General Information
about
The Department of Computer Science and Engineering

Mounir Hamdi
Department Head and Chair Professor

Hong Kong University of Science and Technology

- **Established in 1991 by the Hong Kong Government as a Research-Intensive American-style University**
  - It has four Schools (ALL BSc, MSc, MPhil, PhD)
    - School of Business
    - School of Engineering
    - School of Science
    - School of Humanities and Social Science
    - Institute of Advanced Studies
    - 9 Research Institutes
    - 43 Research Centers
  - It has around 500 faculty members, 100% with PhDs
  - It has around 6000 undergraduate students
  - It has around 4000 graduate students

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HKUST Faculty

❖ **100% with doctorate degree**

❖ **80% from the following universities:**

- Caltech
- Stanford
- Cambridge
- Carnegie-Mellon
- Chicago
- UC Berkeley
- Columbia
- Cornell
- Washington
- Harvard
- Illinois
- Yale
- Imperial
- Toronto
- London
- Michigan
- MIT
- UCLA
- Northwestern
- Oxford
- Wisconsin
- Princeton
- Purdue
- UBC

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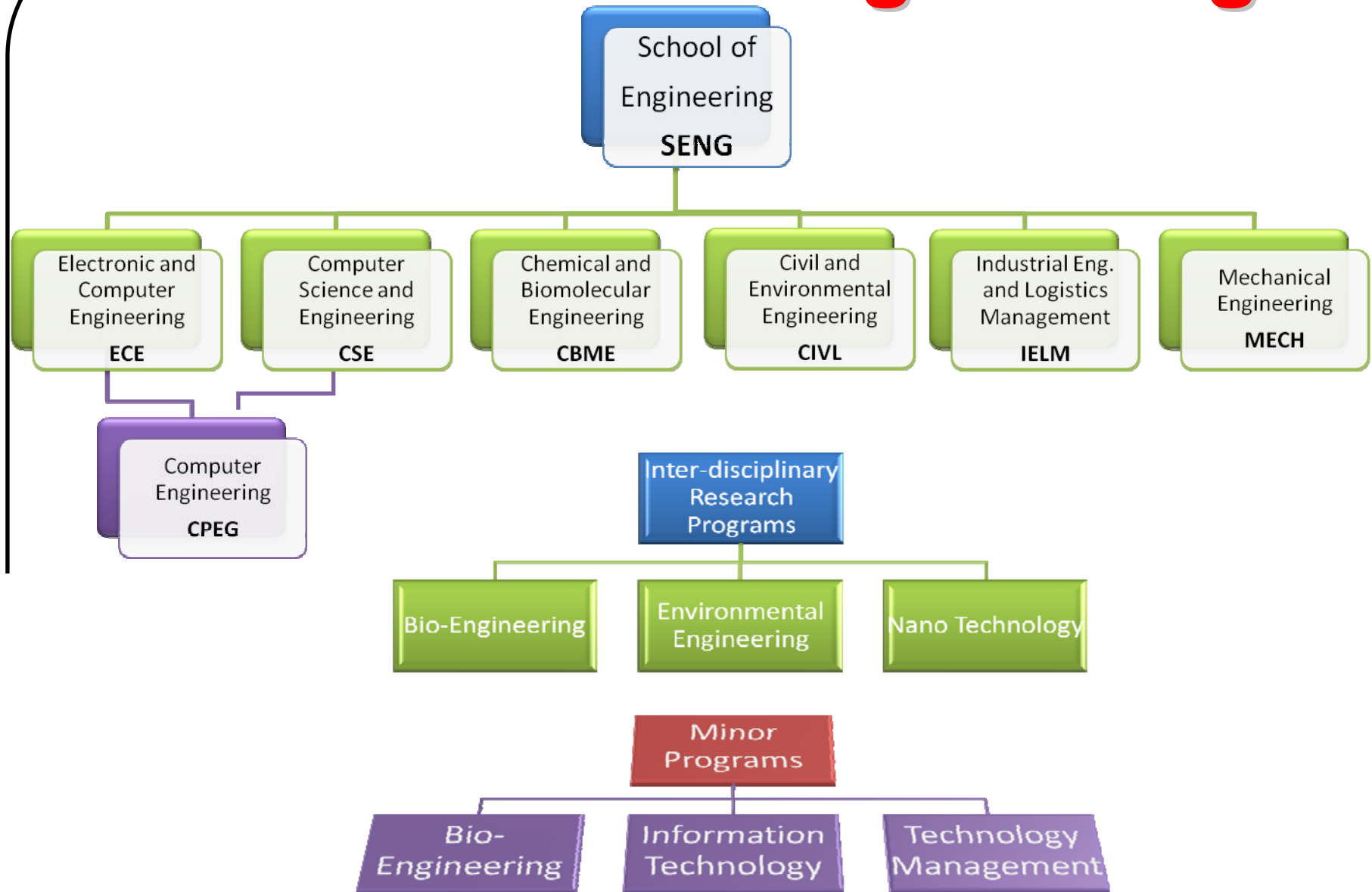計算機科學及工程學系

