香港中文大學理學院
FACULTY OF SCIENCE
THE CHINESE UNIVERSITY OF HONG KONG

Science Empowers Your Dreams 科・燃夢想
Learn Science to Better the World 理・創未來

Postgraduate Virtual Info Session 2027-2028

16 October 2026

Prof. Michael PITTMAN

Assistant Dean (Research),
Faculty of Science

香港中文大學理學院
FACULTY OF SCIENCE
THE CHINESE UNIVERSITY OF HONG KONG

Science Empowers Your Dreams 科・燃夢想
Learn Science to Better the World 理・創未來

The Chinese University of Hong Kong

- Year of foundation: 1963
- Language of study – **English**/Cantonese
- A college system similar to Cambridge or Oxford
- One of 12 universities in Hong Kong

"… the name of the University is that the word Chinese means ***Chinese culture***, hence implying that the University is a university of Chinese culture." – Quoted from Dr. Choh-Ming Li (1st Vice-Chancellor of CUHK) at the 19th Congregation of the University in 1978.



https://srsdo.cuhk.edu.hk/home/wp-content/uploads/2023/02/Photo_retrieved-from-CUHK-in-pixels.jpg

香港中文大學理學院
FACULTY OF SCIENCE
THE CHINESE UNIVERSITY OF HONG KONG

Science Empowers Your Dreams 科・燃夢想
Learn Science to Better the World 理・創未來

CUHK Rankings

18th
in the World

QS World University Rankings 2027

10th
in Asia

Times Higher Education (THE) Asia University Rankings 2026

1st
in Hong Kong

U.S. News & World Report Best Global Universities in Asia 2026-2027

香港中文大學理學院
FACULTY OF SCIENCE
THE CHINESE UNIVERSITY OF HONG KONG

Science Empowers Your Dreams 科・燃夢想
Learn Science to Better the World 理・創未來

CUHK Campus

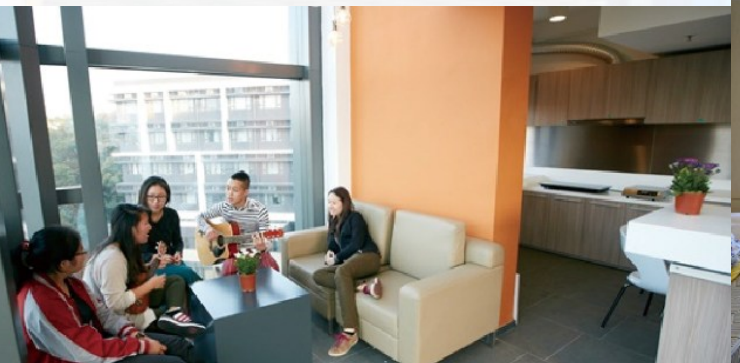






138.4 Hectares Campus Area

10000+ On-campus Hostel Places











香港中文大學理學院
FACULTY OF SCIENCE
THE CHINESE UNIVERSITY OF HONG KONG

Est. in 1963

Science Empowers Your Dreams 科・燃夢想
Learn Science to Better the World 理・創未來

About Faculty of Science (FOS)

- World-renowned Scientific Leaders



Professor Shing Tung YAU
Fields Medal Winner |
Emeritus Graustein Professor of Mathematics, Harvard University



Professor Chunshan SONG
Dean of Science, CUHK |
George A. Olah Award, American Chemical Society (ACS)

Mission of Faculty of Science

Education
To educate and inspire the next generation of scientific innovators and leaders

Research
To expand the frontier of human knowledge

6 Academic Units

400+ Teaching & Research Staff; 700+ Research Postgraduate Students; 780+ Taught Postgraduate Students



Department of Chemistry



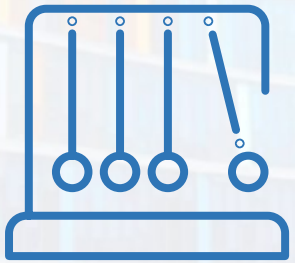
Department of Earth and Environmental Sciences



School of Life Sciences



Department of Mathematics



Department of Physics



Department of Statistics and Data Science

FoS Strategic Research Area



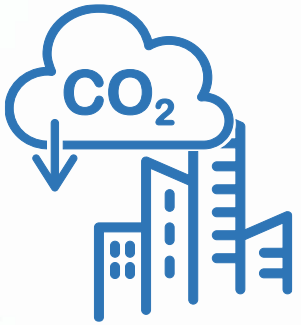
Artificial Intelligence, Machine Learning, Big Data, Risk Analytics



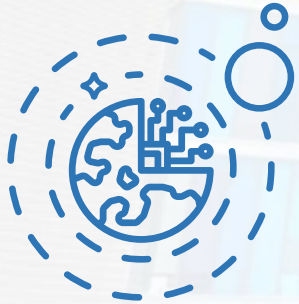
Chemical and Synthetic Biology for Emerging Diseases



Clean and Sustainable Energy, Environment, and Food



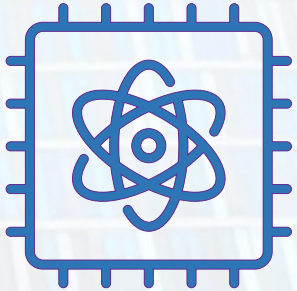
Green and Sustainable Technology for Low-Carbon Society



Intelligent Computing for Earth, Energy, Climate, Atmosphere, Materials, and Space



Integrated Capability Building for Biological Science and Applications



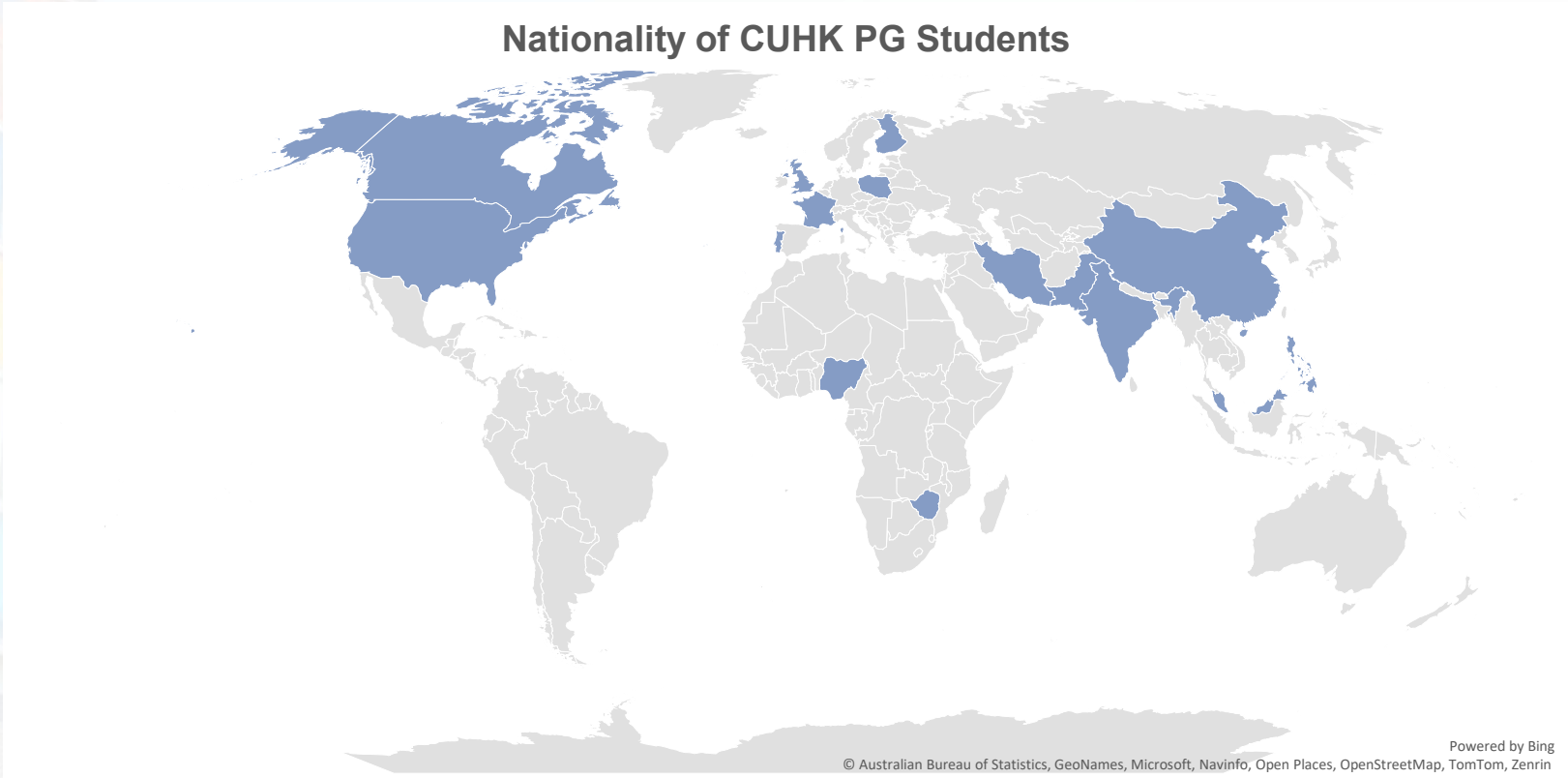
Quantum Science and Technology

Distribution of Postgraduate Student Origin at FOS

Our postgraduate students come from over 20 different countries/regions from all over the world including:

- Bangladesh
- Canada
- China
- Ethiopia
- Finland
- France
- India
- Indonesia
- Isle of Man
- Italy
- Macau
- Malaysia
- Mexico
- Nigeria
- Pakistan
- Philippines
- Poland
- Portugal
- Singapore
- Taiwan, China
- United Kingdom
- USA
- Zimbabwe

……



香港中文大學理學院
FACULTY OF SCIENCE
THE CHINESE UNIVERSITY OF HONG KONG

Science Empowers Your Dreams 科・燃夢想
Learn Science to Better the World 理・創未來

Research Excellence

Highly Cited Researcher

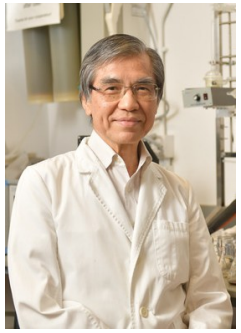
Clarivate™



Prof. Xinhui LU
(PHYS)



Prof. Jianfang WANG
(PHYS)



Prof. Po Keung WONG
(LSCI)



Prof. Jimmy Chai Mei YU
(CHEM)



Prof. Bangti JIN
(MATH)

Cross-Field *(*By alphabetical order)*

Mathematics



2025 "World's Top 2% Scientists by Stanford University

- Four CUHK Science scholars were among the Top 100 Most Cited in their sub-fields of research based on their career-long citation impact



Prof. Chunshan SONG
(CHM) - *Energy*



Prof. Thomas Chung Wai MAK
(CHM) - *Inorganic & Nuclear Chemistry*



Prof. Juncheng WEI
(MAT) – *General Mathematics*

香港中文大學理學院
FACULTY OF SCIENCE
THE CHINESE UNIVERSITY OF HONG KONG

Science Empowers Your Dreams 科・燃夢想
Learn Science to Better the World 理・創未來

Research Achievements

The University Grants Committee (UGC) has selected **32 Areas of Excellence (AoE) projects** from eight tertiary institutions in Hong Kong, and **FIVE** of them are led by members of CUHK Faculty of Science.



Plant and Fungal Biotechnology
Prof. Samuel S.S. SUN
HK$63.8 million (~ US$8.17 Million)

Sustainable Agriculture & Food Security
Prof. Hon Ming LAM
HK$81.2 million (~ US$10.4 Million)





Cell Organelle Biogenesis & Function
HK$47.3 million (~ US$6.06 Million)
Centre for Plant Vacuole Biology and Biotechnology
HK$87 million (~ US$11.15 Million)
Prof. Liwen JIANG

Probing the Fundamental Structure of Matter with High Energy Particle Collisions
Prof. Ming Chung CHU
HK$78.8 million (~ US$ 10.09 Million)



International / Industrial Collaboration

CERN
European Organization for Nuclear Research (CERN)

LIGO
Laser Interferometer Gravitational-Wave Observatory

NVIDIA

BASF
We create chemistry

Gammon

Coca-Cola
SWIRE COCA-COLA

香港中文大學理學院
FACULTY OF SCIENCE
THE CHINESE UNIVERSITY OF HONG KONG

Science Empowers Your Dreams 科・燃夢想
Learn Science to Better the World 理・創未來

Vibrant and Diversified Faculty

CUHK Science consists of eminent scholars from all over the world, who committed to nurturing innovative technology leaders embracing the world with global visions and social responsibility.



