



Department of
Biomedical Engineering

The Chinese University of Hong Kong

BEng (Hons) in Biomedical Engineering

Academic Counselling 2018-19



<http://www.bme.cuhk.edu.hk>



CUHK Biomedical Engineering

History of BME

- ▶ 2006
 - Launch of the Graduate Division
- ▶ 2007
 - Launch of the MSc Programme
- ▶ 2010
 - Launch of the BEng (Hons) Programme
- ▶ 2012
 - Launch of the MPhil/PhD Programme
- ▶ 2017
 - Establishment of the BME Department



BME Faculty Members



Prof. Raymond TONG
Professor & Chairman



Prof. Samuel Au
Associate Professor



Prof. Thierry Blu
Professor



Prof. Samuel Au
Associate Professor



Prof. Jonathan CHOI
Assistant Professor



Prof. Shih-Chi CHEN
Associate Professor



Prof. Gang LI
Professor



Prof. Nelson TANG
Professor



Prof. Louis CHEUNG
Associate Professor



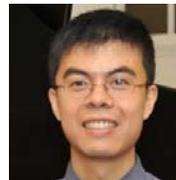
Prof. Liming BIAN
Associate Professor



Prof. Philip CHIU
Professor



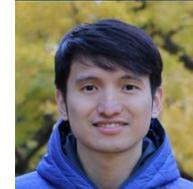
Prof. Hans GREGERSEN
Professor



Prof. Vincent CHEUNG
Assistant Professor



Prof. Emma MacPHERSON
Associate Professor



Dr. Ho Owen KO
Clinical Lecturer



Prof. Chao WAN
Associate Professor



Prof. Megan HO
Assistant Professor



Prof. HENG Pheng Ann
Professor



Prof. Zheng LI
Assistant Professor



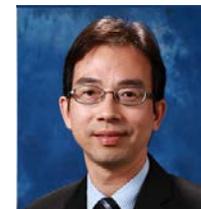
Prof. Ling QIN
Professor



Prof. Liting Duan
Assistant Professor



Prof. Tan LEE
Associate Professor



Prof. Wei Hsin LIAO
Professor



Prof. Max MENG
Professor



Prof. Vincent MOK
Professor



Prof. Wai Sang POON
Professor



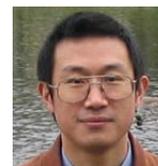
Prof. Renjie ZHOU
Assistant Professor



Prof. Weitian CHEN
Assistant Professor



Prof. Lin SHI
Assistant Professor



Prof. Yi Xiang WANG
Associate Professor



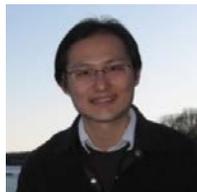
Prof. Rocky TUAN
President



Prof. Aaron HO
Professor



Prof. Xiaogang WANG
Associate Professor



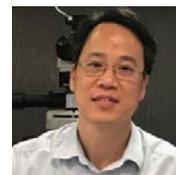
Prof. Kevin YIP
Associate Professor



Prof. Ni ZHAO
Associate Professor



Prof. Darwin LAU
Assistant Professor



Prof. Wing Ho YUNG
Professor



Prof. Li ZHANG
Associate Professor



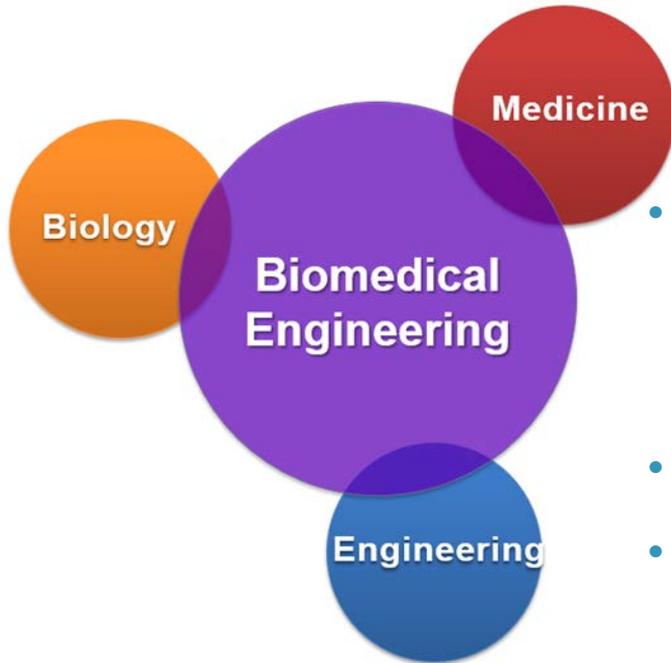
Prof. Kenneth LEE
Professor



Prof. Defeng WANG
Assistant Professor

★ Core Faculty Member

Biomedical Engineering (BME)



