

SHKU FACULTY OF SCIENCE
Science THE UNIVERSITY OF HONG KONG
香港大學理學院

Bachelor of Science (BSc) & Master of Research (MRes)

SCIENCE MASTER CLASS



Is this Programme for You

Eliteness: *We understand the learning pace and needs of highly able students might be different – they are quick learners who can usually accomplish more than expected, and therefore a standard pedagogical routine might not be an ideal option for them.*

Why this Programme



Provides a fast-track of study for talented students: **completing 2 degrees at an accelerated pace**



Allows research-aspired students to immerse themselves in an **authentic research environment** and learn from researchers with diverse backgrounds



Caters specifically to the needs of science-inclined students, with **more learning opportunities, intensive training and inspirations**



Incubates the next generation of dynamic scientists who are able to **translate scientific knowledge into practical applications** with far- and wide-reaching impacts

World Rankings of HKU



#11

World University Rankings 2027

#1

Asia University Rankings 2026

#2

World Employability and Opportunities Rankings 2026



#3

Most International Universities in the World 2026

#32

Interdisciplinary Science Rankings 2026

#33

World University Rankings 2027

#6

Asia University Rankings 2026

Eminent Subject Rankings



#47

Life Sciences

#37

Physical Sciences



#28

Life Sciences & Medicine

#58

Natural Sciences

Top-notch Scientists

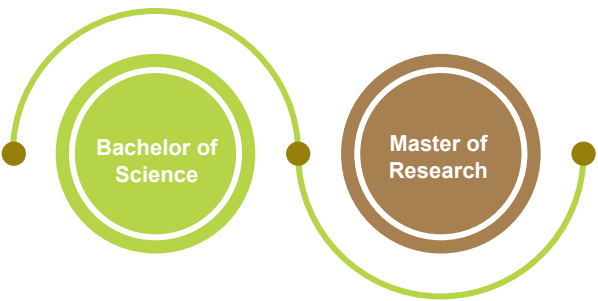
20.8% of our professoriate staff are classified Top 1% scholars in average over the past decade (Clarivate Analytics' Essential Science Indicators)

International Environment

About **35%** of academic staff in the Faculty are from overseas

WHAT the Programme Covers

Fast-track for completing 2 degrees



Remarks: Students in the programme have to maintain a high CGPA to remain in this double degree programme; otherwise, they will be required to transfer to the 6901 BSc programme.

Learning from Science Masters

Grand Masters through special tutorials



Masters as academic advisers

Catering the needs of elite students

Disciplinary-based intensive study for research-aspired students

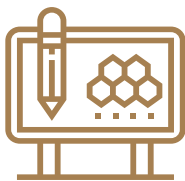


Ample opportunities available in our flagship Young Scientist Scheme (YSS) including



- Summer Research Fellowship (SRF)
- Overseas Research Fellowship (ORF)
- Entrance Scholarship
- Exchange Study

