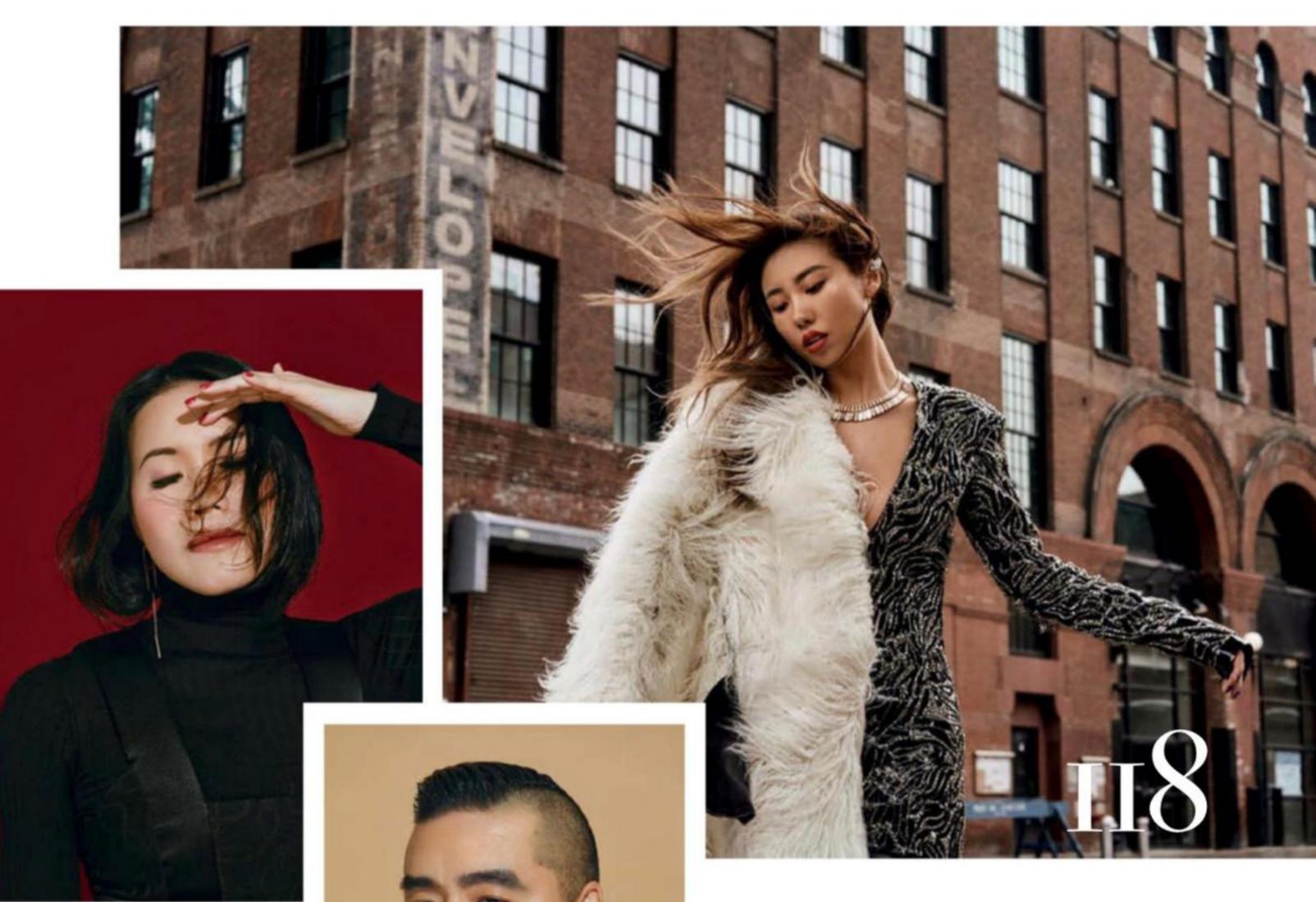




#### SINGAPORE TATLER

# JUIN

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126

## **ISSUE HIGHLIGHTS**

Under that New York Spell
Singapore's retail scions, Mae Tan and twins
Brandon and Julien Leo, are ready to take on
the Big Apple, and then, the world

