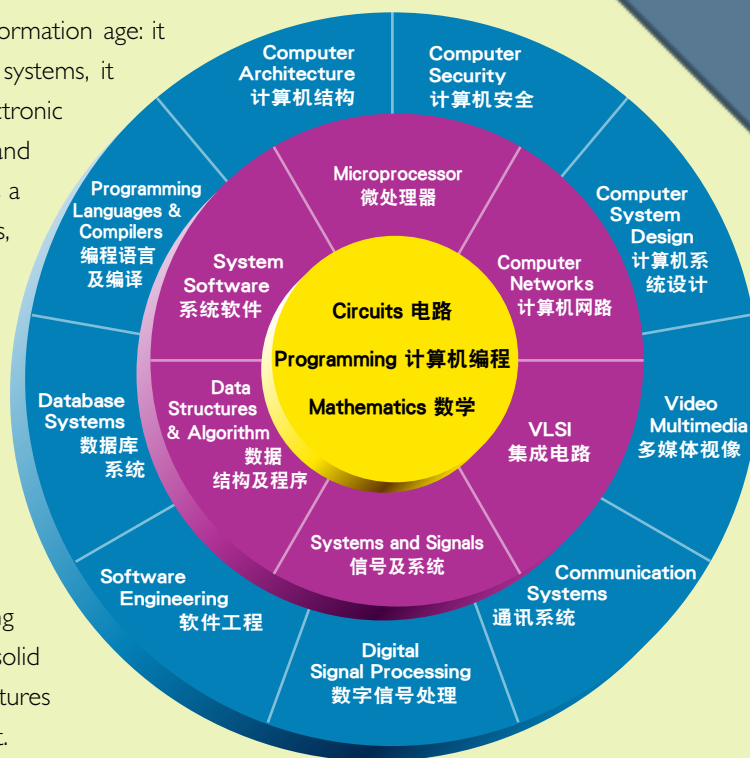


The Discipline: the Center of the Information Age

Computer Engineering has been the center of the information age: it focuses on the design and application of computer systems, it bridges the gap between computer science and electronic engineering, and it is the link between software and hardware. Like all other engineering disciplines, CPEG is a practical field intended to solve real world problems, combining ideas from engineering, basic sciences, economics, and sociology.

CPEG@HKUST: the Best of Both Worlds

The **Computer Engineering Program (CPEG)** is jointly administered and taught by the Department of Electrical and Electronic Engineering (EEE) and the Department of Computer Science (CS), thus bringing you the best of both worlds. The program emphasizes solid academic training as well as practical skills. The key features of the curriculum are shown in the diagram on the right.



BEng in Computer Engineering

Program Concentrations: Meet the Real Demands

CPEG offers great flexibilities for undergraduate students to specialize in a variety of fields which fit their interest, fulfill

专业：信息时代的核心学科

计算机工程学是信息时代的核心学科，它着重研究计算机系统的设计和应用，不仅填补了计算机科学和电子工程学之间的空隙，且将软件与硬件联为一体。正如其他工程学科一样，计算机工程学是实用的学科，它将工程、基础科学、经济学及社会学结合在一起以解决现实生活中的具体问题。

CPEG@HKUST: 两门学科的最佳结合

计算机工程学位课程由电机及电子工程学和计算机科学系共同管理及教学，因

their needs, and prepare them for the ever changing job market:

- Multimedia Engineering
- VLSI & Networking
- Information Systems
- Bioengineering

而吸取了两者的优势。课程内容既重视扎实的学术训练，又强调实践技能。教学大纲的关键内容如上图所示。

工学士 —— 计算机工程学

课程焦点：切合实际需要

计算机工程专业为本科生的学习提供充分的灵活性，他们可以根据自己的兴趣、要求以及不断变化的就业市场在各种领域中选择专门化方向，如：

- 多媒体工程
- 超大规模集成电路及网络
- 信息系统
- 生物工程

Program Faculty: World-Class Experts

CPEG has amassed a talented group of international faculty members, all with PhD from the world's top universities and many with experiences at leading companies:

Prof. Amine BERMAK, Paul Sabatier University :VLSI circuits and systems, packaging technologies.

Prof. Oscar AU, Princeton University :Video and image compression, fast motion estimation.

Prof. Brahim BENSOU, University of Paris VI: Computer communications, mobile ad-hoc network.

