

INSTITUTE OF ADVANCED STUDIES

NANYANG TECHNOLOGICAL UNIVERSITY

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

FEATURED ARTICLES

microRNAs – Small but Mighty

2024 Nobel Prize in Physiology/Medicine



The 2024 Nobel Prize in Physiology or Medicine was awarded to Prof Victor Ambros and Prof Gary Ruvkun for the discovery of microRNA and its role in post-transcriptional gene regulation. The groundbreaking work has paved the way for RNA therapeutics, with microRNA mimics now in clinical trials as replacement therapy.

[Read more](#)

Navigating Programmatic Grants



Titled “Navigating the Funding Landscape of Programmatic Grants”, the panel featured distinguished researchers who have successfully secured major programmatic funding, as well as those who serve on key grant review committees. Panellists included Prof Dame Lynn Gladden (University of Cambridge and former Pro-Vice-Chancellor for Research) and Prof Ernst Kuipers (Vice President for Research, NTU)

[Read more](#)

EVENT HIGHLIGHTS

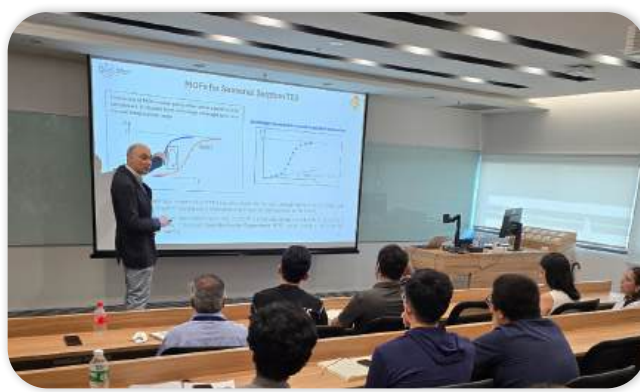
Einstein Telescope: A Look At The Dawn of the Universe



In a captivating talk on the Einstein Telescope, Prof Fernando Ferroni (Gran Sasso Science Institute) discussed how next-generation gravitational wave detectors may unlock secrets of the early universe. The session highlighted breakthroughs in seismic suppression, quantum optics, and multi-messenger astronomy, paving the way for transformative discoveries in physics and cosmology. The seminar was held in partnership with the Embassy of Italy.

[Read more](#)

AI Tools for Material Enhancement and Discovery in Energy Applications



Prof Eliodoro Chiavazzo (Politecnico di Torino) shared cutting-edge research on AI-driven strategies to enhance material performance, discover novel compounds, and generalise results across energy domains. His talk highlighted how AI, coupled with deep domain knowledge, can revolutionise materials discovery for thermal storage, solar fuels, and beyond.

[Read more](#)

A New Trajectory for Space Photovoltaics with Halide Perovskites: Opportunities and Challenges



Asst Prof Jae-Sung Yun (University of Surrey) explored the rise of halide perovskites as promising materials for next-generation space photovoltaics. His talk traced the evolution of solar cell technologies in orbit, highlighting perovskites’ high specific power and scalability, and the challenges they face in harsh space environments.

[Read more](#)

Chaos, Randomness and Complexity in Quantum Many-Body Physics



Dariel Mok (Caltech) offered fresh insights into how universal behaviours emerge in complex quantum systems, bridging ideas from black holes to quantum gravity. He introduced the concept of “deep thermalisation”, sharing how these phenomena can drive advances in quantum technologies and secure communication.

[Read more](#)

UPCOMING EVENTS

IAS Frontiers Workshop on Renewable Energy for a Sustainable Future

1 July 2025 (Tuesday)
Gaia ABS LT6

[Register now](#)

IAS Distinguished Speaker Seminar Biomimeticism and Bioinspiration: Sources of Knowledge to Create New Materials Prof Clément Sanchez University of Strasbourg Institute for Advanced Study

3 July 2025 (Thursday)
North Spine LT7

[Register now](#)

IAS Frontiers Workshop on Women in Renewable Energy (WiRE2025)

4 July 2025 (Friday)
NTUC Centre

[Workshop website](#)

Lee Kong Chian Distinguished Professor Public Lecture Bright Light: Computing Then, Now and To Be Emeritus Prof Jack Dongarra A. M. Turing Award 2021

8 July 2025 (Tuesday)
Tan Chin Tuan Lecture Theatre

[Register now](#)

Lee Kong Chian Distinguished Professor Public Lecture Modern Quantum Mechanics is 100 Years Old This Year: Why is There So Much Excitement? Prof Duncan Haldane Nobel Prize in Physics 2016

16 July 2025 (Wednesday), SPMS LT 1
In Conjunction with the IAS Frontiers
Workshop on Quantum Geometric Advantage

[Register now](#)

IAS 20th Anniversary Symposium Celebrating Two Decades of Transformative Science

29 July 2025 (Tuesday)
Gaia Auditorium

[Register now](#)

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