

80

Glorious Years
of Home
to Science



A
GLANCE
AT
HKU
SCIENCE

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MESSAGE FROM THE DEAN

Thank you for your interest in HKU's Faculty of Science, this is our 80th anniversary year and we are pleased to present this booklet to showcase the activities of the Faculty.

The Faculty is currently home to over 3,000 students and 180 academic staff, which makes us one of the larger faculties of this university. You can see then that we have come a long way since our founding in 1939, we had a rather slow start with the Second World War coming to Hong Kong soon after our founding. In those early, war years we graduated just three students; now we have over 23,000 alumni from more than 50 countries. Today our students study in a four-year curriculum across a diverse set of majors, but also taking advantage of the inter-disciplinary opportunities for study that exist across the whole of HKU. Our academics are world-leading: we have academicians from multiple science academies, and about one in six of our academics are rated as top 1% scholars in their fields. Our inventions and patents in a wide range of areas, from plant science to organic electronics, have been widely used to benefit industry and society. I have been proud to be the Dean of Science since 2016. While we should not be complacent, I hope that you will agree that the Faculty of Science is doing well. We would love to do even better of course, and if you are in a position to assist us in any manner we would be very pleased to hear from you.

As we mark our 80th year in 2019 we look forward, with great eagerness, to the next phase of our development.



Professor Matthew R Evans
Dean of Science

“The Faculty of Science aims to be pre-eminent in Hong Kong, leading in Asia and highly competitive globally across research, teaching and knowledge exchange. Research and teaching are our roots and foundations. We strive for excellence in both, and take the lead to be a pioneer of knowledge exchange. We endorse the belief that science creates impact.”

OUR '3+1' Is

Seeing great potential in interdisciplinary base, the University advocates making impacts and influences in the global arena through the proposition of “3+1 Is”. The Faculty sees it a chance to upgrade ourselves and make real impacts to the community. We take hold of opportunities, catalyse innovation and strive to make us visible in the world map with this springboard.



FACTS & FIGURES



World -class Ranking of HKU



#4

in Asia (2019)

#36

in the world (2019)



#2

in Asia (2019)

#25

in the world (2020)