Prof. Gary CHAN, Stanford University: Multimedia and wireless networking, internet technologies.

Prof. Mounir HAMD, Pittsburgh University: High-speed networking, wireless communications.

Prof. Vincent LAU, Cambridge University: Wireless communications, information theory.

Prof. Brian MAK, Oregon Graduate Institute: Speech recognition, machine learning.

Prof. Philip MOK, University of Toronto: Analogue integrated circuits for telecommunications.

Prof. Jogesh MUPPALA, Duke University: High speed networking, performance evaluation, stochastic Petri nets.

Prof. Pengcheng SHI, Yale University: Visual information processing, medical imaging.

Prof. Chi-ying TSUI, University of Southern California: VLSI design, CAD algorithms.

In addition, the CPEG students have full access to all the professors at the CS and EEE Departments, including 9 IEEE



师资：具世界水平的专家

计算机工程学位课程罗致了一批富有才华的国际化教师队伍，他们全都拥有世界顶尖大学颁授的博士学位，不少人还具有在国际知名大公司工作的实践经验：

Amine BERMAK教授，Paul SABATIER大学博士，学术专长为：超大规模集成电路及系统，封装技术。

区子廉教授，普林斯顿大学博士，学术专长为：视像及影像压缩，快速运动评估。

彭邵邦教授，巴黎第六大学博士，学术专长为：计算机通讯，流动专设网络。

陈双幸教授，斯坦福大学博士，学术专长为：多媒体及无线网络，互联网技术。

韩隶教授，匹兹堡大学博士，学术专长为：高速网络，无线通讯。

刘坚能教授，剑桥大学博士，学术专长为：无线通讯，信息理论。

麦鉴荣教授，俄勒冈研究生院博士，学术专长为：语音识别，机器学习。

莫国泰教授，多伦多大学博士，学术专长为：类比集成电路。

梅伯乐教授，杜克大学博士，学术专长为：高速网络、表现评估，随机皮特里网。

施鹏程教授，耶鲁大学博士，学术专长为：视像信息处理，医学图像。

崔志英教授，南加州大学博士，学术专长为：超大规模集成电路设计，计算机辅助设计算法。

Fellows and many journal editor-in-chiefs and associate editors. All these faculty members have been performing world-class research, and many works are directly related to the development and applications of advanced computer systems.

Achievements: from Hong Kong to the World

CPEG students and faculty have earned many prestigious achievements from local, national, and international organizations for their outstanding contributions. For example, **Mr. Zhiqin LIANG**, an undergraduate from Guangdong, was awarded the Second Class Award in the prestigious National Undergraduate Electronic Design Contest in September 2004; **Prof. Pengcheng SHI** and **Dr. Huafeng LIU** received the Best Paper Award from the Board of Information Processing in Medical Imaging 2004 (the most prestigious and longest running medical imaging conference in the world), which is the first one ever awarded to a non-US/non-Western Europe paper; **Prof. Oscar AU** and his students have developed the PMCFast motion estimation algorithm which has been

此外，计算机工程专业的学生亦可以向电机及电子工程学系和计算机科学系的所有教师请教，其中包括九位美国电机与电子工程师学会会士以及多位国际学术杂志的主编、副主编等。所有的教师均从事世界水平的科研，很多研究成果直接与先进计算机系统的发展与应用相关联。

学术成就：由香港到世界

计算机工程专业的学生和教师们因在学术上的杰出贡献而在香港、全国以及国际上取得许多瞩目的成就。如来自广东的**梁志勤**同学在2004年9月举行的全国大学生电子设计竞赛中获得二等奖；**施鹏程教授**与**刘华锋博士**于2003年荣获IPMI最佳论文奖，这是该世界上历史最悠久地位最崇高的医学图像大会第一次授奖于非美国/西欧的研究论文；**区子廉教授**带领学生发展了PMCFast运动估值算法，该算法被运动图像专家组织（MPEG）采纳作为国际影像压缩标准。

accepted by the Moving Picture Experts Group (MPEG) as the international standard for video compression.

Facilities: State of the Art

HKUST is renowned for its world-class facilities to support the cutting-edge research and development activities. CPEG students have access to more than 1000 latest workstations and computers, many state-of-the-art specialized equipment such as the multi-million dollar Microelectronics Fabrication Facility (MFF), which is the first and only such laboratory in Hong Kong, and numerous general and dedicated software platforms.

