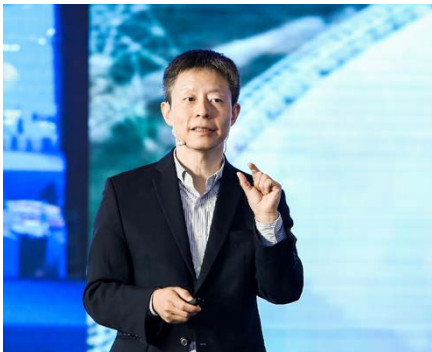




THE CHINESE UNIVERSITY OF HONG KONG  
*Department of Physics*  
COLLOQUIUM

## From Arecibo to FAST Array – The Voyage of Perseverance

*by*



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*Date: February 11, 2022 (Friday)*

*Time: 4:00 - 5:00 p.m.*

*Join ZOOM Meeting: <https://cuhk.zoom.us/j/95759034433>*



ALL INTERESTED ARE WELCOME

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### Abstract

Inspired by the Arecibo telescope, a technical and scientific wonder of the 20th century, the Five-hundred-meter Aperture Spherical radio Telescope (FAST) was originally proposed as part of a SKA concept. Since its inception of normal operation in 2020, FAST data have resulted in more than 100 peer-reviewed papers, including four on the Nature magazine and one on Nature Astronomy. Such productivity evinces the unparalleled sensitivity of FAST as well as the originality of a series of experimental techniques such as the high-cadence CAL, which enables the Commensal Radio Astronomy Fast Survey (CRAFTS), the world's first commensal survey of pulsars, HI imaging, HI galaxies, and fast radio bursts (FRBs). CRAFTS has so far discovered more than 150 pulsars, including one double-neutron-star system (DNS), and 6 new high DM ( $>1000 \text{ pc cm}^{-3}$ ) fast radio bursts (FRBs), including one new repeater. The HI images and galaxies from CRAFTS are close to publication quality. I will introduce a few highlights from CRAFTS as well as PI programs, including the first successful HI narrow self-absorption (HINSA) Zeeman detection, which was featured on the cover of Nature, the first detection of the characteristic energy for a FRB source, etc. An array of FAST-like antennae is being discussed as the next step in the ongoing voyage.

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