



香港浸會大學
HONG KONG BAPTIST UNIVERSITY



香港浸會大學理學院
HKBU Faculty of Science

Department of Mathematics

Public Lecture on Mathematics

Computational Thinking: A Necessary Subject in Education



Professor Walter Gander



*ETH (Zürich, Switzerland) and
Hong Kong Baptist University*

Date: 12 May 2011 (Thursday)

Time: 4:15pm - 5:15pm (Preceded by Reception at 3:45pm)

Venue: Y C Cheng Lecture Theatre (LT3), Cha Chi-Ming Science Tower,
Ho Sin Hang Campus, Hong Kong Baptist University

Abstract

Computers comprehensively control, regulate and govern our lives in the 21 Century, whether we like it or not. Our way to obtain and process information has been revolutionized (Google, GPS, Smart phone, digital media, Skype, etc.). Even in the kitchen a meal is cooked in a modern steamer controlled by a computer program. The automatic information processing takes increasingly place in the background. With so-called embedded systems, the computer has become invisible – often we are not even aware that computer science is involved.

It is time to rethink the fundamentals in school curricula. It is definitely not enough to teach our children to use computers. For understanding the world of today we need to teach fundamentals of computer science to everybody as we do with mathematics. We teach mathematics not to produce more mathematicians but because we are convinced that mathematics is important for the development of the mind. The same applies to the fundamentals of computer science. The Center for Computational Thinking at Carnegie Mellon defines: "Computational thinking is a way of solving problems, designing systems, and understanding human behavior that draws on concepts fundamental to computer science. To flourish in today's world, computational thinking has to be a fundamental part of the way people think and understand the world."

Understanding algorithms, problem solving techniques and programming are fundamentals of computer science necessary today for general education. We will solve problems on the computer with different levels of difficulty and so hopefully awaken some enthusiasm for programming also for an audience which has never programmed before.

✦ ✦ ✦ All are welcome ✦ ✦ ✦

The Medium of Instruction: English

For enquires please contact Ms. Candy Li, 3411 5056.

<http://www.math.hkbu.edu.hk/>



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數學系

普及數學公開講座

學校的基礎課程：計算思維



Professor Walter Gander



*ETH (Zürich, Switzerland) and
Hong Kong Baptist University*

- 日期：二零一一年五月十二日（星期四）
時間：下午四時十五分至五時十五分（茶會時間為下午三時四十五分）
地點：香港浸會大學善衡校園
查濟民科學大樓鄭翼之講堂(LT3)

摘要

在二十一世紀的今天，電腦已經廣泛地在我們的生活中使用。人們獲取和處理信息的方式正在不斷改變和革新，例如谷歌，全球衛星定位系統，智能電話，數字傳媒，網絡電話，等等。自動化信息處理正快速蔓延至社會的各個角落，隨著嵌入式系統的發展，電腦已經變得隱形化，通常我們很難察覺到電腦科技就在我們身邊。

所以現在該是我們重新去思考學校的基礎課程。僅僅讓我們的下一代學會用電腦是完全不夠的。為了更好的了解和認識世界，我們需要將電腦的基礎知識教給每一個人，就如同學習基本的數學知識一樣。我們教授數學知識的目的並不在於培養更多的數學家，而是我們確信數學對於思維發展的重要性。計算思維是將基礎的計算機科學概念運用到問題解決，系統設計和對人類行為了解上的一種思維方式。隨著現今世界的蓬勃發展，計算思維必將成為人們了解和認識世界的基礎。

懂得算法和問題解決的技巧並且能夠編寫程序是現今實行計算機科學大眾化教育的核心基礎。我們將會通過電腦來解決各種不同難度的問題，以此希望能喚起大家對計算機編程的熱情。

*** 歡迎參加 ***
演講語言為英語

如有查詢，請致電 3411 5056，聯絡李小姐。

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