Research at HKUST
The Five O's
(University Strategic Plan 2005-2020)

- **NanO-Science & Technology**

- **BiOlogial Science & Technology**

- **Electronics, Wireless and InfOrmation Technology**

- **EnvirOnmental and Sustainable Development**

- **Management Education and Research (CEO)**

Engineering participates in all Five O's

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The School of Engineering

School of Engineering
SENG

- Electronic and Computer Engineering **ECE**
- Computer Science and Engineering **CSE**
- Chemical and Biomolecular Engineering **CBME**
- Civil and Environmental Engineering **CIVL**
- Industrial Eng. and Logistics Management **IELM**
- Mechanical Engineering **MECH**

Computer Engineering **CPEG**

Inter-disciplinary Research Programs

- Bio-Engineering
- Environmental Engineering
- Nano Technology

Minor Programs

- Bio-Engineering
- Information Technology
- Technology Management

2010 Engineering World Ranking

No. 20, World's Top Universities in
Engineering and IT
Times Higher Education Supplement

No. 2, Top Asian Universities
Asian University Rankings by QS World University Rankings in Technology

No. 26, World's Top Universities in Technology
QS World University Rankings in Technology

No. 36, World's Top 100 Universities in
Engineering/Technology and Computer Sciences
Shanghai Jiao Tong University Supplement

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The Department of Computer Science and Engineering

CSE Faculty

Faculty and Teaching Staff

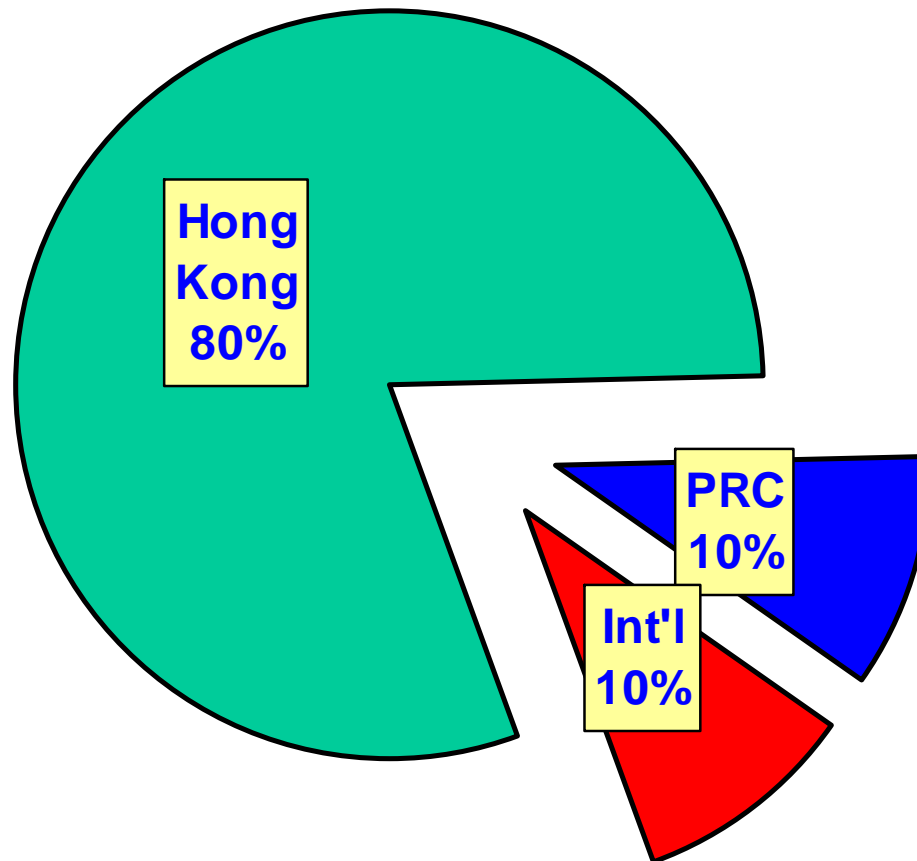| Category	Sub-category	Overall Size
Tenure-track Faculty	➤ 3 Chair Professors ➤ 20 professors ➤ 12 Associate Professors ➤ 8 Assistant Professors	41
Visiting Faculty	➤ 2 Professors ➤ 2 Assistant Professors	2-3
Adjunct Faculty	➤ 6 Professors	7
Emeritus Faculty	➤ 3 Emeritus Professors	3
Junior Teaching Staff	➤ 3 Teaching Associates ➤ 7 Instructor Assistants ➤ 3 Communication Tutors	13
Administration and Technical Staff	➤ 10 Admin Staff ➤ 8 Technical Staff	18