- An interdisciplinary division offered by the **Faculty of Engineering** in close collaboration with the **Faculty of Medicine**
- Both basic and applied research
- Wide access to courses offered by different divisions
- Tailor-made learning programmes
- Individualized PhD candidacy examination

BME Curriculum Structure

University Core Requirements#	
	<u>Units</u>
Chinese Language	6
English Language	9
University GE	9
College GE	6
Foundation Courses	6
IT (Equivalent to ENGG1110)	1(exempted)
PE	2
Total:	39

Major Programme Requirements	
	<u>Units</u>
Faculty Package	9
Foundation Science Courses	9
Foundation Math Courses	9
Major Required Courses	27
Research Component Courses	6
Major Elective Courses	15
Total:	75

Let's talk about here

Free Electives: 10

Minimum Units for Graduation: **123**

For details of University Core, please visit: <http://www.res.cuhk.edu.hk>
Study scheme: http://rgsntl.rgs.cuhk.edu.hk/aqs_prd_applx

Recommended Study Pattern: Year 1

	Units
<u>Year 1 - Term 1</u>	
• BMEG2001 Introduction to Biomedical Engineering	1
• CHEM1280 Intro to Org Chm & Biomolecule/ CHEM1380 Basic Chemistry for Engineers/ LSCI1001 Basic Concepts in Biological Sciences/ LSCI1003 Life Sciences for Engineers	0-3
• MATH1510 Calculus for Engineers	3
• SBMS1431 Human Anatomy and Physiology I	2
• PHYS1110 Engineering Physics: Mechanics and Thermodynamics	3
<u>Year 1 - Term 2</u>	
• ENGG1410 Linear Algebra and Vector Calculus for Engineers	3
• CHEM1280 /CHEM1380 /LSCI1001 /LSCI1003 (if not taken in Term 1)	0-3
• SBMS1432 Human Anatomy and Physiology II	2
<u>*Year 1 - Summer (4 weeks)</u>	
• Summer Training from BMEG2011* (A summer workshop; reserve your time & take it in year-1 summer!!!)	-

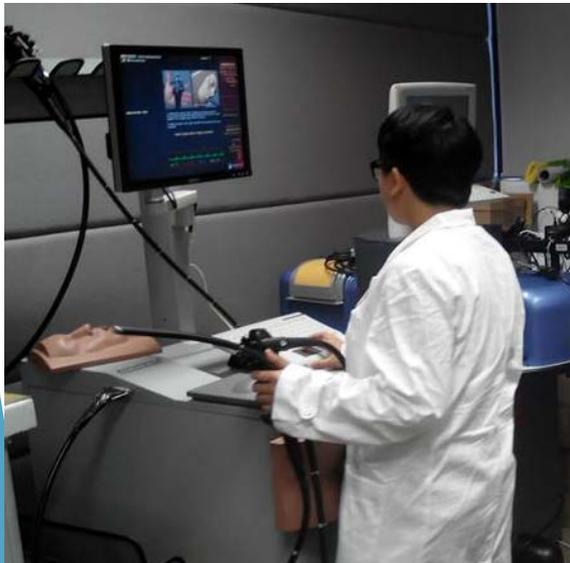
For Year 1 students, all required courses will be pre-assigned to you except CHEM & LSCI courses (unless there is time clash due to re-take foundation courses)

**BMEG2011 will be pre-assigned in Year 2 term 2*

BME summer training

Two-week training at the Prince of Wales Hospital for Year 1 students:

- Daily operation, information flow and logistics in the clinic
- Fundamentals and basic operation of medical instruments