Prof. Shelby E. MCILROY(LSCI)



Prof. Benoit THIBODEAU (EES)



Prof. Omar KIDWAI (MATH)



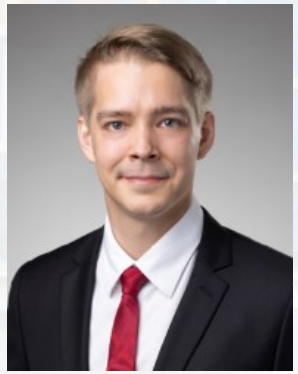
Prof. Mykola Matviichuk (MATH)



Prof. Michael PITTMAN (LSCI)



Prof. Oleksandr SAVATIEIEV (CHEM)



Prof. Otto Akseli HANNUKSELA (PHYS)



Prof. Michael McBREEN (MATH)



Prof. Sebastian HELLER (MATH)

LSCI: School of Life Sciences; CHEM: Department of Chemistry; MATH: Department of Mathematics; PHYS: Department of Physics; STAT: Department of Statistics; EES: Department of Earth and Environmental Sciences

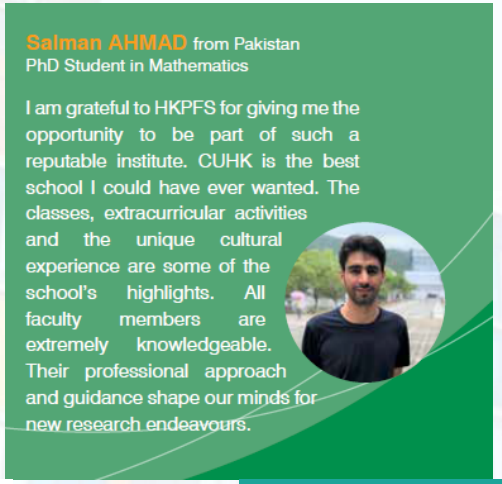
香港中文大學理學院
FACULTY OF SCIENCE
THE CHINESE UNIVERSITY OF HONG KONG

Science Empowers Your Dreams 科・燃夢想
Learn Science to Better the World 理・創未來

Vibrant and Diversified Faculty

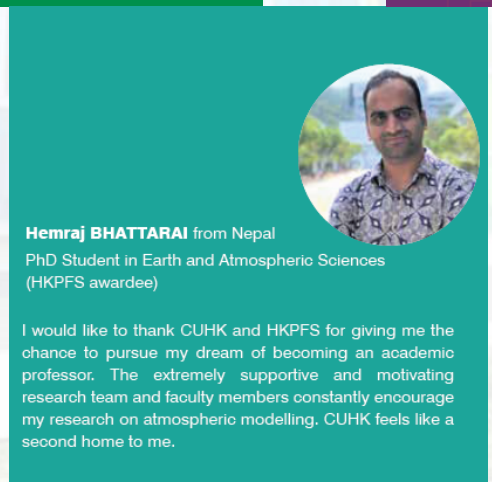
Hong Kong PhD Fellowship Scheme aims to attract the best and brightest students from across the globe to pursue their PhD studies at CUHK. Some elite HKPFS awardees at CUHK Science are as follows:

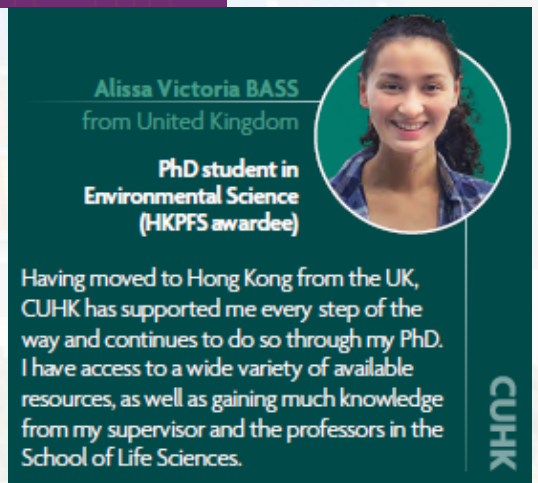












香港中文大學理學院
FACULTY OF SCIENCE
THE CHINESE UNIVERSITY OF HONG KONG

Science Empowers Your Dreams 科・燃夢想
Learn Science to Better the World 理・創未來

PG Programmes Offered at FOS

Application Timeline & Procedures

13 Research Postgraduate Programme (RPg)

- MPhil-PhD in Biochemistry
- MPhil-PhD in Biology
- MPhil-PhD in Cell and Molecular Biology
- MPhil-PhD in Chemistry
- MPhil-PhD in Earth and Environmental Sciences
- MPhil-PhD in Environmental Science
- MPhil-PhD in Food and Nutritional Sciences
- MPhil-PhD in Materials Science and Engineering
- MPhil-PhD in Mathematics
- MPhil-PhD in Molecular Biotechnology
- MPhil-PhD in Physics
- MPhil in Risk Management Science
- MPhil-PhD in Statistics

12 Taught Postgraduate Programme (TPg)*

By Coursework

- MSc in Accreditation Chemistry
- MSc in Advanced Materials Science
- MSc in Advanced Studies in Statistics and Data Science
- MSc in Artificial Intelligence for Science
- MSc in Biochemical and Biomedical Sciences
- MSc in Biodiversity, Environmental Management, Sustainability and Technology
- MSc in Data Science and Business Statistics
- MSc in Earth and Environmental Analytics for Sustainability
- MSc in Mathematics
- MSc in Nutrition, Food Science and Technology
- MSc in Physics
- MSc in Risk Management Science and Data Analytics

*TPg： Self-financing Programmes

香港中文大學理學院
FACULTY OF SCIENCE
THE CHINESE UNIVERSITY OF HONG KONG

Science Empowers Your Dreams 科・燃夢想
Learn Science to Better the World 理・創未來

Faculty-level TPG Programme:
MSc in Artificial Intelligence for Science

Programme Inauguration and New Student Orientation: 3 September 2026







Application Deadline: 30 Apr 2027



香港中文大學理學院
FACULTY OF SCIENCE
THE CHINESE UNIVERSITY OF HONG KONG

Science Empowers Your Dreams 科・燃夢想
Learn Science to Better the World 理・創未來

Postgraduate Students' Activities at FOS

We are always by your side to guide you on your journey of discovery and innovation.

Postgraduate Research Day Since 2020

- Presentation awardees will be given priority in the application for "Dean's Postgraduate Conference Award" (HK$ 25k [~US$ 3.2k] per award to support PG conference trips)













Postgraduate Welcoming Ceremony since 2024

- Professor SONG Chunshan introduced the CUHK Science deanery, Unit Heads, and Division Heads, setting the stage for an enriching academic journey for postgraduate freshmen.

Cost of Study in Hong Kong

- Tuition fee for non-local RPg student: **HK$47,000 (~ USD 6026)** per annum for 2026-2027;
  HK$49,500 (~ USD 6347) per annum for 2027-2028 onwards

- On-campus accommodation: **HK$ 24,780 (~ US$ 3,161) – HK$ 44,700 (~ US$ 5,701)** per annum for 2025-2026
  Endorsed Off-campus co-living accommodation: **HK$ 45,600 (~ US$ 5,816) up** per bed per annum for 2026-2027

- Living expenses: **Approx. HK$50,000 (~US$6,400)** per annum

Lower cost of study, World-class PG Programmes in Hong Kong

Cost Component (US$)	London, UK (Annual)	New York City, US (Annual)
1) Tuition Fee	$23,400 – $54,600+	$35,000 – $75,000+
2) Accommodation	$14,040 – $28,080	$18,000 – $36,000
3) Living Costs	$9,360 – $14,040	$12,000 – $18,000
Annual Estimated Cost	**$46,800 – $96,720+**	**$65,000 – $129,000+**

香港中文大學理學院
FACULTY OF SCIENCE
THE CHINESE UNIVERSITY OF HONG KONG

Science Empowers Your Dreams 科・燃夢想
Learn Science to Better the World 理・創未來

Connect with Us

CUHKScience

(852) 3943 6327

sfo@cuhk.edu.hk

www.sci.cuhk.edu.hk

Faculty Brochure – Empowering Dreams

Order of Presentation	
Physics and Materials Science & Engineering	Prof. Otto A. HANNUKSELA
Chemistry	Prof. Jiang XIA
Earth & Environmental Sciences	Prof. Hongfeng YANG
Mathematics	Prof. Dejun FENG
Statistics	Prof. Yingying WEI
Risk Management Science	Prof. Tony SIT
Life Sciences	Prof. Kam Bo WONG

School of Life Sciences
THE CHINESE UNIVERSITY OF HONG KONG
香港中文大學 生命科學學院

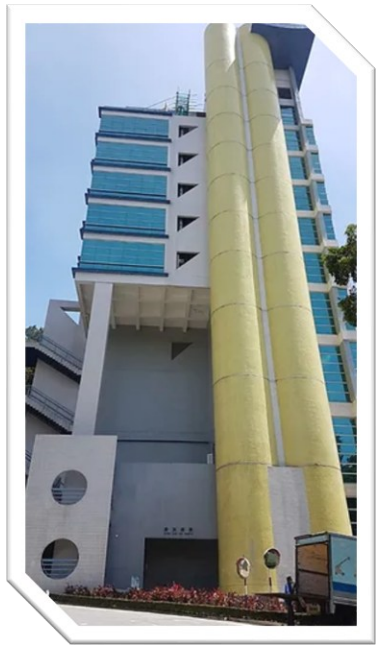
Postgraduate Studies at School of Life Sciences

Oct 2026

Tree of Life · Ocean of Sciences
生命之樹 · 科學海洋



School Overview - Location



Mong Man Wai Building

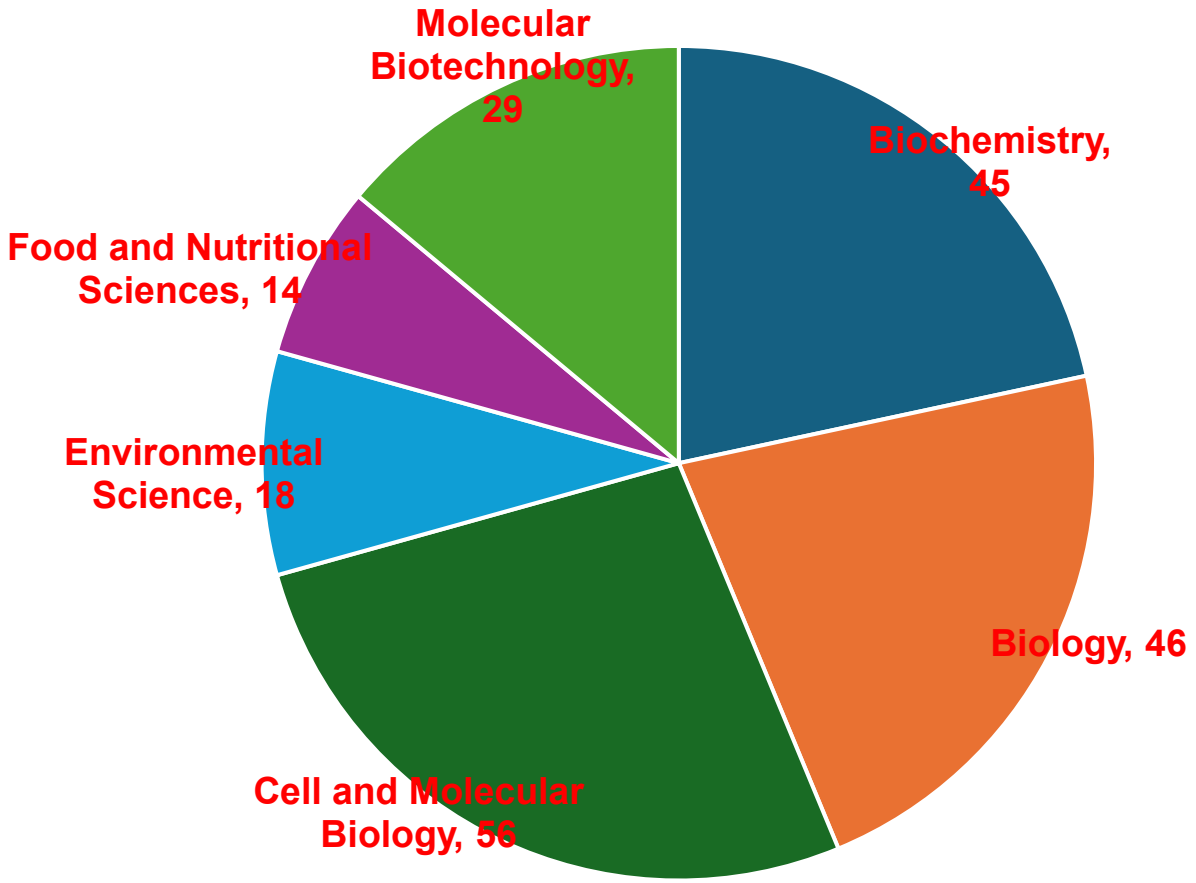






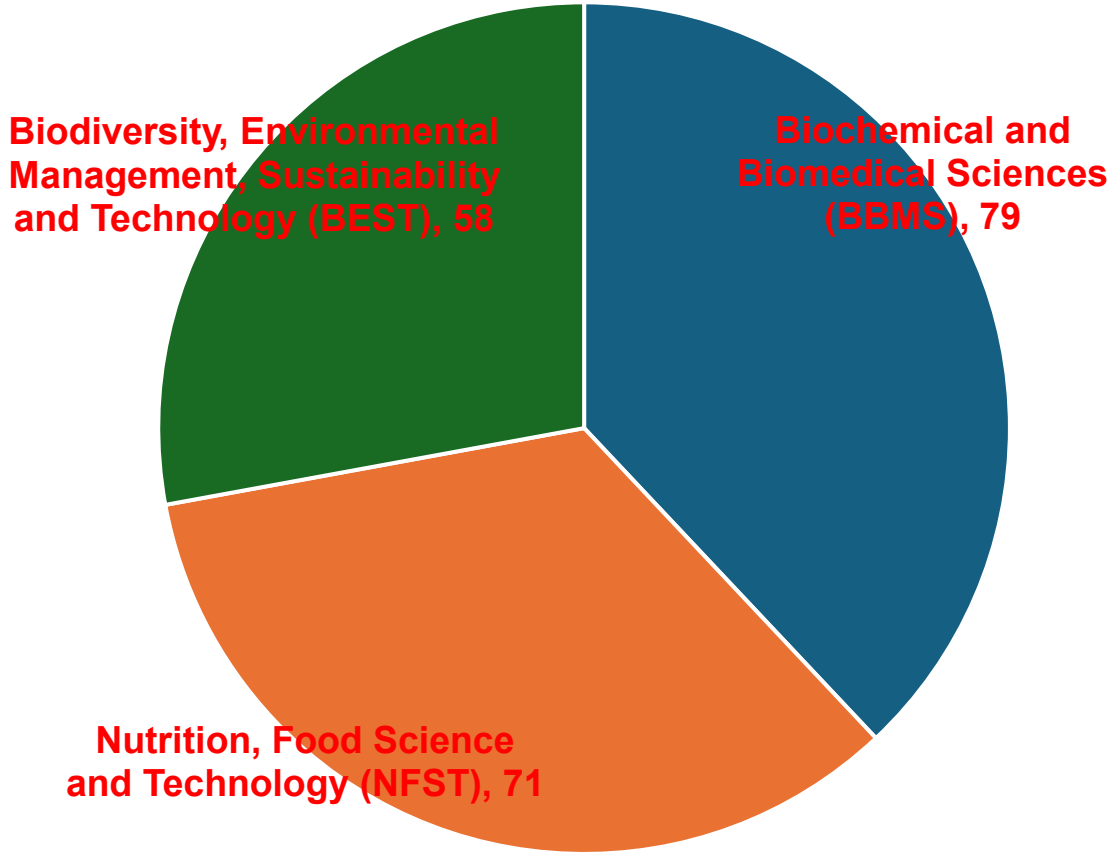
Teaching Excellence - Research (RPg) and Taught (TPg) Postgraduate Programmes

