

Activities

[1] On June 29, 2026 - INTERNATIONAL SYMPOSIUM ON QUANTUM AI & THE FUTURE OF LIFE (ISQAI-FoL)

The International Symposium on Quantum AI and the Future of Life aims to create an interdisciplinary platform for thought leaders, practitioners, and researchers from diverse fields to explore the transformative potential of quantum computing and artificial intelligence (AI) in shaping the future of human well-being. This event will focus on cutting-edge applications of these groundbreaking technologies across four key domains: Biomedicine & Healthcare, Integrating Traditional Chinese Medicine and Western Medicine, Longevity and Anti-aging, and Life Optimization.

Click [here](#) for more information.



[2] On June 8, 2026, AIQRC—a group of eight members—visited Taiwan-based renowned pharmaceutical company to explore opportunities for academic–industry collaboration

[3] On May 27, 2026, AIQRC published an article in the Economic Daily News. Click [here](#) for the original contents.

[4] On May 7, 2026, AIQRC published an article in the Economic Daily News; the English translation is included in the newsletter. Click [here](#) for the original contents.

Asia University Hosts International Symposium on Quantum AI and the Future of Life Sciences

Experts Focus on Quantum Chips, AI-Driven Calibration, and Life Science Applications to Shape Future Technology Talent

Asia University hosted the **International Symposium on Quantum Artificial Intelligence and the Future of Life Sciences** on June 29, bringing together leading experts in quantum technology, artificial intelligence, and life sciences from Academia Sinica, Rigetti Computing, Anyon Technologies, D-Wave Quantum, and other organizations. The symposium explored how quantum AI could drive the next wave of breakthroughs in industry, healthcare, and life sciences.



Group photo of distinguished guests, capturing a memorable moment in international exchange on quantum technology and smart healthcare.

As AI models continue to expand in scale, fields such as life sciences, drug discovery, materials simulation, and industrial optimization face unprecedented computational demands. Quantum AI is increasingly viewed as a promising technology capable of overcoming some of the limitations of conventional computing.

A central question raised at the symposium was: **When will the first truly practical, fault-tolerant quantum computer for large-scale commercial applications become a reality?** According to industry roadmaps from companies such as IBM and Google, the first wave of applications demonstrating “quantum advantage” may emerge within the next few years. IBM has identified **2029** as a key target year for delivering a large-scale fault-tolerant quantum computer.

Quantum Computing and AI: A New Computing Ecosystem

Asia University President **Prof. Jeffrey J.P. Tsai** emphasized that artificial intelligence is rapidly transforming higher education, healthcare, and industrial innovation, while quantum computing is regarded as the next-generation technology capable of surpassing some of the limits of traditional computers. He noted that Taiwan, already a global semiconductor powerhouse, has the opportunity to play an important role in quantum chip development, software platforms, system integration, and talent cultivation.



President Jeffrey J.P. Tsai delivered opening remarks, highlighting the role of Quantum AI in strengthening global academia-industry collaboration.

President Tsai highlighted that AI and quantum computing are not independent technologies but rather mutually reinforcing components of a new computing ecosystem. AI can assist with quantum system calibration, optimization, and automation, while scalable fault-tolerant quantum computing could eventually accelerate drug development, materials simulation, optimization problems, and complex probabilistic modeling. He also expressed Asia University's commitment to cultivating future quantum engineers and interdisciplinary innovators through its AI and Quantum Research Center.

AI-Driven Automation for Quantum Computing

Dr. **Chii-Dong Chen**, Distinguished Research Fellow at Academia Sinica and Executive Director of the Quantum Computer Project, delivered a keynote address titled **“Building and Scaling Superconducting Quantum Computing: QPU Engineering and AI-Driven Automation.”** He discussed the development of superconducting quantum chips, fabrication processes, packaging technologies, and the evolution from single-qubit to multi-qubit quantum processors.

Dr. Chen explained that the key challenge in making quantum computers practical is not merely creating qubits, but ensuring that large numbers of qubits can operate reliably and maintain computational quality. He also presented recent progress in using AI agents to automate qubit calibration. These AI systems can coordinate knowledge extraction, parameter optimization, and experimental control, automatically interpreting measurement results and adjusting physical parameters. Such automation may significantly reduce calibration time and help transform quantum computing from laboratory research into scalable engineering platforms.