Research-oriented



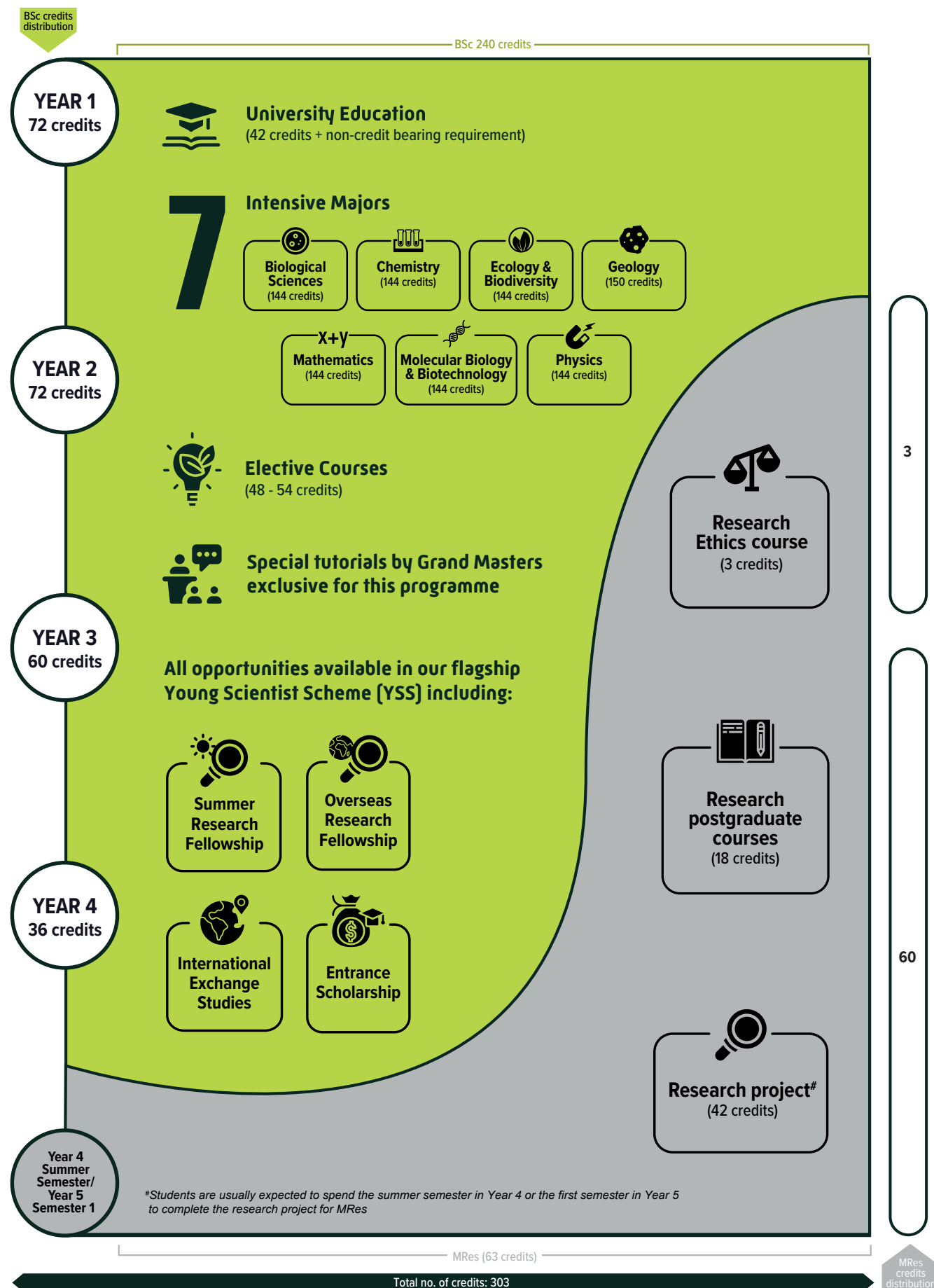
Research postgraduate courses and projects to enhance the students' frontier scientific knowledge and research skills

WHAT You will Learn

Programme Information	BSc	MRes
Study load 303 credits for 2 degrees	240 credits	63 credits
Class schedule	Full-time	
Academic advising	• Students in the programme will be given individual advice to properly plan their studies • Each student will be assigned an academic adviser at the start of the study to guide them through the whole study	
Tuition fees*	HKD 49,500 per year (local) HKD 280,000 per year (non-local)	HKD 120,000*

*Tuition fee for the MRes programme: to be paid from Year 3 in 4 installments; scholarships will be provided to cover 50% of the tuition fee of the MRes programme
*Subject to review

WHAT You will Learn



WHO should Join this Programme

Students who would like to:



be future masters of science



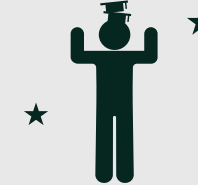
go onto higher degrees either in HKU or overseas



conduct research during both their undergraduate and master level studies



obtain a diversity of experience by learning from the Grand Masters and Masters



complete 2 degrees at an accelerated pace



enjoy all privileges YSS has to offer

WHERE this Programme will Lead You to



Professional recognition

- Some of the Intensive Majors fulfil the accreditation requirements of various societies in the UK



International Accredited Degree

Biological Sciences (Intensive)
Ecology & Biodiversity (Intensive)
Molecular Biology & Biotechnology (Intensive)



Chemistry (Intensive)



Geology (Intensive)

- Provides an accelerated route to achieve the professional qualification with completion of the programme and fulfilment of specific project requirement



