

HKUST Jockey Club  
Institute for Advanced Study

Lee Shau Kee  
Business Building

# HKUST

## ANNUAL REPORT 2016-2017

Bridge Link

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Piazza





## HKUST'S 5 CORE VALUES

- Excellence, Integrity, and Academic Freedom
- Global Vision and Local Commitment
- Can-do Spirit
- Inclusiveness, Diversity, and Respect
- 1-HKUST



## THE MISSION OF THE UNIVERSITY

- (a) To advance learning and knowledge through teaching and research, particularly
  - i. in science, technology, engineering, management and business studies; and
  - ii. at the postgraduate level; and
- (b) To assist in the economic and social development of Hong Kong.

(The Laws of Hong Kong: Chapter 1141)

## STATEMENT OF VISION

To be a leading University with significant international impact and strong local commitment.

### Global

To be a world-class university at the cutting edge internationally in all targeted fields of pursuit.

### National

To contribute to the economic and social development of the nation as a leading university in China.

### Local

To play a key role, in partnership with government, business, and industry, in the development of Hong Kong as a knowledge-based society.

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# CHAIRMAN'S FOREWORD



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As the knowledge society and information age rise to ever greater prominence in people's lives, the growing role that higher education institutions have to play in social and economic development in our fast-paced and rapidly evolving times is now being recognized at home and overseas, especially a university with a focus on science and technology, such as HKUST. At the same time, the higher education environment is becoming increasingly competitive regionally and globally in the quest for world-class academics and students, and the provision of leading education, research, and knowledge transfer opportunities.

How a university shapes its response to and engagement with such external and sectoral developments is key to determining its ability to shine or slip into the shadows. With its vision of becoming a leading university with significant international impact and strong local commitment, HKUST is keenly aware it cannot sit still. The University must proactively seek to build on the remarkable foundations laid down in its first 25 years to optimize the opportunities, solve the challenges, and continue to play a pioneering role in today's academic and wider world. These goals were clearly illustrated with the launch of its perceptive five-year Strategic Plan 2020 in 2016-17, which guides HKUST's direction in the short and medium term while creating the platform for the University to extend its excellence and ascend further over the long term.

Numerous moves took place during the year in line with the Strategic Plan's overall goal to position HKUST to meet the needs of society as well as set the trends in its fundamental roles of educator and knowledge discoverer. They encompassed, among others, the strengthening of education and

research programs in sustainability and public policy to drive forward HKUST's contribution in these key areas; the setting up of the Council's Knowledge Transfer Committee and the University's Knowledge Transfer Advisory Group to enhance innovation, entrepreneurship and external engagement; and the construction of new buildings and facilities to provide an inspirational campus to work, study and live.

Along with strategic direction, the deepening interactions of universities and society and the increasing complexity entailed in managing higher education institutions make it essential that HKUST's management structure, efficiency, and oversight keep up with the unfolding requirements of a front-running 21st-century university. With reference to the recommendations of the University Grants Committee (UGC)'s "Governance in UGC-funded Higher Education Institutions in Hong Kong" report ("Newby Report"), the Council continued to promote its governance framework through the efforts of the Task Force to review Council effectiveness. Such undertakings included reviews of the Terms of Reference as well as the scope of responsibilities of a number of Council Committees. In addition, I was delighted that the Council was able to shed greater light on its Members' duties among the HKUST community through a forum on governance and discussion with staff, students, and alumni.

Both Strategic Plan and governance endeavors in their different ways offer significant impetus for capacity building and highlight the commitment to excellence and determination to achieve that lies at the core of HKUST. They build the framework that puts the University on track for that additional step up to the next level of global institutional achievement and

recognition. They serve as indication that future potential at HKUST embraces an inclusive and inspiring campus and community dynamic that can power ahead advancement in Hong Kong and further afield.

It is an exciting prospect given the international recognition and regard in which HKUST is already held. This was once again shown by the University's continuing presence in the upper reaches of a host of rankings, including No.2 in the QS World's Top 50 Universities Under 50 for the fourth consecutive year in 2017, No.4 in the QS Asian University Rankings 2016, No.13 in the Global University Employability Ranking, and No.1 for the seventh time in the *Financial Times*' Executive MBA 2016 global table for the joint program run with Kellogg School of Management at Northwestern University. It was also clear in the enthusiastic participation of top international academics, community leaders, and alumni located around the world in HKUST's 25th Anniversary events, which concluded during the year.

I warmly thank my fellow Council Members, the Senior Administration and other HKUST stakeholders, including the Hong Kong SAR Government, donors, alumni, and students, for their contribution over the past 12 months. With the powerful distillation of the University's characteristic drive and far-sightedness in the new Strategic Plan, enhancement of the governance process, this institution's established global renown, and the tremendous dedication of all its members, I look forward with optimism and anticipation to HKUST's on-going outstanding contribution in academia and far beyond.

**Chairman, University Council**  
**MR ANDREW LIAO CHEUNG-SING,**  
*GBS, SC, JP*

# PRESIDENT'S REPORT

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In 2016-17, I was happy to see the collective spirit of the University community in full swing as we launched our Strategic Plan 2020 to keep HKUST at the academic, research and institutional forefront. Along with this, we strengthened knowledge transfer and entrepreneurship activities to drive innovative business and social trends in Hong Kong and globally. We also expanded our local, national and overseas presence to ensure HKUST's standing and contribution in an era of change in higher education. All in all, it has proved a significant year for future growth.

## TEACHING AND LEARNING FOR TODAY AND TOMORROW

In line with our Strategic Plan's vision of a transformative education that looks beyond traditional disciplines and pedagogies, we forged ahead with internal restructuring and innovative program provision in our five targeted areas of focus: data science, sustainability, public policy, autonomous systems & robotics, and design thinking & entrepreneurship.

Over the year, this saw the establishment of the Division of Public Policy and the renaming and broadening of the remit of the Division of Environment to the Division of Environment and Sustainability. Following the formation of the Big Data Institute the previous year, in 2016-17 we started an MSc in Big Data Technology and opened a bachelor degree in Quantitative Social Analysis, the first of their kind in Hong Kong and the region respectively. As part of our enterprising pedagogical endeavors, the University offered 29 Massive Open Online Courses (MOOCs) which bring HKUST education to learners worldwide and attracted over one million registrations, in addition to the expansion of the number and variety of courses and programs embracing experiential learning to foster design thinking and encourage practical application of knowledge and skills.

The University's championing of an all-round student experience led to a range of horizon-widening action over 2016-17. We broadened internationalization options through greater flexibility, offering summer term exchange-out programs at Ivy League and Oxbridge institutions as well as eye-opening destinations in Belt and Road countries. Meanwhile, to give early career exposure and assist students in identifying their individual interests and passion, the University's signature Undergraduate Research Opportunities Program delivered academic research project and lab culture exposure to over 400 students under the guidance of 120 faculty members; and more than 60 participants and over 20 corporate partners took part in our HeadStart@HKUST workplace internship and mentorship program for first and second-year students.

## RESEARCH EXCELLENCE AND KNOWLEDGE TRANSFER

On the research front, funding bodies and organizations inside and outside Hong Kong provided more than \$560 million to support our work. Over 200 new projects received funding from the Research Grants Council and HKUST achieved the highest success rate among institutions in the competitive General Research Fund (47%) and Early Career Scheme (71%). This included \$83.2 million for an Areas of Excellence neuroscience project and \$36 million for a HKUST-led Theme-Based Research Scheme pollution-linked study. Other major recognitions for faculty's research excellence included a State Natural Science Award (Second Class), an inaugural National Innovation Pioneer

Award, a Croucher Innovation Award, and a place in *MIT Technology Review's* Top 10 Innovators Under 35 in Asia. To keep the University's research infrastructure at the leading edge, we completed a review of our 13 research institutes and over 50 research centers to ensure approaches keep pace with needs in a period of swiftly moving developments across academia. In addition, we established a Mainland Operations Policy Committee to coordinate management and oversight of the University's various Mainland platforms.

Demonstrating our drive to extend HKUST's knowledge transfer impact, the University submitted over 100 applications to the Innovation and Technology Fund, with 43 projects receiving total funding of more than \$170 million, up \$60 million from last year. The University took steps to propel new knowledge from campus to the community, with the Office of Knowledge Transfer and the Entrepreneurship Center becoming independent entities, and the revision of HKUST's intellectual property policy. The year also brought the soft launch of the Knowledge Transfer Hub, which links up all our related units and offers timely updates for collaborators and the public.

To invigorate the University's innovation ecosystem, the U\*STAR Fund and Yeung Wing Yee Entrepreneurs Fund got underway, spurring entrepreneurial





development of University technologies and research, and supporting early-stage student start-ups, respectively. Student know-how and networks were further amplified by participation in major University-related innovation events, including the 7th HKUST One Million Dollar Entrepreneurship Competition, Hackathon@HKUST, and Entrepreneurship Week@HKUST.

## LOCAL, REGIONAL AND GLOBAL FRONT-RUNNER

The scope of HKUST leadership vision encompasses our contributive role to the wider society, including advocacy for science, technology, engineering and mathematics (STEM) education at primary and secondary school levels. Thus, in July 2016, the University was delighted to host the 57th International Mathematical Olympiad, which drew over 600 secondary school contestants from 109 countries and regions. This was followed in November 2016 by the official opening of the 350-member HKUST Academy for Bright Future Young Engineers, which gives our engineering students an on-going opportunity to enthuse Hong Kong's next generation about the potential of technology.

Looking ahead to the rising influence of the Asian higher education sector, we took the lead in becoming the only Hong Kong founding member in the 15-member Asian Universities Alliance, and joined the Innovation and Entrepreneurship Education Alliance of China, both set up by Tsinghua University. HKUST delegations engaged in successful visits to Japan, Singapore and Australia over the year to foster relationships and raise our profile while my visit to Iran and the United Arab Emirates as part of a high-level Hong Kong delegation opened up potential institutional relationships and research

collaborations in countries within the One Belt, One Road footprint. HKUST also participated in major global forums exploring future trends and issues, including the 11th Annual Meeting of the New Champions in Dalian and the World Economic Forum Annual Meeting in Davos, Switzerland. While attending the Forum, I was pleased to join the Global University Leaders Forum again, which brought together over 25 elite research university heads.

## ENHANCING THE QUALITY OF CAMPUS LIFE

As always, I am deeply grateful for the Hong Kong community's on-going support for HKUST's advancement through donations that expedite University undertakings to attract top faculty and students, and sustain cutting-edge research and campus facilities. This year, I would like to pay a special tribute to the contributors to our 25th Anniversary Global Vision campaign. Overall, this drive raised a remarkable \$1 billion, which will be invaluable for the University's future.

Among the initiatives supported through such giving was the HKUST Named Professorship Program, which assists the University in recruiting and retaining key faculty talents and saw the total number of such prestigious professorships rise to 39, just five years after the program started. Campus development also received a tremendous boost, enabling the University to plan and take forward an array of buildings to enhance our student experience and community interaction. Over the year, construction of the new Indoor Sports Center and Water Sports Center moved ahead. In addition, more students will now gain the hugely important chance to try hostel life with the opening of the HKUST Jockey Club Hall undergraduate hostel in Tseung Kwan O.

In an inclusive move, we established a DiversAbility Team under the Student Affairs Office to widen support for those with special educational needs; and we planned our First-Year Experience@Residence Program, which is set to launch in 2017-18, to ease the often daunting transition from high school to university.

## LOOKING BACK, LOOKING FORWARD

Along with all such achievements, the year brought the final events of our successful 25th Anniversary program. These joyful occasions incorporated the publication of our commemorative book and overseas gatherings in Beijing and Singapore, enabling our alumni in different locations to join in. Earlier reunions had taken place in London and San Francisco which, along with a major event in Hong Kong, made the anniversary a truly worldwide celebration.

In this busy and fruitful year, I would like to thank students, faculty, alumni, staff, Court and Council Members for their commitment and accomplishments. I wish to commend our community supporters, who enable us to press ahead with our development vision. And I look forward to the University striding into the future with the direction and momentum to shape the next generation of thoughtful innovators, bold entrepreneurs and open-minded citizens, generate the research breakthroughs and solutions to global challenges, and inspire a world of positive difference.

