



Department of
Biomedical Engineering

The Chinese University of Hong Kong

BEng (Hons) in Biomedical Engineering

Online Academic Counselling 2022

23 August 2022

Prof. Aaron Ho
Professor, Department of Biomedical Engineering

<http://www.bme.cuhk.edu.hk/new/files/undergraduatestd/AcademicCounselling2022.pdf>

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



bmedept



CUHK Biomedical Engineering



CUHK Biomedical Engineering



CUHK Biomedical Engineering

Biomedical Engineering ranks **global TOP 13** in 2022 subject ranking of Academic Ranking of World Universities (ARWU)



Global Ranking
13th

Hong Kong Ranking
1st

Among all CUHK disciplines
1st

中大9學科打入全球排名50強 4科為全港之最



中大有9個學科打入軟科世界一流學科排名50強。

Year	2017	2018	2019	2020	2021	2022
Global ranking	101-150	101-150	51-75	33	18	13
Hong Kong ranking	3	3	2	2	1	1

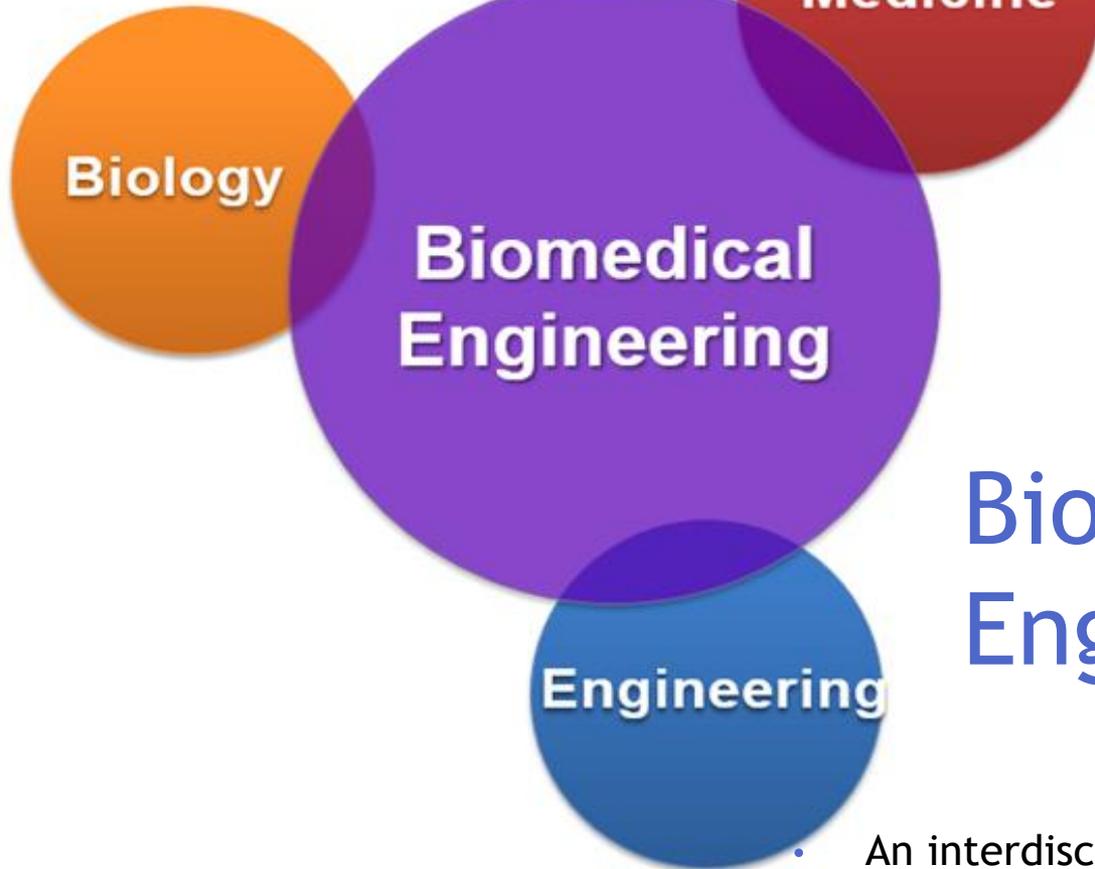
【on.cc東網 21/7/2022】

香港中文大學在2022年軟科世界一流學科排名中，有9個學科打入全球50強。今年中大最高排名的學科為生物醫學工程，於全球排列第13位，較去年上升5位之餘，亦是全港排名首位。