Career development & network

- Nurtures students who intend to pursue research in science
- After completing the BSc and the MRes Programme, students will be fully equipped to further pursue graduate studies in prominent university overseas or in HKU
- Builds a consortium of young researchers for cross fertilisation of innovative ideas and facilitates possible multidisciplinary projects



Transferable skills

- Provides students with extensive subject knowledge and specialised training
- Nurtures a scientifically literate population to formulate solutions for research challenges



Professor
Xuhua HE



Professor
Chi Ming CHE



Professor
Ngaiming MOK



Professor
Vivian Wing Wah YAM



Professor
Hà Văn VŨ



Professor
Ferenc KRAUSZ



Professor
Qiang ZHOU



Professor
Sir Andre GEIM

Our Grand Masters

Skills alone would not make one succeed. It is the attitude, visions and efforts that set one's direction. Learn from the wise and broaden your horizon.



Professor
Wang YAO



Professor
Bing ZHANG



Professor
Bảo Châu NGÔ



Professor
Alice Sze Tsai WONG



Professor
Guochun ZHAO



Professor
Shuang ZHANG



Professor
Nicolas DAUPHAS



Professor
Hongjie DAI

We have renowned scientists serving as Grand Masters in the programme, including:

- Awardees of International/National Awards/Prizes, including Nobel Prize and Fields Medal
- Members of Chinese Academy of Sciences, Hong Kong Academy of Sciences, and Hong Kong Young Academy of Sciences
- International Members of National Academy of Sciences USA and a Foreign Member of Academia Europaea
- A number of highly cited scientists

Professor Chi Ming CHE

Chair Professor of Department of Chemistry

Zhou Guangzhao Professor in Natural Sciences

As an Elected Member of the Chinese Academy of Sciences, the first Hongkonger to receive a First-class Prize of the State Natural Science Award and recipient of numerous awards in international academic arena including International Member of the US National Academy of Sciences, Professor Che’s pioneering study on synthetic chemistry shapes the culture of local research community. Steering the direction of profound research like Laboratory for Synthetic Chemistry & Chemical Biology and State Key Laboratory of Synthetic Chemistry, his wisdom can definitely inspire one’s heart.

Professor Hongjie DAI

Chair Professor of Department of Chemistry

Sapientia Eminence Professor

Professor Dai’s research spans chemistry, physics, materials and biomedical sciences, leading to materials with properties useful in electronics, energy storage and biomedicine. Recent developments include near-infrared-II fluorescence imaging, ultra-sensitive diagnostic assays, a fast-charging aluminum battery, alkali metal/Cl₂ batteries and inexpensive electrocatalysts that split water into oxygen and hydrogen fuels. Among many awards, Professor Dai has been recognised with the ACS Pure Chemistry Award, APS McGroddy Prize for New Materials, Julius Springer Prize for Applied Physics and Materials Research Society Mid-Career Award. He has been elected to the American Academy of Arts and Sciences, National Academy of Sciences (NAS), National Academy of Medicine (NAM) and Foreign Member of Chinese Academy of Sciences.

Professor Nicolas DAUPHAS

Chair Professor of Cosmochemistry

Department of Earth and Planetary Sciences

Professor Dauphas is the Chair of Cosmochemistry at HKU and a member of the US National Academy of Sciences. He uses high-precision isotope geochemistry on meteorites, lunar samples, and terrestrial rocks, and have contributed to several space sample-return missions. His discoveries include dating the age of the Galaxy; determining when the lunar magma ocean solidified; establishing Mars’s early age and status as a stranded planetary embryo; unraveling the iron biogeochemical cycle in Earth’s early oceans; reconstructing the composition of Earth’s emerged lands through time; showing Earth’s time-invariant accretion; and advancing theories of stable isotopic fractionation and lattice dynamics.