### 126 Brave Hearts

Inventor Dean Ho, entrepreneur Ankiti Bose and lawyer Amanda Chong—inductees to our Gen.T List 2019—are working on life-saving innovations and life-changing platforms to change society for the better



# BRAVEHEARTS

These three inductees to our Gen.T List 2019 do not believe in the status quo, not when there are life-saving innovations and life-changing paradigms that can transform society for the better. Hong Xinyi finds out how inventor Dean Ho, entrepreneur Ankiti Bose and lawyer Amanda Chong are trying to change the world

Photography DARREN GABRIEL LEOW Art Direction MATILDA AU

#### **DEAN HO**

Provost's chair professor and director of The N.1 Institute for Health at National University of Singapore

"To take an innovative idea all the way to the finish line involves everything from behavioural sciences to healthcare economics, and Singapore is a place that recognises that. I was looking for a culture, a mindset, a full-fledged ecosystem that is willing to innovate together"

EAN HO WAS BORN AND raised in a Los Angeles beachside neighbourhood called Palos Verdes, and attended the University of California, Los Angeles, graduating with a PhD in biomedical engineering. Before relocating to Singapore in 2018, he had spent six years as a professor in his alma mater. So why did he pick this little red dot over his home base? After all, the West Coast also includes Silicon Valley, a global engine of tech innovation, and Ho is a pioneer in the use of artificial intelligence (AI) to create precision and personalised medicine.

Silicon Valley is a great place for certain types of technology, and the US has vibrant innovation communities. "But innovation is more than just creating ideas," he tells us. "You have a responsibility to talk to patients and understand their concerns. You have to figure out how to work with all the stakeholders-policymakers, regulators, clinicians. So, to take an innovative idea all the way to the finish line involves everything from behavioural sciences to healthcare economics, and Singapore is a place that recognises that. I was looking for a culture, a mindset, a full-fledged ecosystem that is willing to innovate together."

Being part of such an ecosystem is critical to achieving his ultimate goal: seeing his innovations being actually implemented to the benefit of patients. Take Curate.ai, an AI platform developed over about five years by a research team led by Ho. The platform aims to address the fact that each individual's response to medication is unique, and also changes from day to day. It works by taking a patient's data—such as how a tumour changes in size following a certain drug dosage—and using that to generate a profile that is able to recommend the optimal drug dosage for this individual at any given point in time.

Such dynamic dosing aims to improve the efficacy and safety of treatments, particularly in cases where the conventional approach of a high dosage of multiple drugs means a high level of toxicity for the patient. Last year, Curate.ai's recommended drug dosage tailored for a prostate cancer patient successfully reduced his tumour size, marking a breakthrough for cancer treatment.

The platform has also been tested on liver transplant and tuberculosis patients, with encouraging results. Last year, for his work in AI and its application towards personalised and precision medicine, as well as in emerging areas of nanomedicine and nanodiamond-based drug delivery,
Ho became the only Singapore-based
academic inventor elected as a fellow
of the United States National Academy
of Inventors, the highest professional
accolade for academic inventors.

Curate.ai requires less data and uses it more efficiently, which means it can lead to shorter time for drug development and patient recovery. That also means lower medical costs for the patient. Pharmaceutical companies are becoming more receptive to this approach, which is crucial, because "worldwide, the whole drug-making space is going to have to shift", Ho believes. "Drug accessibility is a huge problem. That's another reason why I came to Singapore. The government is very supportive of reducing the costs of medical care."

When he works with the Health Sciences Authority, for example, the regulatory agency is willing to "try new ways of evaluating new technologies, and explore different ways of conducting clinical trials", he says. "So it's not only innovation in the technology itself. It's innovation in how the technology is tested, all done with patient welfare in mind. If pharmaceutical companies come here and innovate, you can still run the trials, but you run them more efficiently and in a more technologically advanced way. Everybody wins."

SWEATER: BRUNELLO CUCINELLI