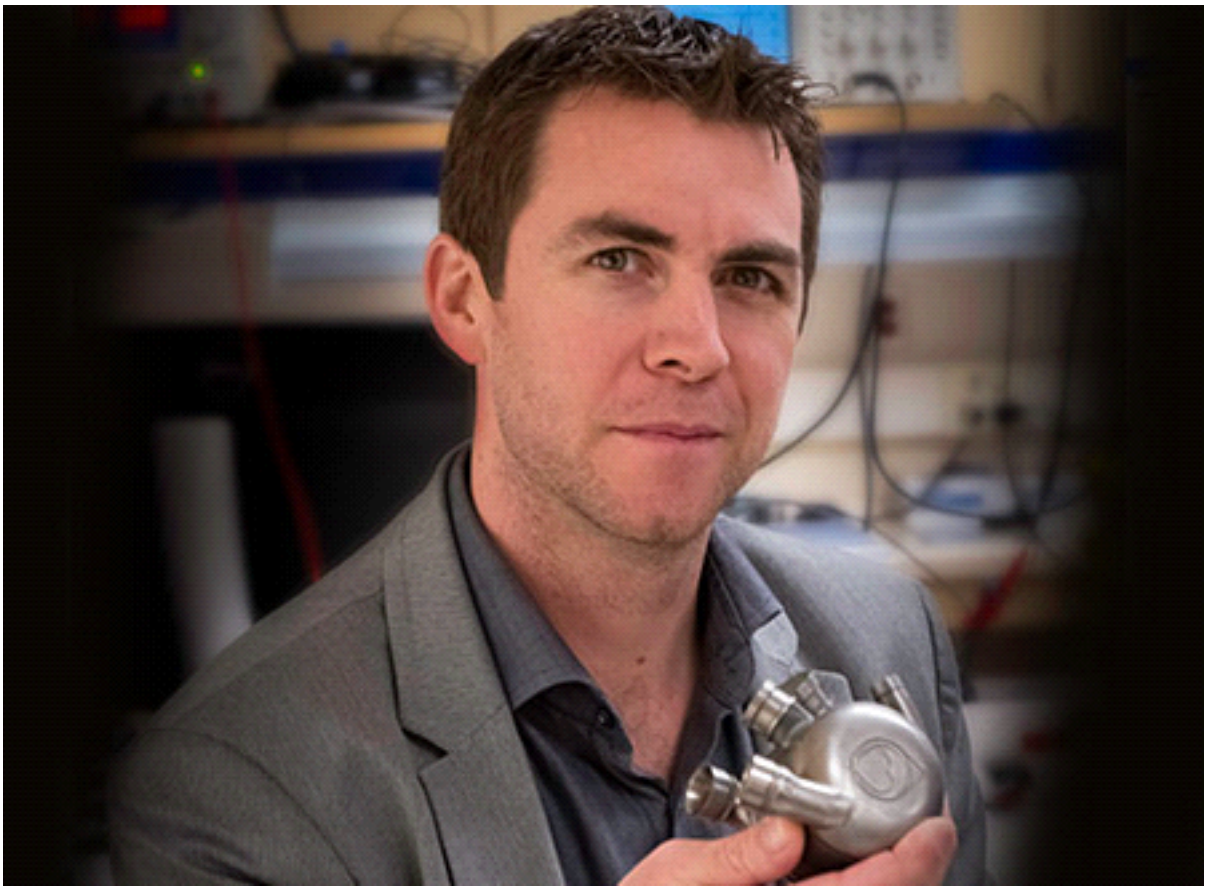
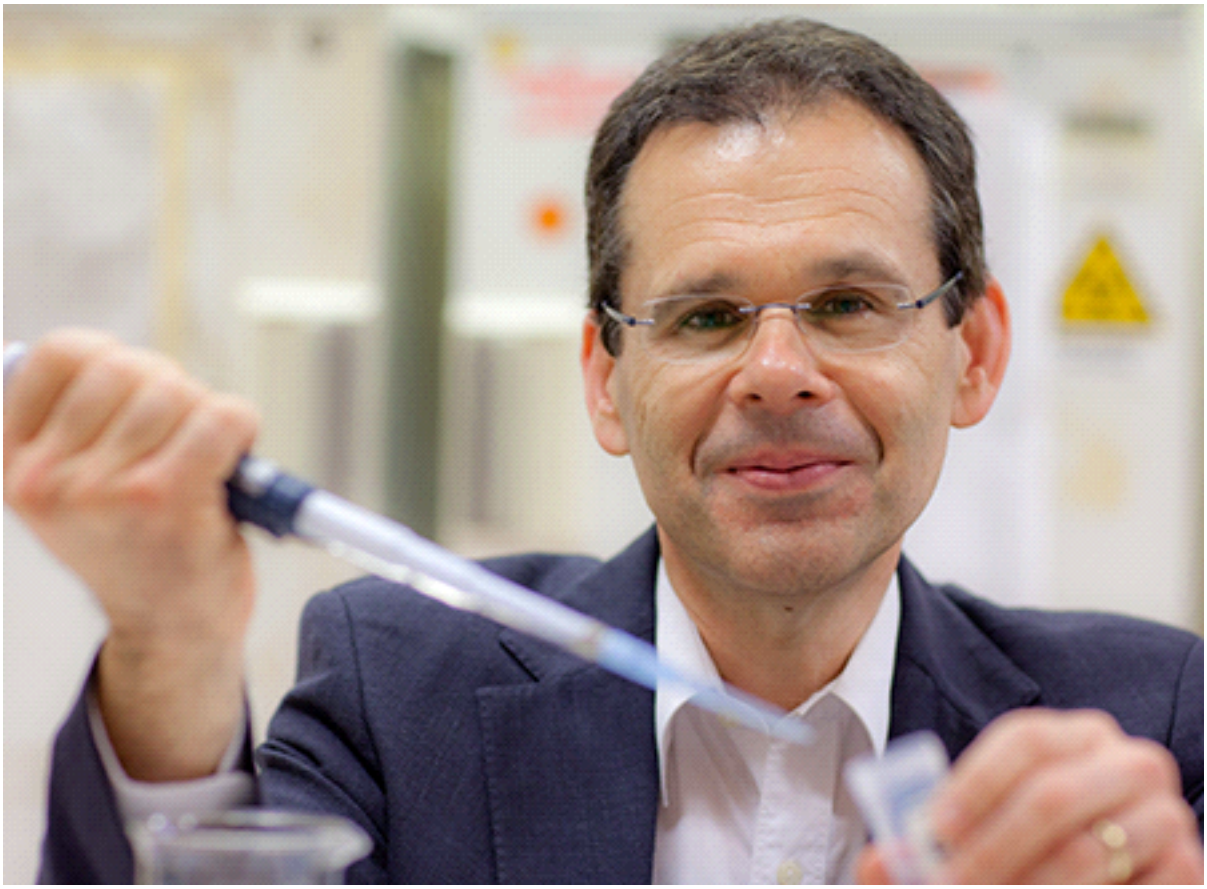
Technology

