

Advancing synthetic biology

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Assoc Prof Chang (right) and Assoc Prof Endy shared the central themes of the conference at the opening

“If you think about the number of organisms on the planet, which may indeed exceed the number of stars in the universe, you’ll realise that we’re all running on the same software language,” said Randal J Kirk, Chairman and CEO of synthetic biology company Intrexon Corp in his visionary lecture at the opening of The Seventh International Meeting on Synthetic Biology (SB7.0) on 13 June at the University Cultural Centre. This software language — DNA — is one of the main focuses of the meeting and the heart of the field itself.

Co-organised by [NUS Synthetic Biology for Clinical and Technological Innovation \(SynCTI\)](#), the four-day conference brought together global practitioners of synthetic biology — academics, industry players, researchers and policy

makers — to share, learn and debate on the latest efforts in the field, and to build partnerships and collaborations. Launched in 2004, the Synthetic Biology Conference series is the world’s foremost professional meeting in the field.

As Guest-of-Honour Mr Desmond Lee, Minister in Prime Minister's Office and Second Minister for Home Affairs and National Development, aptly put in his opening speech, “The central idea of synthetic biology is that living cells can be programmed in much the same way we programme computers.” Synthetic biology involves the manipulation of genetic code and DNA to design and construct biological systems with the aim of improving existing functions or creating new purposes. A rapidly advancing field, it is being used to transform and challenge various facets of the world today, including food, fuels, medicine and even in fashion.

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— Assoc Prof Matthew Chang

This edition of the conference series was focused on three themes — “Revolution 2”, “All People and the Planet”, and “Diversity with Harmony”, which aimed to get participants to discuss the next technical and scientific step in the field and address possible implications on the planet in an inclusive environment of openness and sharing.

“Biology is central to all of human existence and nature. While synthetic biology is already being used to advance many aspects of our life, to ensure that synthetic biology can benefit all people and the planet, I believe the international synthetic biology communities must work together. SB7.0 will provide a unique platform for a global community of synthetic biologists to gather and plan together for collective growth of our science, its beneficial applications, and responsible practices,” said Associate Professor Matthew Chang, from [NUS Yong Loo Lin School of Medicine](#) and Director of SynCTI and the Singapore Consortium for Synthetic Biology (SINERGY). He co-chaired SB7.0 with Associate Professor Drew Endy from Stanford University.



Synthetic biology practitioners from more than 40 countries gathered together for the four-day conference

The conference featured more than 100 speakers in 12 thematic sessions. Topics shared included research into restoring extinct and endangered species, storing media in DNA and using yeast to produce painkillers, as well as broader topics addressing the future of synthetic biology, leadership development and the challenges the field may face.

Over 40 countries were represented in the 900 participants in the conference. Three hundred students, researchers and leaders from local tertiary institutions also attended the event.