**President**  
**PROF TONY F CHAN, JP**











**Back Row (from left)**

**Mr Mark Hodgson,**  
Vice-President for Administration  
and Business;

**Prof Nancy Ip,**  
Vice-President for Research and  
Graduate Studies;

**Dr Eden Y Woon,**  
Vice-President for Institutional  
Advancement

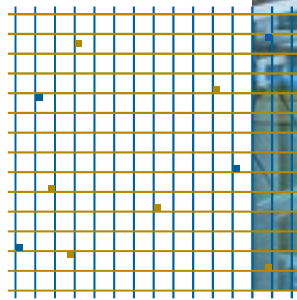
**Front Row (from left)**

**Prof Wei Shyy,**  
Executive Vice-President and Provost;

**Prof Tony F Chan,**  
President

# EDUCATION DEVELOPMENT

Programs to enhance diversity, student life and the campus community, together with a host of activities to unleash innovative and entrepreneurial potential highlighted an inspiring 2016-17



## UNDERGRADUATE EDUCATION

### Leading Programs

The Division of Social Science launched an interdisciplinary major in Quantitative Social Analysis, with the first intake starting in Fall 2017. The bachelor program will be the only undergraduate degree in the region that trains students in both the management and quantitative analysis of social data and informed design of analysis and interpretation of results.

In addition, the School of Engineering and University of Exeter, UK, launched a collaborating agreement that enables HKUST engineering students to complete a BEng or BSc in the School of Engineering and a LLM or JD law degree in just five years.

To fully recognize the importance of and to further the development of sustainable education and research in the University's goals, the Division of Environment under the Interdisciplinary Programs Office (IPO) was renamed the Division of Environment and Sustainability. It offers both undergraduate and postgraduate

programs. The Division of Public Policy was established under IPO, to reaffirm that the University is keen to play a pivotal role in championing public policy research and education.

The number and variety of courses and programs embracing experiential learning expanded in 2016-17. Credit-bearing courses and non-credit co-curricular programs involving hands-on learning included the revamped first-year airship design course, a new electric vehicle course, and the RoboMasters robotics competition.

As of June 2017, HKUST offered 29 Massive Open Online Courses (MOOCs) on the global Coursera and edX platforms. Over one million learners were registered for the HKUST courses. The "Introduction to Java Programming – Part 1" MOOC was recognized among the Top 10 Most Popular courses on edX in 2016 and the "Full Stack Web Development" among the Top 10 Computer Science specializations on Coursera in 2016. A pilot program to

offer MOOCs to alumni on the HKMOOC platform was launched in Summer 2016 with over 1,000 alumni signing up for the three courses offered.

### Extending Internationalization

To further diversify and internationalize the campus community, HKUST is leveraging a University Grants Committee pilot scheme to increase the non-local intake toward 25%.

Students can also broaden their exposure to other cultural and social environments through HKUST's signature exchange program. This allows students to undertake studies for one academic term or more at institutions in the University's worldwide network of exchange partners. In 2016-17, 913 students studied overseas on exchange at renowned academic institutions around the world.

In 2016-17, HKUST also partnered with other universities to offer credit-bearing study abroad programs in the summer





“Over **1,000,000**  
learners registered for the  
**HKUST MOOCs courses**”

term, with 282 students participating in Summer 2017. Destinations included London School of Economics and Political Science, Oxford University, Cambridge University, Princeton University, Stanford University, UCLA and UC Berkeley. In addition, HKUST ran a pilot to encourage students to study abroad at Belt and Road destinations. New overseas summer study abroad destinations included Universiti Brunei Darussalam (Brunei), Tallinn University (Estonia), Jagiellonian University (Poland), National Chengchi University (Taiwan) and Singapore Management University (Singapore).

### Celebrating Achievements

Scholarships at HKUST honor academic and non-academic merits, encouraging students to excel in different activities. In 2016-17, over 1,640 undergraduate students were awarded 2,050 scholarships recognizing a diverse range of capabilities and achievements. Around 24% of undergraduate students gained more than one scholarship. In

city-wide competitive scholarships, HKUST received eight out of total of 25 awards in the Innovation and Technology Scholarship Award Scheme and three out of 10 awardees in the Hong Kong government's Targeted Scholarship Scheme.

### Boosting Campus Integration

The University encourages student-initiated activities via a range of schemes, including the President's 1-HKUST Student Life Award (46 projects), Student Enrichment Activities Fund (57 projects) and the Graduate Student Life Fund (15 projects). Activities included Humans of HKUST, which encourages student sharing on their different backgrounds and experiences, and Hackathon@HKUST, the largest student-driven event of its kind in Asia that attracted over 600 local and overseas participants.

The Student Affairs Office piloted the English-based Exploring China – Pearl River Delta Trip for non-Chinese speaking students. The program





brought together HKUST undergraduates and postgraduates from Hong Kong, Czech Republic, Greece, Indonesia, Italy, Japan, the US and the UK, providing a useful platform for cultural exchange between local and overseas students as well as first-hand experience of Mainland China.

HKUST halls of residence offer a range of programs to assist students in settling into their lives on campus as well as mix with their fellow residents. These include the Hall Language Buddy Program to enhance exchange among students from different cultures; eco-awareness and skill-building; and personal development. A First-Year Experience@Residence Program was also developed over the year for introduction in 2017-18 to help students adapt to University life and fully engage in the activities available in their residential halls.

In 2016-17, the University established a DiversAbility Team to enhance support for students with special educational needs (SEN). The team will broaden services in relation to diversity, diverse-ability, integration and equal opportunities.

### Building a Spirit of Community Service

Service learning is an integral part of students' education at HKUST. In 2016-17, community engagement platform HKUST Connect collaborated with 65 community partners to provide service opportunities and engaged 2,314 students in 153 service projects. These activities included one local work camp

and 12 service learning trips to Mainland China, Cambodia, Indonesia and the US. HKUST Service Learning Day recruited over 900 students, faculty members, staff and alumni to serve in 52 service projects in April 2017.

The REDbird Award Program provides leadership training for students. Over the year, the program recruited 110 members and 10 student leaders to work on projects for the University and local community while one member received financial sponsorship from the REDbird Overseas Service Learning Program. A total of four REDbird gold, 11 silver and 56 bronze awards were presented in recognition of students' dedication and leadership capabilities.

### Providing Early Experience of Potential Careers

HKUST undergraduates have the chance to gain valuable insights and experience into potential career pathways in academic research and other job sectors through its popular Undergraduate Research Opportunities Program (UROP) and HeadStart@HKUST Program. In its eleventh year, UROP engaged over 400 students in formal academic research projects under the supervision of 120 faculty, assisting undergraduates to identify their areas of research interest across disciplines and gain exposure to research lab culture and expectations. HeadStart, a more recent initiative, provides first and second-year students with early workplace immersion and career development through internship and mentorship.

## POSTGRADUATE EDUCATION

The postgraduate student body reached a record high of 4,874 as of 31 December 2016, marking an increase of more than 5% compared with the previous year. Among the 1,935 students enrolled on 51 research postgraduate programs and 2,939 students enrolled in 37 taught postgraduate programs, over 70% were non-locals holding citizenship in 60 different countries and regions.

### Forward Planning and Innovative Programs

In December 2016, the University Senate approved a Strategic Framework for Taught Postgraduate Education, covering medium to long-term positioning and development. In line with the University's focus on data science as one strategic area of research, an MSc program in Big Data Technology was introduced in 2016-17, with an enrolment of close to 100 students.





“Postgraduate intake  
reached a record high  
of **4,874**”







The Division of Public Policy will launch MPhil and PhD programs in Public Policy in Fall 2017. The Division will foster synergistic collaboration with the Institute for Public Policy to support not only the development of regular academic framework, but also the establishment of targeted research agenda to involve faculty, external scholars, and policy practitioners in conducting impactful policy research and evaluation. Minor programs and common core courses will also be offered as the Division builds capacity.

International collaborations yield important benefits to postgraduate students in terms of training and research opportunities, cultural perspectives, and teamwork and leadership skills required for multinational research projects. In 2016-17, the University entered into agreements with China Academy of Art, École Polytechnique Fédérale de Lausanne, University of Sussex, and University of Waterloo to offer dual degree postgraduate programs in various disciplines.

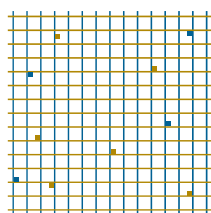
### All-Round Learning

HKUST seeks to provide a total learning experience for its research postgraduate students to shape them as future leaders in their fields. Following the initial launch of a Professional Development Course in 2013-14 to cultivate such all-round capabilities, in June 2017 the University Senate approved that a uniform Professional Development Course requirement be introduced for all research postgraduates admitted from 2017-18 onward. The course comprises completion of a mandatory component on professional conduct and a choice of activities/workshops on communication skills, research competency, entrepreneurship, self-management and career development.

HKUST's internationalization initiative has paid off. The annual research postgraduate intake increased from 584 with 30 nationalities in 2014-15 to 629 with 32 nationalities in 2016-17, in particular outside of Asia. Research postgraduate students are also encouraged to present papers at international academic conferences supported either through the University's Research Travel Grant or by making use of the Hong Kong PhD Fellowship Scheme's Conference Travel Grant. In addition, some 50 research postgraduates benefited from the University's Overseas Research Award in 2016-17. The funding facilitates visits of between two to six months to an overseas host institution to undertake research.







### Scholarship Success Story

Over 300 scholarships were awarded to 290 postgraduates in 2016-17. The total amount of scholarships granted to postgraduate and undergraduate students over the year rose to \$75.22 million, an increase of 9% compared with 2015-16.

In external awards, HKUST continued its success in the Hong Kong PhD Fellowship Scheme (HKPFS), a prestigious city-wide international scholarship program offered by the Hong Kong Research Grants Council to draw the best and brightest doctoral students from around the world to the city's universities. In 2016-17, HKUST recruited the largest number of awardees for the sixth year in a row. Of the total 231 HKPFS awards for 2017-18 admission, the University secured 64 awardees, representing close to 28% of the total. These distinguished students come from 22 countries and regions, contributing significantly to the ethnic diversity of the research student community.

### INNOVATION AND ENTREPRENEURSHIP

HKUST students successfully engaged in numerous entrepreneurship and innovation events and activities over 2016-17.



The Joint University Student Training in Entrepreneurship Program (STEP) Pitch Day competition saw three HKUST student teams win the top three prizes. The event was organized by CoCoon, a leading entrepreneurship network based in Hong Kong. HKUST students also received three top prizes at the two-day FinTech Hackathon, run by Deloitte Digital. The hackathon challenged developers, designers and entrepreneurs to develop prototypes for real FinTech solutions for millennials. Over 20 HKUST students participated in the APAC Innovation 2016 Series – The Elevator World Tour Hong Kong, organized by Hong Kong Science and Technology Parks Corp at Sky100, International Commerce Center. An HKUST MBA start-up won the pitching championship. The event attracted 100 start-ups, encouraging networking and exchange of ideas in addition to participation in the elevator pitch contest. Two HKUST start-up teams also joined the Cyberport University Partnership Programme, which included a 10-day trip to Silicon Valley as well as a Demo Day pitching event in Hong Kong. At the latter activity, the HKUST teams received \$200,000 for their start-up ideas.

In June 2017, seven HKUST students become First Runners-Up in the open competition of the Microsoft Imagine Cup 2017. Microsoft's global technology competition gives students worldwide the opportunity to showcase their creativity and skills in creating novel applications and games.

HKUST's 7th Annual One Million Dollar Entrepreneurship Competition attracted close to 90 teams to the Hong Kong contest, including many HKUST faculty, staff, students and alumni. In the Hong Kong final in June 2017, the President Award and the Elevator Pitch Award went to the Maxustech team for its smart tech approach to controlling home devices to provide more natural human-computer interaction. Judges comprised leading executives, professional investors and entrepreneurial academics. Other regional contests were held in Macau, Beijing, Guangzhou and Shenzhen, with the grand final taking place at the HKUST Fok Ying Tung Research Institute in Nansha, Guangzhou, in August 2017.