<https://www.shanghai ranking.com/rankings/gras/2022/RS0208>

https://hk.on.cc/hk/bkn/cnt/news/20220721/bkn-20220721201742324-0721_00822_001.html

CUHK-BME MOTTO



EXPLORE 探索

INNOVATE 創新

CARE 關懷

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

Academic Advisors in BME

EXPLORE 探索

INNOVATE 創新

CARE 關懷

- Student-centric, open-door policy
- Students are always encouraged to contact professors to seek advice/help/ideas....
- Students to reach out professors, not to other way round



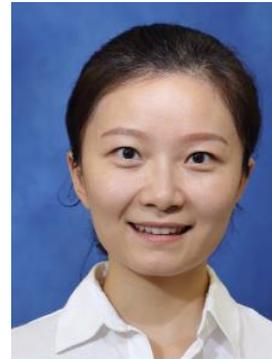
Prof. Raymond TONG
Professor & Chairman



Prof. Charles CHANG
Assistant Professor



Prof. Jonathan CHOI
Associate Professor



Prof. Liting DUAN
Assistant Professor



Prof. Zhaoli GAO
Assistant Professor



Prof. Aaron HO
Professor



Prof. Megan HO
Associate Professor



Prof. Alan LI
Assistant Professor



Prof. Martin MAK
Associate Professor



Prof. Scott YUAN
Assistant Professor



Prof. Renjie ZHOU
Assistant Professor



Dr. Wutao LOU
Lecturer

BME Student Ambassadors 2022-23

- Student Buddies, advice on student life
- Interface between students and faculty members

Name	Admission Channel	Year of Study	Gender	Contact
CHEUNG Suen	JUPAS	Year 4	F	1155142428@link.cuhk.edu.hk
LI Szehon Anson	JUPAS	Year 4	M	1155141910@link.cuhk.edu.hk
SZE Hoi Kuen Patrick	JUPAS	Year 4	M	1155142404@link.cuhk.edu.hk
WANG Shih-Yu	International	Year 3	F	1155156744@link.cuhk.edu.hk
WONG Chee Ching CC	Non-JUPAS Local	Year 3	F	1155155836@link.cuhk.edu.hk
CHANTAWANNAKUL Jarinyagon	International	Year 2	F	1155161428@link.cuhk.edu.hk
KANNAPPAN Kannammai	Non-JUPAS Local	Year 2	F	1155163190@link.cuhk.edu.hk
HUQ Mohammad Tahmid Ul	International	Year 2	M	1155165056@link.cuhk.edu.hk
LEUNG Chung Ki Ricky	JUPAS	Year 2	M	1155175455@link.cuhk.edu.hk



Suen



Anson



Patrick



CC



Shih-Yu



Jarinyagon



Kannammai



Tahmid



Ricky

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 2022-2023	Applicable to students admitted in 2022-23 - download link
YEAR 2021-2022	Applicable to students admitted in 2021-22 - download link
YEAR 2020-2021	Applicable to students admitted in 2020-21 - download link
YEAR 2019-2020	Applicable to students admitted in 2019-20 - download link
YEAR 2018-2019	Applicable to students admitted in 2018-19 - download link