Further Studies: Sky is the Limit

CPEG students are well-qualified for graduate studies in computer science, electrical engineering, computer engineering, and business. Every year, many of our top graduates go on to pursue further studies at the world's leading universities, such as Princeton, UC Berkeley, Yale, Cambridge, UCLA, Columbia, HKUST, etc.

设施：世界一流

香港科技大学以世界一流设施著称，这些设施用来支持大学内进行的前沿科研及开发。计算机工程专业的学生可以使用的计算机和 workstation 超过1000台，他们也可以使用最先进的专业设备，包括价值数百万美元的微电子制造实验所，它是香港首个并且是唯一的这类专业实验室。学生们也可以使用许多通用的和专用的软件平台。

继续深造：学海无涯

计算机工程专业的学生完全合乎资格修读计算机科学、电机工程、计算机工程以及商业管理等学科的研究生课程。每年我系的许多尖子毕业生都到世界顶尖学府去深造，如普林斯顿大学、加州大学伯克利分校、耶鲁大学、剑桥大学、加州大学洛杉矶分校、哥伦比亚大学和香港科技大学等。

For example, **Mr. King Ho TAM**, who studied at the University of Michigan through the exchange program during his undergraduate study at HKUST, is now pursuing his PhD degree in electrical engineering at UCLA; **Mr. Kin Ting TSANG**, who was one of the students with top grades in the Hong Kong joint university entrance exam in 1999, spent his second year study at UC Berkeley and interned at the headquarters of Microsoft in Richmond, has just earned his master's degree in Computer Science from HKUST.

Career Prospects: Meet the Challenges

CPEG graduates are trained thoroughly under our American-style continuous assessment system, which results in strong hands-on skills and solid theoretical background to guide their future endeavors. Industry, finance, commerce, and government all rely heavily on computers and increasingly need the services of computer engineers to design, support and develop new computer systems and applications. The employers of our graduates can be found in every business sector, including some of the best-known names in banking, telecommunications, transportation, construction and government: Motorola, Hutchison, SmarTone, PCCW, MTRC, KCRC, Bank of China, EPSON, HSBC, Merrill Lynch, and Reuters.

Further Information

Website: <http://www.cpeg.ust.hk>

Tel: (852) 2358 8512

Fax: (852) 2358 0194

Email: ustcpeg@ust.hk

By mail: Computer Engineering Program Office

The Hong Kong University of
Science and Technology

Clear Water Bay, Kowloon

HONG KONG

比如，**谭竞豪**同学通过工学院的交换生计划去过密西根大学学习，现正在加州大学洛杉矶分校攻读电机工程博士学位；**曾健庭**同学曾为1999年香港的大学联招考试的最高分得主之一，他的二年级学习完全是在加州大学伯克利分校渡过的，并在位于列治民的微软总部实习，他刚获得香港科技大学的计算机科学哲学硕士学位。



Mr. James SHE

BEng (CPEG), 1998; MPhil (ELEC), 2000

Co-founder and now CTO of SinoCDN

Ten Outstanding Young Digi Persons 2001 (Youngest high achiever honored)

- US and China patents for its technologies
- CMA Machinery and Equipment Design Award and HKSTP Certificate of Merit for Technological Achievement 2001

专业发展：迎接挑战

计算机工程专业的毕业生是按照美国式连续评核体系培养训练的，令他们掌握了很强的技能和坚实的理论基础，为他们将来在专业上的继续发展指出了方向。工业界、财经界、商界及政府管理都倚重计算机，而且越来越多地需要计算机工程师的服务，需要他们设计、维护和发展计算机的新系统和新应用。我们毕业生的雇主遍及每个行业，包括著名银行、电讯公司、运输及建筑公司，还有政府机构。摩托罗拉、和记黄埔公司、数码通、电讯盈科、香港地铁公司、九广铁路公司、中国银行、爱普生公司、汇丰银行、美林证券以及路透社等著名公司都是我系毕业生的雇主。

查询详情

网页：<http://www.cpeg.ust.hk>

电话：(852) 2358 8512

传真：(852) 2358 0194

电邮：ustcpeg@ust.hk

通讯位址：香港九龙清水湾

香港科技大学

计算机工程办公室



香港科技大学计算机工程学位课程

COMPUTER ENGINEERING PROGRAM

THE HONG KONG UNIVERSITY OF SCIENCE AND TECHNOLOGY