Eminent Subject Rankings in Science Disciplines



THE World University
Rankings by Subject 2019

#42

Life Sciences

#54

Physical Sciences



QS World University Rankings by subject 2019

#48

Biological Sciences

#34

Chemistry

#41

Earth & Marine
Sciences

#45

Mathematics

#34

Statistics & Operational
Research

#51-100

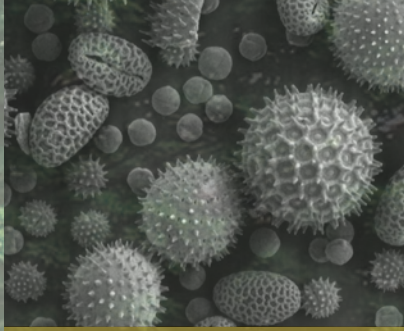
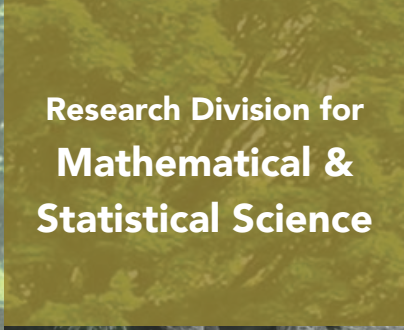
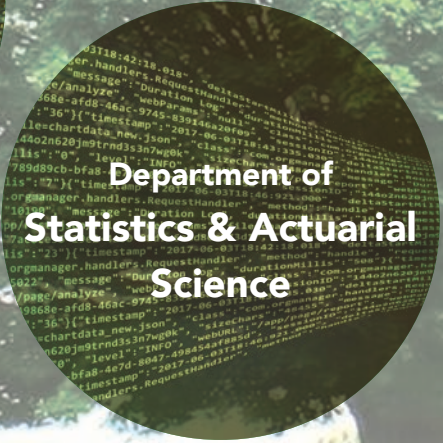
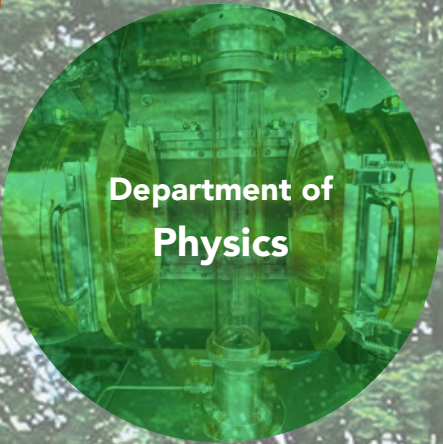
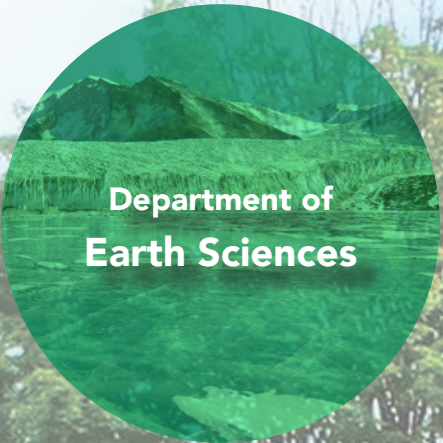
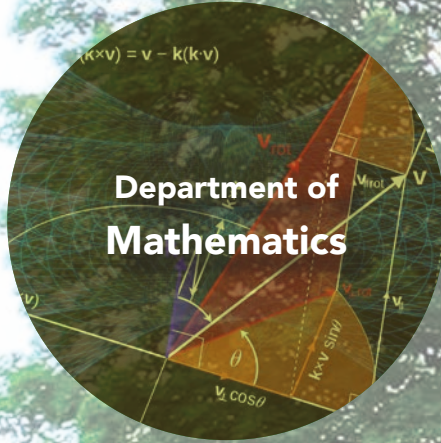
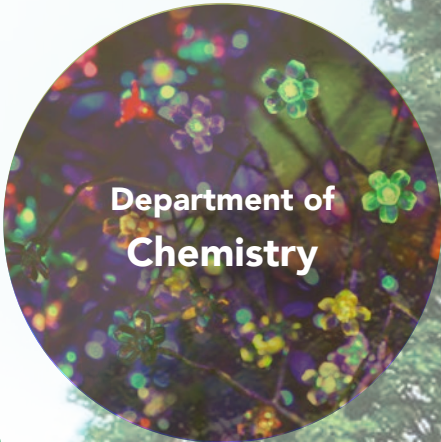
Environmental
Sciences