Academic Advisor

██████████ ID: ██████████

student center general info academics admissions financial aid

██████████ Student Center

Academics

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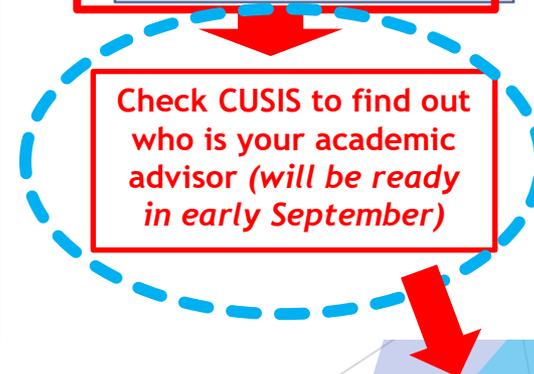
other academic... >>

SEARCH FOR CLASSES

Enrollment Dates
[Open Enrollment Dates](#)

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

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



You are advised to meet your Academic Advisor at least once per semester!
Please be active and seek a timeslot with your academic advisor

Should you have any doubts or need any academic guidance before the semester starts, please feel free to contact us at (+852) 3943 1935 or bmeinfo@cuhk.edu.hk

BME Curriculum Structure

University Core Requirements#	
	<u>Units</u>
Chinese Language	5
English Language	8
University GE	7
College GE	6
Foundation GE Courses	6
Understanding China	1
Hong Kong in the Wider Constitutional Order	1
IT	3
PE	2
Total:	39

Major Programme Requirements	
	<u>Units</u>
Faculty Package	9
Foundation Courses	12
Major Required Courses	33
Research Component Courses	6
Major Elective Courses	15
Total:	75

Free Electives: 9

Minimum Units for Graduation: **123**

For details of University Core, please visit: <http://www.res.cuhk.edu.hk/en-gb/undergraduate-students/information-for-year-1-students/information-on-university-core-requirements-and-exemption>

Student Handbook: http://rgsntl.rgs.cuhk.edu.hk/aqs_prd_aplx

Recommended Study Pattern: Year 1

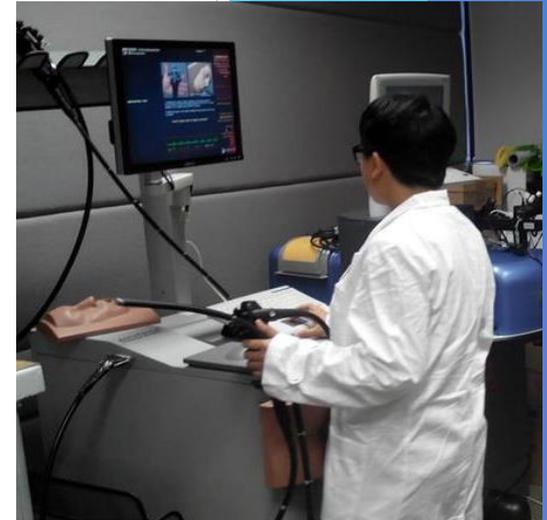
	Units	Pre-assigned
<u>Year 1 - Term 1</u>		
<ul style="list-style-type: none"> BMEG2001 Introduction to Biomedical Engineering CHEM1280 Intro to Org Chm & Biomolecule/ CHEM1380 Basic Chemistry for Engineers/ LSCI1001 Basic Concepts in Biological Sciences/ LSCI1003 Life Sciences for Engineers MATH1510 Calculus for Engineers PHYS1110 Engineering Physics: Mechanics and Thermodynamics SBMS1431 Human Anatomy and Physiology I 	1 0-3 3 3 2	✓ ✓ ✓ ✓
<u>Year 1 - Term 2</u>		
<ul style="list-style-type: none"> ENGG1120 Linear Algebra for Engineers ENGG1130 Multivariable Calculus for Engineers CHEM1280 /CHEM1380 /LSCI1001 /LSCI1003 (if not taken in Term 1 and depends on the course offering term) SBMS1432 Human Anatomy and Physiology II 	3 3 0-3 2	✓ ✓ ✓ ✓
<u>Year 1 - Summer (4 weeks)</u>		
<ul style="list-style-type: none"> BMEG2602 Hospital Experience and Engineering Practicum (Summer Practical Training) (*please reserve your time & take it in year-1 summer!!!) 	1	✓

