



# Why Are Spatial Skills Related to Achievement in Science, Technology, Mathematics, and Engineering (STEM)?

**Speaker:** Professor David H Uttal  
School of Education and Social Policy and  
Department of Psychology  
Northwestern University

**Date:** January 18, 2024 (Thursday)

**Time:** 10:00 – 11:00

**Venue:** Room 646, Meng Wah Complex, HKU

**Chair:** Dr Anthony Kong

**Please register at:**

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## **Abstract:**

We now know that spatial skills are a strong predictor of STEM achievement and attainment, even after holding constant the influences of verbal and mathematical skills. There is also emerging evidence that spatial experience and training can lead to improvements in mathematics. However, there is no clear explanation as to why this relation exists. In my talk, I will explore one possible relation: A major part of STEM involves thinking about patterns and relations, and spatial skills facilitate relational reasoning. I will discuss several examples of research and theory that support this position. I will conclude by discussing options for improving both spatial and relational reasoning.

## **About the speaker:**



Professor David Uttal is Professor of Psychology and Education at Northwestern University, where he directs Northwestern's Spatial Thinking and Reasoning Lab and Spatial Intelligence and Learning Centre. Professor Uttal's lab focuses on using experimental and observational studies to investigate a range of areas in cognitive development and STEM education, with current interests including maps, symbolic representation, informal learning, and spatial thinking in STEM education. A key theme throughout Professor Uttal's work is understanding how psychological research can be used to benefit children's learning, with his work in this area ranging from learning that takes place in the classroom to more informal settings such as in home and museum projects. Among the many accolades Professor Uttal has received, he was recently awarded the prestigious IMBES Translation Award for making significant progress towards strengthening the links between research and practice in Mind, Brain, and Education.

~ ALL ARE WELCOME ~

For enquiries, please contact the Office of Research, Faculty of Education at 3917 8254.