Materials Science

Physics &
Astronomy

The Science Family

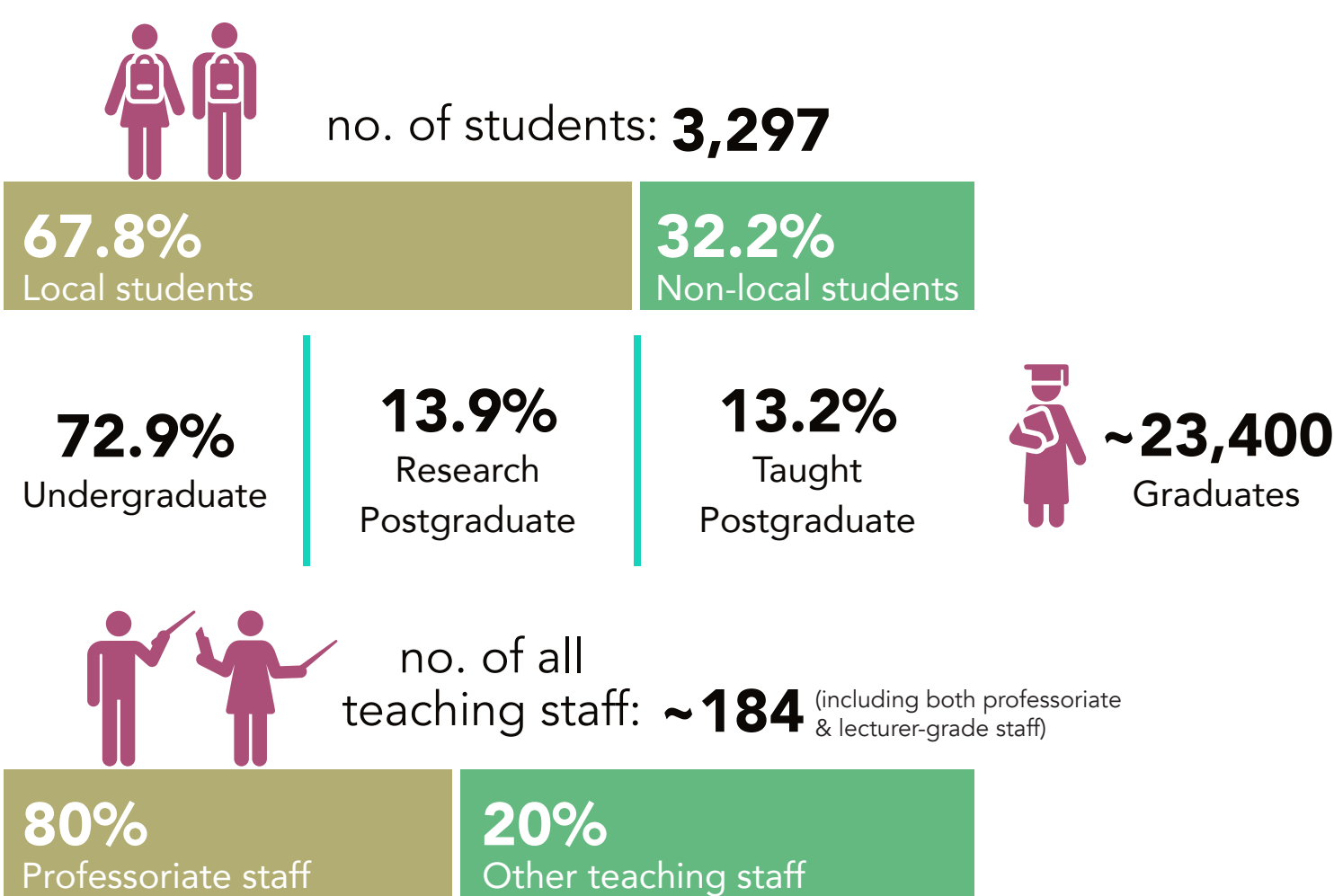
The Faculty of Science was formally established in 1939. We have developed into one of the largest Faculties in the University since our inception, comprising 6 departments/school. We seek to provide comprehensive education in the sciences to meet the needs of society, and to promote science literacy through its quality teaching, research and interaction with the community.



