

Mini-workshop on Quantum Sensing and Application for Physics

2025 Oct. 30

NCU Chien-Shiung Building Room 209



CHiP
CENTER FOR HIGH ENERGY
AND HIGH FIELD PHYSICS



10:00

Welcome and Purpose of the Mini-Workshop

Contribution | Speaker: Masashi Hazumi (National Central University)

10:10

10:10

Enhancing the Dynamic Range of Quantum Sensing via Quantum Circuit Learning

Contribution | Speaker: Yuichiro Matsuzaki (Chuo University)

CHiP Seminar

11:10

11:10

Quantum Sensing at the CHRONOS Project

Contribution | Speaker: Yuki Inoue (National Central University)

12:10

13:30

Light Dark Matter Search with Nitrogen-Vacancy Centers in Diamonds

Contribution | Speaker: Masashi Hazumi (National Central University)

14:00

14:00

Quantum speed limits and selected applications in quantum many-body physics and quantum information science

Contribution | Speaker: Jyong-Hao Chen (National Central University)

15:00

15:00

Development of Josephson Parametric Amplifiers for Axion Search and Quantum Information Applications

Contribution | Speaker: Yung-Fu Chen (National Central University)

15:30

16:00

Quantum Technology Strategy in Taiwan

Contribution | Speaker: Ming-Jey Wang (ASIoP)

16:30

16:30

Free Discussion on Future Directions

Contribution

17:00

2025 量子百週年紀念 Quantum Centennial Celebration



量子科學特展

2025
6
14
2026
4
14
國立自然科學博物館
第二特展室

EXPLORING
TINY WONDERS
A JOURNEY INTO QUANTUM SCIENCE

指導單位 | 國家科學及技術委員會 教育部
主辦單位 | 台灣物理學會 物理研究推動中心 國立自然科學博物館
協辦單位 | 中央研究院 中央研究院關鍵議題研究中心 量子系統推動小組 國立臺灣大學
國立成功大學前沿量子科技研究中心 國立中央大學物理學系
贊助單位 | 財團法人台積電文教基金會

INTERNATIONAL YEAR OF
Quantum Science
and Technology

Nobel Prize in Physics 2025



Ill. Niklas Elmehed © Nobel Prize Outreach

John Clarke

Prize share: 1/3



Ill. Niklas Elmehed © Nobel Prize Outreach

Michel H. Devoret

Prize share: 1/3



Ill. Niklas Elmehed © Nobel Prize Outreach

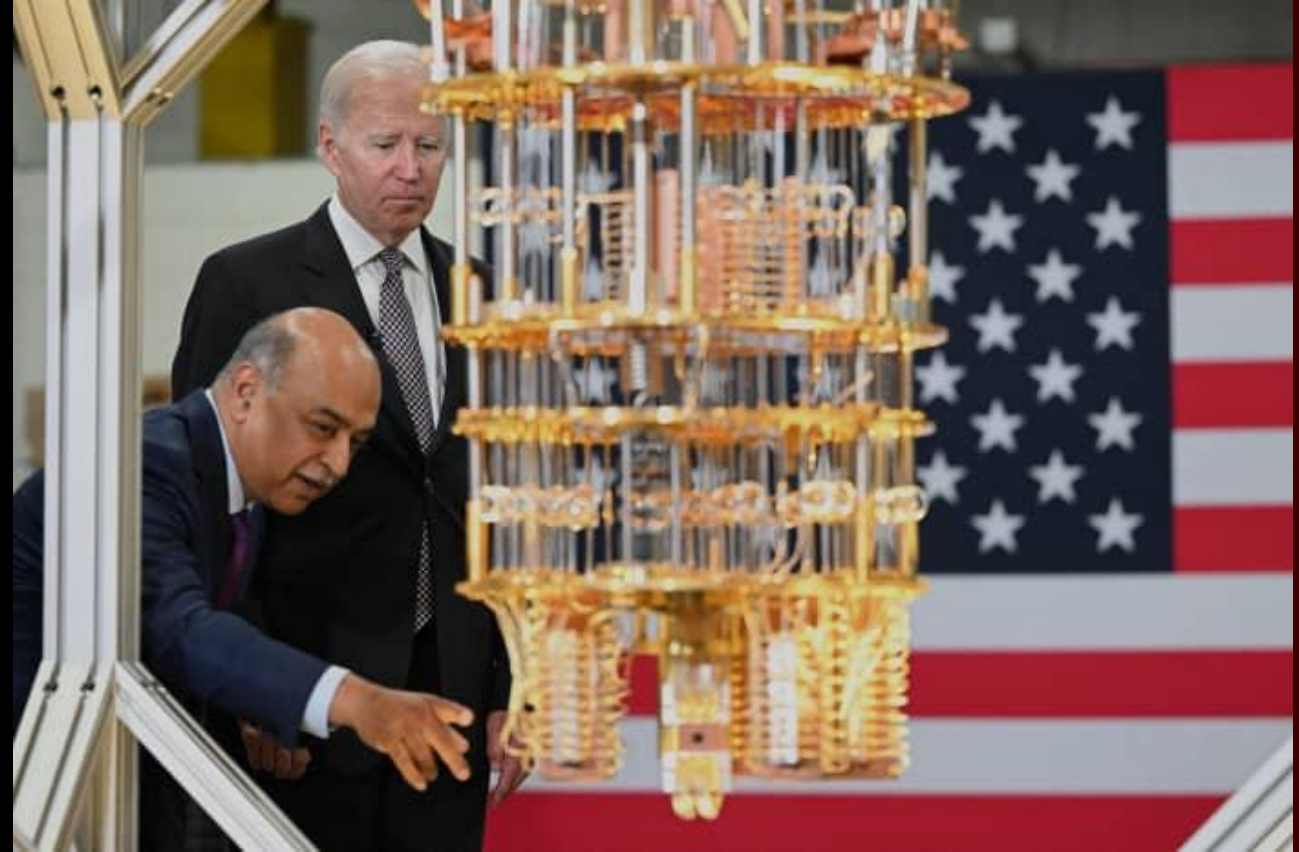
John M. Martinis

Prize share: 1/3

The Nobel Prize in Physics 2025 was awarded jointly to John Clarke, Michel H. Devoret and John M. Martinis "for the discovery of macroscopic quantum mechanical tunnelling and energy quantisation in an electric circuit"

Four “quantum2.0” technologies

1. Quantum computing
2. Quantum communications (“quantum internet”)
3. Quantum sensing
4. Quantum materials



The global quantum effort leading to research and innovation in quantum science and technology is continually rising with current worldwide investments exceeding \$40 billion. Overall, the global quantum technology market is projected to reach \$106 billion by 2040.

This one-day workshop has a special guest,
Prof. Yuichiro Matsuzaki of Chuo University, Japan,
and aims to gather scientists in quantum information
science (QIS), gravitational wave physics, cosmology,
and other areas of physics to discuss new quantum
sensing and applications for physics.