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 of foundation courses)

BME Practical Training

BMEG2602 Hospital Experience and Engineering Practicum (Year 1 Summer)

- Four-week professional and practical summer training on CUHK main campus and at Prince of Wales Hospital for Year 1 students:
- **In-house Training involves:**
 - Electronic Circuit Design, Simulation, Fabrication, Interfacing with Software, Data Acquisition, and Wireless Communication etc.
- **Hospital Training involves:**
 - Daily operation, information flow and logistics in the clinic
 - Fundamentals and basic operation of medical instruments



Recommended Study Pattern: Year 2

	Units	Pre-assigned
<u>Year 2 - Term 1</u>		
• ENGG1110 Problem Solving By Programming	3	✓
• BMEG2210 Orthopaedic Biomechanics and Musculoskeletal Injury	3	✓
• BMEG2410 Complex Analysis and Differential Equations	3	✓
<u>Year 2 - Term 2</u>		
• BMEG2012 Biomedical Engineering Laboratory	2	✓
• BMEG2300 Circuits and Signals for Biomedical Engineering	3	✓
• ENGG1310 Engineering Physics: Electromagnetics, Optics and Modern Physics	3	✓
• SBMS1440 Cell and Molecular Biology in Biomedical Engineering	2	✓
• STAT3210 Statistical Techniques in Life Sciences	3	✓

For Year 2 students, except *STAT3210 Statistical Techniques in Life Sciences* that requires students to enroll by themselves during course registration period, all required courses will be pre-assigned to you (unless there is time clash due to re-take of foundation courses)

Recommended Study Pattern: Year 3-4

	Units	Pre-assigned
<u>Year 3 - Term 1</u> Major required: (1) BMEG3430 Biomaterials and Tissue Engineering (2) BMEG3111 Medical Instrumentation and Design (3) BMEG3320 Biomedical Imaging Major Elective: 1 course	8 3	
<u>Year 3 - Term 2</u> Major required: BMEG4010 Global Medical Device Regulatory Affairs Major Elective: 2 courses	3 6	
Year 4: Work-Study for students who want to receive industrial training Note: Students who have completed a structured training programme are qualify for consideration of ENGG1820 Engineering Internship (1 unit)		
<u>Year 4 - Term 1 (or Year 5 for workstudy)</u> Major required: BMEG4998 Final Year Project I Major Elective: 1 course	3 3	✓
<u>Year 4 - Term 2</u> Major required: BMEG4999 Final Year Project II Major Elective: 1 course	3 3	✓

Please discuss with your Academic Advisor if necessary

Important Notes

- **PHYS1003** and **MATH1020** will be counted as free elective but cannot be used to fulfill the foundation science course requirements.
- You are required to take **3 units of Science Course: CHEM1280, 1380[a], LSCI1001, 1003[b]** to fulfill the major requirements. Please enroll the course(s) in CUSIS during the course registration and add/drop period.

[a] 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.

[b] 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.

Stream Specialization (MIB/MII/BCTE)

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**

Medical Instrumentation & Biosensors (MIB)

BMEG 3103 Big Data in HealthCare	BMEG3440 Global Engineering Medical Innovation	BMEG4520 Cardiovascular Engineering
BMEG3130 TeleMedicine & Mobile Healthcare	BMEG4220 Body Sensor Networks	ELEG 3201 Microelectronic Devices and Circuits
BMEG3210 Biofluids	BMEG4330 Advanced Imaging and Spectroscopy Techniques in Biomedicine	CSCI course(s) * Students are allowed to take a maximum of 3 units of CSCI course(s) at 1000 or above level
BMEG3330 Neuroengineering	BMEG4410 BioMEMS	
BMEG3420 Medical Robotics	BMEG4450 Bionanotechnology	