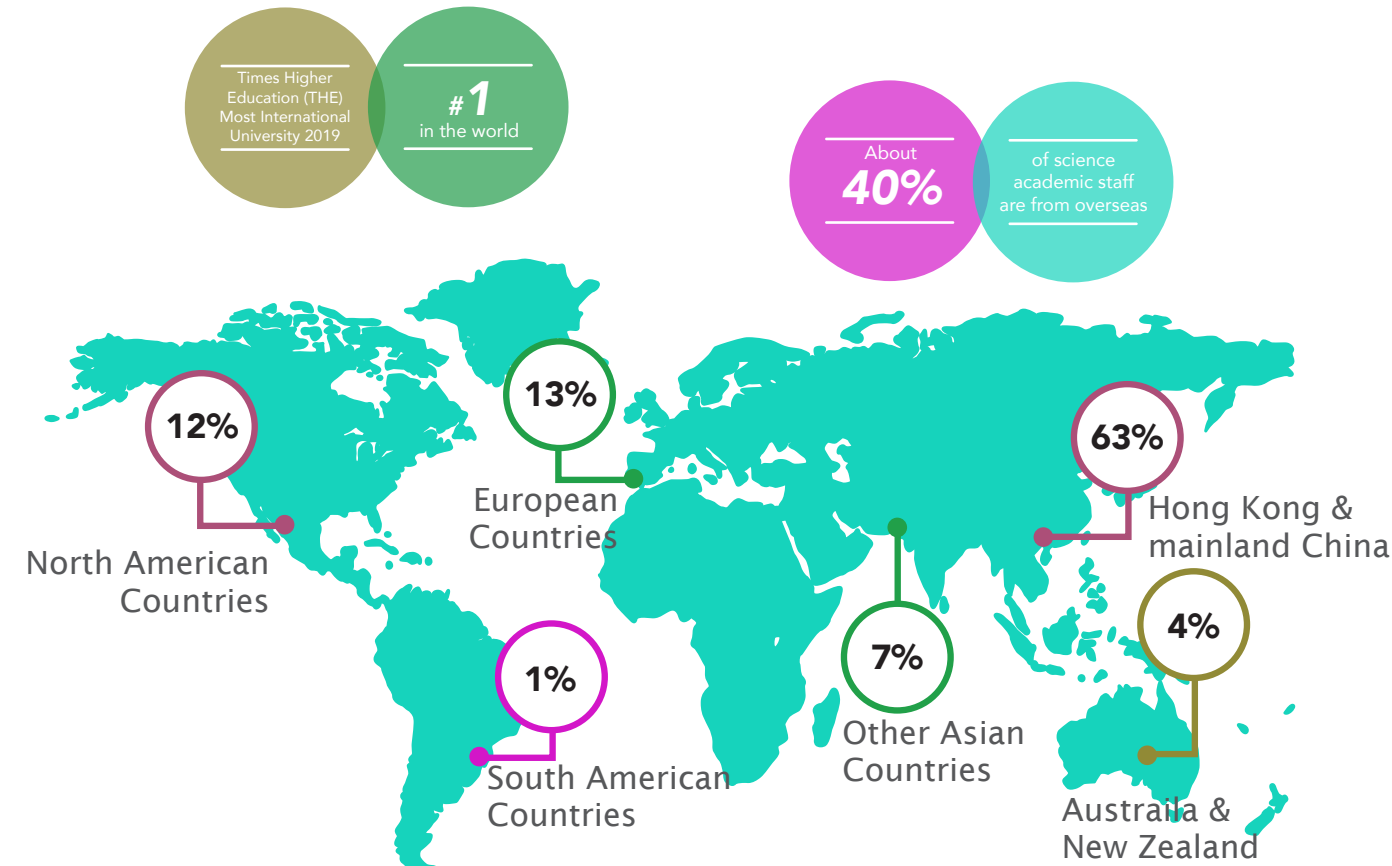
Research Divisions

To create an entirely new research division structure and establish our research foci, we are establishing 6 new research divisions, with new Research Division Directors recruited globally to be facilitators, champions and mentors to nurture research strengths, incentivise research activity, maximise research performance. Our research divisions fall into a range of science disciplines.