Students (Around 900)

Category	Sub-category	Overall size
Undergraduate Programs	➢ **BEng in Computer Science** ➢ **BEng in Computer Science (Information Engineering** ➢ **BSc in Computer Science**	➢ 355 ➢ 43 ➢ 21
Multi-disciplinary Undergraduate Programs	➢ **BEng in Computer Engineering (*Shared with the Department of Electronic and Computer Engineering*)** ➢ **BSc in Risk Management and Business Intelligence (Shared with the Department of Mathematics and the Department of Information Systems)**	➢ 285 ➢ 30
Postgraduate Research Programs	➢ **PhD in Computer Science and Engineering** ➢ **MPhil in Computer Science and Engineering**	➢ 130 ➢ 56
Postgraduate taught Programs	➢ **MSc in Information Technology**	➢ **Full-time: 55** ➢ **Part-time: 98**

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Distribution of CSE Undergraduate Students

(where do they come from)

Hong Kong 80%

PRC 10%

Int'l 10%

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Student Employment

Further Studies, 9.0%

COMP 2009

Further Studies, 10.0%

COMP 2010

Employment, 91.0%

Employment, 90.0%

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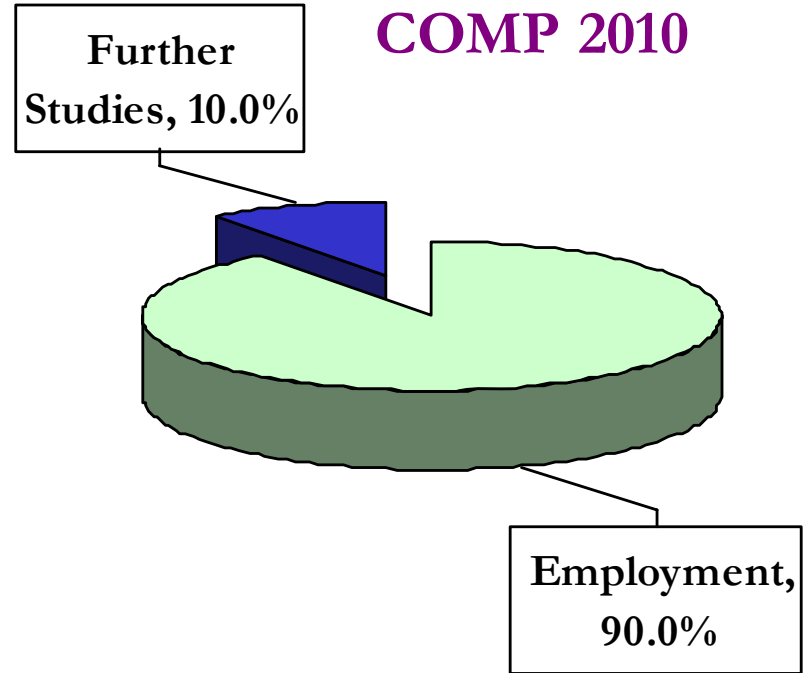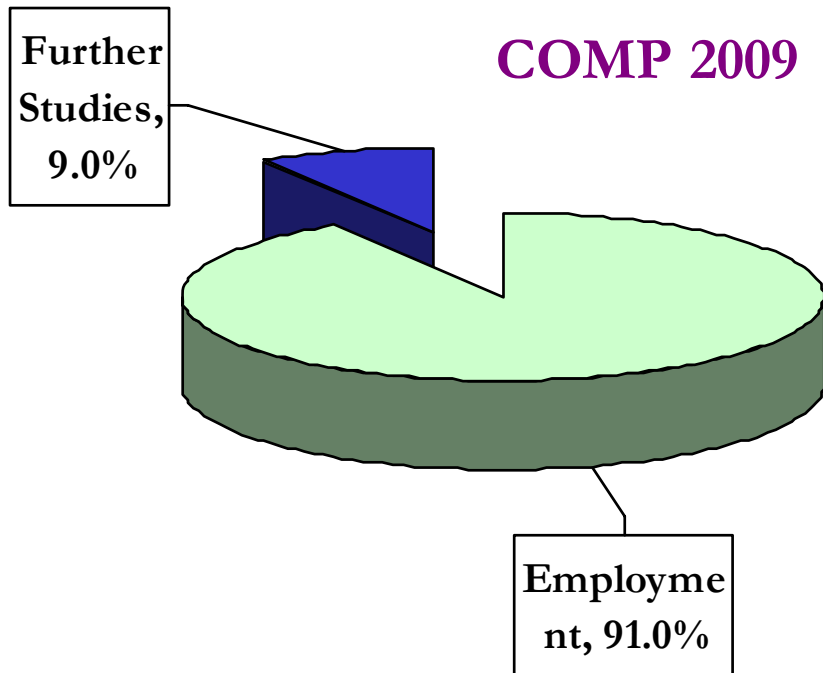
334 Curriculum Redesign