Professor Sir Andre GEIM

Chair Professor of Department of Physics

2010 Nobel Laureate in Physics

Professor Geim has received numerous international honours, including the 2010 Nobel Prize in Physics. He is a member of the British, Chinese and American academies of sciences, among others, and has been repeatedly named among the world’s most cited scientists. His publication record includes fifty papers exceeding 1,000 citations and ten surpassing 10,000. Two of these are among the 100 most cited research papers in human history, according to the journal *Nature*. He is credited with opening three new research fronts – diamagnetic levitation, gecko tape and graphene. Professor Geim has been knighted by both the Dutch and British monarchs and holds the unique distinction of being the only person to have received both a Nobel Prize (for graphene) and an Ig Nobel Prize (for diamagnetic levitation).

Professor Xuhua HE

Chair Professor of Department of Mathematics

Professor He is a mathematician working at the intersection of arithmetic geometry and representation theory. His research seeks to uncover the fundamental symmetries that bridge natural elegance and mathematical truth. His contributions have been recognised with several prestigious awards, including the Chevalley Prize in Lie Theory, the Morningside Gold Medal in Mathematics, and the Xplorer Prize. He is a New Cornerstone Investigator, a Fellow of the American Mathematical Society, and was an invited speaker at the International Congress of Mathematicians. Professor He also serves as the Vice-President of the International Mathematical Union (IMU), and the President of the Hong Kong Mathematical Society.

Professor Ferenc KRAUSZ

Chair Professor of Laser Physics, Department of Physics

2023 Nobel Laureate in Physics

Professor Krausz is a trailblazer in attosecond science, the field that captures electron motion in unimaginably small fractions of time. In the early 2000s, he led the team that produced the first isolated attosecond light pulses, a breakthrough that opened a new window into the hidden world of atomic and molecular dynamics. His work has transformed ultrafast physics and is driving advances in materials research, clean energy, and medical diagnostics. At Ludwig Maximilians University Munich and the Max Planck Institute of Quantum Optics, Professor Krausz established Attoworld, a hub for pushing the boundaries of this frontier science. His pioneering contributions have earned global recognition, including the King Faisal International Prize for Science, the Wolf Prize in Physics, the BBVA Frontiers of Knowledge Award, and the 2023 Nobel Prize in Physics.

Professor Ngaiming MOK

Chair Professor of Department of Mathematics

Edmund and Peggy Tse Professor of Mathematics

Director of Institute of Mathematical Research

As a top-notch mathematician who has resolved many classic math problems, Professor Mok has been the leading figure and the brain of HKU Institute of Mathematical Research for years. Among his recent professional accolades, Member of the Chinese Academy of Sciences, State Natural Science Award, Member of the Hong Kong Academy of Sciences, Future Science Prize, Tan Kah Kee Science Award and Chern Prize are some of the representative ones. He appreciates the aesthetics of mathematics, which young intellectuals will find his “mathematics-as-life” attitude enlightening.

Professor Bảo Châu NGÔ

Chair Professor of the Department of Mathematics

2010 Fields Medallist

Professor Ngô is a mathematician in number theory and representation theory. Born in Hanoi, he studied at Université Paris 6 and the École Normale Supérieure, and completed his PhD at Orsay under Gérard Laumon. He joined the University of Chicago in 2010, after posts at Orsay and the Institute for Advanced Study, Princeton. In 2010, he became the first Vietnamese mathematician to be awarded the Fields Medal for the fundamental lemma. His honours include the Clay Research Award (2004), Oberwolfach Prize (2007), Sophie Germain Prize (2007), election to the American Academy of Arts and Sciences (2012) and the French Academy of Sciences (2016).

Professor Hà Văn VŨ

Chair Professor of the Department of Mathematics

Professor Vũ is a world-leading mathematician in combinatorics, probability and random matrix theory. He earned his PhD from Yale in 1998 and later became a professor there. He solved landmark problems, including the Erdős–Folkman problem and the Shamir conjecture, and established the circular law and the four moment theorem for random matrices, foundations that have influenced fields from quantum physics to AI. His honours include the George Pólya Prize (2008), the Delbert Fulkerson Prize (2012), and an invited lecture at the International Congress of Mathematicians (2014).

Professor Alice Sze Tsai WONG

Chair Professor of School of Biological Sciences

Associate Vice-President (Research)

Professor Wong is a knowledgeable biologist who leads a team of scientists studying cell adhesion and signal transduction in cancer. She is a recipient of the RGC Senior Research Fellowship and also the Croucher Foundation Senior Research Fellowship. Using new techniques and innovative methodologies, her recent research endeavour to unravel the precise mechanism of cell adhesion dynamics pertinent to cancer development and metastasis, aiming to provide insights for the development of new therapies for highly malignant and rapidly lethal human cancers.