Staff & Student Population

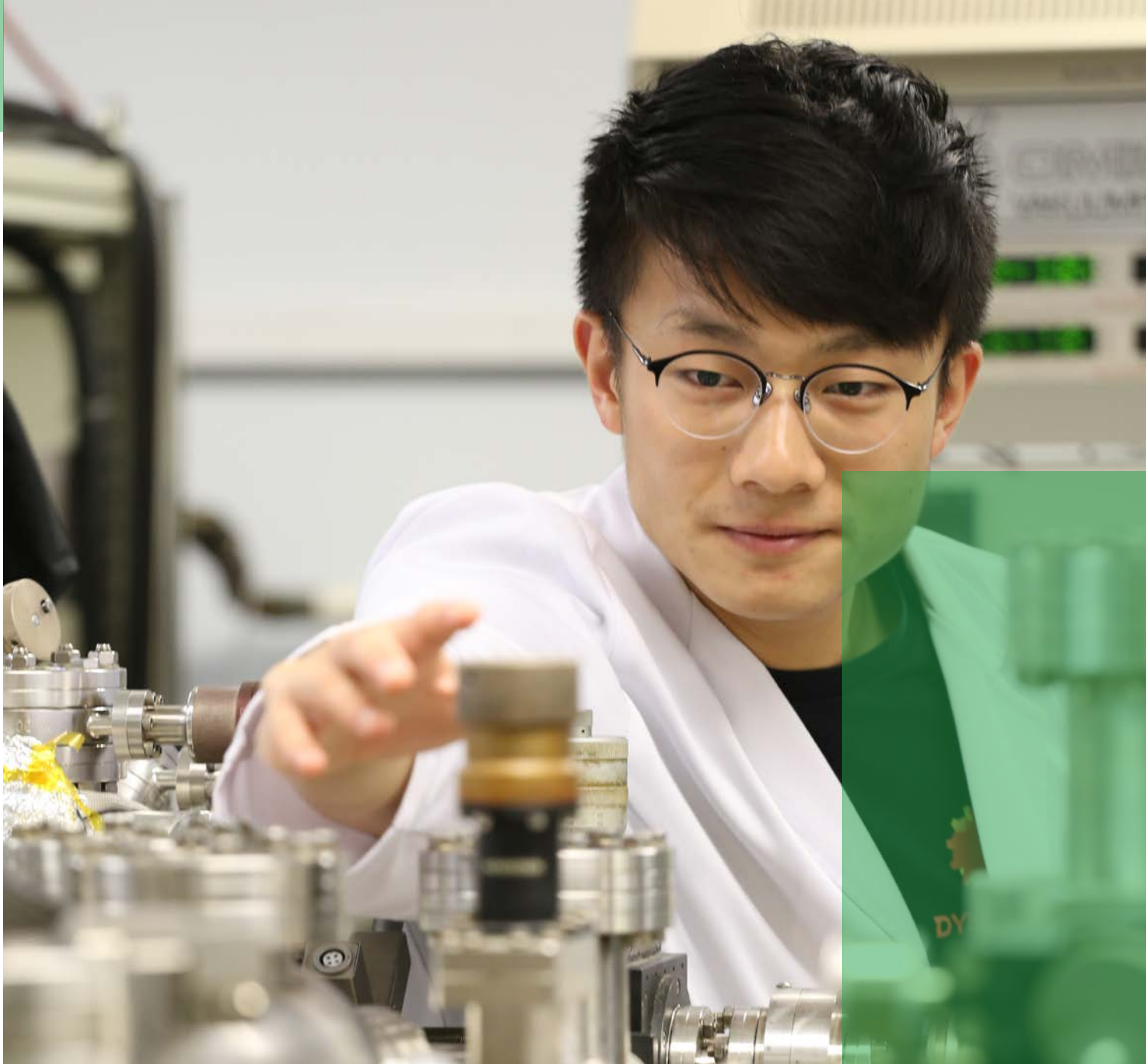


Diversity & Internationalisation

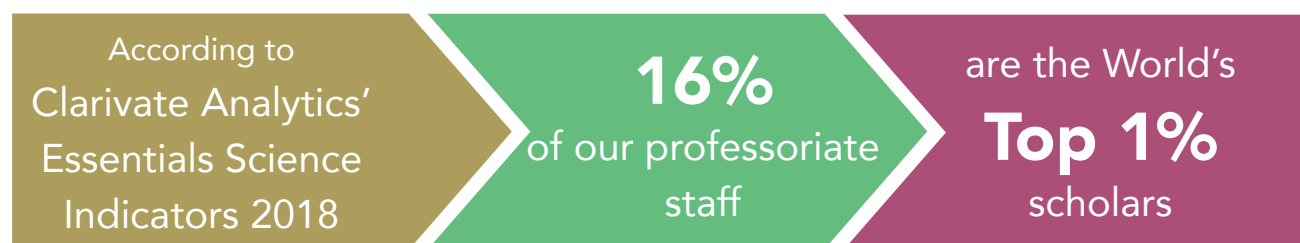


Place of origin distribution of professoriate staff

RESEARCH & KNOWLEDGE EXCHANGE



Top-ranked Scientists



Cumulative number of Chinese Academy of Science (CAS) academicians: **4**

Cumulative number of fellows for foreign national academies of sciences: **3**

Number of founding members/ members of Hong Kong Academy of Science: **3**

Cumulative number of State Science and Technology Awards in the categories of State Natural Science Award: **9**

Research Eminence

Most supportive of interdisciplinary research

World class facilities



Leads 5 Areas of Excellence (AoE) projects to facilitate international and inter-institutional collaborations, with the 3 ongoing projects below:

- Theory-Modelling and Simulation of Emerging Electronics
- Institute of Molecular Functional Materials
- Chemical Biology Approach to Molecular Medicine

Strives for research excellence



Leads a State Key Laboratory in Synthetic Chemistry

Partners with Chinese Academy of Sciences (CAS) for 3 HK-CAS Joint Laboratories (Chemical Geodynamics, Chemical Synthesis, and New Materials)