Daniel Timms spent his childhood learning the mechanics of plumbing from his father. That practical knowledge has served him well in his quest to create an artificial heart small enough to fit inside a child's chest yet powerful enough to support an adult. This device just might be the answer to the prayers of tens of thousands of people worldwide who desperately need a heart transplant.



Anthony Weiss and his colleagues at the Charles Perkins Centre at the University of Sydney have created a surgical glue that seals wounds and stops bleeding – both internally and externally – within 60 seconds. The adhesive is made from a synthetic version of a protein called tropoelastin, which forms naturally in the growing tissues of newborns. Weiss, an expert in tissue engineering and regenerative medicine, figured out how to make a perfect copy of the protein.



Berkay Ozcelik and his University of Melbourne team have worked out how to grow corneal cells in the lab, which may well eliminate the need for donor corneas and restore eyesight to millions of people. So far, Ozcelik and his co-workers have grown cells on synthetic hydrogel film and successfully implanted them into the eyes of sheep to restore vision.

Mark Kendall's Nanopatch is a windfall for anyone with a fear of needles. This tiny piece of silicone covered in microscopic projections can administer life-saving vaccines better than a syringe, giving millions access to safe, effective and painless vaccinations.

Dharmica Mistry is one of the Australian scientists behind a game changing discovery that will make it possible to detect breast cancer through a blood test. Studies so far indicate an accuracy rate of 90 per cent. Mammography, by comparison, has a 65 to 80 per cent accuracy rate, depending on breast density. The test might even be able to detect other types of cancers, too.