

INSTITUTE OF ADVANCED STUDIES

NANYANG TECHNOLOGICAL UNIVERSITY

Catalyse high-impact research | Transcend disciplinary boundaries | Expand knowledge & education frontiers

FEATURED ARTICLES

Pioneering the Future of Artificial Neural Networks

2024 Nobel Prize in Physics



The 2024 Nobel Prize in Physics honours Prof John Hopfield and Prof Geoffrey Hinton for their groundbreaking contributions to foundational discoveries that enable machine learning with artificial neural networks.

[Read more](#)

A Conversation with Nobel Laureate Prof Duncan Haldane



In an interactive discussion with NTU scholars and PhD students, Prof Duncan Haldane shared insights on topological physics, quantum materials, research setbacks, curiosity, and interdisciplinary learning.

[Read more](#)

EVENT HIGHLIGHTS

Lee Kong Chian Distinguished Professor Public Lecture by Nobel Laureate and ACM Prize Laureate



Sponsored by the Lee Foundation, the event was held in partnership with the Singapore National Research Foundation's Global Young Scientists Summit 2025. Nobel Laureate Prof Steven Chu discussed the challenges of achieving net-zero emissions and a sustainable low-carbon future. ACM Prize Laureate Prof Yael Kalai explored cryptographic methods to shorten proofs while ensuring integrity, enhancing efficiency in cybersecurity and blockchain.

[Read more](#)



Prof Steven Chu also engaged with NTU scholars and PhD students in a dialogue and tea session, sharing insights on interdisciplinary research, sustainability, academic journeys, and the role of science in energy sector policymaking.

[Read more](#)

17th International Science Youth Forum - Innovation Unified: Towards a Better Future



Hosted by Hwa Chong Institution with support from IAS, this year's forum emphasised the importance of unity in fostering novel ideas and groundbreaking discoveries. Talented international high school students engaged with eminent speakers including Nobel Laureates Sir Tim Hunt and Prof Takaaki Kajita in masterclasses. The forum also featured a keynote lecture by Nobel Laureate Prof Hartmut Michel on "The Challenges in Biomedicine and Agriculture".

[Read more](#)

Engineering Chirality of Materials for a Healthier Future



Asst Prof Prashant Kumar (MSE, NTU) delivered an inspiring talk on chirality in materials science and diagnostics, highlighting breakthroughs in 3D chiral nanostructures, SARS-CoV-2-deactivating nanoparticles etc. His work showcases transformative applications in health, technology and materials science. He was named one of MIT Technology Review's Innovators Under 35 for the Asia-Pacific region in 2024.

[Read more](#)

UPCOMING EVENTS



Topological Perspectives on the Connectome by Prof Kathryn Bellwald (EPFL, Switzerland)

12 February 2025, SPMS LT4

[Register now](#)



Einstein Telescope: A Look At The Dawn Of The Universe by Prof Fernando Ferroni (National Institute for Nuclear Physics, Italy)

15 May 2025, Tan Chin Tuan Lecture Theatre

Registration opens soon.

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For enquiries, email us at iasevents@ntu.edu.sg

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