Industry Perspectives on Quantum Computing

A panel discussion moderated by **Academician Kang L. Wang** of Academia Sinica and UCLA featured Dr. Chen, **Subodh Kulkarni**, President and CEO of Rigetti Computing, and **Jie (Roger) Luo**, Co-founder and CEO of Anyon Technologies. The panelists emphasized that future challenges extend beyond semiconductor fabrication and include cryogenic packaging, control circuitry, alternatives to coaxial cabling, system stability, and integration with data centers.



During the expert panel, speakers engaged in in-depth discussions on quantum computing infrastructure and hybrid architecture development pathways.

Kulkarni noted that superconducting quantum computers offer advantages in speed and manufacturability, but significant hurdles remain regarding error rates, calibration time, and system consistency. He observed that AI and machine learning technologies have already shortened startup and calibration processes from days or even weeks to just a few hours, demonstrating AI's growing role in quantum engineering.

Luo added that multiple quantum computing platforms—including superconducting systems, trapped ions, neutral atoms, and photonics—may coexist in the future, each serving different application scenarios rather than producing a single dominant technology.

Quantum AI for Brain Science and Healthcare

In the afternoon session, **Academician Ann-Shyn Chiang**, President of China Medical University, delivered a keynote presentation titled **“Progress in Mapping the Human Connectome.”** He discussed advances in neuroscience and brain mapping, highlighting how AI, data science, and biomedical research are converging to deepen understanding of the human brain and enable future medical innovations.

Experts at the symposium also explored how quantum AI could benefit life sciences and intelligent healthcare. Applications discussed included drug discovery, protein folding, molecular simulation, and the study of complex diseases. Participants noted that combining

quantum computing with AI could significantly shorten drug screening and simulation timelines while improving precision medicine and healthy aging research.

Cultivating Future Talent

Students and attendees actively engaged with speakers regarding career paths and educational preparation in the era of AI and quantum technologies. Experts encouraged young people from diverse academic backgrounds—including physics, computer science, engineering, medicine, materials science, and management—to participate in the emerging quantum ecosystem. They emphasized that individuals who can effectively use AI tools, understand complex problems, and develop specialized expertise will find opportunities in the rapidly evolving technology landscape.

Prof. **Kuang-Tsai Huang**, Director of Asia University's AI and Quantum Research Center, remarked that the deep integration of quantum computing and AI is laying the foundation for next-generation computing power. He believes that effective integration of these technologies will open new opportunities in smart healthcare, precision medicine, fintech, materials science, and industrial optimization.

President Tsai concluded that Asia University has actively expanded its initiatives in AI, smart healthcare, and quantum technology, while strengthening collaborations with international quantum companies such as Rigetti Computing, Anyon Technologies, and D-Wave Quantum. Through this symposium, the university aims to connect with global technological leaders, cultivate interdisciplinary talent, and contribute to the development of Taiwan's quantum AI ecosystem

Click [here](#) for more details.