MPhil–PhD program



Total: 208 RPg (201 PhD 7 MPhil)

MSc



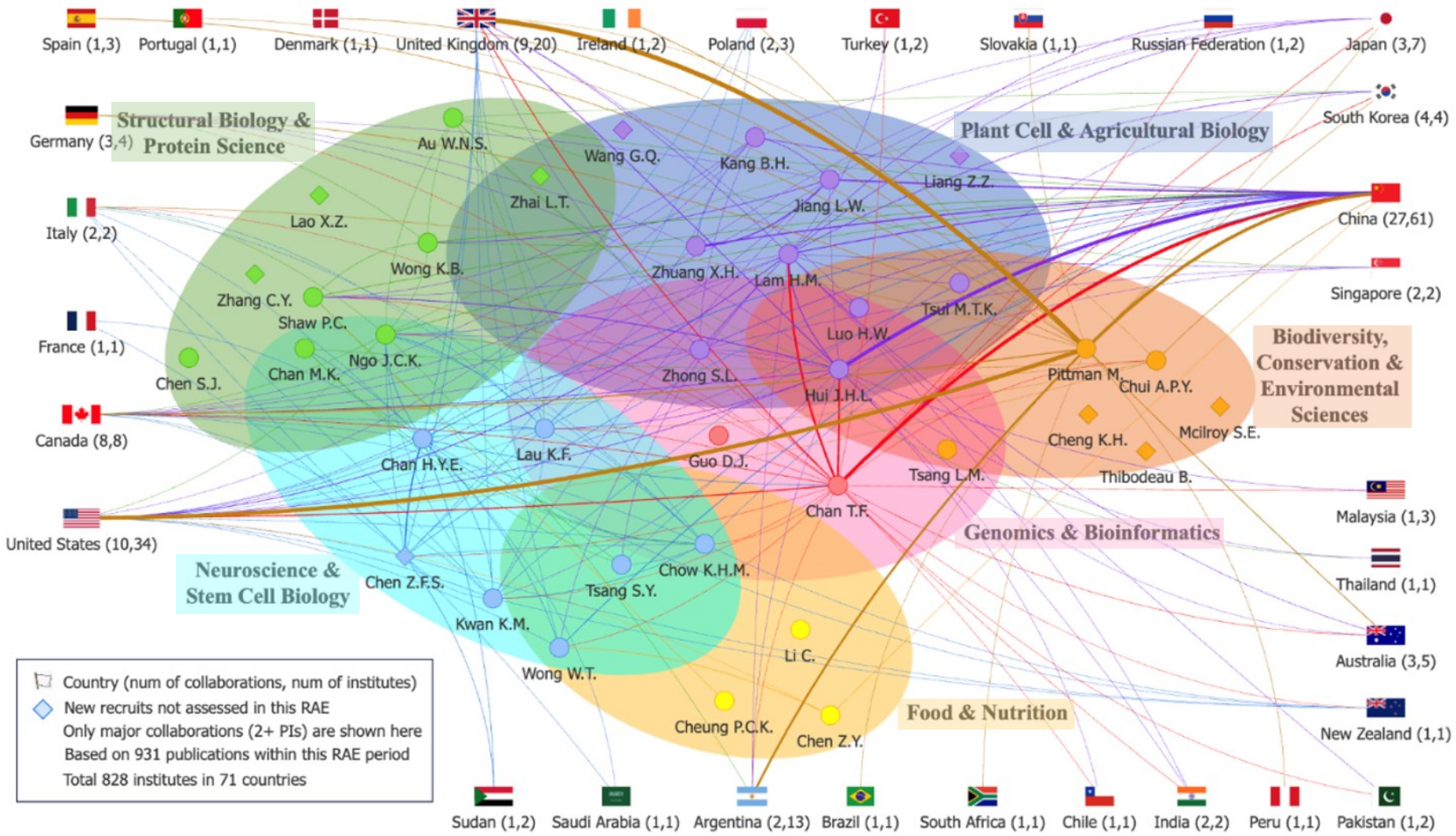
Total: 208 TPg

School Overview - Staff Profile



Academic Staff	48 (incl. 12 lecturers)
Research Staff	134 (incl. 20 postdocs)
Technical & Administrative Staff	47
Total*	**229**

Our school has strong inter-disciplinary and international collaboration



Research excellence in Plant cell & agricultural biology, Biodiversity Conservation & Environmental Science, Genomics & Bioinformatics



Professor Jiang, Liwen

nature communications

Article

The plant unique ESCRT component FREE1 regulates autophagosome closure

Areas of Excellence
Centre for Plant Vacuole Biology and Biotechnology ($87M)
Centre for Organelle Biogenesis and Function ($47.25M)



Professor Zhuang, Xiaohong

PNAS

Plant-specific mitochondrial fission machinery connects mitochondrial dynamics and mitophagosome formation for piecemeal mitophagy



Professor Hui, Ho Lam Jerome

nature communications

Myriapod genomes reveal ancestral horizontal gene transfe and hormonal gene loss in millipedes

SKL 香港中文大學 CUHK 農業生物技術全國重點實驗室

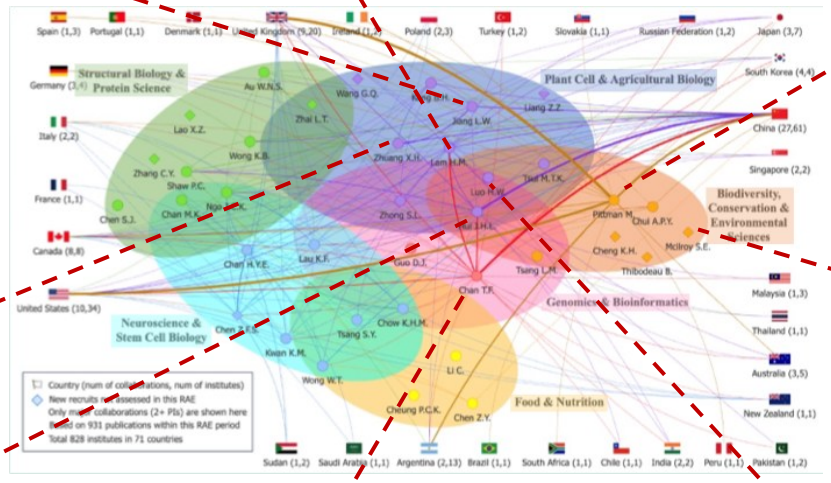
Professor Lam, Hon-Ming



nature COMMUNICATIONS

ARTICLE

A reference-grade wild soybean genome





Professor Chan, Ting Fung

Advanced Science / Volume 10, Issue 3 / 2203480

Research Article | Open Access

LAFITE Reveals the Complexity of Transcript Isoforms in Subcellular Fractions

Areas of Excellence
Centre for Genomic Studies on Plant-Environment Interaction for Sustainable Agriculture and Food Security ($81M)



Professor Pittman, Michael

PNAS

Microraptor reveals specialized gliding capabilities in multiwinged early paravians



Professor Mcilroy, Shelby E.

Environmental DNA

ORIGINAL ARTICLE | Open Access

Airborne Environmental DNA Analysis as a Tool to Monitor Live Bird Trade



Professor Luo, Haiwei

PNAS

The free-living wellspring of symbiotic nitrogen fixation in *Bradyrhizobium*

Research excellence in Neuroscience & Stem cell biology, Food & Nutrition, Structural Biology



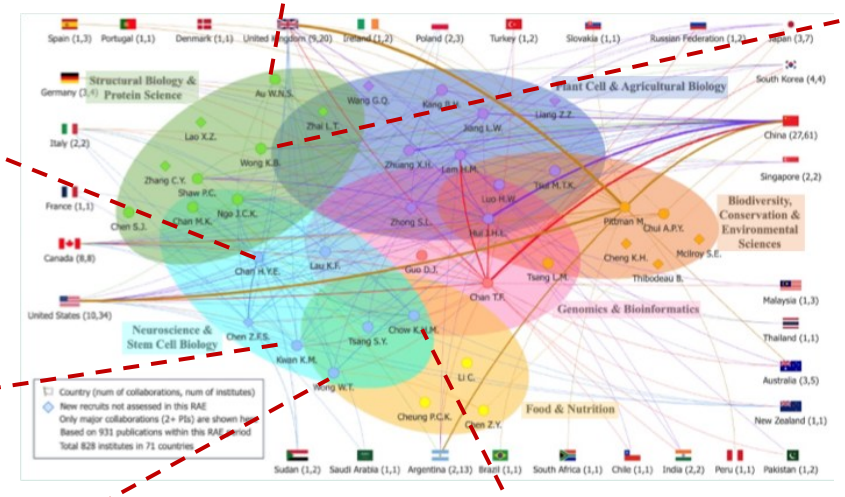












Professor Au, Wing Ngor Shannon

Article | Open access | Published: 23 July 2026

Deciphering the initiation pathway of CagT4SS assembly by in vitro reconstitution of subcomplexes

Hoi Yee Chu, Chin Yu Mok, You-Rong Lin, Huawei Zhang, Takayuki Uchihashi & Shannon Wing Ngor Au

Nature Communications **17**, Article number: 8987 (2026) | Cite this article

Professor Chan, Ho Yin Edwin

nature communications | View all journals | Saved research | Search | Log in

Explore content | About the journal | Publish with us

nature > nature communications > articles > article

Download PDF

Article | Open access | Published: 18 December 2025

Pre- and postsynaptic upregulation of FasII synergistically underlies neuropathological and behavioral phenotypes in a *Drosophila* model of myotonic dystrophy

Professor Kwan, Kin Ming

nature communications | View all journals | Saved research | Search | Log in

Explore content | About the journal | Publish with us

nature > nature communications > articles > article

Download PDF

Article | Open access | Published: 21 October 2025

Alpha-ketoglutarate mitigates insulin resistance and metabolic inflexibility in a mouse model of Ataxia-Telangiectasia

Professor Wong, Kam Bo

PNAS

RESEARCH ARTICLE | BIOCHEMISTRY

Structural insights into how metallochaperones UreE and UreG interact to deliver a toxic metal to urease

Chun-Long Chan, Longson Tsz Hin Pang, Tung Chi, ..., and Kam-Bo Wong | Authors Info & Affiliations

Edited by Jijie Chai, Westlake University, Hangzhou, China; received December 14, 2025; accepted August 6, 2026 by Editorial Board Member Nieng Yan

September 3, 2026 | 123 (36) e2535662123 | https://doi.org/10.1073/pnas.2535662123

Professor Wong, Wing Tak Jack

Journal of Agricultural and Food Chemistry

Menu

Article Navigation

Bioactive Constituents, Metabolites, and Functions | September 03, 2026 Subscribed

Potato Turned Rice Mitigates Colitis through Gut Microbiota-Driven Regulation of SCFAs Production and Bile Acid Homeostasis

Qile Zhang ⊥; Zhengming Zhou ⊥; Yiu Ming Cheung; Hoi Wa Yeung; Minghui Li; Chufeng He; Shouhe Huang; Cheng Li; Zhen-Yu Chen; Wing Tak Wong *

+ Author & Article Information

J. Agric. Food Chem. (2026) 74 (36): 28510−28525.

Professor Chow, Hei Man Kim

nature communications | View all journals | Saved research | Search

Explore content | About the journal | Publish with us

nature > nature communications > articles > article

Download PDF

Article | Open access | Published: 22 November 2025

Perimenopausal state oestradiol to progesterone imbalance drives Alzheimer's risk via ERRα dysregulation and energy dyshomeostasis

Scan the QR code below to explore more about research excellence in School of Life Sciences