Prestigious Awards & Honours

Members of Chinese Academy of Sciences

Member of The Academy of Sciences of Hong Kong

State Science and Technology Awards in the categories of State Natural Science Award

Foreign Academy of Sciences Academicians




Foreign Fellow and Foreign Associate of National Academy of Sciences, USA

Foreign Member of Academia Europaea

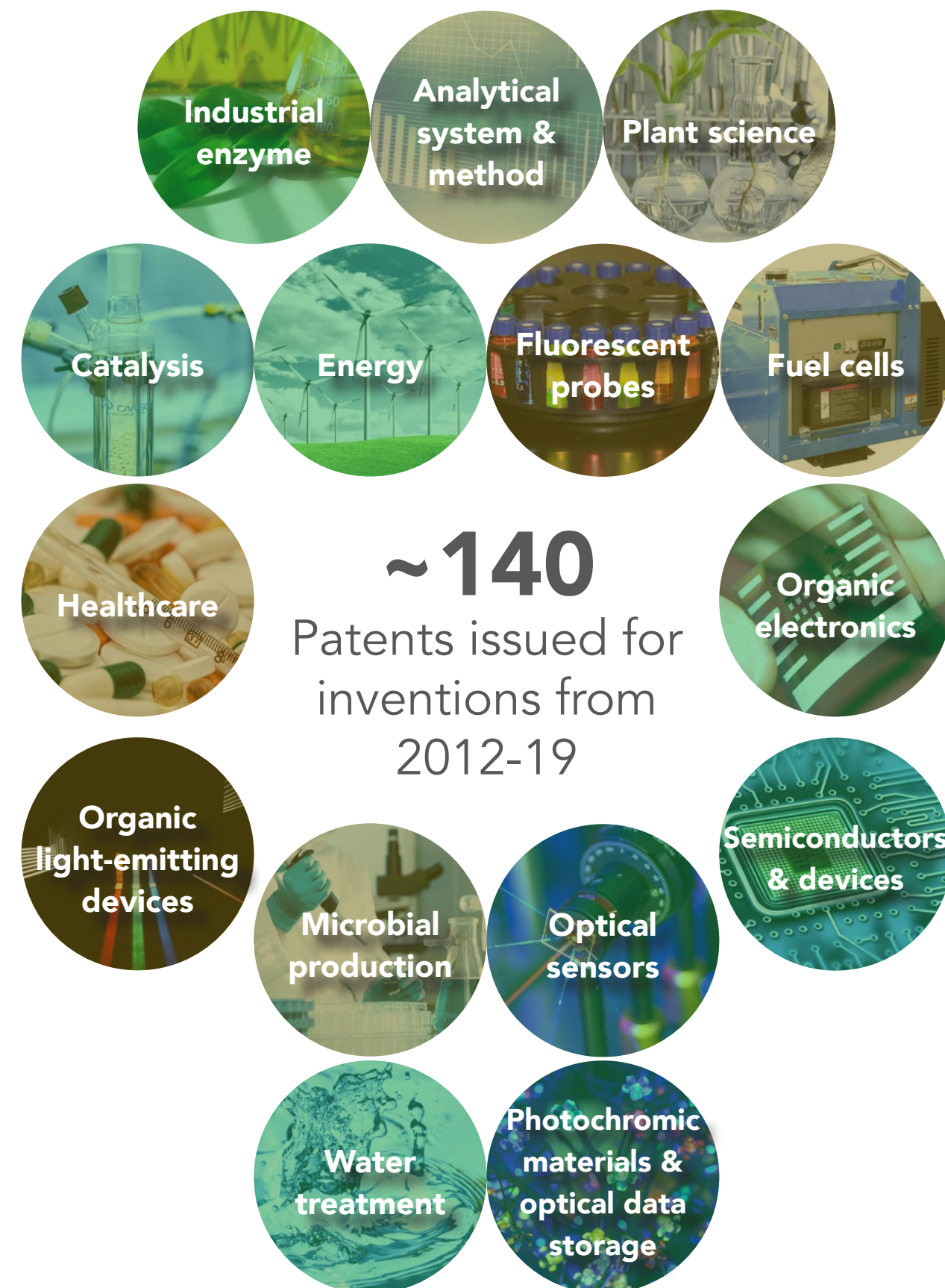
The L'Oréal-UNESCO Awards For Women in Science (Asia-Pacific Laureate)