For a Diverse Field
&
For Diverse Careers

University Core

Career Trajectories

Specialty

Practitioner

Innovator

Entrepreneur

Graphics Systems AI Theory Business Data Mgt Research

Pre-major

CSE Core

Introduction to CSE

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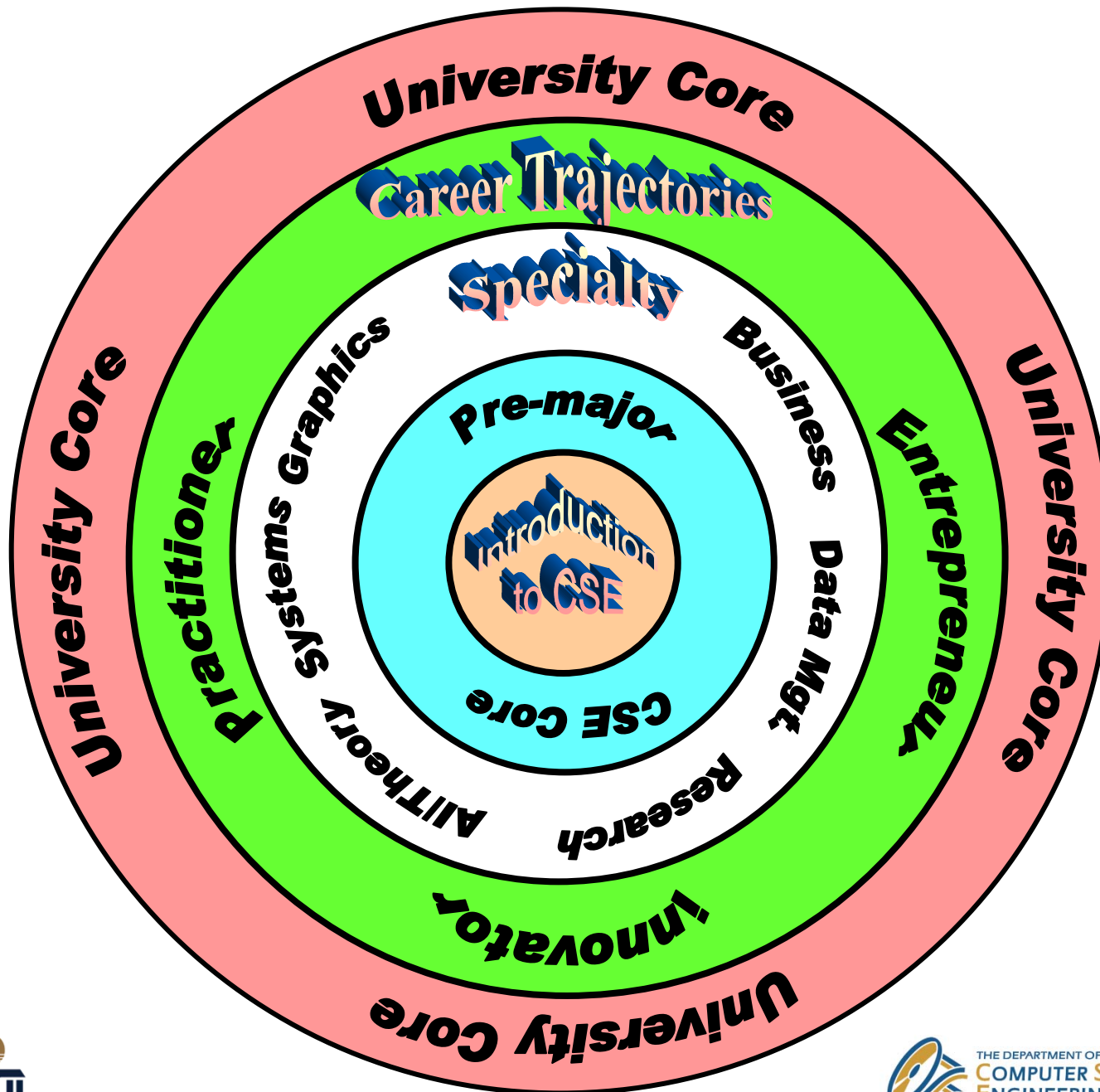
Exchange Program