# RESEARCH DEVELOPMENT

The University's research teams generated novel insights and solutions and spurred innovations to improve our future

The year was a highly productive one for researchers at HKUST, with funding secured for more than 200 new projects, including a major Areas of Excellence grant, and a series of initiatives to boost and streamline knowledge transfer and entrepreneurship.

## FUNDING THE WORLD OF DISCOVERY

HKUST researchers seek external research funding to support the University's quest for discovery and innovation. In 2016-17, HKUST researchers received more than \$560 million for their work from funding bodies including the Hong Kong Research Grants Council (RGC), government and government-related organizations, Hong Kong private funds, and non-Hong Kong sources.

### Local Projects

The University was awarded funding for 217 new projects from the RGC, with a total value of \$189.6 million. HKUST again achieved the highest success rate among all eligible institutions in the competitive General Research Fund (47%) and Early Career Scheme (71%) over the past academic year.

The largest of these RGC-funded projects was a \$83.2 million Areas of Excellence project. The research seeks to identify the fundamental cellular mechanisms underlying learning and memory and reveal more about cognitive dysfunction in neurodegenerative diseases. Funding of \$36 million was awarded to a HKUST-led proposal submitted to the Theme-based Research Scheme. The project combines the expertise of nine institutions in Hong Kong, Mainland China and overseas countries in examining the effects of pollution-linked eutrophication and hypoxia in and around Hong Kong waters to inform a scientific strategy to protect and preserve the marine environment in Hong Kong.

The University was awarded a total of \$27.5 million for five projects under the Collaborative Research Fund, including funding for a deep reactive ion etching system for nanosystem fabrication as well as a platform for measuring the physical properties of quantum materials. The funding will also enable the study of topological phases in condensed matter and cold atoms systems, surface treatments for cooling buildings, and a panel study of community and population aging in Hong Kong.


HKUST researchers submitted 111 applications to the Innovation and Technology Fund (ITF) in 2016-17. Forty-three projects received funding totaling \$173.5 million, up from \$112 million the previous year. The growing amount of ITF funding signifies the substantial commitment of the private sector to working with HKUST researchers on knowledge generation.

In another notable recognition, Prof Danny Leung, Division of Life Science, received a Croucher Innovation Award, which supports the internationally competitive research of exceptional young scientists. Prof Leung was awarded \$5 million for his work on epigenetic control of non-coding DNA sequences in cancer.

### Mainland and International Projects and Collaborations

Non-Hong Kong funding provided \$67.4 million for 104 HKUST research projects over 2016-17. Mainland Chinese sponsors accounted for the majority of this funding, with contributions from the European Research Council and sponsors in Taiwan, South Korea, Saudi Arabia, the US, among others.





**“More than \$560 million  
of research funding received in 2016-17”**

The University's Mainland China platforms attracted a combined total of 34.7 million RMB for 46 research projects from the National Natural Science Foundation, Ministry of Science and Technology, Guangdong Provincial Department of Science and Technology, the Science and Technology Innovation Committees of Guangzhou and Shenzhen, and Nansha Science and Information Technology Bureau, among others.

To add to organizational efficiency, the establishment of the Mainland Operations Policy Committee was approved in March 2017 to provide oversight for policies and operations related to the University's Mainland platforms. The new committee combines the functions of the former Mainland R&D Committee and Administrative Policy Committee.

On the collaborative front, HKUST hosted the ASPIRE Forum in July 2016. The five-member ASPIRE group comprises HKUST, Korea Advanced Institute of Science and Technology, Nanyang Technological University, Tokyo Institute of Technology and Tsinghua University and seeks to encourage research collaboration and student exchange and summer camp opportunities. The theme in 2016 was “Developing Sustainable Urban Environment and Low Carbon Economy”.

### **ENHANCEMENT OF RESEARCH INFRASTRUCTURE**

Research institutes, research centers and central research facilities are an important and integral part of the University's research enterprise. To

keep pace with rapid developments in science and technology and the evolving needs of our research infrastructure, the University's policy – “Policy on the Establishment, Management, Reporting and Review of Research Institutes and Centers” – was reviewed and approved in February 2017. Recommendations include measures to encourage interdisciplinary engagement among faculty and simultaneously maintain an efficient management and effective oversight of research units.

The Animal and Plant Care Facility (APCF) also received approval for expansion to meet the increased scope for more animal-related research by science and engineering faculty. The expansion will not only provide a larger and better equipped facility but also establish the HKUST APCF as a world-class facility with accreditation from recognized animal lab certification bodies.





**“43 projects received  
\$173.5 million of funding from  
the Innovation and Technology Fund”**

## POWERING FORWARD KNOWLEDGE TRANSFER

Moving HKUST discoveries into the business and community sectors through knowledge transfers is an important way that the University drives forward economic and social innovation. During 2016-17, HKUST strengthened the management of its knowledge transfer activities and impact through administrative restructuring and the setting up of a new knowledge transfer committee and a new knowledge transfer advisory group.

The Office of Knowledge Transfer and Entrepreneurship Center became independent offices in August 2016. The Office of Knowledge Transfer is headed by the Associate Vice-President for Knowledge Transfer cum Dean of Fok Ying Tung Graduate School, overseeing the University's technology transfer, commercialization and entrepreneurship efforts and assumes overall responsibility for the Technology Transfer Center, HKUST R and D Corporation and Entrepreneurship Center. The Entrepreneurship Center organizes entrepreneurship programs and activities while working closely with the Center for Education Innovation to link credit-bearing courses with

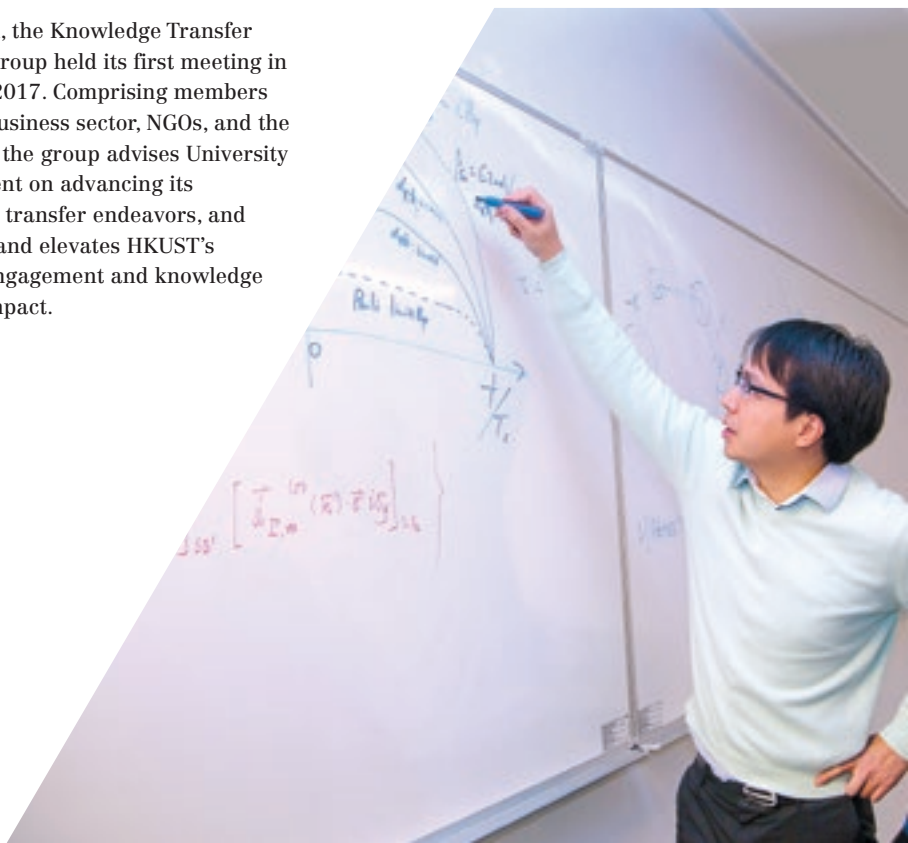
seminars, workshops, and training camps that can help HKUST's potential entrepreneurs learn the needed skill sets.

The HKUST Council set up the Knowledge Transfer Committee to advise the Council on how the University formulates its knowledge transfer policies and strategies and to oversee the implementation and promotion of related University activities. During the year under review, the Committee gave advice on the revision of HKUST's intellectual property policy, subsequently approved by the Council in May 2017, and on developing the University's knowledge transfer mission and vision.

In addition, the Knowledge Transfer Advisory Group held its first meeting in February 2017. Comprising members from the business sector, NGOs, and the University, the group advises University management on advancing its knowledge transfer endeavors, and facilitates and elevates HKUST's external engagement and knowledge transfer impact.

## FOSTERING INDUSTRY INNOVATION AND TECHNOLOGY START-UPS

The HKUST-MIT Research Alliance Consortium helps to build the network and mechanisms required for R&D collaboration between world-class universities and technology companies through industry-driven pre-competitive research. Clusters currently focus on Internet of Things for intelligent buildings and transportation, data





science and e-learning and advanced manufacturing. Over the year under review, the Consortium received a total of six new proposals from the advanced manufacturing cluster from local universities and MIT. Three highly recommended proposals were submitted to the Innovation and Technology Commission. Six projects from the Internet of Things and data science e-learning clusters with a total ITF funding of \$52 million were approved in 2016-17.

HKUST established a strategic alliance with Hong Kong Science and Technology Parks Corporation (HKSTP) to enhance development cycle support for technology start-ups. Joint entrepreneurship incubation programs have been designed and are due to move forward. The University will seek to build similar relationships with other incubation and acceleration organizations and companies.

Ten HKUST start-ups received funding through the Technology Start-up Support Scheme for Universities (TSSSU) Program in 2016-17 and increased the total number of the

funded start-ups to 29. Data related to the scheme showed that among the 29 start-ups, 60% of the University's fledgling businesses utilize HKUST technology, 60% have obtained external funding, some 80% of the start-ups now had a ready-to-roll product or prototype while 70% were engaged in incubation programs at Cyberport, HKSTP, among others. TSSSU, launched in 2014 by the Innovation and Technology Commission, provides annual funding of up to \$4 million to six local universities every year to support students and faculties' technology start-ups.

Internally, HKUST offers next-stage development for start-ups through its Proof-of-Concept Fund and two new acceleration programs: The U\*STAR Fund, which encourages entrepreneurial technology transfer of University technologies and research output; and the Yeung Wing Yee Entrepreneurs Fund, which supports early-stage start-ups conceived by HKUST students. Further efforts are underway to encourage more private funding support for student entrepreneurship initiatives.

## ENERGIZING ENTREPRENEURSHIP AND COMMUNITY LINKS

The soft launch of the Knowledge Transfer Hub took place in April 2017. The hub is a one-stop information platform that links up all the University's knowledge transfer units. Its goal is to provide user-friendly access and timely updates on HKUST knowledge transfer activities and research output for industrial collaborators and the community.

To promote HKUST start-ups and connect them to the investment community and potential business partnerships, Start-ups X Investors was held on campus for the first time in November 2016, and HKUST Technopreneur Outreach Day was organized in May 2017, drawing almost 500 investors, HKUST start-ups and students.



# RESEARCH HIGHLIGHTS

Fast forwarding the world  
of tomorrow through breakthroughs  
and new technologies



## Search for Cellular Mechanisms in Learning and Memory

A multidisciplinary team led by Prof Nancy Ip (Life Science) has secured funding of \$83.2 million under the Research Grants Council's Areas of Excellence Scheme for an initiative entitled "Cellular mechanisms of synaptic functions and plasticity in health and neurodegenerative diseases". The team will examine the signaling and cellular mechanisms governing neuron-neuron and glial-neuron communication, which modulate synaptic functions and network connectivity as well as learning and memory. The project seeks to lay crucial groundwork for delineating the mechanisms underlying learning and memory, and implicating key pathways and molecular players involved in cognitive dysfunction in neurodegenerative diseases such as Alzheimer's disease.