Research Excellence - Awards and Fellowships

Award / Recognition	School Members
▪ Areas of Excellence (AoE)	Prof. Liwen Jiang Prof. Hon-Ming Lam
▪ Ministry of Education Higher Education Outstanding Scientific Research Output Awards	Prof. Liwen Jiang Prof. Wing Tak Jack Wong
▪ China's Excellent Young Scientists Fund	Prof. Kim Hei Man Chow Prof. Xiaohong Zhuang
▪ National Natural Science Foundation of China - Excellent Young Scientists Fund	Prof. Chen Sijie
▪ International Health Policy Fellowship (National Academy of Medicine, USA)	Prof. Kim Hei Man Chow
▪ RGC Senior Research Fellowship	Prof. Liwen Jiang
▪ RGC Overseas Research Fellowship	Prof. Jerome Hui
▪ Croucher Senior Research Fellowship	Prof. Liwen Jiang
▪ Falling Walls Science Breakthrough Award	Prof. Apple Chui
▪ Fellow of American Society of Plant Biologists (ASPB)	Prof. Liwen Jiang
▪ Stanford Top 2% scientists and Clarivate Analytics' Highly Cited Researchers	12 School current members on the 2026 list: Prof. Shuting Chang; Prof. Zhenyu Chen; Prof. Peter Chi-Keung Cheung; Prof. Junxian He; Prof. Liwen Jiang; Prof. Byung-Ho Kang; Prof. Hon-Ming Lam; Prof. Shing Yip Lee; Prof. Cheng Li; Prof. Vincent Eng Choon Ooi; Prof. Pang-Chui Shaw; Prof. Silin Zhong

Knowledge & Technology Transfer - Start-up Companies Nurtured

mushroom-x

采菽社 Soyvestors

ORIGENE
DECODING LIFE: GENOMICS & PROTEOMICS

罕動力 are Power
Crafting patients' journey

SUMO THERAPEUTICS LIMITED
Pioneering innovation solution to address neurological diseases

NutrigeneAI
Vascular is Everything

RoboZyme
Advancing innovative enzyme technology

草藥鏈 HerBChain

FARMily Biotechnology Company Limited

School Overview - Ranking

FACULTY OF SCIENCE
THE CHINESE UNIVERSITY OF HONG KONG

School of Life Sciences
香港中文大學生命科學學院

THE WORLD UNIVERSITY RANKINGS

Subject Ranking 2026
#72 Life Sciences in the world

U.S.News & WORLD REPORT

Subject Ranking 2026-27
#1 Molecular Biology & Genetics in Hong Kong

SHANGHAI RANKING

Subject Ranking 2026
#39 Biotechnology in the world
#1 Biotechnology in Hong Kong

Tree of Life · Ocean of Sciences
生命之樹 · 科學海洋

School of Life Sciences
THE CHINESE UNIVERSITY OF HONG KONG
香港中文大學 生命科學學院

Tree of Life · Ocean of Sciences
生命之樹 · 科學海洋

Stay Tuned

Thank You











Come to CUHK for Postgraduate Study in Chemistry

Department of Chemistry
The Chinese University of Hong Kong



Two reasons for coming to CUHK for postgraduate study in chemistry

1. A department of academic excellence
2. Financial independence and convenient life

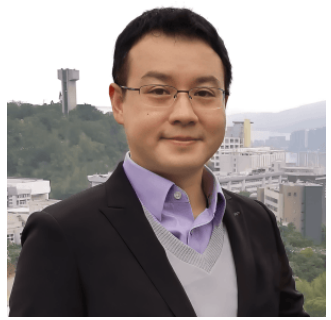
A Department of Academic Excellence







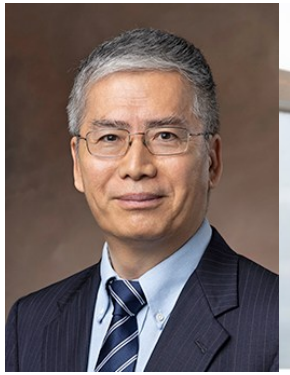


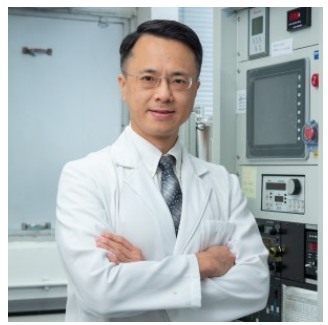


19 research groups

~120 graduate students， ~95% PhD



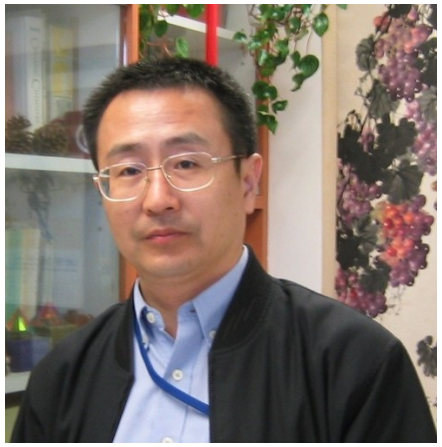


A Department of Academic Excellence

4 Members of the Chinese Academy of Sciences



Prof. Thomas C.W. MAK
(Emeritus Professor)



Prof. Chi WU
(Emeritus Professor)



Prof. Chunshan SONG

2022 Outstanding Achievement Award, by the Chinese American Chemical Society;
Fellow of the American Chemical Society



Prof. Henry N.C. WONG
(Emeritus / Research Professor)



Prof. Zuowei XIE
(Emeritus Professor)



Prof. Jimmy C. M. YU
(Emeritus / Research Professor)

Highly Cited Researcher
(2018, 2019, 2020, 2021)

A Department of Academic Excellence

8 **Croucher Senior Research Fellows** including
3 current faculty members from our department
(114 Fellows in HK since 1997)



Fuk Yee KWONG



Qian MIAO

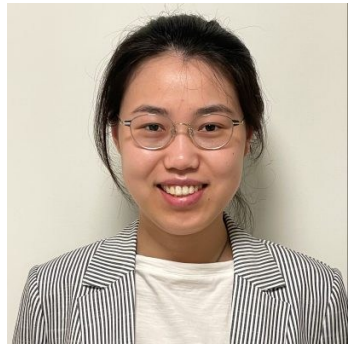


Yeung Ying YEUNG

2 Recipients of **Outstanding Young Scientists** Fund, NSCF



Yeung Ying YEUNG



Hairong LYU

2 Recipients of **Excellent Young Scientists** Fund, NSCF

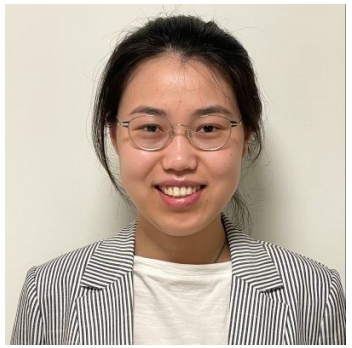


Ying WANG



Xinglong ZHANG

Vice-Chancellor Early Career Professors



Hairong LYU



Aleksandr SAVATEEV



Qingyun WAN



Xinglong ZHANG

Research Facilities



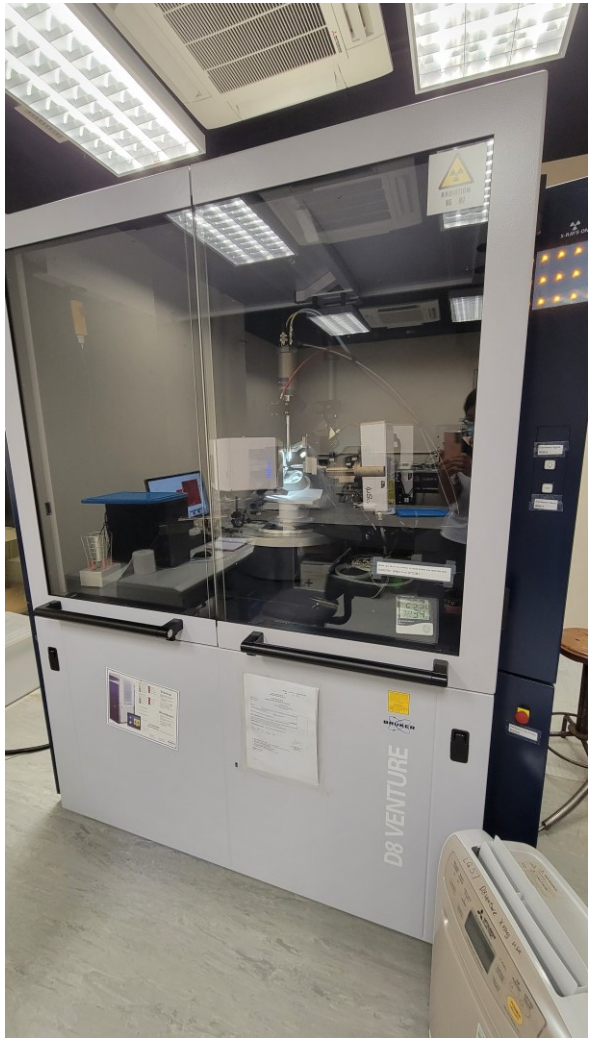
400M NMR



500M NMR



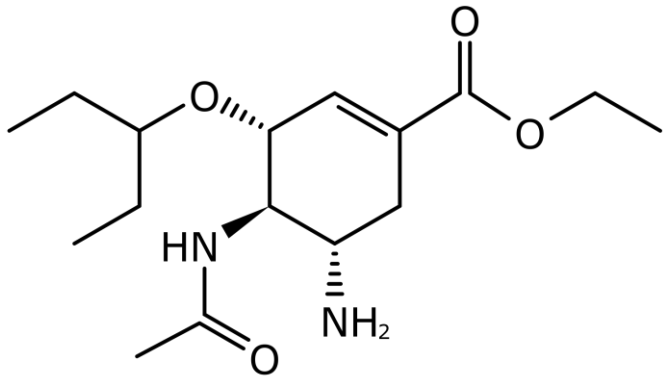
Mass Spectrometer



X-Ray Diffractometer

Contributions of Our PhDs to Chemistry





Oseltamivir phosphate (Tamiflu ®)



Prof. Yeung Ying YEUNG： PhD 2005, CUHK

J|A|C|S
COMMUNICATIONS

Published on Web 04/25/2006

A Short Enantioselective Pathway for the Synthesis of the Anti-Influenza Neuramidase Inhibitor Oseltamivir from 1,3-Butadiene and Acrylic Acid

Ying-Yeung Yeung, Sungwoo Hong, and E. J. Corey*

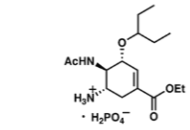
Department of Chemistry and Chemical Biology, Harvard University, Cambridge, Massachusetts 02138

Received March 9, 2006; E-mail: corey@chemistry.harvard.edu

See https://pubs.acs.org/sharingguidelines for options on how to legitimately share published articles.

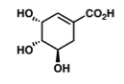
The recent emergence of the avian virus H5N1 raises the possibility of a pandemic wave of life-threatening flu that requires prompt action.[1] A four-pronged effort to avert widespread disease is now underway that consists of the following components: (1) worldwide surveillance of both wild and domesticated birds with quick culling of the latter, (2) development of recombinant vaccines against the H5N1 virus and its mutated forms whose production can be scaled up rapidly,[2] (3) procedures for quarantine, and (4) ramped up production of the orally effective, synthetic neuramidase inhibitor oseltamivir phosphate (Tamiflu) (**1**).[3] This paper describes a total synthesis of **1** that would appear to have a number of advantages over existing processes and the potential to increase the rate of production.

Heroic efforts by synthetic chemists at Gilead Sciences, Inc.[4] and F. Hoffman−La Roche, Ltd.[5] have resulted in the development of several synthetic pathways to **1**, culminating in the current production method.[5] That process falls short of the ideal for several reasons: (1) the starting point in the synthesis is either (−)-shikimic or (−)-quinic acid, which are complex relatively expensive and of limited availability, and (2) two steps involve potentially hazardous

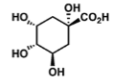


1

and explosive azide-containing intermediates. The route describe herein has been used for the synthesis of oseltamivir and also i enantiomer.



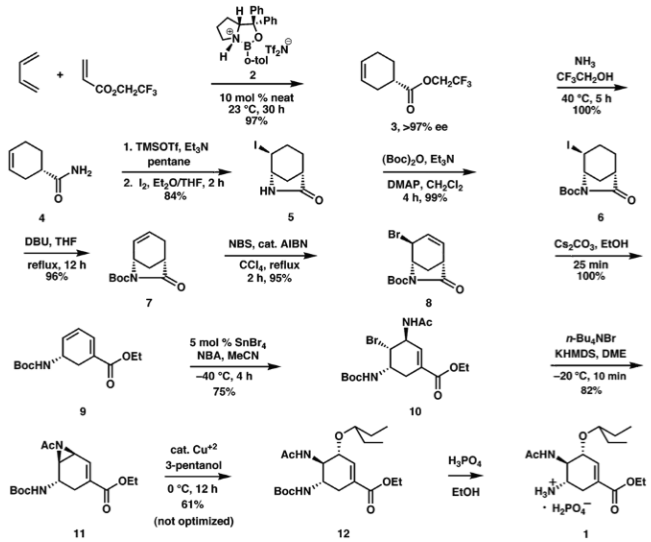
(−)-shikimic acid



(−)-quinic acid

The synthesis of **1** is summarized in Scheme 1. We hav previously described the reaction of butadiene with trifluoroethy