Objectives:

- To broaden horizon
- To become more independent
- To be exposed to other cultures
- To gain an advantage in future career development

Undergraduate Exchange Programs

Exchange Programs

- **USA**
  - **Arizona State University**
  - **Cornell University**
  - **Drexel University**
  - **George Washington University**
  - **Georgia Institute of Technology**
  - **Lehigh University**
  - **Missouri University of Science & Technology**
  - **Northwestern University**
  - **Purdue University**
  - **Rice University**
  - **Texas A & M University**
  - **The Cooper Union**
  - **Tulane University**
  - **University of California**
    - Berkeley
    - Davis
    - Irvine
    - UCLA
    - Riverside
    - San Diego
    - Santa Barbara
    - Santa Cruz
  - **University of Illinois, Urbana-Champaign**
  - **University of Massachusetts, Amherst**
  - **University of Michigan**
  - **University of Minnesota**
  - **University of Pennsylvania**
  - **University of Southern California**
  - **University of Washington**

Exchange Programs

- **Britain**
  - University College London
  - University of Aberdeen
  - University of Bristol
  - University of Southampton
  - University of Warwick
- **Canada**
  - Simon Fraser University
  - University of Toronto
  - University of Waterloo
- **Denmark**
  - Technical University of Denmark
- **France**
  - Grenoble Institute of Technology
- **Germany**
  - Technical University of Munich
  - Dortmund University of Technology
- **Japan**
  - Kyoto University
  - Sophia University
- **Malaysia**
  - Universiti Putra Malaysia
- **New Zealand**
  - University of Auckland

- **Singapore**
  - Nanyang Technological University
  - National University of Singapore
- **South Korea**
  - Korea Advanced Institute of Science & Technology (KAIST)
  - Seoul National University
  - Sungkyunkwan University
- **Spain**
  - Universidad Politecnica de Valencia
- **Sweden**
  - Chalmers University of Technology
  - Royal Institute of Technology)
- **Switzerland**
  - ETH Zurich
- **Taiwan**
  - National Central University
  - National Taiwan University
  - National Tsing Hua University
- **Thailand**
  - Chulalongkorn University

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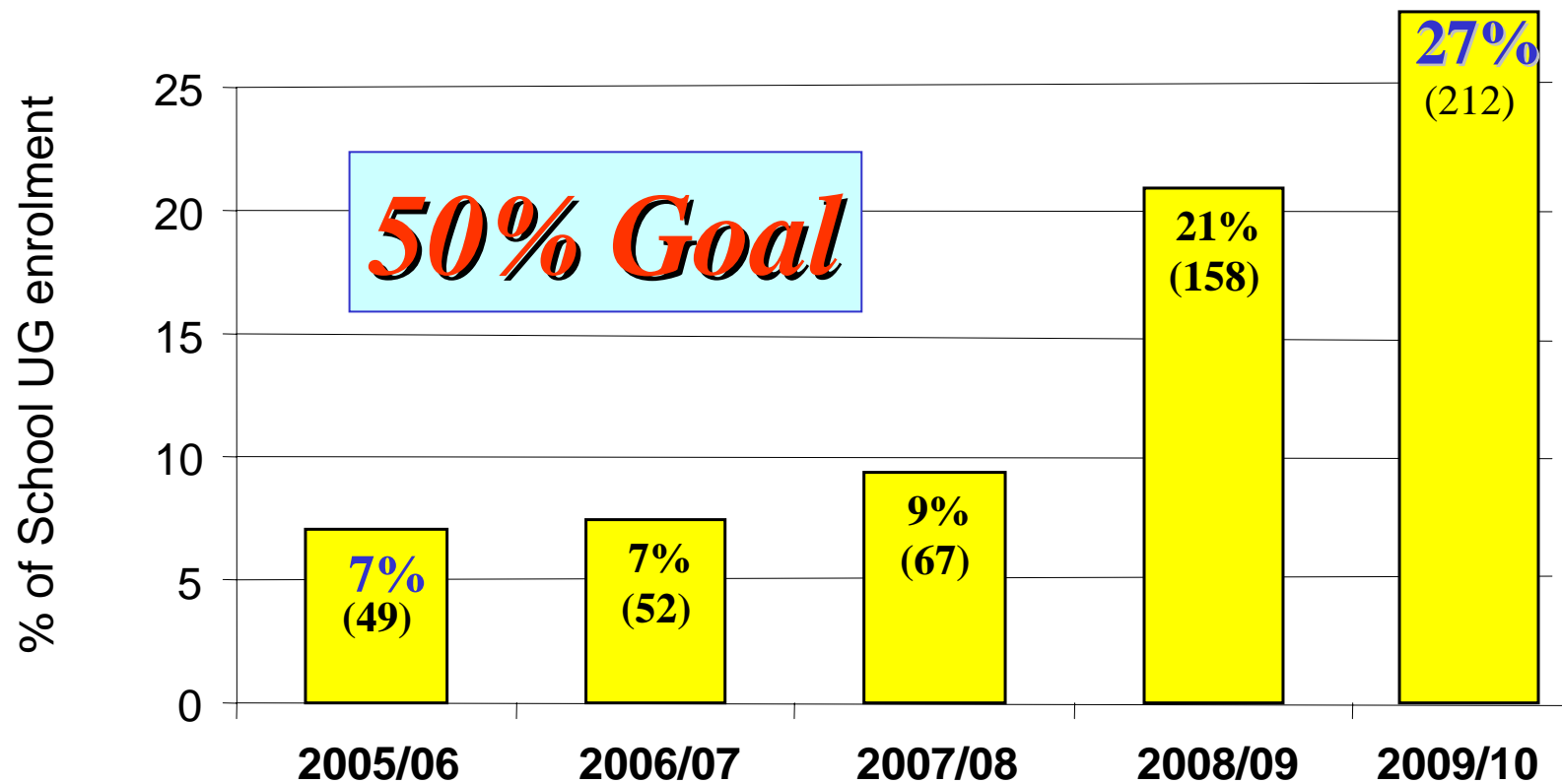計算機科學及工程學系

