



香港資優教育學苑
The Hong Kong Academy for Gifted Education

香港特別行政區政府教育局資助
Subvented by the Education Bureau, the Government of the HKSAR



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E1STM008T-2

(Not-token required)

[**Gifted Programme**]

💡 **Academic Introductory Talk Series**

STEAM Talk (Level I)

Turning Sand into Gold: The Transformation from Sand to Integrated Circuits

Prof Shen Hai Hua

University of Chinese Academy of Sciences

Hong Kong STEM Education Alliance



Application Deadline

26 Nov 2025

12:00 noon

Intended Learning Outcomes

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

1. recognize integrated circuits as the cornerstone of information technology and vital to national development, and analyze China's latest advances and key challenges in independent semiconductor innovation;
2. develop passion for microelectronics and related STEM fields by exploring the sophisticated technology and engineering behind chip manufacturing.



◆ Gifted Programme Introduction

From humble sand to chips that rule the world - this is a microscopic marvel of human wisdom turning stone into gold. This talk will unveil how sand is purified into monocrystalline silicon and processed through sophisticated techniques like photolithography and etching to build "cities" of billions of transistors on a tiny chip, taking you through the core transformation journey of the information age. The talk will cover fundamental concepts in mathematics, physics, and chemistry in an accessible way. Students will learn how integrated circuit chips - the foundation of the information industry - are designed and manufactured.

Professor Shen Hai Hua is a Professor and Doctoral Supervisor at the University of Chinese Academy of Sciences and a Distinguished Member of the China Computer Federation. She has led over 20 national research projects, including the National Key R&D Program of China, and has received numerous awards including the Beijing Science and Technology Award and the China Electronics Society Science and Technology Award. She is dedicated to cultivating technological talent and promoting science education.

◆ Schedule

Session	Date	Time	Venue
1	6 Dec	2:00 p.m. – 4:00 p.m.	HKAGE

◆ Suitable for

- S1 – S6 HKAGE student members in 2025/26 school year only.
- Class size: 100
- * First-come, first-served.

◆ Medium of Instruction

Putonghua

◆ Certificate

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

◆ Remark

Starting from the 2025/26 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.



Emerging Technology Talk Series by YASHK

Scientists introduce eye-opening emerging technology to enhance students' motivation to learn.



Trendy Academic Talk Series

Introduce trendy topics to widen the students' horizons.



National Security Talk Series

Understanding the meaning of National Security, enhances students' sense of national identity.



Ignite Life Talk Series

Celebrities share their life-changing moments to enhance students' aspirations for life.



Future Insight Talk Series

Professionals share insights about the latest trends in their industry to help students plan their future.



◆ Enquiry



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