Recommended Study Pattern: Year 2

	Units
<u>Year 2 - Term 1</u>	
• ENGG1100 Introduction to Engineering Design	3
• BMEG2210 Orthopaedic Biomechanics and Musculoskeletal Injury	3
• ENGG1310 Engineering Physics: Electromagnetics, Optics and Modern Physics	3
• ENGG2420 Complex Analysis and Differential Equations for Engineers	3
<u>Year 2 - Term 2</u>	
• ENGG1110 Problem Solving By Programming	3
• BMEG2011 Biomedical Engineering Laboratory and Hospital Experience*	2
• BMEG2300 Circuits and Signals for Biomedical Engineering	3
• ENGG2450 Probability and Statistics for Engineers	3
• SBMS1440 Cell and Molecular Biology in Biomedical Engineering	2

For Year 2 students, all required courses will be pre-assigned to you (unless there is time clash due to re-take foundation courses)

Recommended Study Pattern: Year 3-4

	Units
<u>Year 3 - Term1</u> Major required: (1) BMEG3430 Biomaterials and Tissue Engineering (2) BMEG3101 Medical Instrumentation and Design (3) BMEG3320 Biomedical Imaging Major Elective: 1 BMEG3xxx / BMEG4xxx	9 3
<u>Year 3 - Term 2</u> Major required: BMEG4010 Global Medical Device Regulatory Affairs Major Elective: 2 BMEG3xxx / BMEG4xxx	3 6
Year 4: Work-Study if you want to Note: may get one unit from ENGG1820 Engineering Internship	
<u>Year 4 - Term 1 (or Year 5 for workstudy)</u> Major required: BMEG4998 Final Year Project I Major Elective: 1 BMEG3xxx / BMEG4xxx	3 3
<u>Year 4 - Term 2</u> Major required: BMEG4999 Final Year Project II Major Elective: 1 BMEG3xxx / BMEG4xxx	3 3

**Just talk to me or your
Academic Advisor by then!**

Important Notes

[a]	i)	Students who have attained Level 4 or above in HKDSE Mathematics (Compulsory Part) <u>AND</u> Level 4 or above in Physics <u>or</u> Level 5 or above in Combined Science with Physics Component shall take PHYS1110 .
	ii)	Students with HKDSE results but did not attain the academic levels as stated in (i) shall take PHYS1003 in advance. PHYS1003 would be counted as a <u>free elective</u> but could not be used to fulfill the Foundation Science course requirements.
	iii)	Students without HKDSE results shall sit for the <u>placement test</u> arranged by the Department of Physics. Students who <u>pass the placement test shall take PHYS1110</u> . <u>Students who fail or are absent from the placement test shall take PHYS1003 in advance</u> . PHYS1003 would be counted as a <u>free elective</u> but could not be used to fulfill the Foundation Science course requirements.
[b]	Students are strongly advised to take any one course from CHEM1280 or 1380 if they have not attained Level 3 or above in HKDSE Chemistry, or other equivalent qualifications.	
[c]	Students are strongly advised to take either LSCI1001 or 1003 if they have not attained Level 3 or above in HKDSE Biology, or other equivalent qualifications. LSCI1001 is only for students who have not taken science courses with Biology component in HKDSE.	
[d]	i)	Non-JUPAS admittees and JUPAS admittees with HKDSE Mathematics Extended Modules I or II are required to attend a <u>Mathematics Placement Test</u> . <u>Students who fail or are absent from the Placement Test will be required to take MATH1020 in the same term when they take MATH1510</u> .
	ii)	JUPAS admittees without HKDSE Mathematics Extended Modules I or II are required to take <u>MATH1020 concurrently with MATH1510</u> .
	iii)	<u>Students who fail MATH1510 in Term 1 will have to retake the course in Term 2</u> . The pre-assigned course, ENGG1410, will also be dropped.
[e]	Students admitted in 2017-18 and thereafter will be exempted from ENGG1000 when they have successfully fulfilled the major programme requirements of any engineering programme. Such students <u>DO NOT</u> need to apply for exemption to the IT Foundation Course Office. The student will satisfy the requirement of ENGG1000 advisement rule in CUSIS automatically whenever they have fulfilled all the major programme requirements of an engineering programme.	