Exchange Programs

- ## China
  - **Fudan University** 復旦大學
  - **Harbin Institute of Technology** 哈爾濱工業大學
  - **Nanjing University** 南京大學
  - **Peking University** 北京大學
  - **Shanghai Jiao Tong University** 上海交通大學
  - **Sun Yat-sen University** 中山大學
  - **Tsinghua University** 清華大學
  - **University of Science and Technology of China** 中國科學技術大學
  - **Xi'an Jiaotong University** 西安交通大學
  - **Zhejiang University** 浙江大學

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Postgraduate Students

Where Do our PG Students Come from?

Universities	PhD	MPhil
HKUST	12	24
Tsinghua	25	
Peking U	5	1
Fudan U	6	
Shanghai Jiaotong U	4	
Zhejiang U	7	
Nanjing U	9	1
Xi'an Jiaotong U	6	
Sun Yat Sen U (Zhongshan U)	8	1
USTC	13	
Beihang U	2	
South China U of Technology	5	1
Other Universities in China	33	3
Other Universities in Hong Kong	2	
Other International Universities	9	3
Total:	140	34

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Distribution of RPG Students (Degree & where do they come from)

PhD
80%

MPhil
20%

PRC
72%

Hong
Kong
19%

International
9%

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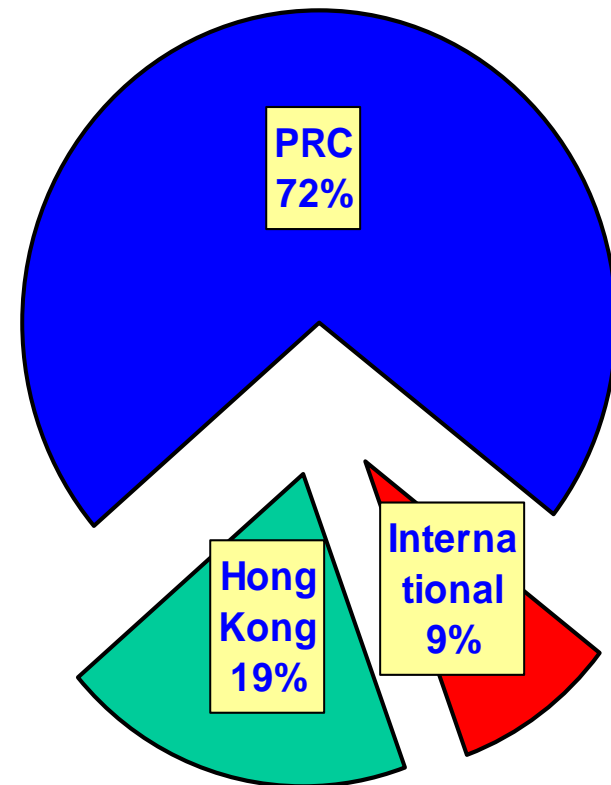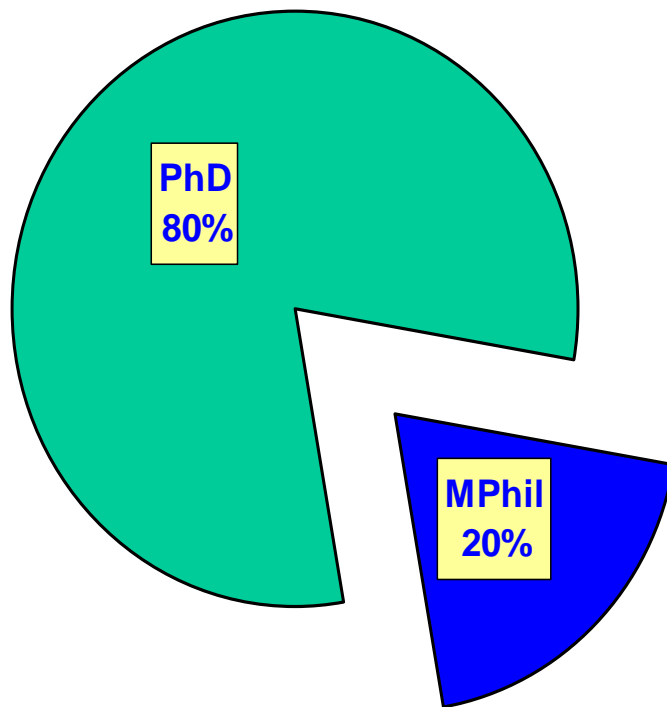
Accomplishments: PG Students