## Fresh Perspectives on Neuropsychiatric Disorders

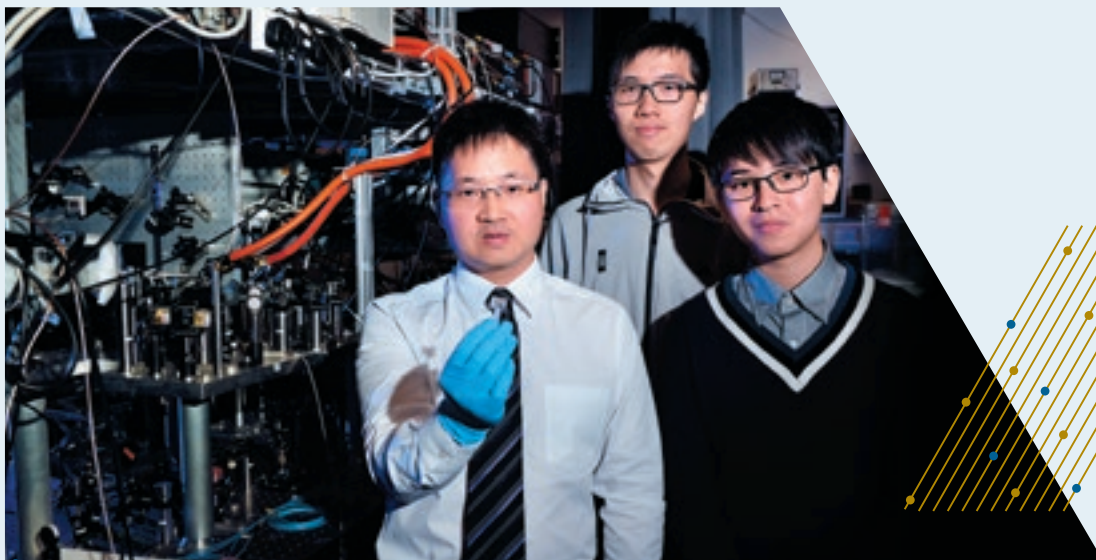
A breakthrough by a research team led by Prof Mingjie Zhang (Life Science) provided mechanistic insights into the causes that lead to neuropsychiatric disorders, such as autism, intellectual disorders and schizophrenia. Studies of the formation of the SynGAP/PSD-95 complex led to the unexpected finding that sees phase transition, a fundamental physics phenomenon, place different functional units at specific cellular locations in living neurons. Their work also provides fresh perspectives on why genetic mutations that alter the interactions of proteins can contribute to a spectrum of central nervous system diseases that currently have no treatments. The research findings appeared in *Cell*.



## Elastic Metamaterial with Seismic Potential

Prof Ping Sheng (Physics) and his research team created an elastic metamaterial that is a composite of three solid materials. By harnessing anisotropic resonances inherent to the composite structure, the metamaterial can filter transverse waves within a certain range of frequencies. As transverse waves can lead to destructive horizontal shaking during earthquakes, this filtering property may provide an alternative earthquake-proofing solution. The research was published in *Nature Communications*.





### Moving Forward on Quantum Communication

A large-scale atom-photon quantum network is still at the embryonic stage, limited by the interaction efficiency between atomic quantum nodes and flying single photons. To interact with atoms efficiently, the photons must have a bandwidth narrower than the atomic natural linewidth. In a world best, Prof Shengwang Du (Physics) and his group produced 2-MHz-linewidth biphotons from a Doppler-broadened (530 MHz) hot atomic vapor cell. The process is also simpler and costs less than the traditional cold atom system, bringing hope of further advancement for quantum communication and quantum information processing.

### Ocean Circulation, Ecosystem and Hypoxia around Hong Kong Waters

Prof Jianping Gan (Mathematics, Environment and Sustainability) is leading a Theme-based Research Scheme *"Diagnosis and prognosis of intensifying eutrophication, hypoxia and the ecosystem consequences around Hong Kong waters: coupled physical-biogeochemical-pollution studies"*, which is funded \$40 million by Research Grants Council from 2017-2021. This project investigates holistically the coupled physical-biological-chemical processes in the interactive River-Estuary-Shelf system around Hong Kong waters through in situ field measurement, laboratory experiment and advanced numerical simulation. Their ultimate goal is to identify the factors driving the increasing eutrophication and hypoxia, and to provide analytical tools and a scientifically-based strategy for stabilizing or even reversing eutrophication and hypoxia and for ensuring the overall sustainability of the marine environment in Hong Kong.

### Quantifying Hydrophobic Interactions

Hydrophobic interactions are a major type of intermolecular force that plays a vital role in many fundamental processes in chemistry and physics. Such interactions are intriguing as they exhibit a property called cooperativity, which does not exist in other fundamental intermolecular forces, such as dipole-dipole interactions and Van der Waals forces. To quantify hydrophobic interactions, Prof Xuhui Huang (Chemistry) and his collaborators carried out real-time monitoring of hydrophobic aggregation in bulk solution at the microsecond time scale by probing the fluorescence induced by hydrophobic aggregation and then fitting the measured fluorescence to kinetics nucleation-growth theory. The researchers discovered that cooperativity constitutes up to 40% of free energy formation in aggregation. The work was published in *Nature Communications*.

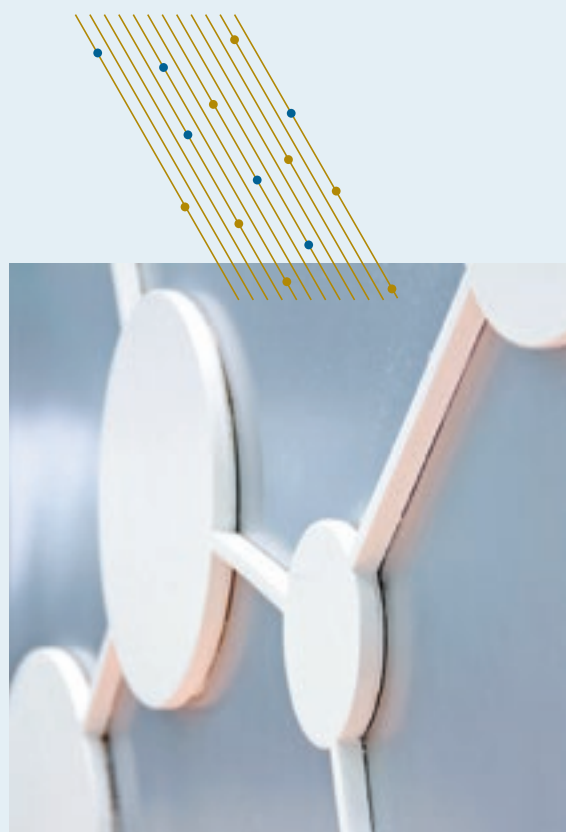


### Smart Green Wall Panels

More than 30% of electricity consumption in the residential and commercial sectors is used for “conditioned space” (the area lived in or used) in many countries and areas, including Hong Kong. A research team led by Prof Christopher Chao (Mechanical and Aerospace Engineering) and departmental faculty members was awarded a Collaborative Research Fund grant of \$6.18 million from the Research Grants Council, together with equipment matching of \$1.15 million from the University, for a three-year project that aims to design and develop smart green wall panels. The panels will combine a plasmonic structured passive radiative cooler and a superhydrophobic-based vanadium oxide thermochromic smart window to save energy, enhance health and comfort, and create more eco-friendly built environments.

### Sound Advance in Hearing Aids

Prof Richard So (Industrial Engineering and Logistics Management) and his student developed a cost-effective intelligent hearing aid, which allows users to selectively reduce annoying background noise. The technology has the potential to reduce the cost of similar products to one-tenth of their prices. The novel audio technology promises to improve life for the elderly and the hearing-impaired, and enhance the audio quality of hearing protection equipment and communication devices, such as mobile phones and walkie-talkies, as well as the accuracy of voice recognition devices.



### Fueling Energy Efficiency in Commercial Buildings

A joint HKUST-MIT project, led by Prof Yi-Kuen Lee (Mechanical and Aerospace Engineering), received \$10 million funding through the Innovation and Technology Support Programme to conduct collaborative research to develop key internet of things technologies, techniques and tools for energy-efficient buildings with a low carbon footprint. The team will integrate smart sensors, actuators and artificial intelligence algorithms to develop a smart heating, ventilation and air-conditioning (HVAC) control system to significantly reduce energy consumption in commercial buildings. The team is also working with HKUST's Facilities Management Office to develop a working prototype of the proposed system at the University.





### Giving Elderly Easier Way to Bathe

Prof Neville Lee (Industrial Engineering and Logistics Management) and two departmental alumni created a “Sit & Shower” automated bathing chair with dual shower and toileting functions. The design allows seniors to bathe safely and comfortably in a sitting position, while full automation makes the chair straightforward to clean and dry and life much easier for caregivers. It is equipped with angled water jets to avoid splashing and an internal thermometer that ensures the water never gets too hot. In addition, the bathing chair can be installed in most existing bathrooms without the need for modifications or removal of existing fittings. An optional shower chair makes getting in and out easy for seniors and the mobility impaired.



### Informing Targeted Tumor Interventions

Prof Jiguang Wang (Life Science and Biomedical Engineering) developed an evolutionary model to study the spatiotemporal genomic architecture in brain tumors. The work demonstrates that evolutionary inference from integrated genomic analysis of multisector biopsies can inform targeted therapeutic interventions for patients with glioblastoma. The findings were published in *Nature Genetics*.

### Politics of Privatization

China’s economic transformation is looked at in a new light in a book by Prof Yimin Lin (Social Science). *Dancing with the Devil: The Political Economy of Privatization in China* (Oxford University Press) analyzes how the Communist Party’s concern with regime survival led to the unintended consequence of creeping, and then much larger-scale privatization of state-owned enterprises, developing a dialogue between country-specific explanations and broader theories of institutional change.

### Chinese Philosophy, German Thought

Prof Eric Nelson (Humanities) completed a book on *Chinese and Buddhist Philosophy in Early Twentieth-Century German Thought* (Bloomsbury Press). The work presents a comprehensive portrayal of the reception to and interpretation of Chinese and Buddhist philosophy among German thinkers at the start of the 20th century. It also examines the implications for contemporary issues in comparative and intercultural philosophy, reflecting the growing interest in the possibility of global philosophy.



## The Bright Side of Over-Optimism

Human estimation and inference are subject to systematic biases, such as overconfidence and over-optimism. In contrast to prior research that has identified multiple negative consequences of these biases, Prof Charles Hsu (Accounting) and his researchers focused on positive effects. They empirically showed that over-optimism was a related but different bias from overconfidence, which could emerge dynamically in a rational economic framework and generate higher managerial effort. Importantly, this additional effort was found to improve a firm's profitability and market value. The research was published in the *Journal of Accounting and Economics*.



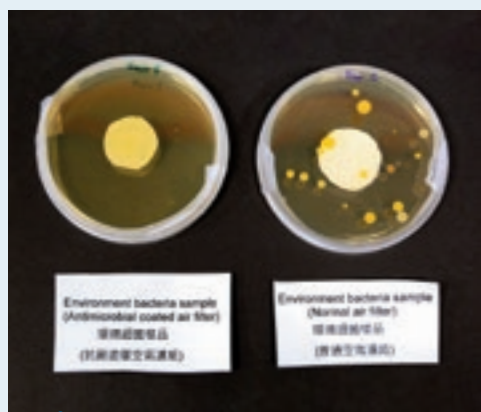
## Impact of Gender in Online Hiring

Prof Wang Jing (Information Systems, Business Statistics and Operations Management) and her coauthor investigated the impact of gender-based stereotypes on hiring outcomes in online labor marketplaces. By employing a quasi-experimental technique on data from a leading online labor platform in the US, they found evidence of a positive hiring bias in favor of female workers. The observed bias stems from the consideration of applicants from developing countries, and diminishes as employers gain more hiring experience on the online platform. The researchers conducted a further experiment to uncover the underlying gender-specific traits that could contribute to this bias. The paper is forthcoming in *Management Science*.

