

# NTU Q

## SELECTED NEWS



### 2020 Quantum Computing Forum

Quantum computing is the most eye-catching emerging technology in the 21st century. Its importance is no less than that of the silicon industry of the last century. It requires the cooperation of government and private sector, industry and academia in terms of software, hardware, and talent education.

In order to promote Taiwan's quantum technology and maintain Taiwan's competitiveness in this emerging revolution, the "Taiwan Quantum Computer and Information Association" initiated the forum, inviting advanced and interested people from all walks of life to discuss quantum technology issues face-to-face with many people in Quantum Computing on Nov 10,23,24.

Divided into five sub-topics:

#### A. General quantum computer hardware development

Topic	Speaker
Silicon-Based quantum device and quantum computing	Prof. Hsi-Shen Goan
Integrated Quantum Photonic Sources and Circuits	Prof. Yen-Hung Chen
Future and challenge of quantum computer	Prof. Chi-Chua Hwang
NV-diamond qubits and manipulation and methodology for practical application	Dr. Chao-Cheng Ting

Topic	Speaker
Superconductor qubits-problems and solutions	Prof. Chii-Dong Chen

## B. Quantum heuristic machines and calculations

Topic	Speaker
Overview of Quantum-inspired Computing	Dr. Lein-Po Yu
Developing Quantum-Inspired Digital Annealers	Prof. Shih-Hao Hung
CMOS accelerator design technology for emerging applications.	Prof. Yuh-Renn Wu
Seeing the quadratic unconstrained binary optimization(QUBO)	Dr. Ming-Chien Hsu
QUBO formulations and application in social issues	Dr. Chih-Yu Chen
Challenges and Opportunities of Landing Optimization technologies on Logistics Businesses-Lessons learnt from trenches	Prof. Lan-Kun Chun CEO of Singularity&Infinity

## C. Quantum Computer Industry Development Strategy

Topic	Speaker
Progress and prospects of major qubit technologies	Prof. Kuei-Lin Chiu
Policy and legislation about Quantum Technology	Dr. Jia-Horng Chang
Industrialization measures taken by conglomerates	Mr. Yi-Ping Huang Vice President, Business Development Center
Value chain and ecology:(1) Semiconductor perspective	Mrs. Wen-Qi Ding Vice President, UMC
Value chain and ecology:(2)ICT perspective	Justin Chueh CEO, DeCloak
Proposal for Taiwan quantum computer industry development strategy	Prof. Yeu-Chung Lin

## D. Quantum education-from kindergarten to university

Topic	Speaker
Quantum technology talent cultivation–The role and strategy of the government	Prof. Tsan-De Zhou
Talent cultivation in university	Prof. Ying-Yi Hong
Talent cultivation in high school	Prof. Chao-Ming Fu

Topic	Speaker
Quantum science education	Mr. So-Yen Chen CEO, ECSY Network
Quantum computing development in venture capital	Prof. Bou-Wen Lin

## E. Quantum algorithm and application

Topic	Speaker
The advantage of quantum algorithm	Prof. Tsung-Wei Huan
Quantum finance- speed up only or new territories	Dr. Chih-Yu Chen
The application of quantum optimization in 5G/6G mobile network	Dr. Belmiro Chu
Synthesis and Simulation of Quantum Logic Circuits	Prof. Jie-Hong Roland Jiang
Quantum computing for drug discovery	Prof. Yufeng Jane Tseng

### The IBM Quantum Challenge

**Y**ou will be presented with a new set of challenges designed to push the limits of our quantum systems towards another significant milestone. In this challenge, participants will get to learn and explore topics such as quantum data structures, which will become an essential component of quantum systems of larger scale.

[IBM Challenge](#)

### A network-ready random-access qubits memory

**P**hotonic qubits memories are essential ingredients of numerous quantum networking protocols. The ideal situation features quantum computing nodes that are efficiently connected to quantum communication channels via quantum interfaces.

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## COMING EVENTS

[Fusion the ideas of quantum computer Dec. 12, 2020](#)

### REGISTRATION

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