- **All our PhD students are being hired by:**
  - **Universities all over the world – many of them are senior now**
  - **Companies of various sectors (technology, banking, etc.)**
    - National Univ of Singapore
    - Nanyang Technological Univ
    - Hong Kong Univ
    - KAUST
    - Hong Kong Baptist Univ.
    - Chinese Univ of Hong Kong
    - Simon Fraser Univ. Canada
    - Microsoft, Asia, and USA
    - Google, Asia and USA
    - The University of New South Wales, Australia
    - Colorado State University, USA
    - University of Bonn, Germany

- **http://www.cse.ust.hk/pg/ourgraduates/**

Faculty Accomplishments

- **Teaching**

- **Research**

  - ➤ Publications

  - ➤ Citations

  - ➤ Grants

➤ **Professional Service**

  - ➤ Editorial Board

  - ➤Conference Chairmanships

CSE Teaching Quality

- **2** University-wide Teaching Awards

  - ➢ Given to just one Professor per year

- **6** top-10 Lecturers Awards (voting by students)

  - ➢ Given to 10 Professors per year

- **Many** Distinguished Engineering Teaching Awards

- **Many** Teaching Innovation Awards

Faculty Research Standing in the **World**

Faculty Research areas

Faculty Member	Artificial Intelligence	Data, Knowledge and Info. Mgt	Net & Computer Systems	Software Technologies	Theo. Computer Science	Vision and Graphics
ARYA, Sunil					■	
BENSAOU, Brahim			■			
CHAN Gary			■			
CHEN, Lei		■				
CHENG, Siu-Wing					■	
CHEUNG, SC				■		
Chin Roland						■
CHUNG Albert	■					■
DING Cunsheng					■	
Golin Moredecai					■	
Gu Lin			■			
Gu Zonghua			■	■		
Hamdi Mounir			■			
Horner Andrew				■		
Kwok James	■					
Lee Dik		■				
Li Bo			■			
Lin Fangzhen	■					
Liu Yunhao			■			
Lockovsky Fred		■				
Luo Qiong		■				
Mak Brian	■					
Muppala Jogesh			■			
NG Wilfred		■				
Ni Lionel			■			
Papadias DImitris		■				
Pong TC						■
Qu Huamin						■
Quan Long						■
Sander Pedro						■
Shen Helen						■
Shen Vincent				■		
Tai Chew Lan						■
Tang CK						■
Wong Raymond		■				
Wu Dekai	■					
Yang Qiang	■					
Yeung DY	■					
Yi Ke		■			■	
Zhang Charles				■		
Zhang Nevin	■					
Zhang Qian			■			

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Faculty Research Citations (up to May 2010)

Research Area	Number of citations	Average citation per CSE Faculty
Artificial Intelligence	12700	
Data, Knowledge and Information Management	10900	
Networking and Computer Systems	21300	1590
Software Technologies	3100	
Theoretical Computer Science	5200	
Vision and Graphics	9900	

Research Acknowledgement

- **5 IEEE Fellows**

- **2 Highly cited researchers**

- **Numerous "Best paper awards" in prestigious conferences and Journals**

- **(MIT Technology Review) world's top young innovator award, 2004**

- **Founding Editor-in-Chief: ACM Transactions on Intelligent Systems and Technology (TIST)**

- **Within the past 3 years: Our faculty are editors in 54 International Journals**

- **Within the past 3 years: Our faculty Chaired 65 International Conferences and Workshops**