## Team Crises and Creativity

Prof Gong Yaping (Management) and his researchers departed from the dominant focus of what benefits creativity to examine an often negatively viewed occurrence: team crisis. They posit that in R&D teams, a crisis can benefit creativity through stimulating employees' engagement in the creative process (for example, problem identification and solution generation) when transformational leadership is high. The study represents a theoretical breakthrough in developing the concept of team crisis and revealing when and how it benefits creativity. The practical implications are also significant. As more teams experience crises in a turbulent global environment, the researchers demonstrate when and how corporate R&D managers can turn such crises into an opportunity.



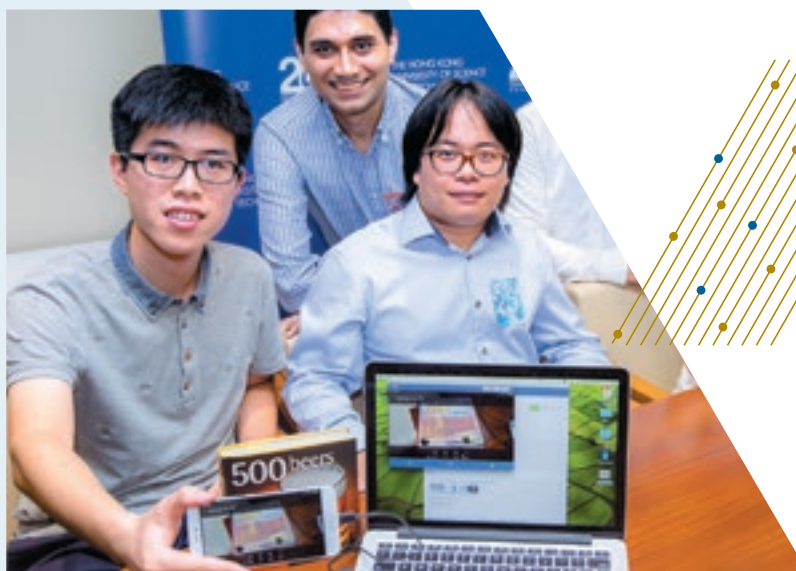


### Beating Bacteria by Purifying the Air

Prof King Lun Yeung (Chemical and Biological Engineering, Environment and Sustainability) and his research team developed a novel air purification system that removes up to 99.999% of airborne bacteria and viruses, including influenza (H1N1, H3N2), EV71 and MERS-Cov (Middle East Respiratory Syndrome Coronavirus). The technology effectively combats and inhibits the growth of bacteria, germs or viruses that cause respiratory diseases, offering solutions to protect health. The purification system was made available in the retail market as a household purifier in September 2016.

### How Air Pollution Impacts Public Health

Analysis focused on estimating the health effects of air pollution in China by Prof Guojun He (Environment and Sustainability, Economics, and Social Science) revealed a significant impact on cardiorespiratory mortality both in the short and long run, with the chronic impact much larger than the acute impact. The research showed that children, the elderly and people living in rural areas are more vulnerable. It also indicated that improving air quality in China could bring tremendous public health benefits. The research has generated papers published in the *Journal of Environmental Economics and Management*, *British Medical Journal*, and *Proceedings of the National Academy of Sciences*.



### Speeding the Development of Mobile Augmented Reality

Prof Pan Hui (Computer Science and Engineering) and his researchers have built an innovative augmented reality (AR) platform to facilitate entrepreneurs and programmers in developing AR programs and applications for mobile and wearable devices. The team identified and developed major AR components, including hardware platforms and software frameworks, then provided enabling technologies, such as object tracking and process offloading, to significantly accelerate the development cycle.

### Zooming in on Consumer Choice

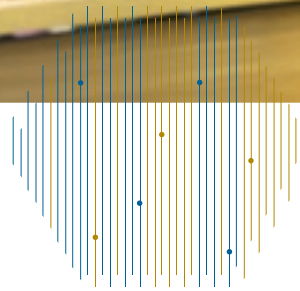
Utilizing big data, Prof Kim Jun (Marketing) and coauthors explored how people search for digital cameras to study online consumers' search and choice behaviors. Key findings revealed consumers explore a limited range of products, and that the final product they purchase is very different from the products they discovered on the first day. This suggests that consumers have an approximate idea of the quality and type of features they want. As people buy a product close to what they initially found, it means marketers can recommend close variants of what the consumer initially searched for during the process. The paper received the prestigious John DC Little Award for the best article published in the *INFORMS Journal*.

# FACULTY DEVELOPMENT

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String of workshops and seminars brings enhancement and innovation to HKUST's classroom experience

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The Center for Education Innovation is the University's dedicated academic support unit to promote and enhance pedagogical innovation and encourage exploration of the latest technological tools in order to advance the learning experience of students. Over 2016-17, the Center held a series of workshops, seminars, and talks by University faculty and external presenters to encourage teaching development and sharing of experience. Topics included the design and delivery of educational videos, how best to reach "Generation Z" students, ways to engage in in-class activities, moving to blended learning, and student peer evaluation using the web-based iPeer application.

The Center for Engineering Education Innovation (E<sup>2</sup>I) continued to motivate and support faculty and staff to develop effective outcome-based learning practices for students at undergraduate and postgraduate levels. E<sup>2</sup>I arranged a visit by Dr Trevor Lane, education director and senior publishing consultant at the Edanz Group. Dr Lane gave a lecture to engineering and non-engineering faculty on how to critically read research papers and conduct effective and ethical peer review for English language international journals. Dr Lily Khidr, academic research scientist and publisher for Elsevier in New York, was invited by the School of Engineering to lead a faculty workshop to discuss scientific advances in Asia, the publication process as an author and reviewer, and her experience with Elsevier.





## FACULTY DIVERSITY

As reflected by our commitment to fostering diversity in the Strategic Plan 2016-2020, the University has taken proactive steps in the previous years to enhance senior female faculty hiring and address career development of female faculty through policies in assisting them to manage both professional and family responsibilities. The recent assessment shows that the ratio of gender diversity has improved across all ranks of tenure-track faculty and in all Schools. Diversity in ethnicity in the faculty community is also our focus, and a series of measures were introduced last year to monitor our progress in increasing faculty diversity in the hiring process.

## NEW APPOINTMENTS

Leading theoretical particle physicist Prof Andrew Cohen joined HKUST as Director of the HKUST Jockey Club Institute for Advanced Study, Lam Woo Foundation Professor and Chair Professor of Physics. Prof Cohen is a prominent figure in the global science community and keen to take the Institute to even higher level of international scientific visibility and success.

Prof Yang Wang was appointed Dean of Science, concurrent with his appointment as Chair Professor of Mathematics. Prof Wang joined HKUST in 2014 as Head of the Department of Mathematics. Building on his established Departmental, School and University experience, he is well positioned to take the School of Science forward.

Other senior faculty concurrent appointments over 2016-17:

### Prof Xun Wu

Director of Institute for Public Policy

### Prof Chung-Yee Lee

Director of Institutional Research



The following faculty members were granted the title of Professor Emeritus on their retirement or departure from University service:

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**Prof Erik Baark**

Division of Social Science  
and Division of Environment

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**Prof Larry Jiing Lih Farh**

Department of Management

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**Prof Chung-Yee Lee**

Department of Industrial  
Engineering and Logistics Management

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**Prof Zongjin Li**

Department of Civil and  
Environmental Engineering

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**Prof Francis Ting Ming Lui**

Department of Economics

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**Prof Alfred Herbert Reinhard  
Renneberg**

Department of Chemistry

## RESEARCH AND TEACHING EXCELLENCE RECOGNIZED

The University's faculty members gained numerous prestigious honors over the year, highlighting the continuous drive for excellence that characterizes HKUST.

In national honors, Prof Peiyuan Qian (Life Science) received a prestigious State Natural Science Award (Second Class) for his discoveries on biofilm's impact on initial colonization by marine benthos. Prof Guanghao Chen (Civil and Environmental Engineering) was among the inaugural winners of the National Innovation Pioneer Award, a new Mainland China honor established in 2017. Prof Chen was recognized for his international leadership in the field of water management and wastewater treatment technologies and was the only recipient from Hong Kong. Prof Cameron Campbell (Social Science) was made a Changjiang Scholar by the Ministry of Education and appointed a Visiting Distinguished Professor at China Central Normal University under the scheme.

IAS Bank of East Asia Prof Ching W Tang (Electronic and Computer Engineering, Chemistry, Physics) shared the 2017 IEEE Jun-ichi Nishizawa Medal, for his pioneering work related to organic light-emitting diodes. He was also elected a Fellow of the Hong Kong Academy of Engineering Sciences. In a further IEEE recognition for HKUST, Prof Kei May Lau (Electronic and Computer Engineering) received the Aron Kressel Award from the IEEE Photonics Society. The honor is awarded to individuals who have made significant contributions to opto-electronic device technology.

The impact of HKUST faculty's international contribution to different areas of engineering was further highlighted by several other awards. Prof Zongjin Li (Civil and Environmental Engineering) became the first Chinese scientist to receive the Arthur R Anderson Medal of the American Concrete Institute in the 45-year history of the award; Prof Limin Zhang (Civil and Environmental Engineering) was selected for the GEOSNet Award for his





contributions to geotechnical risk assessment and management; and Prof Guillermo Gallego (Industrial Engineering and Logistics Management) shared the 2016 INFORMS Impact Prize.

On the business front, Prof James Thong (Information Systems, Business Statistics and Operations Management) received the Association for Information Systems (AIS) Fellow Award for 2016. He was the only recipient from Asia. The Fellow Award recognizes individuals who have made outstanding contributions to the Information Systems discipline in research, teaching and service.

Among younger faculty, Prof Angela Wu (Biomedical Engineering and Life Science) was named one of the Top 10 Innovators Under 35 in Asia by *MIT Technology Review*.

At HKUST, the Michael G Gale Medal for Distinguished Teaching is a University-wide honor given annually to one outstanding academic who sets an inspiring example as an educator. In 2016-17, the medal was presented to Prof Garvin Percy Dias (Information Systems, Business Statistics and Operations Management) for his drive to continuously develop his teaching methodologies, the Information Systems undergraduate degree program, and overall teaching quality of the School of Business and Management during more than 15 years at HKUST.

In 2017, the Common Core Teaching Excellence Award, previously known as the Common Core Course Excellence Award, was awarded to Dr Jason Chan (Chemistry) for his course on Chemistry in Everyday Life. Dr Chan uses an engaging combination of demonstrations, experiments, animations and experiential learning to spark students' interest and connect up chemistry principles and theory to daily activities.



# COMMUNITY ENGAGEMENT

A strong drive to inspire secondary and primary students to discover more about science and technology, generous donations, and global alumni bond-building strengthened connections with the wider community

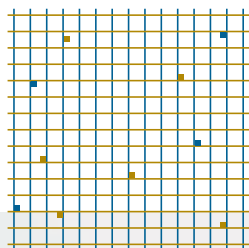


## INSPIRING THE NEXT GENERATION

The University powered ahead with many different projects and initiatives to encourage HKUST students to share their skills and knowledge in community endeavors and to draw the attention of the younger generation to the exciting world of science and technology.

Joint School activities saw the continuation of a credit-bearing course on serving the elderly, organized by the School of Science, School of Business and Management and School of Engineering. During the course,





students made regular visits to old people's homes and helped seniors write their memoirs. The three Schools also co-organized the credit-bearing Underwater Robot Community Engagement Project. In this initiative, HKUST students serve as teachers to guide a mixed group of younger students – primary, secondary, the hearing impaired and ethnic minorities – to build underwater robots. A record number of 300 students from 42 primary and secondary schools signed up for the four-day event in 2017.