Scheme 1



4 **5** **6** **7** **8** **9** **10** **11** **12** **1**

Contributions of Our PhDs to Chemistry

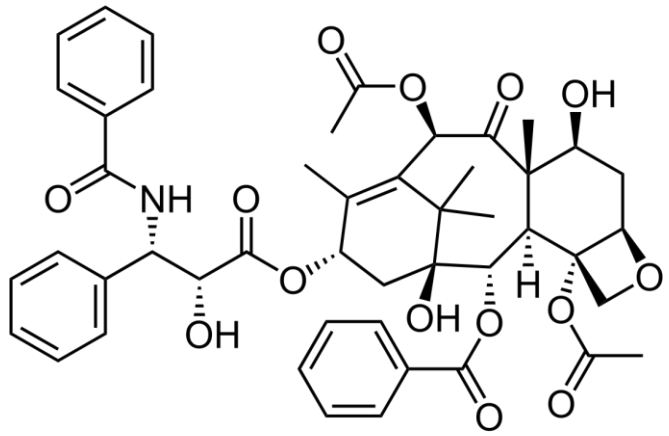




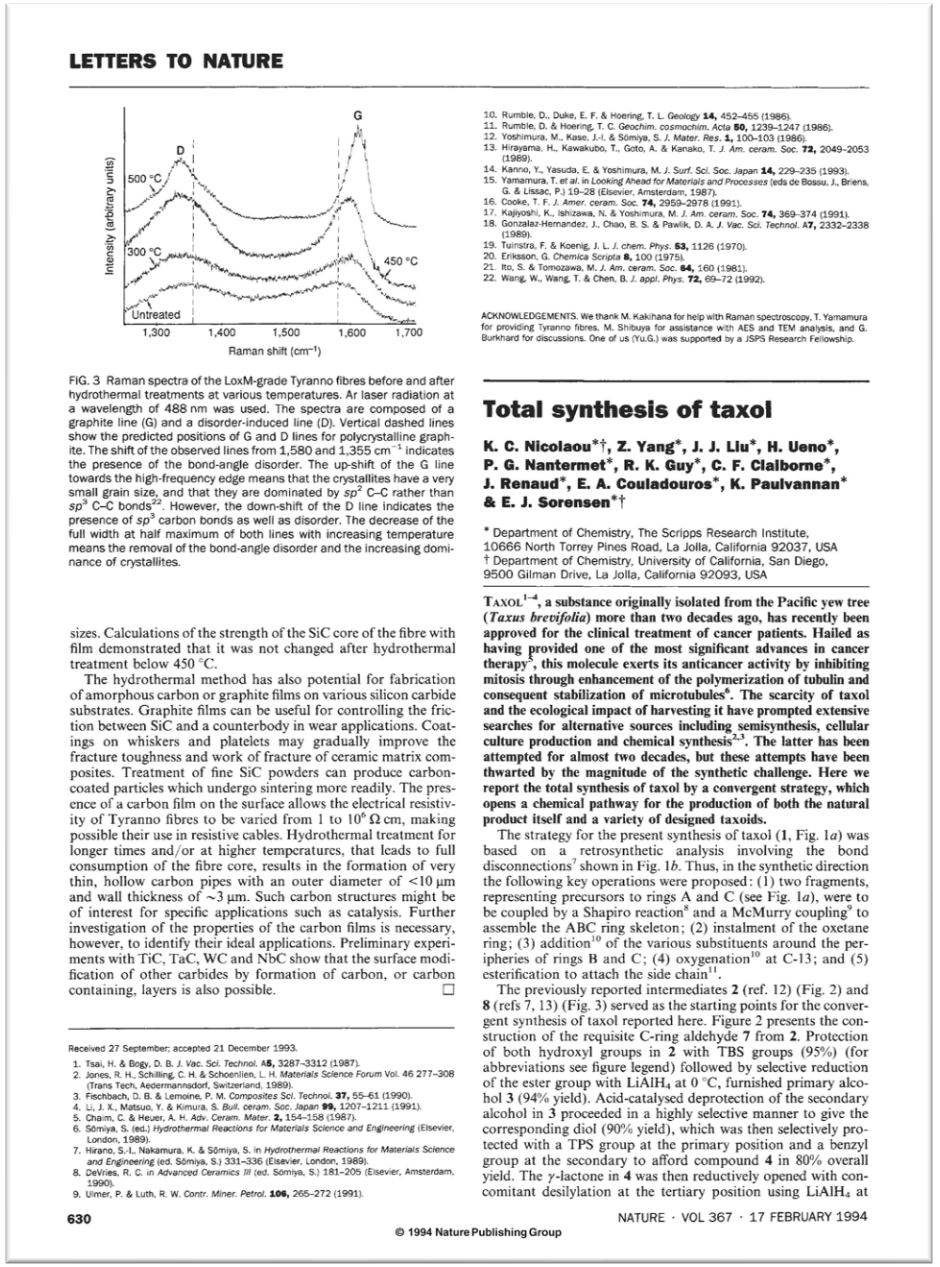


Prof. Zhen YANG

PhD 1992, CUHK



Taxol (Paclitaxel)



LETTERS TO NATURE

FIG. 3 Raman spectra of the LoxM-grade Tyranno fibres before and after hydrothermal treatments at various temperatures. Ar laser radiation at a wavelength of 488 nm was used. The spectra are composed of a graphite line (G) and a disorder-induced line (D). Vertical dashed lines show the predicted positions of G and D lines for polycrystalline graphite. The shift of the observed lines from 1,580 and 1,355 cm^{-1} indicates the presence of the bond-angle disorder. The up-shift of the G line towards the high-frequency edge means that the crystallites have a very small grain size, and that they are dominated by sp^2 C–C rather than sp^3 C–C bonds[22]. However, the down-shift of the D line indicates the presence of sp^3 carbon bonds as well as disorder. The decrease of the full width at half maximum of both lines with increasing temperature means the removal of the bond-angle disorder and the increasing dominance of crystallites.

sizes. Calculations of the strength of the SiC core of the fibre with film demonstrated that it was not changed after hydrothermal treatment below 450 °C.

The hydrothermal method has also potential for fabrication of amorphous carbon or graphite films on various silicon carbide substrates. Graphite films can be useful for controlling the friction between SiC and a counterbody in wear applications. Coatings on whiskers and platelets may gradually improve the fracture toughness and work of fracture of ceramic matrix composites. Treatment of fine SiC powders can produce carbon-coated particles which undergo sintering more readily. The presence of a carbon film on the surface allows the electrical resistivity of Tyranno fibres to be varied from 1 to 10^6 Ω cm, making possible their use in resistive cables. Hydrothermal treatment for longer times and/or at higher temperatures, that leads to full consumption of the fibre core, results in the formation of very thin, hollow carbon pipes with an outer diameter of <10 μm and wall thickness of ~3 μm. Such carbon structures might be of interest for specific applications such as catalysis. Further investigation of the properties of the carbon films is necessary, however, to identify their ideal applications. Preliminary experiments with TiC, TaC, WC and NbC show that the surface modification of other carbides by formation of carbon, or carbon containing, layers is also possible. □

Received 27 September; accepted 21 December 1993.

1. Tsai, H. & Bogy, D. B. *J. Vac. Sci. Technol.* **A5,** 3287–3312 (1987).
2. Jones, R. H., Schilling, C. H. & Schoenlein, L. H. *Materials Science Forum* Vol. 46 277–308 (Trans Tech, Aedermannsdorf, Switzerland, 1989).
3. Fischbach, D. B. & Lemoine, P. M. *Composites Sci. Technol.* **37,** 55–61 (1990).
4. Li, J. X., Matsuo, Y. & Kimura, S. *Bull. ceram. Soc. Japan* **99,** 1207–1211 (1991).
5. Chaim, C. & Heuer, A. H. *Adv. Ceram. Mater.* **2,** 154–158 (1987).
6. Sōmiya, S. (ed.) *Hydrothermal Reactions for Materials Science and Engineering* (Elsevier, London, 1989).
7. Hirano, S.-I., Nakamura, K. & Sōmiya, S. in *Hydrothermal Reactions for Materials Science and Engineering* (ed. Sōmiya, S.) 331–336 (Elsevier, London, 1989).
8. DeVries, R. C. in *Advanced Ceramics III* (ed. Sōmiya, S.) 181–205 (Elsevier, Amsterdam, 1990).
9. Ulmer, P. & Luth, R. W. *Contr. Miner. Petrol.* **106,** 265–272 (1991).
10. Rumble, D., Duke, E. F. & Hoering, T. L. *Geology* **14,** 452–455 (1986).
11. Rumble, D. & Hoering, T. C. *Geochim. cosmochim. Acta* **50,** 1239–1247 (1986).
12. Yoshimura, M., Kase, J.-I. & Sōmiya, S. *J. Mater. Res.* **1,** 100–103 (1986).
13. Hirayama, H., Kawakubo, T., Goto, A. & Kanako, T. *J. Am. ceram. Soc.* **72,** 2049–2053 (1989).
14. Kanno, Y., Yasuda, E. & Yoshimura, M. *J. Surf. Sci. Soc. Japan* **14,** 229–235 (1993).
15. Yamamura, T. *et al.* in *Looking Ahead for Materials and Processes* (eds de Bossu, J., Briens, G. & Lissac, P.) 19–28 (Elsevier, Amsterdam, 1987).
16. Cooke, T. F. *J. Amer. ceram. Soc.* **74,** 2959–2978 (1991).
17. Kajiyoshi, K., Ishizawa, N. & Yoshimura, M. *J. Am. ceram. Soc.* **74,** 369–374 (1991).
18. Gonzalez-Hernandez, J., Chao, B. S. & Pawlik, D. A. *J. Vac. Sci. Technol.* **A7,** 2332–2338 (1989).
19. Tuinstra, F. & Koenig, J. L. *J. chem. Phys.* **53,** 1126 (1970).
20. Eriksson, G. *Chemica Scripta* **8,** 100 (1975).
21. Ito, S. & Tomozawa, M. *J. Am. ceram. Soc.* **64,** 160 (1981).
22. Wang, W., Wang, T. & Chen, B. *J. appl. Phys.* **72,** 69–72 (1992).

ACKNOWLEDGEMENTS. We thank M. Kakihana for help with Raman spectroscopy, T. Yamamura for providing Tyranno fibres, M. Shibuya for assistance with AES and TEM analysis, and G. Burkhard for discussions. One of us (Yu.G.) was supported by a JSPS Research Fellowship.

Total synthesis of taxol

K. C. Nicolaou*†, Z. Yang*, J. J. Liu*, H. Ueno*, P. G. Nantermet*, R. K. Guy*, C. F. Claiborne*, J. Renaud*, E. A. Couladouros*, K. Paulvannan* & E. J. Sorensen*†

* Department of Chemistry, The Scripps Research Institute, 10666 North Torrey Pines Road, La Jolla, California 92037, USA
† Department of Chemistry, University of California, San Diego, 9500 Gilman Drive, La Jolla, California 92093, USA

TAXOL[1–4], a substance originally isolated from the Pacific yew tree (*Taxus brevifolia*) more than two decades ago, has recently been approved for the clinical treatment of cancer patients. Hailed as having provided one of the most significant advances in cancer therapy[5], this molecule exerts its anticancer activity by inhibiting mitosis through enhancement of the polymerization of tubulin and consequent stabilization of microtubules[6]. The scarcity of taxol and the ecological impact of harvesting it have prompted extensive searches for alternative sources including semisynthesis, cellular culture production and chemical synthesis[2,3]. The latter has been attempted for almost two decades, but these attempts have been thwarted by the magnitude of the synthetic challenge. Here we report the total synthesis of taxol by a convergent strategy, which opens a chemical pathway for the production of both the natural product itself and a variety of designed taxoids.

The strategy for the present synthesis of taxol (**1**, Fig. 1*a*) was based on a retrosynthetic analysis involving the bond disconnections[7] shown in Fig. 1*b*. Thus, in the synthetic direction the following key operations were proposed: (1) two fragments, representing precursors to rings A and C (see Fig. 1*a*), were to be coupled by a Shapiro reaction[8] and a McMurry coupling[9] to assemble the ABC ring skeleton; (2) instalment of the oxetane ring; (3) addition[10] of the various substituents around the peripheries of rings B and C; (4) oxygenation[10] at C-13; and (5) esterification to attach the side chain[11].

The previously reported intermediates **2** (ref. 12) (Fig. 2) and **8** (refs 7, 13) (Fig. 3) served as the starting points for the convergent synthesis of taxol reported here. Figure 2 presents the construction of the requisite C-ring aldehyde **7** from **2**. Protection of both hydroxyl groups in **2** with TBS groups (95%) (for abbreviations see figure legend) followed by selective reduction of the ester group with $LiAlH_4$ at 0 °C, furnished primary alcohol **3** (94% yield). Acid-catalysed deprotection of the secondary alcohol in **3** proceeded in a highly selective manner to give the corresponding diol (90% yield), which was then selectively protected with a TPS group at the primary position and a benzyl group at the secondary to afford compound **4** in 80% overall yield. The γ-lactone in **4** was then reductively opened with concomitant desilylation at the tertiary position using $LiAlH_4$ at

© 1994 Nature Publishing Group

Our Graduates in Academia



Prof. Xiaoming CHEN
PhD 1992
Member of the Chinese Academy of Sciences



Prof. Xiang ZHOU
PhD 1996
Member of the Chinese Academy of Sciences



Prof. Xiaomin XU
(PhD 2015, CUHK)

- *Associate Professor, Tsinghua Shenzhen International Graduate School, Tsinghua University*
- ***HKPFS 2011-2015***



Prof. Billy Wai-Lung Ng
(PhD 2014, CUHK)

Assistant Professor, School of Pharmacy, Faculty of Medicine, CUHK



Prof. Yangjian QUAN
(PhD 2015, CUHK)

Assistant Professor, Hong Kong University of Sci. & Tech.



