# [ Gifted Programme ]

C1FUI029T

(Not-token required

Signals from the Cosmos – Using Multi-messenger Astronomy to Map the Dark Universe

Mr Alan G.L. CHAN Astrophysicist



5 Jan 2026

12:00 noon

## **Intended Learning Outcomes**

Upon completion of the gifted programme, gifted students should be able to:

- 1. Explain how astronomers use multi-messenger astronomy to study cosmic expansion and dark energy.
- 2. Describe the nature of an astronomer's work, and the personal attributes that drive discoveries.
- 3. Recognise how space research contributes to technology, sustainability, and our understanding of humanity's place in the universe.

## Gifted Programme Introduction

## **Future Insight Talk Series**

Most of the universe is invisible. Dark matter, dark energy, and black holes shape our cosmos, yet remain unseen. How do we study what's hidden in the dark?

In this talk, the speaker will explore multi-messenger astronomy, showing how light from active galaxies, supernovae explosions, and gravitational waves help us understand the universe's expansion and evolution. He will also share his journey from stargazing student to researcher working with international teams and telescopes (e.g., NASA, JPL, ANU, IAF, and ESO). Let us learn how curiosity and collaboration drive discoveries and how young people can prepare for future scientific frontiers.

The speaker Mr Alan CHAN is an astrophysicist and research student at Mount Stromlo Observatory and the ANU Centre for Gravitational Astrophysics with The Australian National University (ANU). His research explores how Active Galactic Nuclei, Supernovae, and Gravitational Waves reveal the nature of dark energy and the expanding universe. Alan also engages in several international outreach collaborations and advocates for inclusive, globally accessible space exploration.

#### Schedule

Session	Date	Time	Venue
1	17 Jan 2026 (Mon)	2:00 p.m. – 4:00 p.m. (Please arrive at 1:45 p.m. for registration)	Room 105, HKAGE

#### Suitable for

- \$1 \$6 HKAGE student members in 2025/26 school year only.
- Class size: 120
- \* First-come, first-served.

### Medium of Instruction

**English** 

### Certificate

E-Certificate will be awarded to participants who have attended the talk.

#### Remark

Starting from the 2023/24 school year, after the first review period, ALL student members must complete the following requirements in each school year in order to maintain their membership:

- Attend One Talk; AND
- Participate in One programme or activity of any kind

This talk is one of the items in the five domains of the Holistic Talk Series. The objective is to facilitate the all-round development of student' gifted potential.