Individually, the School of Science engaged in a variety of social endeavors. Students continued to participate in the University Student Sponsorship Programme in Wildlife Conservation, run in collaboration with Ocean Park Conservation Foundation, Hong Kong. This involved students in research projects, with field trips to Mainland

China and other Asian countries. At home, social service team SCI/NUCLEUS helped out in the local community. Selected students served as Social Leaders to arrange different voluntary services and lead team members. Participants included students, staff and alumni.

The School of Engineering organized its first Technology Leadership and Entrepreneurship Youth Camp for junior secondary school students. During the five-day summer program, participants had the opportunity to shadow HKUST students as well as visit their start-ups at the Hong Kong Science Park. The camp provided a practical introduction to entrepreneurship through a team project to formulate a business plan for a technology product. The School's Center for Global & Community Engagement also arranged more than 20 workshops at InnoCarnival 2016 to

promote engineering knowledge to primary and secondary school students in a fun way.

On the sustainability front, faculty from the Division of Environment and Sustainability of the Interdisciplinary Programs Office continued to lead forward the "Community EXPLORE Project – from Science to Action", a three-year initiative funded by HSBC Hong Kong Bank Foundation. The project aims to enhance high school students' technical knowledge and skills in monitoring air quality in their communities and identify scientifically the sources of pollution. A total of 48 schools covering over 700 secondary school students, teachers and technicians have benefited from the scheme to date.





## BUILDING KNOWLEDGE

The School of Business and Management shared its knowledge and expertise through public presentations by faculty members. The School also invited well-known local and global leaders to deliver talks on topical issues to classes or in open seminars. Such occasions not only enriched the student learning experience, but also forged closer connections with the business community. In 2016, Prof Sir Christopher Pissarides, winner of the 2010 Nobel Prize in Economics and the first Nobel Laureate to join the HKUST faculty, delivered a talk on the impact of Brexit. In 2017, the School's long-established BizInsight@HKUST presentation series partnered with United Overseas Bank and Moscow School of Management SKOLKOVO to organize a series of open seminars, examining the impact and opportunities of the One Belt One Road initiative in different Southeast and Central Asian markets.

HKUST participated in an "Evening Forum" in September 2016 to exchange views and insights on Hong Kong's innovation and technology development with the aim of engaging young students

and the public in science and technology. The forum was held as part of "InnoTech Expo 2016", a large scale innovation and technology event organized by Our Hong Kong Foundation with support from the Ministry of Science and Technology.

Public lectures on a range of subjects were presented by Division of Humanities faculty in partnership with the Hong Kong Museum of History throughout the year.

## DRIVING FORWARD GLOBAL VISION

The University continued to receive an encouraging response from the community to its Global Vision campaign, launched in conjunction with HKUST's 25th Anniversary. Donors provided generous support for new infrastructure, professorships, research, scholarships, and other programs.

As part of the campaign, the University received a gift from the Tsang Shiu Tim Charitable Foundation to support the construction of a new indoor sports center. The center is one of the major Student Life projects of the fund-raising drive, seeking to promote sports development and enhance students' overall campus experience.

Named professorships enable significant recognition to be bestowed on eminent academics. Over the year, the University established two professorships for promising young faculty, following donations from The S H Ho Foundation Limited and Drs Tai-chin Lo and Tony Tai respectively.

HKUST research projects also attracted a number of contributions, an indication of the community's recognition of the University's achievements in new knowledge building. HSBC 150th Anniversary Charity Programme funded a personalized real-time air quality informatics system project while the Lee Hysan Foundation made a donation toward research to develop treatments for Alzheimer's disease focusing on the Chinese population. Other benefactors included Lee Kum Kee Family Foundation, Tanoto Foundation, Kingworld Medicines Group, iFlight Technology Company Limited, and Kerry Holdings Ltd.

Further contributions enhanced student, entrepreneurship and other University development. Mrs Lee Fung Kung Wah supported the establishment of a student mentoring center in the School of Business and Management. Generous donations were also received from Shun Hing Education and Charity Fund Ltd for research and facility development and from alumnus Mr Yeung Wing Yee, Tin Ka Ping Foundation, and High Fashion Charitable Foundation.

In the sixth "Science-for-Lunch" talk series, six HKUST professors shared their discoveries and innovative technologies related to a novel drug injection method, stem cells, big data, quantum computing, drone technology, and water quality forecasting.





## FOSTERING ALUMNI CONNECTIONS

The HKUST Alumni Endowment Fund reached a total of over \$25 million, a target achieved through alumni's generous support of fund-raising in celebration of the University's 25th Anniversary. Since the Fund's launch, annual income through interest from donations has directly benefited a significant number of students, helping them to make the most of their life at HKUST through a host of enrichment initiatives. In 2016-17, income interest came to more than \$800,000.

Mr Alvin Lam was re-elected chairman for 2017-19 at the Convocation annual general meeting in March. Under his leadership, the standing committee has supported HKUST's growth and ties with the wider community through sub-committees on academic affairs, student affairs, University development and entrepreneurship. During the year, the HKUST Alumni Association's new committee began its term in office, with Mr Dicky Yuen elected president for the next two years. To achieve its goal of

"Alumni Inspire Alumni", the Association has adopted a four-pillar structure comprising an alumni engagement team, career advancement team, entrepreneur circle and community service team.

The University continued to strengthen bonds among members of its ever-expanding alumni network through more than 80 reunions and social events in Hong Kong and across the globe. Large-scale 25th Anniversary get-togethers included international celebrations in Beijing and Singapore.

Career-related initiatives assisted the professional development of alumni and students. Alumni entrepreneurs shared knowledge and experiences with start-up founders and those interested in taking a similar pathway. Conversations with Alumni provided an interactive online platform for students to gain deeper understanding of different industries and tips for success. In addition, alumni professors based around the world shared their cutting-edge research in the "Did You Know" video series.

Many alumni gained public recognition and accolades for their service and accomplishments during the year. They included: Ms Starry Lee (Silver Bauhinia Star), Mr Yik Hei Chan (Bronze Bauhinia Star), Mr Jeff Chen (Beazley Designs of the Year Award), Mr Eric Yung (Best Mobile Apps Grand Award, Hong Kong ICT Awards 2017), Mr Albert Au (Best ICT Startup Gold Award, Hong Kong ICT Awards 2017), Mr Victor Manuel Sanchez (Technology Company of the Year – Startup category, Computerworld Hong Kong Awards 2016), Mr Langston Suen (IET Innovation Award 2016), Prof Ben Chan (Honorary Mention of HKUST Common Core Teaching Excellence Award 2016) and Prof Naubahar Sharif (HKUST School of Humanities and Social Science Award for Teaching Excellence 2016).

# INTERNATIONAL AND MAINLAND STRATEGY

Impactful collaborations with overseas and Mainland academia and industry raised the University's national and global profile

## GLOBAL ENGAGEMENT Seizing Opportunities

The One Belt, One Road initiative led to concerted efforts across the University to explore research openings and build relevant overseas relationships. In November 2016, President Tony F Chan joined a delegation led by the then Financial Secretary, Mr John Tsang, and more than 30 leaders from finance, information and communication technology, to Dubai and Tehran to explore new opportunities arising from One Belt One Road. The delegation met government officials and business leaders. In Iran, President Chan also met the presidents of Sharif University of Technology and Amirkabir University of Technology to explore academic and research collaborative opportunities.

In addition, HKUST welcomed university leaders from One Belt One Road countries such as Kazakhstan and Russia to its Clear Water Bay campus. These delegations expressed keen interest to work with the University to identify potential synergies arising from One Belt One Road.

## Strengthening Ties

During the year, University delegations conducted strategic visits to Australia, Singapore and Japan to further strengthen existing relationships with leading institutions and initiate new partnerships with universities and industry. The visits also led to meetings with alumni and media representatives.

As part of the Japan visit, the University jointly organized a formal luncheon with the Hong Kong Economic and Trade Office in Tokyo, Hong Kong Trade Development Council Tokyo Office and Invest Hong Kong, including a talk on "Innovation and Technology: Another Pillar of the Hong Kong Economy". The event attracted more than 100 representatives from government, academic and industry, and the University's MBA students and alumni, as well as extensive media coverage.

In Singapore, the visit coincided with HKUST's 25th Anniversary celebration event, with the delegation celebrating along with students, alumni and university partners.

In Hong Kong, the University organized the annual Consuls General Reception in October 2016 to introduce HKUST's latest developments and achievements, and exchange ideas on potential collaborations with institutions and companies in their respective countries. Representatives from over 30 countries attended.

## Advancing Strategic Collaboration

The University works selectively with leading institutions that complement its strengths and research and academic priorities. During the year, HKUST entered into new university-level agreements with the University of St Andrews and University of Tokyo to deepen academic and research collaborations, and facilitate student exchange.

HKUST and the California Institute of Technology (Caltech) Visiting Associates Program continued to assist selected HKUST faculty members to undertake research with Caltech faculty to foster long-term academic collaborations and to build relationships. Discussions are





on-going on expanding this program. The University signed an agreement with the University of Waterloo, allowing students from various disciplines to earn a dual PhD from both institutions, and established a partnership to enable students to earn a Bachelor degree from HKUST's School of Engineering and a Postgraduate law degree from the University of Exeter.

Senior management also visited the Moscow School of Management SKOLKOVO in Russia and a Memorandum of Understanding was signed with HKUST, in the presence of Russian Federation Prime Minister Dmitry Medvedev, to collaborate on academic exchange, executive programs and research.

The University's strategic partnership agreement with KTH Royal Institute of Technology (KTH), Sweden, established in 2015, successfully fostered joint research in areas including big data systems and robotics. As a result, the University currently has nine strategic partnerships with elite universities. The other institutions are University of Minnesota, Rice University, Technion – Israel Institute of Technology, University of Southern California, École Normale

Supérieure, École Polytechnique Fédérale de Lausanne, Technische Universität München and Shanghai Jiao Tong University.

### Engaging in Global Dialogue

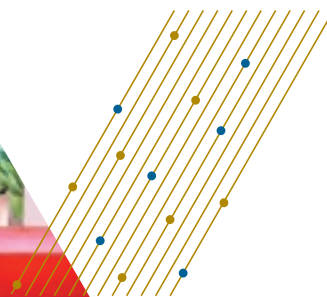
President Chan was invited for the fifth time to the World Economic Forum Annual Meeting in Davos, Switzerland, in January 2017. He also attended the Global University Leaders Forum (GULF), an elite platform comprising over 25 research university leaders, where he shared his views on the “Fourth Industrial Revolution Governance – Priorities, Objectives and Role of Universities”.

HKUST was invited to co-design a workshop at the 11th Annual Meeting of the New Champions in Dalian, China, in June 2017. At the workshop, titled “The New Drone Economy with The Hong Kong University Science and Technology”, three HKUST faculty along with experts from Airbus Defence and Space, International Civil Aviation Organization, and Imperial College London, shared opportunities and challenges for engineers, business leaders and policy-makers to realize the full commercial potential of drones.

The University remains actively engaged with peers in other key regional and international networks. HKUST senior management team regularly contributes to global dialogue on higher education through organizations such as the Association of East Asian Research Universities (AEARU) and Association of Pacific Rim Universities (APRU). In May 2017, the University joined the Third APRU Vice Presidents for Research Meeting 2017, hosted by Nanjing University. Themed “Enhancing the Role of Universities in Fueling Innovation and Entrepreneurship”, the meeting provided a valuable opportunity for participating universities to share best practices and their experience across geographic and cultural borders.

In June 2017, HKUST participated in the XI Glion Colloquium, where research university leaders join leaders from business and government to consider the role that the world's foremost universities should play in addressing the challenges and opportunities of today's world.





## WIDENING MAINLAND OPPORTUNITIES

### Building Academic Links

HKUST joined the new Asian Universities Alliance (AUA) and Innovation and Entrepreneurship Education Alliance of China (IEEAC), both initiated by Tsinghua University. AUA comprises 15 Asian universities. It is seeking to enhance institutional cooperation and communication and to play a role in solving regional and global issues. The University is the only founding member from Hong Kong. Four HKUST students from different departments participated in the first five-day youth innovation workshop together with students from the other 14 Asian universities. IEEAC aims to build a platform for universities to share their experience in innovation and entrepreneurship, deepen education reform, and nurture students' innovative and entrepreneurship spirit. HKUST hosted the launch ceremony of the Hong Kong and Macau Universities cum International Symposium on Innovation & Entrepreneurship Education in May 2017.