Prof. Kwan Yin CHEUNG
(PhD 2016, CUHK)
Assistant Professor, National Sun Yat-sen University

Our Recent Graduates in Industry

Graduates	Year	Position	Companies
Liang SHAN	PhD 2015	Senior scientist	DOW
Zhaohui WANG Man GAO	PhD 2016 PhD 2022	Senior Engineer Research scientist	HUAWEI
Kuan-Ting LIN	PhD 2019	Research scientist	SHISEIDO
Yujing WANG	PhD 2021	R&D engineer	BYD
Feng CAO	PhD 2018	Principal Scientist	ESTĒE LAUDER COMPANIES
Xiaodong LI	MPhil 2012	Manager	ThermoFisher SCIENTIFIC
Jinlian WANG	PhD 2019	Expert Sci. & Tech.	NOVARTIS

Inventions by Students

Hong Kong University Student Innovation and Entrepreneurship Competition
LIU Min / WANG Yue: First Prize 2022 (Life Science),
YUAN Dingdong / CHEN Hongfei / LI Biquan: First Prize 2023 (Life Science)
JIANG Zhuolun / CHEUNG Ka Man : First Prize 2023 (Energy and Environment)

48th Geneva International Exhibition of Inventions
LIU Liangdong: Silver Medal







Financial Independence and Convenient Life

- **Hong Kong PhD Fellowship Scheme** (**HKPFS**) provides a **stipend of HK$28,700 (~US$ 3,680) per month** and a **conference travel allowance of HK$14,400 (~US$ 1,846)** per year for 4 years.

  CUHK provides the following additional benefits:
  - **Lodging award** of HK$ 100,000
  - **Tuition fee** (HK$ 49,500 per year) **waived**
  - **Free on-campus housing** for the first year

- The students who are nominated by the Department of Chemistry for application of HKPFS would be admitted to the PhD program with **Postgraduate Studentship** (**PGS**) even if the application for HKPFS were unsuccessful.
  - PGS 1: HK$ 19,100 (US$ 2,433) per month for MPhil and PhD (pre-candidacy)
  - PGS 2: HK$ 19,660 (US$ 2,504) per month for PhD (post-candidacy)

香港中文大學理學院
FACULTY OF SCIENCE
THE CHINESE UNIVERSITY OF HONG KONG

Graduate Division of Earth and Environmental Sciences

Website: https://www.ees.cuhk.edu.hk/programme/postgraduate-programme/
Email: eesrpg@cuhk.edu.hk

Earth, Atmospheric & Environmental Sciences
Tackling Global Challenges of the Earth System

Global Warming



Volcanic Eruptions



Earthquakes



Tropical Cyclones



Landslides



Biodiversity Loss



And many more...

Interdisciplinary



Research spans the entire spectrum of earth system science and their interactions



Prof. Amos Pui Kuen TAI (戴沛權教授), Professor



Prof. Francis Chi Yung TAM (譚志勇教授), Associate Professor

Finding sustainable solutions to food-energy-water nexus



Prof. Benoit THIBODEAU, Assistant Professor (Joint appointment)



Prof. Shixian ZHAI (翟世賢教授), Assistant Professor

Predicting and mitigating natural hazards



Prof. Hongfeng YANG (楊宏峰教授), Professor and Head of Graduate Division



Prof. Yen Joe TAN (陳衍佐教授), Associate Professor



Prof. Yan ZHAN (詹彦教授), Ng Yin Ying Assistant Professor of Geophysics



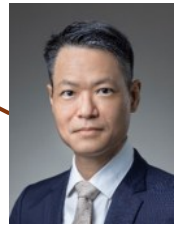
Prof. Zhen ZHANG (張振教授), Research Assistant Professor



Prof. Mijian XU (徐彌堅教授), Research Assistant Professor



Prof. Lin LIU (劉琳教授), Professor



Prof. Francis Chi Yung TAM (譚志勇教授), Associate Professor



Prof. Alex Tat Shing CHOW (周達誠教授), Chairman & Professor



Prof. Hongfeng YANG (楊宏峰教授), Professor and Head of Graduate Division

Exploring polar and extreme environments



Prof. Lin LIU (劉琳教授), Professor



Prof. Yen Joe TAN (陳衍佐教授), Associate Professor



Prof. Martin Tsz Ki TSUI (徐子祺教授), Associate Professor (Joint appointment)



Prof. Yan ZHAN (詹彦教授), Ng Yin Ying Assistant Professor of Geophysics

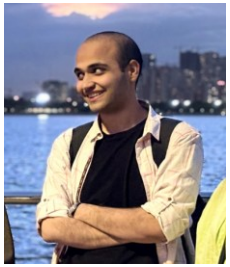
Graduate Destination
(*37 PhD & 32 MPhil* since 2014)

- **Academia**
  - ***Professors & Lecturers*** at CUHK, Hong Kong University of Science and Technology, the Chinese Academy of Sciences, Nanjing University of Information Science and Technology…
  - ***Researchers*** at University Corporation for Atmospheric Research, the Environment and Economic Policy Center affiliated with the Ministry of Ecology and Environment (PRC), Southwest Petroleum University
  - ***Postdoctoral fellows*** at MIT, University of Edinburgh, University of Texas at Austin, University of Colorado at Boulder, Purdue University, GFZ German Research Centre for Geosciences, CUHK, …
- **Government**
  - Departments such as Environmental Protection, Hong Kong Observatory
  - *Scientific Officers*, *Technical Officers*, *Experiment Officers*, *Curators*, *Outreaching Coordinators*
- **Industry**: energy, environment, education, finance, IT

Diverse Student Body













Students from nine countries/regions

50% are female

Student Life











Admission Scholarship

- **HKPFS**
- **VC PhD Fellowship**
- **Department Admission Scholarship:** HK$5000 for non-HKPFS awardees with outstanding academic records
- All full-time PhD students receive a studentship

  (~HKD $19,100 per month)

Tips For HKPFS Applicants

- Start early
  - Dec 1 deadline
  - Many materials to prepare
  - Need ample time to write a research proposal
- Contact professor to discuss proposed research
- Research proposal
  - Emphasize your strength
  - Be organized
  - Explain scientific ideas in a clear way and make it easier to understand for non-experts
  - Explain and emphasize the significance and influence of your research

“The Earth is what we all have in common.”

Thank you!



The Chinese University of Hong Kong

Department of Mathematics

&

The Institute of Mathematical Sciences

CUHK MATH

- The Department of Mathematics at CUHK was established in 1963.
- The Institute of Mathematical Sciences at CUHK was established in 1993. The director is our alumnus Prof. Shing-Tung Yau, who obtained the Fields Medal in 1982.

CUHK Math, small scale

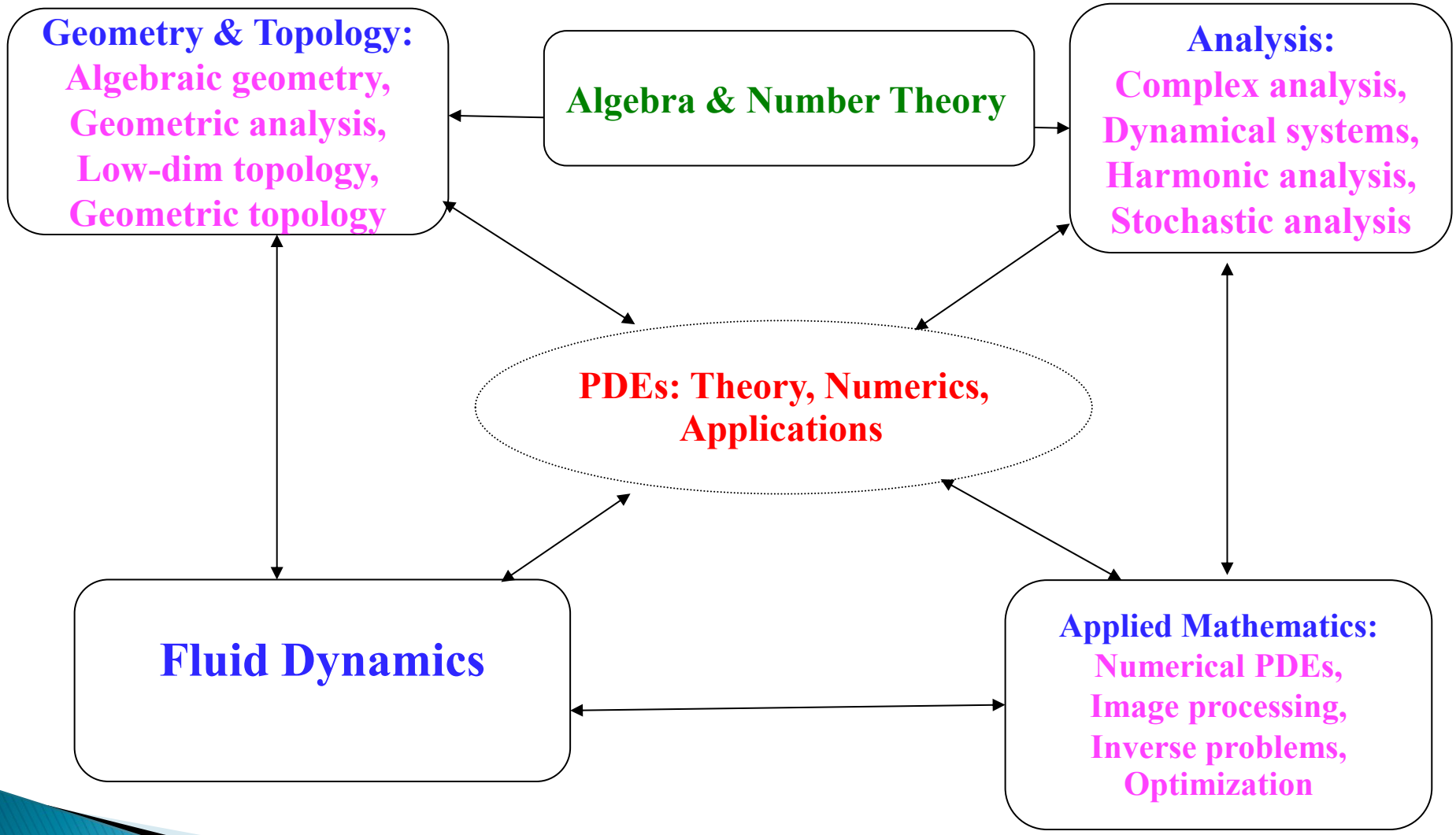
Regular Professors

Professors	16
Associate Professors	4
Assistant Professors	7

Research Graduate Program

Research Postgraduate Programme (MATH & IMS)	106 students
MPhil	19
PhD	79
Hong Kong PhD Fellowships	8

Research Areas



Research Areas

- Algebra/Number theory
  K. Chan, O. Kidwai, C. Leung, M. Matviichuk, M. McBreen, Z. Yang
- Analysis
  D. Feng, M. Lee, X. Tan, M. Matviichuk
- Computational & Applied Mathematics
  G. Choi, E. Chung, B. Jin, L. Liu, R. Lui, X. Tan, J. Zou
- Geometry and Topology
  K. Chan, S. Heller, C. Leung, Y. Lee, M. Lee, M. Li, M. Matviichuk, M. McBreen, Z. Wu, Z. Yang,
- Fluid dynamics and Partial Differential Equations
  R. Duan, C. Luo, Z. Xin, Y. Yong

CUHK Math Strength

Our faculty members received PhDs from

Harvard:	3
MIT:	1
Princeton:	2
Stanford:	3
Oxford	1

UCLA:	2
Courant Institute:	2
John Hopkins:	1
Toronto	1
Ecole Polytechnique:	1
Humboldt University:	1
IMO gold medals:	1

IMS Directors:
ST Yau
CUHK Math Alumni
Tsinghua/Harvard

ZP Xin
after 12 years
at Courant Inst

Journal Editors

- SIAM Journal on Numerical Analysis
- SIAM Journal on Scientific Computing
- Journal of Mathematical Physics
- Mathematical Models & Methods in Applied Sciences
- Mathematical Methods in Applied Sciences
- Mathematical Modeling & Numerical Analysis (M2AN)
- Inverse Problems and Imaging
- Journal of Computational & Applied Mathematics
- Journal of Differential Equations
- Journal of Dynamical and Control Systems
- Journal of Fractal Geometry
- Journal of Stochastic Processes & Their Applications
- Science China, Mathematics
- … …

Math Society Fellows

AMS Fellows (American Math Society)

- Conan Leung
- Jun Zou

SIAM Fellow (Society for Industrial & Applied Math)

- Jun Zou
- Eric Chung

Honours & Awards

- RGC Senior Research Fellow, 2026, Prof. Jun ZOU
- ICCM Silver Medal of Mathematics, 2025, Prof. Bangti JIN
- SIAM Fellow 2025, Prof. Eric Tsz Shun CHUNG
- The National Science Fund for Distinguished Young Scholars, 2024, Prof. Renjun Duan
- ICCM Silver Medal of Mathematics, 2022, Prof. Eric Tsz Shun CHUNG
- Antonio Ambrosetti Medal, 2021, Prof. Po Lam YUNG
- XPLORER Prize 2020, XPLORER Prize Foundation, 2020, Prof. Xuhua HE

For the full information, please see:
https://www.math.cuhk.edu.hk/research/honours-awards

Graduation destination

Our PhD graduates have successful careers in both academia and industry. Many of them started out as postdoctoral researchers, while others have entered various industries, making use of their training in mathematical research.

For information, please visit

https://www.math.cuhk.edu.hk/people/phd-careers

HKPFS and Scholarships

CUHK MATH has 21 HKPFS recipients since 2018.