Important Notes

Placement test for foundation courses - Local students

(1) Mathematics placement test

- Non-JUPAS admittees and JUPAS admittees with HKDSE Mathematics Extended Modules I or II are required to attend a Mathematics Placement Test
- The placement test will be held before the Academic Counselling

(2) Physics placement test

- Students without HKDSE result shall sit for the Physics placement test
- Students will be invited to attend the test which shall be arranged by the Physics Department in the first teaching week

Important Notes

Placement test for foundation courses - Non-local students

(1) Mathematics placement test

- Non-JUPAS admittees and JUPAS admittees with HKDSE Mathematics Extended Modules I or II are required to attend a Mathematics Placement Test
- The placement test will be held in the first MATH1510 tutorial session (You will receive the invitation email from Faculty Office)
- MATH1020 and MATH1510 will be pre-assigned to you. MATH1020 will be dropped before the add/drop period if you can pass the test

(2) Physics placement test

- Students without HKDSE result shall sit for the Physics placement test
- Students will be invited to attend the test which shall be arranged by the Physics Department in the first teaching week

Stream Specialization

Students may choose not to specialize in any stream or to specialize in one of the three streams and complete a minimum of 12 units of courses, at most one elective at 2000 or below level, plus BMEG4998 and 4999[e], prescribed by the stream

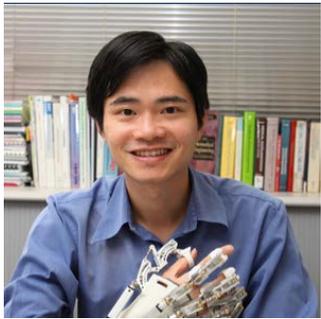
<u>Medical Instrumentation & Biosensors (MIB)</u>		
TeleMedicine & Mobile Healthcare	Biofluids	Neuroengineering
Medical Robotics	BioMEMS	Bionanotechnology
<u>Biomedical Imaging, Informatics & Modeling (MII)</u>		
Bioinformatics	Biomedical Imaging	Biomedical Modeling
Medical Imaging Applications	Sound and Light Waves in Medicine	
<u>Molecular, Cell & Tissue Engineering (BCTE)</u>		
Cell Biology	Genetic Engineering	Bionanotechnology
Musculoskeletal Tissue Engineering		
Biomolecular Engineering	BioMEMS	

How to get Study Pattern?

- ▶ Access BME website (<http://www.bme.cuhk.edu.hk>)
- ▶ Click "Students"
 - > "Undergraduate Students"
 - > Study Scheme
 - > **Your Admission Year**

STUDY SCHEME	
YEAR 2018-2019	Applicable to students admitted in 2018-19 - download link
YEAR 2017-2018	Applicable to students admitted in 2017-18 - download link
YEAR 2016-2017	Applicable to students admitted in 2016-17 - download link
YEAR 2015-2016	Applicable to students admitted in 2015-16 - download link
YEAR 2014-2015	Applicable to students admitted in 2014-15 - download link
YEAR 2013-2014	Applicable to students admitted in 2013-14 - download link
YEAR 2012-2013	Applicable to students admitted in 2012-13 - download link

Academic Advisors in BME



Prof. Raymond TONG
Professor & Chairman



Prof. Liming BIAN
Assistant Professor



Prof. Jonathan CHOI
Assistant Professor



Prof. Aaron HO
Professor



Prof. Megan HO
Assistant Professor



Prof. Liting Duan
Assistant Professor



Prof. Renjie ZHOU
Assistant Professor

Academic Advisor

[Redacted]

ID: [Redacted]



- student center
- general info
- academics
- admissions
- financial aid

[Redacted] Student Center

Academics

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Deadlines URL Gradebook

This Week's Schedule		
	Class	Schedule
	BMEG 2001-- LEC (4896)	Mo 1:30PM - 2:15PM Y.C. Liang Hall 103
	BMEG 2210-- LEC (7344)	We 10:30AM - 11:15AM Institute of Chin Studies L1 Tu 4:30PM - 6:15PM William M W Mong Eng Bldg 407
	BMEG 2210--T01 TUT (7377)	We 11:30AM - 12:15PM Institute of Chin Studies L1
	CHEM 1380-B LEC (7507)	Tu 1:30PM - 2:15PM Science Centre L1 Th 3:30PM - 5:15PM Science Centre L1
	CHEM 1380-BT01 TUT (7508)	Tu 2:30PM - 3:15PM Science Centre L1
	CHLT 1200-GH LEC (4181)	Th 12:30PM - 3:15PM Y.C. Liang Hall G03

SEARCH FOR CLASSES

Enrollment Dates
[Open Enrollment Dates](#)

Advisor
Program Advisor
Professor TONG Kai Yu
[details](#)

Check on CUSIS who is your academic advisor

You are advised to meet your Academic Advisor at least once per semester!