More than 540 faculty and students took part in cultural exchanges, community services and academic programs through a collaborative scheme administered by the Ministry of Education. To celebrate the 20th Anniversary of the establishment of the

Hong Kong Special Administrative Region, 20 HKUST students born in 1997 went on a cultural exchange to Beijing which was sponsored by the Mingxi Charity Foundation, meeting up with 20 Tsinghua University students.

The University hosted nearly 120 high-level Mainland delegations in 2016-17, including over 1,300 delegates from industry, government and academia. Among those visiting were: Prof Tan Tieniu, Deputy Director of the Central People's Government Liaison Office in the HKSAR; Prof Zhang Jie, Vice President of the Chinese Academy of Sciences and Council Chairman of the University of Chinese Academy of Sciences; Prof Xu Ningsheng, President of Fudan University; and Prof Li Yuanyuan, President of Jilin University. HKUST also signed a Memorandum of Understanding with Jilin University to deepen collaboration in mathematics, chemistry and mechanical engineering.

During the year, HKUST senior management visited Beijing and met Mr Chen Baosheng, Minister of Education, Prof Ding Zhongli, President of the University of Chinese Academy of Sciences, Prof Lin Jianhua, President of Peking University, and Prof Qiu Yong, President of Tsinghua University, to find out more about the latest developments in higher education in the Mainland and explore further collaboration between the universities.

President Chan was invited to discuss how the University can contribute to the development of the Guangdong-Hong Kong-Macau Greater Bay Area and Lok Ma Chau Loop Innovation and Technology Park on several occasions, including a forum organized by Tencent and meeting with the Hong Kong government's Central Policy Unit.

Implementation measures were announced by the Ministry of Education in January 2017 in support of the "Double First Class" plans to enhance China's education system. Dr Eden Y Woon, Vice-President for Institutional Advancement, was invited to share ways of nurturing global talents and internationalization by Shanghai Jiao Tong University, Shanghai University and Jiangsu Education Bureau.





### Platforms for Innovation

Over 2016-17, the University's Mainland platforms in Guangzhou, Shenzhen and Foshan advanced their knowledge transfer activities and innovation under the guiding hand of the HKUST Fok Ying Tung Graduate School in Nansha. The HKUST Fok Ying Tung Research Institute develops innovative technologies and nurtures start-ups. Shenzhen Research Institute secures research projects, provides training, and engages with local industry and government. HKUST R and D Corporation (Shenzhen) Ltd runs an Innovation and Entrepreneurship Center and has set up the Blue Bay incubator program to provide a full incubation service to the HKUST community in Shenzhen.

These platforms provide significant opportunities for HKUST faculty to secure Mainland R&D projects and engage in knowledge transfer and commercialization. They also assist HKUST students and alumni in deploying start-ups in Mainland China and help the University serve as a leading training hub for innovation and entrepreneurship talents in Shenzhen.

The HKUST LED-FPD Technology R&D Center at Foshan celebrated its fifth anniversary during the year. It continued to focus on light-emitting diode research and development, moving on to III-V device packaging technology development.

### Industry Interaction

The University extended its interaction with major Mainland enterprises through the development of research collaborations, job placements, student internships, and executive training opportunities.

In November 2016, Prof Wang Jian, the President and Co-Founder of the Beijing Genomics Institute (BGI), was invited to give a talk at the University as part of the HKUST 25th Anniversary Distinguished Speakers Series. Subsequently, the Vice-President for Research and Graduate Studies led a delegation in early 2017 to meet with the senior management of BGI and agreed on the establishment of a joint research center that will set the stage for the next-generation sequencing platform and research collaboration that produce novel medical diagnosis

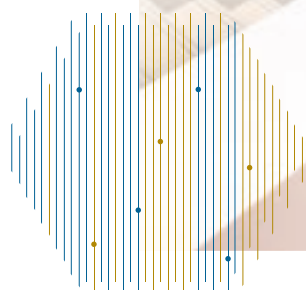
and treatments with transformative impact. In addition to BGI, HKUST is also working closely with other enterprises such as Alibaba, China Life, Fosun, Huawei, Didi, Lenovo, Tencent, and Vanke.

In further activities, the University co-organized "Hack-O-Life 2016", a hackathon, with AIA and Cisco in November 2016, in which Hong Kong and Mainland universities explored innovations related to healthy aging. FunPlus, a Mainland video and mobile game development company, co-organized a game development competition with HKUST as part of HackUST 2017, the largest student-organized hackathon in Asia. The Fosun-HKUST MBA Technopreneur program was also launched to develop new products and services related to the health and happiness industry sector.



# ORGANIZATION AND RESOURCES

The University deepened campus integration, nurtured a community spirit, and moved forward on facility expansion over the year



## FURTHERING DIVERSITY

The establishment of a DiversAbility Team by the Student Affairs Office improves support for students with Special Educational Needs (SEN) and broadens services related to diversity, diverse-ability, integration and equal opportunities. Administrative and teaching staff from various offices and departments, as well as students, took part in training sessions and SEN awareness activities. Colleagues undertook a study trip to Taipei to share best practices and exchange ideas. In addition, the Director of Disability Support Service from Rice University in the US was invited to conduct an evaluation of campus accessibility and to offer input on the development of a disability support services office at HKUST.

With rising awareness of the availability of SEN support services and a centralized team to provide one-stop service, the number of SEN declaration cases increased and collaborative efforts to support SEN students among offices expanded, with SEN students, other students and staff providing constructive feedback.

## NURTURING A HIGH-PERFORMANCE CULTURE

HKUST aims to nurture a high performance culture that recognizes contributions and accomplishments. To this end, the University embarked on the Non-Academic Staffing Review in June 2016 to optimize the design and development of Job Description, review the desirability and feasibility of a new grading and salary structure, and develop a new Performance and Development Review (PDR) to better support personnel decisions and the professional development of non-academic employees. The review is

partly complete. The new PDR will be piloted on a cloud-based electronic platform in September 2017 prior to its actual adoption for the year 2018-19.

## RECOGNIZING LONG SERVICE AND WELL-BEING

HKUST is keen to recognize the dedication of those who devote their careers to the University. In 2016-17, 66 faculty and staff members received Long Service Awards for their loyalty and commitment to the University over the past 20 years. As at 30 June 2017, there were a total of 3,661 members of staff in post.

Staff members warmly received the Wellness Program series of health seminars, which are offered on a quarterly basis to enhance work-life balance and form part of the University's sustainability endeavors.





## BOOSTING CAMPUS DEVELOPMENT

Implementation of the Campus Master Plan made good progress in 2016-17, with tenders for various buildings prepared. Construction of the Indoor Sports Center and enhancement of the University's waterfront commenced, with the projects expected to be completed in the first quarter of 2018.

On the residential front, 2016-17 saw the opening of the HKUST Jockey Club Hall at Tseung Kwan O as a hostel for undergraduates, the completion of a major renovation of postgraduate accommodation in Towers A and B on campus and significant progress made on the construction of a new 500 beds postgraduate hostel supported by the donation from the Hong Kong Jockey Club.

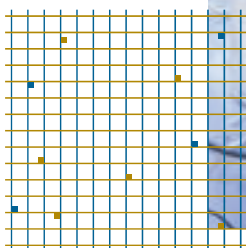
The University successfully sought funding from the UGC's Additions Alterations and Improvements Program to assist with certain campus facility upgrades. Such work encompasses expansion and renovation of catering facilities, expansion and renovation of the data center, upgrading and expansion of specialist research facilities as well as refurbishment of departmental office facilities.

Modernization of other facilities is also continuing. This includes student residences, staff residences, extensive areas of the Academic Building and the facilities within it.



# SCHOOL OF SCIENCE

Enterprising education moves, career development, and internationalization endeavors advanced the School's drive for excellence



## FOSTERING HIGH-FLYERS

The first cohort from the International Research Enrichment (IRE) Track graduated in 2017. This elite program enables science undergraduates interested in a research career to make an early start by undertaking scientific research. Most IRE students secured postgraduate offers from renowned overseas universities ahead of completing their undergraduate studies.

In new moves, the Department of Mathematics established the S S Chern Class in honor of the renowned mathematician Prof Shiing-Shen Chern for high-flying math students. The prestigious class offers a challenging yet flexible curriculum, personalized mentoring, scholarships and awards, research opportunities and international experience.

The experiential course, Teaching Science Using Innovative Teaching Tools, was rolled out in Fall 2016. The course, jointly developed by the Departments of Physics, Chemistry and Mathematics, presents a unique opportunity for students to plan and deliver learning activities, in contrast to being taught,

and provides useful experience for those considering a teaching career.

In addition, the School actively participated in the University's innovation drive by co-offering an Entrepreneurship minor.

The Research in Industrial Projects for Students – Hong Kong was successfully organized for the sixth consecutive year in Summer 2016. The nine-week research-plus-industrial internship and international education exchange program is co-organized with the Institute for Pure and Applied Mathematics at the University of California, Los Angeles. Company sponsors in 2016 included AECOM, Ant Financial, ePropulsion and Huawei, with projects involving analytic and computational work, along with skill-building in report writing and public speaking.

The School continued to develop its Career Training and Internship Program in 2016-17. The program gives students the opportunity to engage in individual consultations to explore career goals, company visits, mock interviews with human resources experts, and

internships. Another MenTernship Program was also offered, with social leaders invited to become mentors to students and internships arranged in mentors' fields.

## ATTRACTING FUTURE LEADERS

To further attract high-caliber students, the School stepped up its efforts in student recruitment and image-building. Faculty members joined recruitment trips to Taiwan and Mainland China. The School also met local high school teachers and students through a series of specially arranged events, including experiential science workshops with alumni teachers and the inaugural Science Summer Camp for high school students, which attracted over 140 participants in July 2016. The 2016-17 intake saw five International Physics Olympiad and International Mathematical Olympiad medalists admitted.

The School's annual summer research program, summer camp, and research internship program helped to boost postgraduate recruitment efforts. In further initiatives, the School proactively





**“Over 80 international institutions offered student exchange opportunities”**



connected with selected overseas institutions. In 2016-17, strategic partnerships and dual-degree postgraduate programs were established with leading overseas universities, including Vietnam National University and the University of Sussex in the UK.

A revamp of the Scientific Computation Concentration took place, extending it to several research postgraduate programs in the School of Engineering. By bringing together the best talents from different disciplines, the concentration allows science students to enhance their learning beyond their major research areas and gain more hands-on training in computation-related areas.

## INTERNATIONALIZING STUDENT EXPERIENCE

The School explored new partnerships for its student exchange program, which now total over 80 institutions. During 2016-17, agreements were established with the University of Tokyo and the UK's Lancaster University and University of Glasgow. A collaborative agreement between Beijing

Computational Science Research Center and HKUST will also strengthen joint postdoctoral supervision, PhD student mentoring, bilateral faculty and researcher exchange, and sharing of computer facilities, especially in mathematics, physics, and computational science.

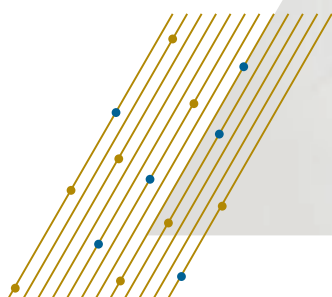
The Seoul Social Innovation Study Trip in January 2017 raised students' awareness on how to use their scientific knowledge and skills to tackle social issues. During the trip, students exchanged ideas with social enterprise leaders from Hong Kong and Seoul. After returning to Hong Kong, students wrote up group proposals on ways to address social issues in the HKUST community.

Social activities boosted cultural exchange and integration, communication and friendship between local and non-local students studying at the School. One key event, “One More Pair of Chopsticks”, saw local students invite non-local students to visit their home for a Chinese New Year “reunion dinner”. A total of 13 local families hosted 55 non-local students and all enjoyed this authentic cultural exchange experience.