Other Scholarship recipients in 2021-26:

- Professor Ka-Sing Lau Scholarship for Mathematics (Zhou FENG/Caiyun MA/Yuhao XIE)
- Mr. and Mrs. Chan Kwok-Kang Memorial Scholarship (Huan ZHANG/Zhipeng ZHU)
- ICCM Best Master Thesis Award, Silver Prize (Fuqun HAN)
- The CUHK Young Scholars Thesis Award (Bowen LI, Bi WANG)
- Best Thesis Award, Hong Kong Mathematical Society (Zhou Feng/Bin Wang/Bowen LI)
- Science Faculty Postgraduate Research Day 2025, Poster Presentation Award-Champion (Zhehao XU)
- HKSAR Belt and Road Scholarship 2025/26 (Nazrul ISLAM)
- NSFC Basic Research Scheme 2025 (Tianhao HU)

Postdoc Studies of PhD Graduates During 2017-2026

- Princeton University
- University of Cambridge
- Institut des hautes études scientifiques (IHES)
- University of California, Los Angeles
- Cornell University
- Rutgers University
- Texas A&M University
- Budapest University of Technology and Economics
- Duke University
- King Abdullah University of Science and Technology (KAUST)
- Korea Institute for Advanced Study
- University of Macau
- Michigan State University
- Nanyang Technological University
- Purdue University
- Uppsala University
- Westlake University

MPhil and MPhil-PhD Articulated Programmes

General Academic Qualification requirements for MPhil and MPhil-PhD Articulated Programmes:

- A bachelor's degree from a recognised university, normally with honours not lower than second class; or
- A bachelor's degree from an honours programme of a recognised university, normally with an average grade of not lower than 'B'

English Language Requirements for Admission:

- A qualifying score on any one of the following recognised English language tests;#

TOEFL	IELTS (Academic)	GMAT	GMAT Focus Edition
550 (Paper-based)/ 79 (Internet-based/Home Edition	6.5 (Test Centre based/Online)	Band 21 (Verbal)	Band 78 (Verbal)

- A degree from a Hong Kong university or a programme with English as the medium of instruction; or
- A recognised professional qualification achieved in an examination that was conducted in English

 # TOEFL and IELTS scores are considered valid for two years from the test date. GMAT scores are considered valid for five years from the test date. Some programmes may stipulate additional English language requirements for admission

MPhil and MPhil-PhD Articulated Programmes

Tuition Fee 2027/28: HK$49,500

Postgraduate Studentship Rate 2026/27: HK$19,100 per month

Study Options:

Degree	Maximum Period to fulfill Candidacy	Normative Study Period	Maximum Study Period
Master of Philosophy	/	2 years	4 years
Doctor of Philosophy (entering with a research master's degree[1])	24 months	36 months	72 months
Doctor of Philosophy (entering without a research master's degree[1])	36 months	48 months	84 months

Hong Kong PhD Fellowship Scheme (HKPFS) at CUHK

Stipend	HK$344,400 (approx. US$44,200) per year Up to HK$1.38 Million (approx. US$176,620)*
Conference and Research-related Travel Allowance	HK$14,400 (approx. US$1,850) per year Up to HK$87,600 (approx. US$11,230)*
Tuition Fee Waiver	Up to HK$198,000* (approx. US$25,390)
Lodging Award	Up to HK$100,000*# (approx. US$12,820)
Hostel Fee Waiver	1st Year Hostel Fee Waiver and Guaranteed On-campus Accommodation^*
Totalling	**Over HK$1.81 Million (~USD$232,420)** **Financial assistance during the normative study period**

* During the student's normative study period.
# An award of HK$40,000 for lodging in the first year of attendance and HK$20,000 in subsequent years during the normative study period.
^ HKPFS awardees who submit hall applications and complete registration procedures in a timely manner.

How to apply for Hong Kong PhD Fellow Scheme

- **CUHK Math very successful in HKPFS**
- **RGC Application Deadline:**
  1 Dec 2026 at 12:00nn, Hong Kong Time (GMT + 8 hours)
- **Early contact potential professor /early promise for PhD admission**
- **Discuss research project & application material**
- **Start to prepare application materials**



Thank you !

For more information, please visit

https://www.math.cuhk.edu.hk



The Chinese University of Hong Kong
Department of Physics

Postgraduate Studies in
“Physics” and “Materials Science and Engineering”
(Fall 2027 Admissions)

Department Profile (as of September 2026)

- 17 Full Professors
- 2 Associate Professors
- 8 Assistant Professors
- 5 Research Assistant Professors
- 7 Lecturers/Senior/Principal Lecturers
- 14 Technical Staff
- 11 Administrative, Clerical and Supporting Staff



Postgraduate Programmes

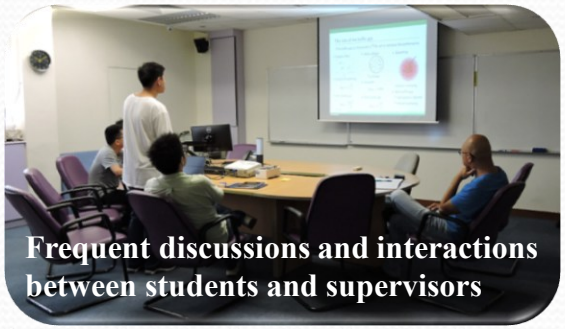
- MPhil-PhD in Physics (PHYS) [*with Financial Support*]
- MPhil-PhD in Materials Science and Engineering (MSEG) [*with Financial Support*]
- MSc in Physics [*no Financial Support*]
- MSc in Advanced Materials Science (co-hosted with the Department of Chemistry) *[No Financial Support]*

Features and Strengths

- Largest graduate student body in Physics+MSE in Hong Kong
- Intensive and diverse programme
- State-of-the-art research and participation in international collaborations *(CERN, LIGO, Daya Bay Neutrino project, etc)*
- Close supervisor-student relationship in Collaborative mode
- Many of the students' works publishable in high impact journals *(e.g.* Nature, Nature Physics, Nature Nano Technology, PRL, Advanced Materials, etc.*)*
- Financial support for conference presentations
- Excellent facilities (experimental and computational)
- Employment opportunities ranging from academic, governmental, and private sector positions

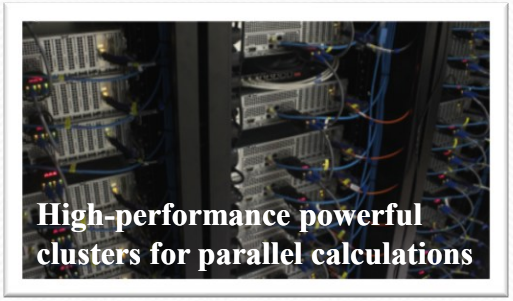


LIGO Scientific Collaboration


Frequent discussions and interactions between students and supervisors


Our students have won a number of awards and scholarships in various academic activities




High-performance powerful clusters for parallel calculations

Research Areas

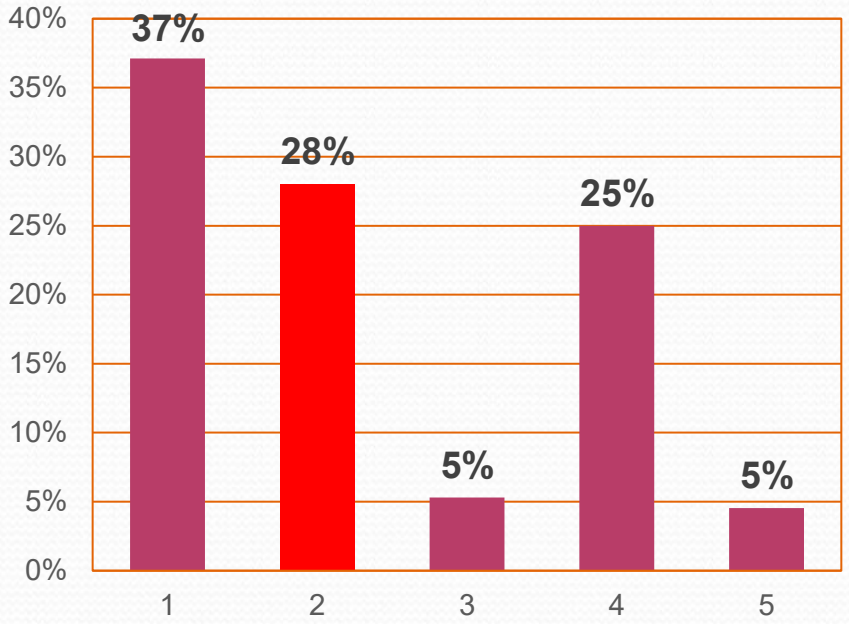
Active research groups in astrophysics, particle physics, condensed matter physics, atoms/molecules/optics (AMO), complex systems, materials science, soft/active matter, and biophysics. We offer flexible schemes to best match students and supervisors' research interests.

Astrophysics	T K Chan, Y G Chen, M C Chu, O A Hannuksela, H B Li, K C Y Ng, R B Yan
Particle Physics	M C Chu, L R Flores Castillo, K C Y Ng
Condensed Matter Physics	S K Goh, Z C Gu, C Hu, T Lan, Q Li, Y F Li, R B Liu, Q S Wang, H R Xue, Y Q Yan, J R Zhao, J Y Zhu
Quantum Physics/AMO	Q Li, R B Liu, R Z Liu, R Y Sun, D J Wang, Y Q Yan
Fluids Mechanics	E S C Ching, L Xu
Complex Systems & Networks	E S C Ching
Materials Science	C Hu, Q Li, X H Lu, D H C Ong, J F Wang, Q S Wang, H R Xue, H K Zhang, J Y Zhu
Soft Matter/Active Matter	Y L Wu, L Xu
Biophysics	E S C Ching, Y Wang, Y L Wu

Destinations After Graduation

PhD alumni in the past 10 years

Sector (total surveyed):	132
1. Academia (e.g. postdoc):	49
2. Academia (e.g. faculty):	37
3. High school/College teaching:	7
4. Industry/Business:	33
5. Government/Civil service:	6



Note: More than 60% in Cat. 1 graduated after 2019.

Destinations After Graduation

Higher Institution

Tenure track faculty and postdoctoral positions, research fellows, etc.

- US: Massachusetts Institute of Technology, Johns Hopkins University, University of Illinois at Urbana-Champaign, UC Santa Barbara, Boston College, Washington University, ...
- Europe: University of Ulm (Germany), University of Twente (Netherlands), University College London (UK), ...
- Asia: The Chinese University of Hong Kong, HKUST, Peking University, Tsinghua University, Fudan University, National University of Singapore, The University of Tokyo, National Taiwan University, ...

Commerce & Industry

Research scientists, engineers, consultants, analysts, etc.

- China: ASTRI, ClusterTech Limited, SAE Magnetics, Science Park (HK), Jinrui Futures, Bank of China, ...
- Asia: APEC Climate Center (Korea), ASM Pacific Technology Ltd. (Singapore), Sony Corporation (Japan), ...
- International: Bloomberg, Environmental Resources Management, Intel, KPMG Netherlands, EDG Inc. (US), iFire Co (Canada), ...

Government

Postdoctorals, Scientific officers, etc.

- Education Bureau (HK), Hong Kong Observatory, Department of Health (HK), Bureau of Meteorology (Australia), National Astronomical Observatory of China, National Institutes of Health (US), ...

Fees, Studentship and Scholarships

Postgraduate studentship for MPhil-PhD students:	• Regular: HKD19,100-19,660 per month (2026-27) • HKPFS awardee: HKD28,700 per month* (2026-27)
Scholarship opportunities:	• HKSAR Government Scholarship Fund • CN Yang Scholarship • Science Faculty Scholarships • Scholarships and prizes offered by the University
Annual tuition fee (2027-28): (Full-time MPhil-PhD)	• Tuition waiver for local students • HKD49,500 for non-local students
Hostel fee:	HKD2,685-4,055 per month

* Outstanding PhD applicants will be recommended to compete for Hong Kong PhD Fellowship Scheme (HKPFS) (https://cerg1.ugc.edu.hk/hkpfs). *Awardees will be provided a monthly stipend of HK$28,700 and a conference and research-related travel allowance of HK$14,400 per year.* The CUHK will offer tuition wavier to awardees and an award of HK$40,000 for lodging in the 1st year of study and HK$20,000 in the subsequent years within the normative study period.

Admission Requirements

PhD Stream

- Bachelor's or Master's degree in Physics or related disciplines (by the time of admission), with a good major GPA (typically 3.2 out of 4.0 or above) OR a good honors degree (typically Second Class Upper Division or above)
- Good Recommendations
- [Optional] Score 850 or above in GRE Subject Test *("Physics", "Chemistry", or "Mathematics"*)

MPhil Stream

- Bachelor's degree in Physics or related disciplines (by the time of admission), with a good major GPA (typically 3.2 out of 4.0 or above) OR a good honors degree (typically Second Class Upper Division or above)
- Good Recommendations

Application Periods

- *CUHK Application Deadlines (For MPhil-PhD programme):*
  - Main Round: 1 December 2026
  - Clearing Round: 31 March 2027
- *HKPFS Application*:*
  - 1 December 2026, 12:00 noon HKT (To submit an initial application to RGC)
  - 1 December 2026, 11:59 pm HKT (To submit full application to CUHK)

* Applicants applying to HKPFS should first submit an initial application through the HKPFS application system and obtain a “Reference Number”. Applicants should then submit full application through CUHK’s application system and quote the “Reference Number”.

Application Procedures (MPhil-PhD Programme)

- Information and Project lists 2027-28:
  - Physics (PHYS): *https://wp.phy.cuhk.edu.hk/postgraduate-admissions/mphil-phd-in-physics*
  - Materials Science & Engineering (MSEG): *https://wp.phy.cuhk.edu.hk/postgraduate-admissions/mphil-phd-in-materials-science-engineering*
- Completion of application form on Internet:
  - CUHK's application system: *https://www.gs.cuhk.edu.hk/admissions/how-to-apply*
  - HKPFS application system: *https://cerg1.ugc.edu.hk/hkpfs/apply.html*
  - Write down at most five (PHYS) or three (MSEG) project numbers in order of preference in the field "Field of study" under Part I of the application form.
  - Before making selections, potential applicants should contact the individual professors to find out more about their research, their group and what kind of students they are looking for.
- E-mail will be sent to applicants within 1 week after submission of application. Follow the instructions in the e-mail and submit required documents (e.g. copy of official transcript, recommendations, CV, etc.) to our Division.