Research Strengths

The Faculty has some top-notch researchers at the forefront of science. With a comprehensive spectrum of research excellence, we would like to further develop our research areas and some of our research strengths are highlighted below:

Chemical Biology		Computational Mathematics	
Geological Science	Condensed Matter Physics	Environmental Biology	
Marine Science	Molecular Biology	Palaeontology	
	Pure Mathematics	Space Science	

Industry Collaborations & Patents



Funding

The Faculty has attracted significant amount of research funds in past three years. The funding solidifies our research strengths, helps us to further enhance our research leadership and become a forerunner in research in the world. With the funding, we continue to excel in research and create impact to benefit mankind with innovation research.

Funding Schemes	Research Funds awarded in 2015-18
Areas of Excellence Scheme (AoE)	HK\$56,760,000
Collaborative Research Fund (CRF)	HK\$21,522,296
General Research Fund (GRF)/ Early Career Scheme (ECS)	HK\$107,168,839
Innovation and Technology Fund (ITF)	HK\$33,243,789
Theme-based Research Scheme (TRS)	HK\$1,722,667

The Laboratory for Synthetic Chemistry and Chemical Biology

The laboratory is a 5-year programme led by Professor Chi Ming CHE in Chemistry Department, in collaboration with Imperial College London and Peking University. The project aims innovative, high-impact and leading-edge interdisciplinary research in the area of drug discovery and development. It has been admitted to the Health@InnoHK programme launched by Innovation and Technology Commission (ITC), HKSAR with a projected funding of HK\$500 million and a laboratory area of 12,000 sq.ft. in Hong Kong Science Park.



Undergraduate Programmes

The Faculty is constantly updating its curriculum to reflect the broadening spectrum of science and align with the changing academic structure of the University, equipping outstanding undergraduate students with skills for versatile developments according to their aspirations, ability and interests.



Taught Postgraduate Programmes

MSc in the field of Applied Geosciences



MSc in the field of Food Industry: Management and Marketing



MSc in Environmental Management



MSc in the field of Food Safety and Toxicology



Master of Data Science



Master of Statistics



Postgraduate Diploma in Earth Sciences



Diverse Learning Opportunities

Exchange Study

Encountering new parts of the world and gaining new perspectives across boundaries can be intriguing and inspiring. In line with the University's strategic initiatives of nurturing global citizens, the Faculty has enhanced the offering of a variety of overseas/ mainland learning activities for undergraduate students to broaden their horizons, with the target of achieving 100% undergraduate overseas and mainland China experiences by 2022.



Exchange Study

In 2018-19:

- > **581** science students benefited
- > **120** partners from **26** countries
- > **20** types of overseas/ mainland learning activities

Our overseas/ mainland learning activities require students to tackle real-life issues and problems by drawing on theoretical knowledge that they have learnt in their disciplines.

Other Enrichment Learning Activities

Students taking part in the following enrichment activities in 2018-19:



Field Trip

90 students



Undergraduate Research

253 students



Disciplinary Internship

315 students

INFRASTRUCTURE



The Swire Institute of Marine Science

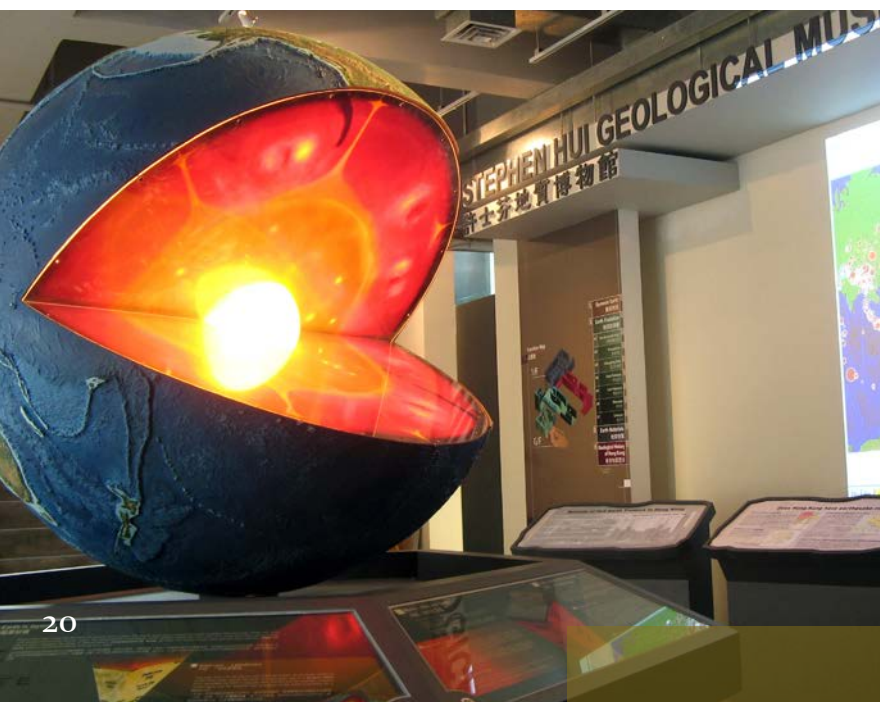
As an off-campus research facility on marine biology situated in the only marine reserve of Hong Kong in the scenic Cape d'Aguilar, the Swire Institute of Marine Science (SWIMS) aims to become an internationally acclaimed marine research centre, and to provide a multidisciplinary research environment, as well as to grow a research culture to train young scientists. It aspires to foster research and education links and collaborations with other marine facilities in the SE Asian and global scientific institutes.



Stephen Hui Geological Museum

The Stephen Hui Geological Museum is the first geological museum of its kind in Hong Kong. Since its opening in 2009, it quickly became a recognised resource for Earth Science education in Hong Kong and the region and has maintained its position as the city's premier Earth Science gallery. A comprehensive mineral collection from all over the world collected and

donated by Dr Stephen Hui forms the core of the Earth Material gallery. The mission of the museum is to inspire an understanding and appreciation of the dynamic natural world of Earth Sciences through an attractive object-based learning laboratory for the nature and evolution of our planet to visitors of all ages.



The School of Biological Sciences Museum

The SBS Museum includes one of the richest collections of terrestrial and marine organisms in Hong Kong, with specimens collected since the 1930s from various regions of the world. The preservation of specimens represents an important component of biological research and education, with material used for teaching purpose, outreach and in scientific studies. In urban environments such as Hong Kong, the exhibition of different life forms unveiling the diversity of animals and plants is paramount to raise awareness on conservation and environmental issues faced by a growing number of species.



PUBLIC ENGAGEMENT

As part of our commitment to community involvement, the Faculty is dedicated to promoting science literacy and serving the wider society.

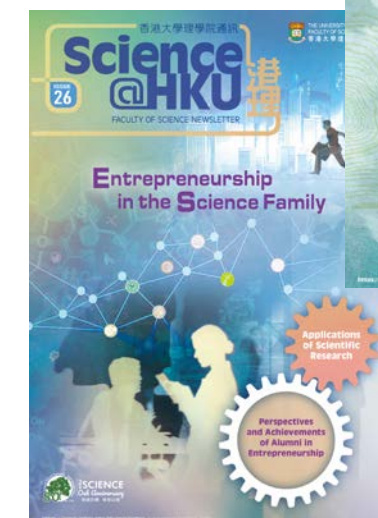
Outreach for High Schools

We offer science hands-on enrichment programmes to senior secondary school students, including Junior Science Institute, STEM workshops, Talk@MySchool Programme and Campus Visit.



Publication

Our newsletter *Science@HKU* provides platforms for the Faculty to explore current issues in scientific aspects, fostering science communication and enhancing public's appreciation to science.



Media and Social Media

Intensive efforts have been paid to enhance exposure at media and social media platforms, as well as the Faculty's representation in the community.



Public Lecture Series

A series of diverse lectures are delivered to the public throughout the year to explore science topics of general interest and concern, thus enhancing their awareness and understanding to issues and debates at the frontiers of science.



ALUMNI RELATIONS



Never Far from Home

Having a strong connection between the Faculty and its alumni is crucial. Although our alumni may be scattered across various sectors, regions, and continents, we are proud that they are thriving in every part of society and in everything they do. Driven by our alumni's success, we have established a community in which we all belong, can stay connected and up-to-date, and be actively engaged. We celebrate the achievements of all as a family.






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