Professor Vivian Wing Wah YAM

Chair Professor of Department of Chemistry

Philip Wong Wilson Wong Professor in Chemistry and Energy

Vice-President & Pro-Vice-Chancellor (Global Innovation Centre) (Interim)

Not only can we learn from Professor Yam of her innovative and frontier research, her resilience and values also inspire us on how to stay focused and insist on quality and excellence. Despite the many recognitions she has received, such as State Natural Science Award, Elected Member of Chinese Academy of Sciences, International Member of the US National Academy of Sciences, Laureate of L'Oréal-UNESCO Awards For Women in Science, Bailar Medal, and Josef Michl American Chemical Society (ACS) Award in Photochemistry, etc., she remains committed in pursuing and passing on knowledge and does not let go of chances to inculcate values to the young ones. Professor Yam is also the President of The International Organisation for Chemical Sciences in Development (IOCD).

Professor Wang YAO

Chair Professor of Department of Physics

Professor Yao is a condensed matter physicist. His current research interest lies in 2D materials, and has played a decisive role in creating an important new research direction—valley optoelectronics, which aims to exploit valley, a quantum degree of freedom of electron, in future optoelectronic devices. He is a New Cornerstone Investigator, Fellow of American Physical Society and Optica. He has also received RGS Senior Research Fellowship, Croucher Senior Research Fellowship, Tencent Xplorer Prize, Huang Kun Prize, Nishina Asia Award, and has been named by Clarivate Analytics as “Highly Cited Researchers” since 2018.

Professor Bing ZHANG

Chair Professor of Department of Physics

Global STEM Scholar

Professor Zhang is Chair Professor of Astrophysics in the Department of Physics and an elected fellow of the American Physical Society. He has published over 600 refereed papers and is one of the “highly ranked scholars in astronomy during lifetime” identified by ScholarGPS. He serves in a leadership role in projects involving China's FAST radio telescope, the Einstein Probe space mission, and the Chinese-French SVOM mission. Professor Zhang's research has revolutionised our understanding of black holes, neutron stars, and astrophysical jets.

Professor Shuang ZHANG

Chair Professor of Department of Physics

Interim Head of Department of Physics

Professor Zhang specialises in photonics, particularly in the area of metamaterials. His notable contributions include the first demonstration of geometric phase for harmonic generations, the pioneering of optical negative index materials, and the implementation of topological photonics using metamaterials. He has been recognised as a “Highly Cited Researcher” by Clarivate Analytics from 2018 to 2025 and is a Fellow of the American Physical Society and Optica. Professor Zhang has received prestigious awards, including the New Cornerstone Investigator Program, Royal Society Research Merit Awards, and IUPAP Young Scientist in Optics.

Professor Guochun ZHAO

Chair Professor of Department of Earth and Planetary Sciences

Mok Sau-King Professor

Professor Zhao has a clear mind in the face of challenges on his research of metamorphic petrology, Precambrian geology and supercontinents. His perseverance makes him the holder of many prestigious honours—Member of Chinese Academy of Sciences, National Natural Science Award (First-class, co-winner), State Natural Science Award (Second-class, co-winner), HKU Distinguished Research Achievement Award, and named by Clarivate Analytics as “Highly Cited Researcher” for a decade in a row.

Professor Qiang ZHOU

Chair Professor of School of Biological Sciences

Dean of Faculty of Science

Professor Zhou is a molecular biologist renowned for elucidating viral–host interactions and the regulation of HIV gene expression. He received his PhD from UCLA in 1992, completed postdoctoral work at MIT, and joined UC Berkeley in 1997, rising to Professor in 2007, before moving to HKU Science. His group identified and characterised human proteins that control host and HIV transcription, with influential papers in top journals. As a dedicated mentor, he trained trainees now lead labs and hold industry roles. Service highlights include NIH AMCB membership, Cell & Bioscience editorship, industry consultancy, and directing the Tang Distinguished Scholarship Programme.