Application Procedures (MPhil-PhD Programme) *(cont'd)*

- PhD Stream: Entrance examination for shortlisted applicants will be held in December 2026 and February 2027. Invitations will be sent by email in due course.
- MPhil Stream: Interview will be arranged for shortlisted applicants by individual professors.
- Admission offers will be sent to successful applicants via e-mail.
- Enquiries:
  - *pgadm@phy.cuhk.edu.hk* (PHYS)
  - *pgadm-mse@phy.cuhk.edu.hk* (MSEG)

Physics Postgraduate Student Society

- ★ Organizes and promotes academic and recreational activities (e.g. student conference, BBQ, pizza evening, movie night, boat trip, etc.)





Boat trip



Physics Student Conference co-organized by the Postgraduate Student and Undergraduate Student Societies

香港中文大學
The Chinese University of Hong Kong



Department of Statistics and Data Science

The Chinese University of Hong Kong



Department Overview

- 27 Faculty Members
  - 10 Professors
  - 4 Associate Professors
  - 4 Assistant Professors
  - 9 Research Associate Professor and Lecturers

- 83 RPg Students
  - 70 PhD students
  - 13 (RMSC for 9; STAT for 4) MPhil students

Focused Research Areas

Biostatistics and Bioinformatics

LIN, Yingxin 林穎欣



Statistical Genomics

SONG, Xinyuan 宋心遠



Longitudinal Data Analysis

FAN, Xiaodan 樊曉丹



Statistical Genomics

SIT, Tony 薛賢鴻



Survival Analysis

YAM, Phillip 任尚智



InsurTech

WEI, Yingying 魏穎穎



Statistical Genomics

LIN, Zhixiang 林志翔



Statistical Genomics

ZHU, Huichen 朱慧晨



Survival Analysis

Focused Research Areas

LIN, Yingxin 林穎欣



Big Data, Statistical Machine Learning

WANG, Junhui 王軍輝



Statistical Machine Learning

SONG, Xinyuan 宋心遠



Statistical Computing

WONG, Hoi Ying 王海嬰



Statistical Machine Learning

YAM, Phillip 任尚智



Deep Learning

LIN, Yuanyuan 林媛媛



High Dimensional Inference

XIA, Dong 夏冬



Machine Learning and Optimization

DAI, Ben 戴奔



Statistical Machine Learning

Intelligent Statistical Computing and Machine Learning

FAN, Xiaodan 樊曉丹



Statistical Modeling and Computing

WEI, Yingying 魏穎穎



Big Data

LIN, Zhixiang 林志翔



Big Data

LI, Gen 李根



Statistical Machine Learning

ZHU, Huichen 朱慧晨



Statistical Machine Learning

Focused Research Areas

YAM, Phillip 任尚智



Mathematical Finance

SIT, Tony 薛賢鴻



Risk Management and Statistical Finance

Crisis and Risk Management Technology

WONG, Hoi Ying 王海嬰



Financial Risk Analysis

ZHANG, Jiacheng 張嘉成



Mathematical Finance

CHAN, Kin Wai 陳健威



Risk Management and Multiple Imputation

LI, Gen 李根



Statistical Machine Learning

Focused Research Areas

YAU, Chun Yip 邱俊業



Time Series and Change-Point Analysis

SIT, Tony 薛賢鴻



Network Modelling

High Dimensional Time Series and Change Point

CHAN, Kin Wai 陳健威



Time Series

FANG, Xiao 方笑



Change-point Analysis

Graduation Destination

Many PhD alumni hold faculty positions at world-leading universities:

THE UNIVERSITY of NORTH CAROLINA at CHAPEL HILL

PURDUE UNIVERSITY

YORK UNIVERSITÉ UNIVERSITY

THE UNIVERSITY OF TENNESSEE KNOXVILLE

NANYANG TECHNOLOGICAL UNIVERSITY SINGAPORE

香港中文大學 The Chinese University of Hong Kong

THE HONG KONG POLYTECHNIC UNIVERSITY 香港理工大學

FUDAN UNIVERSITY 1905

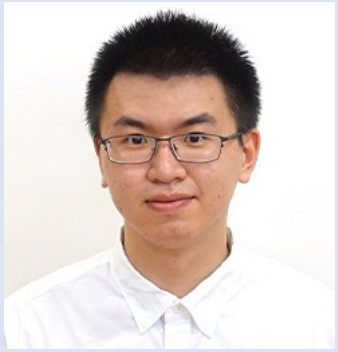
ZHEJIANG UNIVERSITY 1897

RENMIN UNIVERSITY OF CHINA 1937

SUN YAT-SEN UNIVERSITY

SOUTHERN UNIVERSITY OF SCIENCE AND TECHNOLOGY

Selected Graduate Achievements



Former PhD student **Dr. Wu Zhihao**

- 2024 American Statistical Association Biometrics Section Travel Award



Former PhD student **Dr. Shen Guohao**

- currently an Assistant Professor in The Hong Kong Polytechnic University
- 2024 Hong Kong Statistical Society John Aitchison Prize in Statistics



Former PhD student **Dr. Zhang Wenyu** and his team

- the champion in Cloud Track of the Huawei ICT Competition (Asia-Pacific Region)
- the champion with his teammates in the Huawei ICT Competition 2022-2023 Hong Kong SAR and achieved the highest score among 600 participants

RPg Student Life







HKPFS and Scholarships

HKPFS at CUHK

Hong Kong PhD Fellowship Scheme (HKPFS)

CUHK Vice-Chancellor HKPFS Scholarship



Stipend

HK$337,200 (approx. US$43,230) per year
Up to HK$1.34 Million (approx. US$172,930)*



Conference and Research-related Travel Allowance

HK$14,000 (approx. US$1,800) per year
Up to HK$86,000 (approx. US$11,030)*



Tuition Fee Waiver

Up to HK$190,500*
(approx. US$24,430)



Lodging Award

Up to HK$100,000*#
(approx. US$12,820)



1st Year Accommodation Fee Waiver and Guaranteed On-campus Accommodation^*



Dos and Don'ts

- Hold Bachelor and/or Master degrees from top universities
  - Top 100 worldwide (QS World, THE World, ARWU University rankings)
  - or 985 project from Mainland China
- Excellent GPA (3.6+ out of 4 or equivalent)
- Good English proficiency test results for non-native English-speaking degree holders
- International exposure
- Research experience is a plus (1st or 2nd author of SCI publications)
- Leadership experience is a plus
- Contact your potential supervisor



HKPFS and Scholarships

Application Process

1 Sep – 1 Dec 2024

Step 1

- Make an initial application to the RGC through RGC's website to obtain an HKPFS Reference Number [PF24-XXXXX].
- Each applicant should only submit one initial application. Each applicant may choose up to two programmes in each application.

Note: In cases that an applicant is nominated by two universities, the RGC will only process the nomination tendered by the university for which the applicant has indicated priority and subsequent award of fellowship by the RGC will also be according to the indicated priority of the applicant. In view of the above, applicants who would like to pursue studies at CUHK should state CUHK as the first choice as they make their applications to the RGC.

RGC application deadline:

1 Dec 2024 at 12:00nn
(GMT +8, Hong Kong Time)

Step 2

- Submit a full application to CUHK through the CUHK Online Application System quoting the HKPFS Reference Number.

Important: Applicants who have chosen two CUHK programmes in the RGC's initial application (Step 1) are reminded to submit a separate application for each programme at CUHK.

CUHK application deadline:

1 Dec 2024 at 11:59pm
(GMT +8, Hong Kong Time)



HKPFS and Scholarships

- Divisions successfully admitted multiple **HKPFS students** every year

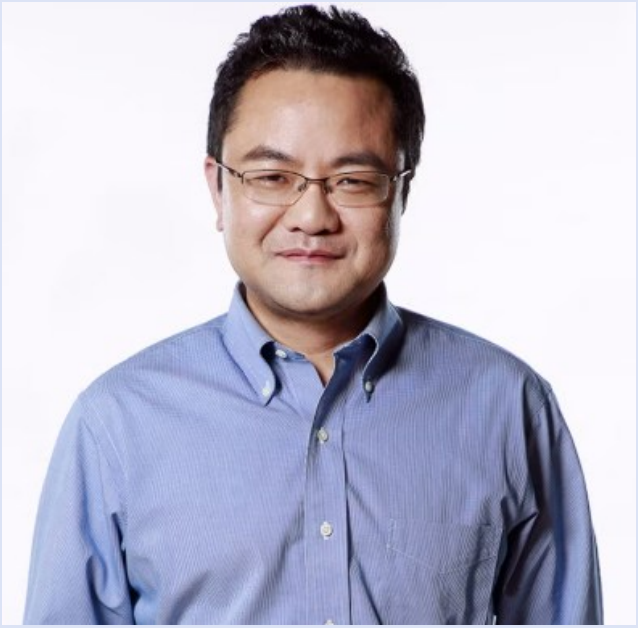
- **Research Postgraduate Student Grant for Conferences or Workshops** with up to **HK$15,000 per year** for RPg students to make presentations at international conferences

- **PhD Oversea Exchange Award** with up to **HK$50,000** for PhD students to undertake short-term research related to their thesis at **top universities or research institutes in the world**

- **Best Teaching Assistant Award (HK$1,000)**
- **Research Achievement Award (HK$1,000)**

Outstanding Alumnus- Prof. Hongtu Zhu

- **PhD in Statistics, The Chinese University of Hong Kong, 2000**
- **Research Expertise:** Biostatistics, Statistics, Radiology, Computer Science, Genetics
- **Publications:** 345+ papers in top-tier journals



Kenan Distinguished Professor
Department of Biostatistics
UNC Chapel Hill

🏆 **Distinguished Achievement Award** (2025)
International Chinese Statistical Association (ICSA)

🏆 **IEEE Fellow** (2025)
The Institute of Electrical and Electronics Engineers

🏆 **Kenan Distinguished Professorship** (2025)
University of North Carolina Chapel Hill

🏆 **Snedecor Award** (2025)
Committee of Presidents of Statistical Societies (COPSS)

🏆 **Science Faculty Distinguished Alumni Award** (2025)
The Chinese University of Hong Kong (CUHK)

- **2018-2020**

Chief Scientist of Statistics at DiDi Chuxing

- **2016-2018**

Endowed Bao-Shan Jing Professorship at MD Anderson Cancer Center



Thank You!

CUHK

RMSC

M.Phil. in Risk Management Science

Info Session 2026

Department of Statistics and Data Science, The Chinese University of Hong Kong



Department of Statistics and Data Science
THE CHINESE UNIVERSITY OF HONG KONG

Overview

- **Industry Relevance & Demand:**
  Driven by past financial crises, robust risk management has become vital in modern investment environments, creating a high demand for specialized talent.

- **Rigorous Quantitative Foundation:**
  Grounded in statistics, offering a highly scientific, quantified, and methodological approach to risk analysis.

- **Theory Meets Practice:**
  Bridges core theoretical knowledge with real-world applications to train aspiring risk management professionals.

- **Global & Local Impact:**
  Equips graduates with cutting-edge expertise to assume leadership roles across industries in Hong Kong and worldwide.



Curriculum & Requirements

- **Total Coursework:** 30 units across **two years of study**.

- **Year 1 Curriculum:**
  - Core modules: RMSC5003 (Risk Measures), RMSC8206 (Thesis Research), and STAT 5010 (Advanced Statistical Inference).
  - One approved elective at the 5000-level or above.

- **Year 2 Curriculum:**
  - Research/thesis modules: RMSC8301 and RMSC8302.
  - RMSC5004 or another approved elective at the 5000-level or above.

- **M.Phil. Thesis and Oral Defence**

Research Areas

- Risk theory and risk measures
- Time series, statistical modelling of stochastic processes
- Portifolio optimisation
- Fixed income modelling, credit risk and market risk
- Pricing of risky claims
- Actuarial science
- Financial data analytics and machine learning
- Deep learning in Finance


Prof. Hoi Ying Wong


Prof. Chun Yip Yau


Prof. Jiacheng Zhang


Prof. Phillip Sheung Chi Yam


Prof. Keith Kin Wai Chan


Prof. Tony Sit

Student Life, Financial Supports and Outlets

- **Full student financial support for 2 years: HK$229,200 (approx. US$29,400)** ***per annum***.
- Teaching assistant duties
- Additional remuneration for extra teaching services
- Conference support

Further Education (Ph.D.)

Industry Pathway



For inquiries, please email us at statrpg@cuhk.edu.hk

Disclaimer: The information, data, figures, projections, and other content contained within this presentation (collectively, the "Content") are accurate and valid as of October 2026. The Content is proprietary and confidential to the programme and is intended solely for the use of the authorized recipients of this presentation. No part of the Content may be reproduced, copied, modified, distributed, transmitted, or disclosed, in whole or in part, to any third party without the express prior written consent of the programme's duly authorized representatives. Any unauthorized use, reproduction, dissemination, or disclosure of the Content is strictly prohibited. The programme retains all rights, title, and interest in and to the Content, including all intellectual property rights. Recipients of this presentation are expressly cautioned that the Content is provided for informational purposes only and should not be relied upon for any other purpose without independent verification. The programme assumes no liability for any errors or omissions in the Content or for any actions taken in reliance thereon. All recipients are hereby notified that any use of the Content beyond the scope of its intended purpose, as determined by the programme, is at their own risk.

COPYRIGHT © RMDA. ALL RIGHTS RESERVED.

Department of Statistics and Data Science