

Elder-friendly products go high-tech (/highlights/11180-elder-friendly-products-go-high-tech)

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From left: FlexoSense co-founder Yeo Joo Chuan, graduate student from NUS Graduate School for Integrative Sciences and Engineering; FlexoSense co-founder Mark Francis De Leon, Master's student in Management of Technology at NUS; Ms Chia Lye Peng, FlexoSense co-founder and NUS alumna; Benjamin Lee, Master's student in Management of Technology at NUS; and Prof Lim

An insole that addresses diabetic foot ulcers. A silicone sheath that reduces the likelihood of pressure ulcers. These innovative elder-friendly products fended off stiff competition from more than 80 teams, receiving \$75,000 in seed funding at Modern Aging Singapore 2016 on 25 November.

Team FlexoSense, which is transforming pressure sensor technology into a smart insole solution for diabetic foot ulcers, received the top award of \$50,000. The technology was invented by NUS Biomedical Engineering. Diabetic foot ulcers currently affect one in six diabetics and left unchecked, can lead to lower limb amputation. FlexoSense's insole, which combines a liquid-sensing element in microchannels in a flexible substrate, can detect applied pressure with pinpoint accuracy, allowing podiatrists to immediately determine whether an insole optimally fits the patient.

FlexoSense co-founder Professor Lim Chwee Teck from NUS Biomedical Engineering was very honoured and happy with the top award. He said that the young company — started in August — is already starting trials with several clinicians at Khoo Teck Puat Hospital and that collaborations with National University Hospital are ongoing.

Technology developed by Assistant Professor Raye Yeow Chen Hua from NUS Biomedical Engineering led Team Oxyvel to come up with a silicone gel sheath, which can be applied in conjunction with oxygen delivery apparatus. The product aims to reduce the likelihood of pressure ulcers around the ears of patients requiring long-term oxygen therapy delivered through nasal prongs or a face mask. Conventional practice using gauze overlay may lead to the development of a pressure sore and patients may then refuse therapy due to the pain and discomfort, explained Nanyang Polytechnic nursing lecturer Ms Emily Kwan from Team Oxyvel, which garnered \$25,000 in seed funding.

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“Team Oxyvel has embarked on developing a solution that tackles a real problem faced in the clinical wards. There is great potential to further innovate on their current solution and develop into a commercial product that significantly improves patient care,” said Asst Prof Yeow.

A total of 10 teams were selected to participate in Lean LaunchPad Singapore, a programme by NUS Enterprise which helps researchers and inventors convert their technologies into commercially viable products.

“This year, we introduced the Lean LaunchPad programme as a new component to Modern Aging Singapore, customising it to address the needs of the silver sector. The teams were enthusiastic about the programme, as it helped validate their ideas, refine the business model and prepare their pitch. This increases the likelihood of the impact and scalability of the teams’ ideas,” said Dr Lily Chan, CEO of NUS Enterprise.

In conjunction with the event, the organisers held a Modern Aging Film Contest for students to raise awareness of the realities of ageing in Asia. The top two prizes were swept by students from Yale-NUS College. “For my dearest kuku and amah” by Rachel Quek in Year 3 won the first prize of \$5,000 while “Balek Kampung” by Janel Ang in Year 4 was the runner-up, receiving \$2,000.

This is the second run of Modern Aging Singapore. Organised by ACCESS Health International and NUS Enterprise, and supported by Singapore’s Ministry of Health, the business accelerator initiative educates and inspires entrepreneurs to create businesses that serve the needs of the aged and their caregivers.