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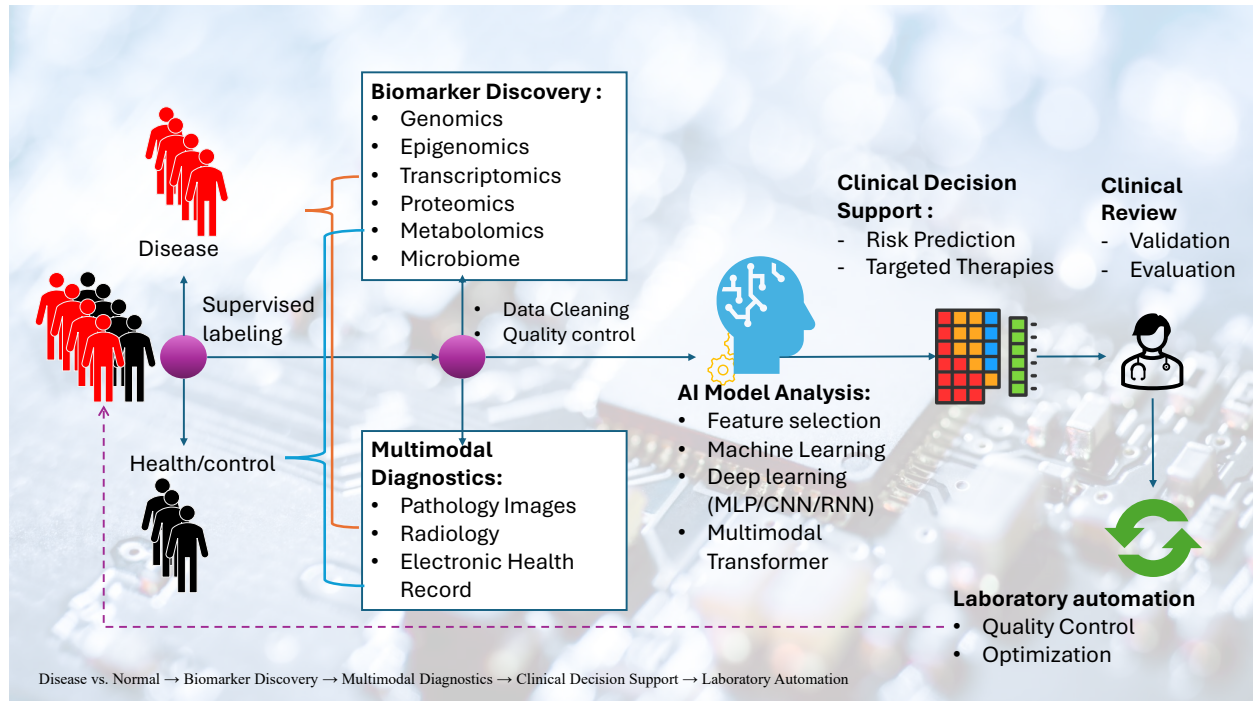
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AI in Laboratory Developed Tests (LDTs)

Artificial intelligence (AI) may reshape the development and application of Laboratory Developed Tests (LDTs) in healthcare. Conventional LDTs have traditionally relied on single-analyte assays, where traditional model LDTs have primarily focused on detecting individual biomarkers to aid disease diagnosis or monitoring, where:

Disease vs. Normal → Single Molecular Marker / Single Digital Image / Electronic Health Record (EHR) → Classification Algorithm → New Biomarker Discovery

Current developments using AI algorithms are shifting toward integrated diagnostic platforms capable of supporting precision medicine (Meng et al., 2025). To generalize this concept, the major developments are illustrated in the figure below:



AI algorithms can combine molecular test results with digital pathology, medical imaging, and electronic health records (EHRs) to generate more comprehensive diagnostic assessments. This multimodal approach has demonstrated improved performance in disease classification, prognosis prediction, and therapeutic decision-making, particularly in oncology and other complex disorders where clinical outcomes depend on multiple interacting biological and clinical factors (Goda and Abdel-Aziz, 2025).

However, adopting the study by Zeng, Huang, & Zhu (2026), there are several challenges remain before AI-enabled LDTs can be widely implemented in routine clinical practice, such as :

1. Robust external validation across diverse populations
2. Transparent and explainable AI models
3. Standardized reporting frameworks
4. Regulation and ethics for patient safety
5. Interdisciplinary collaboration to establish evidence-based standards for model validation and monitoring

In summary, AI is transforming Laboratory Developed Tests by supporting more integrated and precise diagnostic approaches, with the potential to advance precision medicine despite its limitations.

References

1. Meng, J., Wu, M., Shi, F., Xie, Y., Wang, H., & Guo, Y. (2025). Medical laboratory data-based models: Opportunities, obstacles, and solutions. *Journal of Translational Medicine*, 23, Article 823. <https://doi.org/10.1186/s12967-025-06802-x>
2. Goda, R. Y., & Abdel-Aziz, A. K. (2025). Exploiting artificial intelligence in precision oncology: An updated comprehensive review. *Journal of Translational Medicine*, 23, Article 1397. <https://doi.org/10.1186/s12967-025-07308-2>
3. Zeng, Q., Huang, C., & Zhu, J. (2026). AI-driven transformation of precision medicine: A comprehensive narrative review of key application areas, emerging paradigms, and future directions. *Frontiers in Public Health*, 13, Article 1656603. <https://doi.org/10.3389/fpubh.2025.1656603>

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