Stream Specialization (MIB/MI/BCTE)

Biomedical Imaging, Informatics & Modeling (MI)

BMEG3102 Bioinformatics	BMEG3440 Global Engineering Medical Innovation	BMEG4330 Advanced Imaging and Spectroscopy Techniques in Biomedicine
BMEG 3103 Big Data in HealthCare	BMEG4103 Biomedical Modelling	BMEG4520 Cardiovascular Engineering
BMEG 3105 Data Analytics for Personalized Genomics and Precision Medicine	BMEG4320 AI & Imaging for Biomedical Engineering	CSCI course(s) * Students are allowed to take a maximum of 3 units of CSCI course(s) at 1000 or above level

Molecular, Cell & Tissue Engineering (BCTE)

BIOL2120 Cell Biology	BMEG3440 Global Engineering Medical Innovation	BMEG4520 Cardiovascular Engineering
BMEG 3105 Data Analytics for Personalized Genomics and Precision Medicine	BMEG4410 BioMEMS	BMEG4530 Musculoskeletal Tissue Engineering
BMEG3140 Molecular and Cellular Engineering Laboratory	BMEG4450 Bionanotechnology	MBTE4320 Genetic Engineering
BMEG3210 Biofluids	BMEG4510 Biomolecular Engineering	CSCI course(s) * Students are allowed to take a maximum of 3 units of CSCI course(s) at 1000 or above level

Course Registration for 1st term courses - CUSIS

- Register your courses through CUSIS during your allotted timeslot on 30 August 2022 (*10:00am - 10:00pm)
- For details of University Core, please visit RES website: <http://www.res.cuhk.edu.hk/en-gb/undergraduate-students/information-for-year-1-students/information-on-university-core-requirements-and-exemption/university-core-requirements-for-year-1-students>

** Login time is from 10:00 a.m. for new students admitted with Advanced Standing or admitted to senior-year places and those admitted to Medical Year 2 or above. Other students' login time is from 11:00 a.m.*

Add/Drop Courses

Date / Time	Add/Drop
13 September 2022 (8:30pm) - 19 September 2022 (8:30pm)	CUSIS e-Add/Drop

- You are strongly advised to plan and select courses very carefully
- You should give priority to **Pre-assigned** courses
- *Minimum* no. of units in a term: **9**
- *Maximum* no. of units in a term: **18**
- Maximum no. of units in *summer term*: **6**
- Maximum no. of units in an academic year: **39** (*summer courses included*)

Note:

*First-year students (excluding senior year entrants) are allowed to take up to **19 units** in each term (2022-23 T1 & T2). The maximum no. of units in an academic year will remain 39.*

Double Degree Option

ERG-BBA

- 1st degree: Bachelor of Engineering (Biomedical Engineering)
 - 2nd degree: 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](#).

