Faculty of Education
The University of Hong Kong

**ONLINE WORKSHOP**


# Speech and Intelligence: Unveiling the Psychology and Brain Science Behind the Importance of Talking

Human speech production, or talking, is so commonplace that most people take this ability for granted, often unaware of its impact on basic cognitive abilities. In this workshop, I will present the theoretical foundation illustrating how speech production activities play a critical role in cognitive enhancement and development. Basic cognitive abilities, such as memory, reasoning, and attention, are fundamentally important for our daily lives, as they are essential for everyday functioning. Consequently, enhancing these cognitive abilities, or general intelligence, has garnered significant interest within society. However, scientific evidence supporting various training programs remains inconsistent and controversial.

In this workshop, I will explore how real-time speech activity, an easily accessible practice, is linked to two major components of the cognitive ability system: information maintenance and operation. I will demonstrate how engaging in speech production can enhance these cognitive systems. Additionally, the workshop will cover the research paradigms and principles used to study cognitive enhancement, providing an overview of the topic.

**Language: English**

**Prof Guang Ouyang**

Prof. Guang Ouyang is currently an Associate Professor at the University of Hong Kong. His research focuses on developing signal processing methods to extract information from complex neural signals related to cognition and learning. With over ten years of experience in neural signal analysis, he has gained significant expertise in the detailed features and composition of neural signals recorded at various levels. Prof. Ouyang has developed advanced electroencephalography (EEG) signal processing methods that have supported over 100 publications from labs in 15 countries. His EEG-based research has been published in more than 40 peer-reviewed journal papers in the field of cognitive neuroscience.

**Date and Time :**

**Jan 4th, 2025 (Sat) 10:00 am – 11:00 am**

**Scan the QR code to register**

**The Zoom Link will be sent to your registration email**

Enquiry can be sent to Prof Ouyang at ouyangg@hku.hk

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**ONLINE WORKSHOP**


# 言語與智力：從心理學與腦科學角度解讀言語活動的重要性

人類的言語交流是一項日常且普遍的能力。雖然非常常見，但其對基本認知能力的影響卻常常被忽視。本工作坊將介紹相關理論基礎，說明言語在促進認知能力提升與發展中的關鍵作用。

記憶、推理和注意力等基本認知能力，作為一切日常活動的基石，對我們的日常生活至關重要。因此，提升這些認知能力或智力在社會中備受關注。然而，關於各種訓練方法的科學證據仍然存在不一致和爭議。在本工作坊中，我將探討如何將一個簡單易行的實時言語活動，與認知能力系統中的兩個主要組成部分（信息維持和信息处理）相聯繫。本工作坊將讨论言语活动如何提升這些認知能力。此外，工作坊還將涵蓋用於研究認知提升的實驗範式與原理，並提供相關主題的概述。

**會議語言：英語**
**會議結束後將提供附有中文字幕的錄影。**

**歐陽光教授**

歐陽光教授現任香港大學副教授，其研究專注於開發信號處理方法，以從大腦中的複雜信號中提取有關學習和認知的重要信息。歐陽教授在神經信號分析領域擁有超過十年的經驗，他在對不同層級的神經信號特徵和組成方面，積累了豐富的專業經驗。他所開發的先進腦電圖（EEG）信號處理方法，已被來自15個國家的實驗室應用於超過100篇學術論文中。他基於EEG的研究成果已發表於認知神經科學領域的40多篇同行評審期刊論文中。

**日期與時間：**

**2025年1月4日（星期六）：**
**10:00 am – 11:00 am**

**掃描二維碼以完成註冊**
**Zoom連結將發送至您的註冊電郵地址**

如有查詢，歡迎聯絡歐陽光教授 （電郵：ouyangg@hku.hk）