Academic Excellence: Number of Publications in the Past 5 Years

- IEEE Transactions on Knowledge and Data Engineering

  (HKUST, IBM, NUS, UIUC, Purdue)

  Ranked #1

- IEEE Transactions on Parallel and Distributed Systems

  (HKUST, USC, UTA, GTech, Purdue)

  Ranked #1

- IEEE Journal on Selected Areas in Communications

  (MIT, HKUST, UIUC, Waterloo, Stanford)

  Ranked #2

- ACM Transactions on Sensor Networks

  (NCSU, USC, MIT, HKUST, Simon Fraser)

  Ranked #4

- ACM Transactions on Database Systems

  (Maryland, IBM, UIUC, HKUST, Microsoft)

  Ranked #4

Academic Excellence: Number of Publications in the Past 5 Years

- **Journal of the Audio Engineering Society**

  (Helsinki, Philips Res Lab, Nokia, HKUST, Cambridge)

  Ranked #4

- **Information Systems**

  (CityU, Roma, Eindhoven U, Purdue, HKUST)

  Ranked #5

- **IEEE Transactions on Multimedia Systems**

  (Microsoft, Res Lab, CUHK, UIUC, …, HKUST)

  Ranked #8

- **IEEE Network**

  (UTA, UC-Davis, UCL, Columbia, …, HKUST)

  Ranked #10

- **IEEE Transactions on PAMI**

  (Maryland, CMU, UIUC, Siemens, …, HKUST)

  Ranked #10

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Conference Publications

- **Top AI Conference Papers**
  - 2007: AAAI/IJCAI 13, ICML 5, SIGIR 3, ICDM 1
  - 2008: AAAI 10, ICML 4, SIGIR 5, ICDM 2, KR 3
  - 2009: IJCAI 8, ICML 3, SIGIR 1

- **Top DB Conference Papers**
  - 2007: SIGMOD/PODS 1, ICDE 2, VLDB 4
  - 2008: SIGMOD/PODS 4, ICDE 4, VLDB 4
  - 2009: SIGMOD/PODS 8, ICDE 4 (No VLDB decisions now)

- **Top Networking/Systems Conference Papers**
  - 2007: MOBICOM 1, INFOCOM 6, ICDCS 2, MobiHoc 0, PerCom 3
  - 2008: MOBICOM 1, INFOCOM 7, ICDCS 4, MobiHoc 3, PerCom 1
  - 2009: INFOCOM 14, ICDCS 1, MobiHoc 3, PerCom 2 (No MobiCom decisions now)

Conference Publications

- **Top Software Technology Conference Papers:**
  - 2007: FSE 3, ICSE 2, RTSS 2
  - 2008: FSE 1, RTSS 5
  - 2009: ICSE 2 (No RTSS decisions now)

- **Top Theory Conference Papers:**
  - 2007: SODA 3, SOCG 1
  - 2008: SODA 2
  - 2009: SODA 3

- **Top Vision/Graphics Conference Papers**
  - 2007: CVPR 3, ICCV 5, SIGGRAPH 6
  - 2008: CVPR 7, ECCV 3, SIGGRAPH/SIGGRAPH Asia 10
  - 2009: CVPR 3, SIGGRAPH 1 (No ICCV decisions now)

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We have a strong Research Funding

- **High success rate in competitive funding in Hong Kong (GRF), China, and USA**

- **Numerous Industry/Research Projects**
  - Microsoft, Huawei, Boeing, NEC, Alcatel, Nokia, Google, ZTE, STM, ITF, ...

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Ranking Provided by the Academic Ranking of World Universities (ARWU), (2010)

- **Overall Ranking:** **26** in the World

- **Asia Ranking** **1**

- **Papers published in** **9** in the World

  Top 20% of CS Journals

  http://www.arwu.org/SubjectCS2010.jsp

Rank	University	Country
1	Stanford	USA
2	MIT	USA
3	Berkeley	USA
4	Princeton	USA
5	CMU	USA
6	Cornell	USA
7	USC	USA
8	UT- Austin	USA
9	Harvard	USA
10	Toronto	Canada
11	Cal Tech	USA
12	Weisman Institute of Science	Israel
13	UIUC	USA
14	University of Maryland	USA
15	Technion	Israel
16	UC – San Diego	USA
17	Univ. of Oxford	UK
18	University of Michigan	USA
19	Purdue	USA
20	Columbia	USA
21	Hebrew Uni. Jerusalem	Israel
22	University of Washington	USA
23	Georgia Tech	USA
24	Swiss Fed. Inst. - Zurich	Switzerland
25	UCLA	US
26	Hong Kong University of Science & Technology	Hong Kong

- Criteria

  ➢ Alumni

  ➢ Awards

  ➢ Citations

  ➢ Publications in top venues