Biomedical Engineering Outstanding Achievement Scholarships

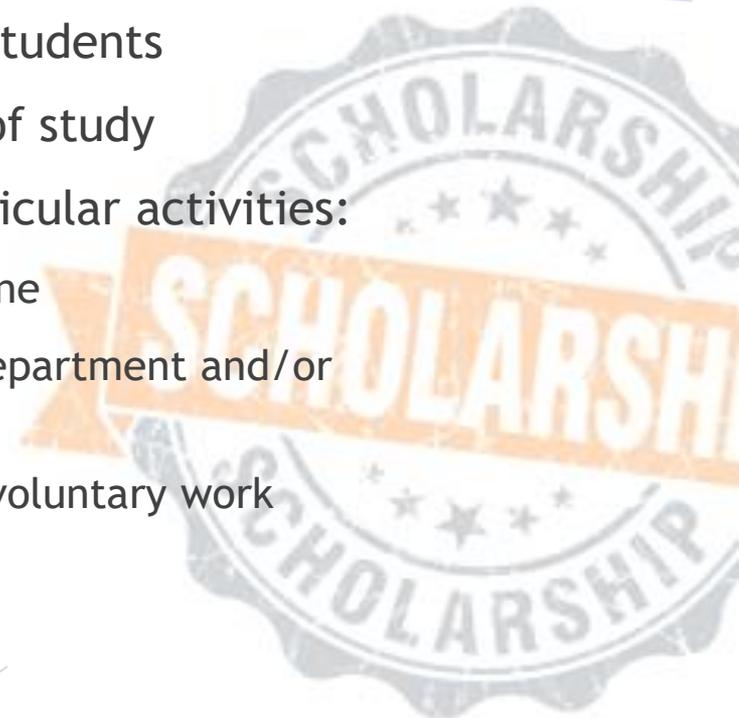
Number of Awards

EIGHT awards, \$10,000 each

Open to students for application in every academic year!
(at the end of the 2nd semester, around June every year)

Eligibility and Award Criteria

- ▶ Year 1 to Year 4 or above BME undergraduate students
- ▶ Year GPA of 3.0 or above in the previous year of study
- ▶ Participated in co-curricular and/or extra-curricular activities:
 - ✓ Awards, especially those related to BME discipline
 - ✓ Community Service, e.g. contribution to BME Department and/or Profession
 - ✓ Other achievement, e.g. sports, competitions, voluntary work
- ▶ Financial needs



Biomedical Engineering Outstanding Achievement Scholarships

Awardees in 2021-22 (8 scholarship awards, 3 honorary awards):

Name	Year of Study in 2021-22
CHAN Cheuk Ka	Year 1
CHANTAWANNAKUL Jarinyagon	Year 1
LEUNG Chung Ki Ricky	Year 1
LIN Yi Ting Jonathan (Honorary Award)	Year 3
LIU Zhaoyu	Year 3
SIU Man Hei Connie	Year 3
WONG Hoi Lam	Year 3
BAEKOVA Aiana (Honorary Award)	Year 4
NG Wing Fai Sofie	Year 4
SHYNGYS Moldir (Honorary Award)	Year 4
TSANG Chung Yin Justin	Year 4

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

Keep check CUHK Email Account and reply us!

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

When emailing your academic advisor, course instructors or major programme administration, be professional, courteous and clear. Your email should include the following details:

- A subject line to state the purpose of your email
- Your full name
- Student ID
- Course code and name
- Other main information as appropriate

BME Internships Opportunities

Overseas Summer Research Internship (past opportunities)



Hosting Institution	
Columbia University, US	Imperial College, UK
Michigan State University, US	University of Toronto, Canada
Northwestern University, US	University of Sydney, Australia
University of Pennsylvania, US	Korea Institute of Science & Technology, South Korea
University of Pittsburgh, US	National University of Singapore, Singapore
University of California, US	Nanyang Technological University, Singapore
University of California at San Diego, US	Technika University of Gdańsk, Poland
University of California at Irvine, US	Chang Gung University, Taiwan
University of Illinois at Urbana-Champaign, US	

Other past summer BME internship opportunities include:

- **Public sector:** HKPC, EMSD
- **Medical sector:** PWH, HA, local private hospitals (e.g. Hong Kong Adventist Hospital-Tsuen Wan, Gleneagles Hospital etc.), Johnson & Johnson Medical Devices, Stryker, Celki Medical etc.
- **Academic sector:** CAS SIAT, HKSTP, and many other overseas universities



