CANCER CONVERGENCE EDUCATION NETWORK

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ACCADEMIA NAZIONALE DEI LINCEI

INSTITUTE FOR ADVANCED STUDY

INTERNATIONAL CONFERENCE

CANCER & AI: UNDERSTANDING CLINICAL CO-EVOLUTION

30 OTTOBRE 2026

Organizing Committee: Arnie Jay LEVINE (Institute for Advanced Study, Princeton, USA), Tak Wah MAK (Princess Margaret, Toronto), Gerry MELINO (Linceo, Roma Tor Vergata).

Secretariat: Lucilla BONGIORNO-BORBONE, Suzanne CHRISTEN.

PROGRAMMA

Understanding the molecular mechanisms underlying cancer remains a major challenge in the development of effective therapies. In recent years, several transformative advances have reshaped the field, although their full implications for patients are still being explored. One of the most significant developments has been the growing understanding of cancer immunology and the emergence of immune-based therapeutic strategies. The clinical impact of PD-1-targeted therapies, mRNA-based cancer vaccines, and CAR-T and TCR-T cell therapies is already evident. Equally important is the emerging recognition of the interplay between the nervous and immune systems, including cholinergic cancer immunosurveillance mediated by choline acetyltransferase in T and B lymphocytes.

Yet another major challenge—and opportunity—is the rapid development of artificial intelligence (AI), particularly generative AI (GenAI), which is already demonstrating considerable potential across multiple areas of medicine. In this context, the dialogue between physics as a foundation for AI (science for AI) and biomedicine as a field increasingly transformed by AI (AI for science) is becoming essential. Bringing these disciplines together may open new avenues for scientific discovery, deepen our understanding of cancer biology, and help shape the next generation of diagnostic and therapeutic approaches.

This conference will explore key aspects of this dialogue, highlighting emerging opportunities, unresolved questions, and challenges likely to shape research in the years ahead. At the same time, the Accademia Nazionale dei Lincei (ANL) is launching a new *Scuola Lincei di Studi Avanzati*. Hosting the School of the Institute for Advanced Study (IAS) at Princeton—an institution with a longstanding tradition of bringing physics into dialogue with other disciplines, including biomedicine—could provide a particularly stimulating setting for intellectual exchange. We hope that this encounter will foster inspiration, discussion, and new opportunities for collaboration between the ANL and the IAS.

Friday 30 October, 2026

10.00 *Opening*

Carlo DOGLIONI (Accademia Nazionale dei Lincei vice President)

Maurizio BRUNORI (Accademia Nazionale dei Lincei President Emeritus)

Gerry MELINO (ANL, Roma Tor Vergata)

Tak Wah MAK (Princess Margaret, Toronto)

SESSION 1 - Chair: Raul RABADAN (Columbia University, NY) & Mauro PIACENTINI (Roma Tor Vergata)

10.15 Keynote Lecture - Tak Wah MAK (Toronto): *Neuro-immune regulation*

11.00 Jamie BLUNDELL (University of Cambridge, UK): *AI & Cancer evolution*

11.30 Francesca BERNASSOLA (Roma Tor Vergata): *WWP1: AML therapy resistance & metabolic reprogramming*

11.45 Coffee break

SESSION 2 - Chair: Tak Wah MAK (Toronto) & Giovanni BLANDINO (IFO Rome)

12.00 Raul RABADAN (Columbia University, NY): *Illuminating the Dark Cancer Genome using Foundation Models*

12.30 Samuel HACKETT (University of Cambridge, UK): *Hacking the brains self-avoidance code for lineage tracing*

12.45 Maria RUIZ ORTEGA (MSKCC, NY): *Combined GITR agonism and PD-1/LAG-3 blockade elicits B-cell responses in melanoma*

13.00 Lunch

SESSION 3 - Chair: Jamie BLUNDELL (Cambridge) & Ciro CILIBERTO (ANL, Roma Tor Vergata)

14.00 Gerry MELINO (ANL): *Trump, Coca-Cola & Warburg*

14.30 Helen CHOI (University of Stanford, CA): *Metabolic interactions underlying microbial coexistence in Enterococcus-dominated gut communities*

14.45 Matthijs MEIJERS (MSKCC, NY): *An integrative model for peptide immunogenicity*

15.00 Keynote Online Lecture - Arnie Jay LEVINE (IAS): *Evolution of p53 biology and therapy*

15.45 Coffee break

SESSION 4 - Convener: G Melino (ANL), Suzanne Christen (IAS), Paolo Costantino (ANL, Sapienza Università di Roma), Ciro CILIBERTO (ANL)

16.10-17.30 General Discussion on Scuola Lincei IAS

Suzanne CHRISTEN (IAS)

Raul RABADAN (Columbia University, NY)

Carlo DOGLIONI (ANL)

Ciro CILIBERTO (ANL)

IAS colleagues illustrating program, postdoc recruitment, training, achievements, financials; ANL illustrating Centro Linceo Segre and future Scuola Lincea IAS plans.

Acknowledgement

Support from Cancer Convergence Education Network (CCEN), CDDpress/Springer Nature and Accademia Nazionale dei Lincei.

Streaming

https://www.lincei.it/it/dirette-streaming

Conference Venue

Accademia Nazionale dei Lincei, Palazzo Corsini, Via della Lungara 10, 00165 Rome
https://www.lincei.it

INFO

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Website: https://www.lincei.it/it/manifestazioni/international-conference-cancer-and-ai-understanding-clinical-co-evolution

Online registration is required to attend the conference: https://forms.gle/kaKQbkxHNGiN7UuY7

Access is also possible until 10:00 a.m. from Lungotevere della Farnesina, 10.

A certificate of attendance will be issued only to participants attending in person and must be requested from the staff in the antechamber on the same day of the conference.