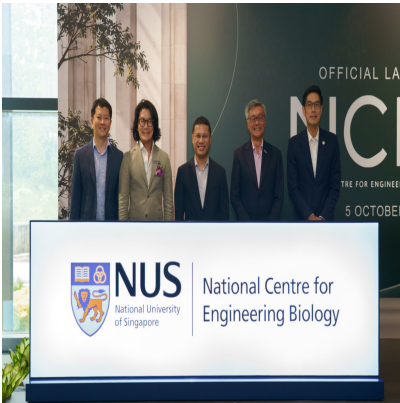




NUS opens S\$50 million National Centre for Engineering Biology

Description

[The National University of Singapore](#) launched the National Centre for Engineering Biology on Monday, 5 October 2026, with a new research facility on campus. Education Minister Desmond Lee opened the centre, which is backed by a National Research Foundation mid-sized grant of close to S\$50 million over seven years from 2023.

NCEB sits under the Research, Innovation and Enterprise 2025 plan. Partners include Nanyang Technological University, the Singapore Institute of Technology, Temasek Polytechnic, Nanyang Polytechnic and A*STAR. The brief is to push engineering biology toward predictive design, so microbes and enzymes can turn renewable feedstocks into specialty chemicals without the energy-heavy, fossil-based routes many of those products still use.

Three research thrusts and a flagship chemicals project

Work is organised around machine learning for predictive biodesign, engineering biology for specialty chemical production, and advanced biofoundry tools. The flagship project, led by NUS, targets AI-guided production of specialty chemicals such as biosurfactants, specialty lipids, flavour and fragrance compounds, bioactive molecules and building blocks for advanced materials.

First targets are functional fatty acids used across several industrial sectors. AI platforms propose enzyme and pathway designs. The Advanced BioFoundry at NUS then builds and tests large batches in parallel. Results feed back into the models under shared data standards, so each cycle trains the next.

One floor, one workflow

The new facility follows a Design-Build-Test-Learn layout on a single floor. A computational and data zone sits next to the main lab, the automated BioFoundry and a bioproduction area. Robotic liquid handlers, an automated colony picker, incubators and microplate readers run as one workflow. Droplet microfluidics sorts high performers from huge cell populations. Liquid and gas chromatography-mass spectrometry systems measure what each engineered cell actually makes.

Scale-up sits at the Bioprocessing Innovation Platform, a partnership with the Singapore Institute of Technology that houses pilot fermentation and downstream processing. Digital tools include SynBioDB for standardised experimental data, SynDe for AI biological design, and EFI@NCEB for enzyme informatics.

People and a national week of talks

More than 150 researchers, students and professional staff already work across partner institutions, with recruitment open for 50 more posts. Undergraduates and graduates will also get research places at the centre.

The launch opens the first Singapore Engineering Biology Week, running 5 to 8 October 2026. The week brings together 300 researchers, students and industry partners for sessions on research, translation, industry and talent. The week is planned as an annual fixture.

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