

# Joint CQSE & CASTS Seminar

「Mar. 27, 2020 (Friday)」

- Time : 14:30~15:30
- Place : Rm716, New Physics Building
- Speaker: **Prof. Yen-Hsiang Lin 林晏詳**  
Dept. of Physics,  
National Tsing Hua University  
國立清華大學物理學系
- Title : **Building Quantum Information Hardware with Superconducting Fluxonium Qubits**

▲ **Open for members of National Taiwan University**  
except for someone has been to Academia Sinica (Nangang District)  
during March 8th ~ 22th, 2020.

\*\*Sponsored by Center for Quantum Science and Engineering (CQSE) 量子科學與工程研究中心  
and Center for Advanced Study in Theoretical Sciences (CASTS) 理論科學高等研究中心, National Taiwan University

# Joint CQSE and CASTS Seminar

2020  
Mar. 27, Friday

TIME Mar. 27, 2020, 2:30~3:30pm  
TITLE Building Quantum Information Hardware with  
Superconducting Fluxonium Qubits.  
SPEAKER Prof. Yen-Hsiang Lin  
Dept. of Physics, National Tsing Hua University  
PLACE Rm716, CCMS & New Physics Building, NTU

## Abstract

Quantum superconducting circuits based on Josephson tunnel junctions have become a leading platform in the subjects of quantum information. By inserting a Josephson junction array served as an inductance, a fluxonium superconducting qubit has several extraordinary properties including extra degree of freedom for engineering, tunable multi-level spectrum with large anharmonicity. A single fluxonium superconducting qubit has the longest energy relaxation time ( $T_1$ ) and the longest coherence time ( $T_2$ ) among different types of single superconducting qubits. In this talk, I will also present ideas of constructing hardware for gate-based quantum computing, quantum simulation, and quantum sensing with fluxonium superconducting qubits.

▲防疫期間僅限本校人員參與，另外 3/8~3/22 曾到訪中研院南港院區任何區域者請在家中自主健康管理  
Open for members of National Taiwan University except for someone who has been to Academia Sinica (Nangang District) during Mar.8th ~ 22th.

▲拒絕有發燒或呼吸道症狀者入場  
Individuals with fever or respiratory symptoms are prohibited from participating in the event.

▲強烈建議全程戴口罩並與鄰座參與者保持間隔  
Wearing sanitary masks all the time and keep gaps between each other are highly recommended.

▲場地備有酒精供雙手消毒使用  
We provide alcohol sanitizer to keep your hands clean.