Hear from Our Students

“Stepping into the crisp air of Stockholm, Sweden, for Nobel Week was more than an academic field trip, it marked a turning point in how I see my future in physics. As a student in the Science Master Class at HKU, I took on a dual role: an eager participant immersed in world-class physics and a student leader guiding a group of Hong Kong high schoolers throughout the programme. This unique vantage point allowed me to deepen my own scientific understanding while witnessing the “spark” of discovery ignite in the next generation.

One of the most memorable experiences was attending the Nobel lectures and the Nobel Week Dialogue. Listening to Nobel laureates reflect on their discoveries and decades-long careers was both humbling and inspiring. As a physics student, I often find myself absorbed in problem sets and examinations, but hearing these stories was a powerful reminder that true scientific progress begins not with answers, but with meaningful questions and the courage to explore the unknown. The dialogue sessions also highlighted the deep connection between science and global

** An exclusive opportunity for selected SMC students.*

“During my first two years at HKU, I assisted with research on ants and butterflies. After joining the Global Change and Tropical Conservation Lab, I completed my SRF on spiders and have been working as a student Research Assistant on a light pollution project in the lab. Through these three research experiences, my understanding of ecology and biodiversity has deepened, bringing me one step closer to my dream of becoming a researcher. To complement my hands-on research, I also attended a series of master tutorials by the Grand Masters, from which I acquired fascinating transdisciplinary knowledge and valuable research methods. I hope one day I can devote myself to ecology research and help protect the beautiful yet delicate natural world.”

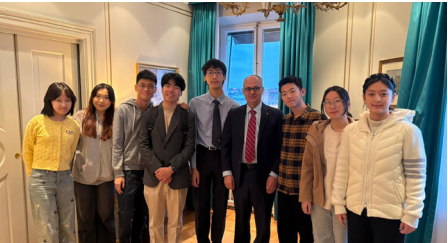
Chester GUO

BSc&MRes Year 4 student
Summer Research Fellowship
participant



challenges, demonstrating how scientific research is intertwined with society's broader needs.

I am grateful to the HKU Admissions Office and the Faculty of Science for making this experience possible*. More importantly, the journey has reinforced my commitment to carrying forward the spirit of curiosity, collaboration, and responsibility that defines the scientific community.”



Gordon WONG

BSc&MRes Year 5 student
Summer Research Fellowship
Overseas Research Fellowship
Participant of the Nobel Week Tour
in Stockholm, Sweden



“During my Summer Research Fellowship, I explored how probiotic therapy can fight liver cancer by studying its effects in mouse models. It was incredible to contribute to developing cutting-edge treatments. Later, as part of my Overseas Research Fellowship in Denmark, I worked on engineering aquaporin, a special protein that transports water, to recycle organic waste from sewage. We experimented with mutations to see if it could transport amino acids and carbohydrates, potentially turning it into a revolutionary waste-recycling tool. These hands-on experiences sparked my passion for research—I love designing experiments and uncovering new insights. They've also cemented my dream of pursuing a career in the lab, where I can keep discovering and innovating.”

Dorothy TSANG

BSc&MRes Year 4 student
Summer Research Fellowship &
Overseas Research Fellowship
participant



ADMISSIONS Requirements & Applications

JUPAS Applicants

- Students in local secondary schools taking the Hong Kong Diploma of Secondary Education Examination (HKDSE) should apply through JUPAS.
- Minimum requirements:

 English Language	 Chinese Language	 Mathematics	 Citizenship and Social Development	 Elective Subjects
Level 3	Level 3	Level 4	Attained	Level 3 in 2 Sciences [#] or Level 3 in M1/M2 & 1 Science [#]

[#]Science elective subjects: Biology, Chemistry or Physics

Non-JUPAS Applicants

Non-JUPAS applicants will be considered on a case-by-case basis.

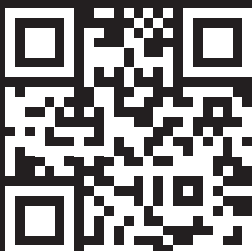
In general, excellent results in Mathematics and Science subjects are required.

Further Information

Programme
website



HKU
Undergraduate
Admissions



Faculty of Science

 <https://www.scifac.hku.hk/>

 (852) 3917 2683  sci.ug.admission@hku.hk

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