Double Degree Option

ERG-BBA

- Bachelor of Engineering (Biomedical Engineering) and Bachelor of Business Administration (Integrated BBA Programme)
 - Collaborated with the Faculty of Business Administration
-
- *Subject to the approval of the two Faculties/Programs concerned*
 - *Must complete at least 30 units of Integrated BBA Programme courses within the normative / minimum study period of 1st degree*
 - *For further information, please refer to the Faculty website at <http://www.erg.cuhk.edu.hk/erg/ergbba>*

Minor Programmes

- Students can take up to two minors programmes
- 18-30 units for each minor programme

For details, please refer to the section "Requirements of Major Programmes and Minor Programmes under the 4-year normative curriculum of the [Undergraduate Student Handbook](#).

BME internships opportunities

Summer research, Musculoskeletal Research Centre, University of Pittsburgh



Ms. Wai-Ching Yu (2012)
Investigated the biomechanical performance of the knee using a quadriceps tendon & compared results to hamstring tendon graft

Mr. Chun-Ho Ma (2013)
Performed pullout testing on a new design of a Mg-based device used in repairing & reconstructing soft tissue



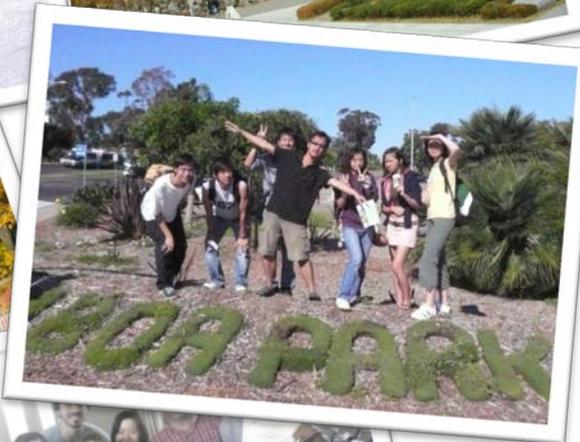
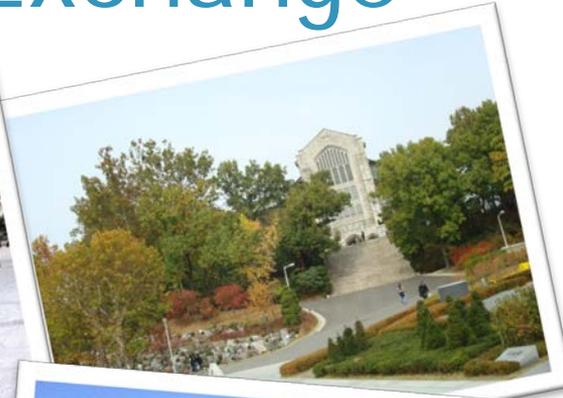
Ms. Yao "Tina" Li (2014)
Effect of the fixation angle on the kinematics and in-situ forces in ACL reconstruction by AMP technique

Other past summer BME internship opportunities include:

- Public sector: HKPC, EMSD
- Medical sector: PWH, local private hospitals, HA
- Academic sector: CAS SIAT, HKSTP, and many other overseas universities

Student Advising on internships opportunities : Prof. Aaron Ho / Prof. Raymond Tong

Overseas Exchange



Student Advising on Overseas Exchange:
Prof. Megan Ho



Stony Brook University



THE UNIVERSITY OF
TENNESSEE
KNOXVILLE



THE UNIVERSITY OF
WESTERN
AUSTRALIA



Universitat
Pompeu Fabra
Barcelona



ILLINOIS
UNIVERSITY OF ILLINOIS AT URBANA-CHAMPAIGN



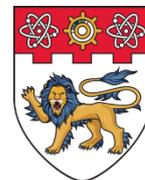
NUS
National University
of Singapore



SAN DIEGO STATE
UNIVERSITY



KIT
Karlsruher Institut für Technologie



NANYANG
TECHNOLOGICAL
UNIVERSITY²⁰
SINGAPORE



uOttawa

Where do our BME graduates go?