Overseas Exchange



Stony Brook University



THE UNIVERSITY OF WESTERN AUSTRALIA



THE UNIVERSITY OF TENNESSEE KNOXVILLE



ILLINOIS UNIVERSITY OF ILLINOIS AT URBANA-CHAMPAIGN



Universitat Pompeu Fabra Barcelona



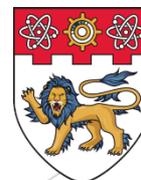
NUS National University of Singapore



SAN DIEGO STATE UNIVERSITY



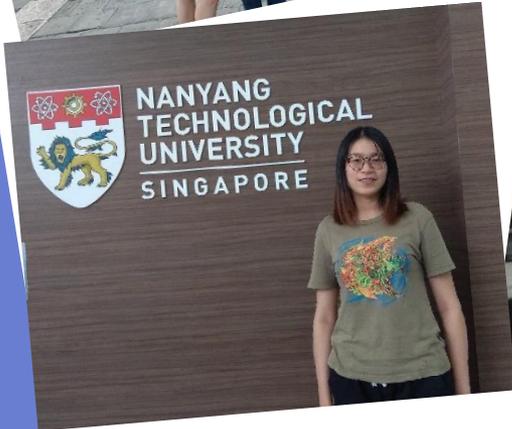
KIT Karlsruhe Institut für Technologie



NANYANG TECHNOLOGICAL UNIVERSITY SINGAPORE

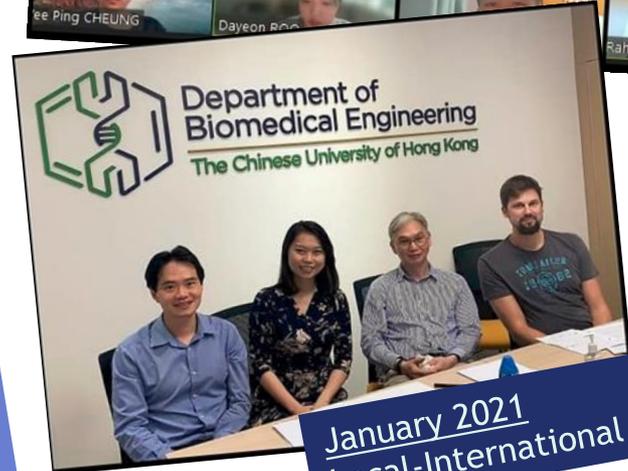


uOttawa



BME Activities

August 2021
Academic Counselling for
New Year 1 Students



January 2021
Local-International Buddy Scheme



BME Activities



June-August 2022
Lab Exposure Programme
for Year 1 Students

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)



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



WELCOME

ABOUT US

RESEARCH

ADMISSION

STUDENTS

STAFF

ALUMNI

UPCOMING BME ACTIVITIES

EQUIPMENT BOOKING

RECRUITMENT

HKFPS SUMMER WORKSHOP 2022

Global Ranking

13th

Hong Kong Ranking

1st

Year	2017	2018	2019	2020	2021	2022
Global ranking	101-150	101-150	51-75	33	18	13
Hong Kong ranking	3	2	2	2	1	1

WELCOME TO
CUHK BIOMEDICAL ENGINEERING
Explore, Innovate and Care



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CUHK BME Department
College & university

Explore 探索 🌱
Innovate 創新 🤖
Care 關懷 🧡

#BME #Biomedicalengineering #CUHKBME #JS4460 #生物醫學工程 #中文大學 #中大
www.bme.cuhk.edu.hk/new/index.php

What is BM...



[CUHK Biomedical Engineering](#)



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Yolanda LAU
2021 BEng (Biomedical Engineering) graduate
Medicine Degree, University of Nottingham

Peter AKE
2019 MEng (Biomedical Engineering) graduate
Applied Scientist (AI), Thomas, Hongkong University

大9學科打入全球排名50強 4科;
甚之最

Global Ranking

13th

Hong Kong Ranking

1st

Year	2017	2018	2019	2020	2021
Global Ranking	101-150	101-150	51-75	33	18



[CUHK Biomedical Engineering](#)

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CUHK BME Cabinet: Flaretrikos 藥醫工

 [cuhk_flaretrikos](https://www.instagram.com/cuhk_flaretrikos)



CUHK BME Alumni Association

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 cuhkbmealumni@gmail.com





Q & A