- Manufacturing Industries
- Clinical Engineers in Hospitals
- Entrepreneurs in Biotech Companies
- Regulatory Affairs
- Distribution & Sale
- Testing Laboratories
- Research Scientists & Engineers
- Further Studies (MSc, PhD, MD, MBA, PCLL)



Important Regulations

Study Period

Normative study period: 4 years

Maximum study period: 6 years

(including any periods of leave of absence and suspension of studies, but excluding any periods of compulsory military service)

Change of Study Period

Participating in approved exchange programs and internship schemes will be allowed

Ug Student Handbook: http://rgsntl.rgs.cuhk.edu.hk/aqs_prd_applx

Important Regulations

Leave of Absence Exceeding 1 Week

- **Medical reasons:** written application, supported by a certificate signed by the Director of University Health Service/ Medical certificate, endorsed by Major Programme
- **Non-medical reasons:** prior permission from the Registrar through written application, endorsed by Major Programme

Important Regulations

Extension of assignment submission due date

- **Medical reasons:** Submit the written application, supported by a Medical certificate on or before the assignment submission due date to the course instructor for approval

Important Regulations

Attendance Requirement

Faculty Foundation courses

Please refer the requirement at the Faculty's website:

<https://www.erg.cuhk.edu.hk/erg/AcademicAdvising>

BME major required courses

Minimum of 50% attendance rate

Other courses

Follow the requirement of each course

Important Regulations

- Rules to be Observed by Candidates at Examinations Centre

Ug Student Handbook: http://rgsntl.rgs.cuhk.edu.hk/aqs_prd_applx

Regulations and Rules - Rules to be Observed by Candidates at Examination Centre

- General Arrangements for Classes and Examinations on Approach of Typhoons and Rainstorms

Ug Student Handbook: http://rgsntl.rgs.cuhk.edu.hk/aqs_prd_applx

Regulations and Rules - Other Useful Information - General Arrangements for Classes and Examinations on Approach of Typhoons and Rainstorms

Contact Information

BME General Office

Location

Room1106, 11/F, William M.W. Mong Engineering Building (ERB), CUHK

Opening Hours

Monday to Thursday: 8:45am - 5:30pm

Friday: 8:45am - 5:45pm

Saturday, Sunday and Public Holiday: Closed

Contact

Tel: +852 3943 1935 (Ms Alison Ting) / +852 3943 3025 (Ms Cathy Tang)

Fax: +852 3942 1024

Email: bmeinfo@cuhk.edu.hk

Facebook: <https://www.facebook.com/CuhkBiomedicalEngineering/>

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All important message will be sent to your CUHK email account. Please check your CUHK email account regularly!

When emailing your academic advisor, course instructors and major programme, be professional, courteous and clear. Your email must be included all of the necessary details such as:

- Email subject line
- Your full name
- Student ID
- Course code and name

Useful Websites

- Undergraduate Student Handbook
http://rgsntl.rgs.cuhk.edu.hk/aqs_prd_applx
- Chinese University Student Information System (CUSIS)
<https://portal.cuhk.edu.hk>
- Registration and Examinations Section (RES)
<http://www.res.cuhk.edu.hk>
- Teaching Timetable
<http://www.res.cuhk.edu.hk/en-gb/teaching-timetable-classroom-booking/teaching-timetable>
- Almanac
<http://www.res.cuhk.edu.hk/en-gb/general-information/university-almanac>

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PHOTOS

BIOMEDICAL ENGINEERING TOWN HALL MEETING

26 March 2018 (Monday)
5:30 pm, LT2, Lady Shaw Building

Meeting Content:

- Updated information sharing from BME
- Collecting feedbacks from BME students and Alumni for curricular enhancements

Education in Sha Tin, Hong Kong

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Sha Tin, Hong Kong
0343 8261

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www.bme.cuhk.edu.hk

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香港中文大學生物醫學工程校友會

THE CHINESE UNIVERSITY OF HONG KONG
BIOMEDICAL ENGINEERING ALUMNI ASSOCIATION

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CUHK BME Alumni Association
22 November 2016 ·

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我有我嘅嘢嘅忙碌
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聯誼 專業發展

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康樂

Organisation in Sha Tin, Hong Kong
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Community See all

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About See All

www.bme.cuhk.edu.hk/bme/v2/alumni.php

Organisation
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People