# SCHOOL OF ENGINEERING

A productive year saw the expansion of dual degrees and experiential learning and the launch of a comprehensive cybersecurity lab



## ACHIEVING ACADEMIC EXCELLENCE

The School of Engineering continued to shine in global rankings, with HKUST ranked No.19 worldwide and No.1 in Hong Kong in the Times Higher Education World University Rankings 2016-17 by Subject: Engineering and Technology, and No.15 globally and No.1 in Hong Kong in the QS World University Rankings in Engineering and Technology 2017.

The Department of Chemical and Biological Engineering will be established through the integration of the Division of Biomedical Engineering and the Department of Chemical and Biomolecular Engineering effective July 2017. The restructuring will catalyze the University's strategic development in bioengineering and health-related engineering and technologies, in addition to strengthening the current research and education programs in Chemical Engineering.

## PACE-SETTING PROGRAMS

The School's four-year undergraduate degree programs went through Hong Kong Institution of Engineers (HKIE)

accreditation in late 2016. They received full accreditation up to the 2020 intake. The recently established BEng in Aerospace Engineering was granted provisional accreditation up to the first cohort of graduates in 2018, to be followed by a full accreditation visit.

To broaden undergraduate options, the School established a pioneering partnership with the University of Exeter in the UK to allow students to earn a BEng or BSc in Engineering or Computer Science and a law degree from the University of Exeter within five years. The first three years will be spent at HKUST and the final two at Exeter, where students can choose either a Juris Doctor (JD) or Master of Laws (LLM). The full program is set to commence in 2018-19.

Preparation for a new minor in Robotics took place over the year. The minor, to be launched in Fall 2017, offers students a theoretical foundation and hands-on experience of robotics, control, and automation.

A practicum-led undergraduate program is being developed to nurture future innovators. The program will offer a learner-centered curriculum

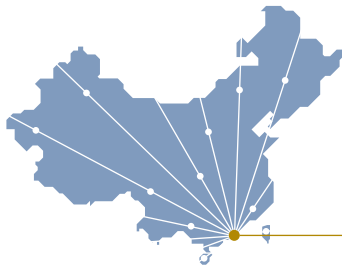
designed to help students develop technical and design thinking skills, a systems view, and an entrepreneurial mindset for success.

## EXPERIENTIAL EXPANSION

The Department of Mechanical and Aerospace Engineering and Department of Industrial Engineering and Logistics Management introduced experiential courses on electric vehicles and computing in industrial applications respectively, enabling students to gain hands-on experience. The School also developed a first-year project-based engineering design course to expose students to different engineering disciplines before deciding on their majors.

The setting up of a 24/7 student-run MakerSpace offers a reconfigurable learning environment that serves as a design studio, prototyping studio, training center, co-op shop and demonstration studio, and enables students to try out their ideas. The facility is already home to several experiential learning courses and more than 30 student-initiated projects.





## “No. 1 in Hong Kong, Times Higher Education & QS World University Rankings (Engineering and Technology)”

### POSTGRADUATE VISION

National and international opportunities for the School's postgraduates increased, with new arrangements including: a dual degree program for MPhil computer science and engineering students with École Polytechnique Fédérale de Lausanne, Switzerland; a dual degree Master's program with China Academy of Art and a research and internship collaboration with Fitipower Integrated Technology (Shenzhen) Inc; postgraduate exchange agreements with Ecole Nationale de l'Aviation Civile and Institut National des Sciences Appliquées de Toulouse, France; a Memorandum of Understanding with National Technical University of Athens, Greece; and a cooperation and exchange agreement with Chulalongkorn University, Thailand.

The School drew the largest number of awardees for the Hong Kong PhD Fellowship Scheme among all engineering schools in Hong Kong for the eighth consecutive year. Thirty-six engineering awardees will start their PhD studies at HKUST in Fall 2017. In further postgraduate research recognition, the fourth year of the Ford-HKUST Conservation and Environmental Research Grants program saw 21 MSc students awarded grants.

### INNOVATION AND CYBERSECURITY

The School formed a research collaboration with Hong Kong Applied Science and Technology Research Institute to leverage their mutual expertise in financial technology, big data, integrated circuit design and wireless communication. The agreement

will see a Joint Lab set up. In addition, the Department of Computer Science and Engineering established a Cybersecurity Lab, the first laboratory at a Hong Kong university dedicated to all major issues of security. In November 2016, the first Security Forum marked the Lab's launch.

The School organized the first event of the new France-HKUST Innovation Hub, established by the University and Consulate General of France in Hong Kong and Macau. The presentation featured Prof Laurent Boutillon, Scientific Director of Vinci Construction Grands Projets, who spoke on “Discovering Chernobyl's New Sarcophagus”.

Other highlights included hosting the annual Asia-Oceania Top University League on Engineering Conference and a three-day forum that brought together School faculty members and their counterparts at Peking University's College of Engineering to explore collaborative research in materials, bioengineering, and aerospace engineering.

### EXCELLENCE IN ACTION

An HKUST Massive Open Online Course (MOOC) on Java programming was named among the most popular courses on edX, one of the two leading international MOOC platforms. The course has drawn 250,000 enrolments worldwide since it was launched in 2014. It was ranked No.6 on the Top 10 Most Popular Courses ranking in 2016.

The HKUST-MSRA Cup, jointly sponsored by HKUST and Microsoft Research Asia, took place in Fall 2016 to motivate undergraduate and postgraduate students in Hong Kong and Macau to apply artificial intelligence techniques and ideas to real-life problems.

### ENERGIZING YOUNG ENGINEERS

To foster enthusiasm for engineering and an entrepreneurial spirit at an early age, the School held its first Technology Leadership and Entrepreneurship Youth Camp for junior high school students. The Department of Electronic and Computer Engineering and IEEE Electron Devices Society organized the fifth Electronic Exploration Camp to interest school students between the ages of 10 to 15 in studying electronic engineering.

In further outreach, the opening ceremony of the HKUST Academy for Bright Future Young Engineers took place in November 2016. The Academy, supported by Bright Future Charitable Foundation, gives HKUST engineering students opportunities to mentor and engage secondary school students in authentic engineering experiences and inspires them to embrace an engineer's mindset. It currently has over 50 fellows and 350 members.



# SCHOOL OF BUSINESS AND MANAGEMENT

Following a smooth transition to the new administration, the School made significant advances on several fronts in readiness for its next phase of development



## ADAPTING TO CHANGING BUSINESS NEEDS

With major shifts in the global geopolitical landscape and technological capabilities, the business environment is changing rapidly, and the School has moved fast to respond to such developments in order to nurture the next generation of talent.

In line with this, the School has actively fostered an innovative and entrepreneurial culture to help students harness opportunities in different areas through enhancing the curriculum and providing a positive environment for potential entrepreneurs. The School also played host to the One Million Dollar Entrepreneurship Competition in Beijing for the second year running, receiving strong support from its alumni network.

## FINTECH AND EMERGING MARKETS

Given the increasing significance of financial technology (FinTech), the School has established a FinTech Group, comprising experts across three academic departments, to chart its way forward in this area. Courses and programs introduced different aspects of FinTech. The School also sets its sights on becoming a FinTech intellectual powerhouse through rigorous research.

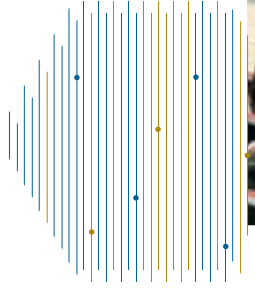
The School sees emerging markets and the One Belt One Road countries as other areas that can open up new pathways for students, academics and the region. In accordance, faculty members have undertaken an interdisciplinary research project exploring *“Trade and Investment under One Belt, One Road and Implications for Hong Kong”*, funded by the Strategic Public Policy Research Scheme under the Hong Kong government’s Central Policy Unit. The study will provide valuable evidence-based insights to help Hong Kong formulate optimal trade and investment policies to bolster the city’s future development.

## GLOBAL EXCELLENCE REINFORCED

The Kellogg-HKUST Executive MBA (EMBA) program was ranked No.1 globally by the *Financial Times* in 2016, the seventh time in the past 10 years. In 2017, the program was named the world’s No.1 joint EMBA program in the inaugural Global EMBA Rankings, conducted by Quacquarelli Symonds (QS). The HKUST MBA was ranked No.15 in the world by the *Financial Times* in 2017, the eighth consecutive year that the program ranked in the top 15 globally.

The School received a fresh accolade when it was named CEMS School of the Year in 2016. CEMS is a global alliance that collaborates with 30 world-leading business schools, including HKUST, to offer an MSc in International Management. The School was the first Asian school to receive this international honor.





## NETWORK EXPANSION

To boost internationalization, the School furthered its collaborations with established global education alliances. These include the Global Network for Advanced Management (GNAM), comprising 29 schools. GNAM members create a networked learning environment for students and work together to explore critical issues facing global business. Meanwhile, the Association of Asia-Pacific Business Schools (AAPBS) appointed Prof Tam Kar Yan, Dean of the School of Business and Management, as Vice President and President-Elect.

The School also signed a cooperation agreement with the Moscow School of Management SKOLKOVO, a leading private business school in Russia. Under the agreement, the partners will collaborate on academic exchange and explore joint programs and research related to the economic potential of Europe and Central Asia.

Strong international standing and enhanced networks will help increase the School's leadership role in advancing business education in Asia and provide more overseas learning opportunities for students.

## MULTI-SKILLED CONTRIBUTION

To develop multi-skilled faculty who can contribute not only to research and teaching, but also to service leadership, the School introduced training programs for mentoring and observational learning activities to build the skills of younger faculty and researchers. Faculty were encouraged to attend external teaching workshops, such as the Association of Asia-Pacific Business Schools Case Development Workshops, Harvard Business School Case Method Teaching Seminars and Babson Teaching Innovation Programs to learn more about best practices and exchange insights with other participants.

## WINNING WAYS

The School's students again achieved outstanding results in local and global competitions over the year. Among these successes, two undergraduate teams won the champion and second runner-up titles in the ISACA Case Competition 2017 for university students in Hong Kong. ISACA is a non-profit global body for IT governance professionals. An undergraduate team was awarded the top prize in the university student category of the SCMP/IFPHK Financial Planner Awards 2016, co-organized by the South China Morning Post and the Institute of Financial Planners of Hong Kong. In addition, MBA student teams participating overseas brought home champion titles and category winner accolades in the USC Marshall's Global Consulting Challenge, Yale SOM Integrated Leadership Case Competition, New Venture Championship, and International Business Ethics Case Competition.

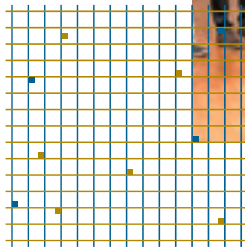


**“Financial Times &  
QS Rankings, World's No. 1”**



# SCHOOL OF HUMANITIES AND SOCIAL SCIENCE

The School moved ahead with its e-learning initiatives and saw faculty members' expertise on China widely recognized



## GLOBAL CHINA STUDIES ON-LINE CURRICULUM

Around the world, universities today are committed to providing an education that combines research-embedded teaching with capacity building instruction emphasizing connectivity, creativity, and English-language communication. The Global China Studies On-Line Curriculum (GCSOL) reflects the best efforts of the HKUST School of Humanities and Social Science to do this through online education, blended classroom teaching, and active learning. This interdisciplinary curriculum showcases the School's world-class research strength in creative arts, humanities, language education, and social science, as well as our development of a new pedagogy

using online resources to develop students' communication skills, teamwork, and creativity.

The current GCS On-Line Curriculum consists of thirteen on-line courses sequences offered as 20 or more separate classes, all taught in English in the fields of Economics, Language, Literature, Music, Political Science, Quantitative Methods, Science-Technology-Sustainability, Social-Economic History and Sociology. These classes are currently offered for free as Massive Open Online Courses through Coursera and edX. The School is now discussing with the university on how to license the revised production of these classes to other universities as blended and flipped classes which could fill in as part of their Common Core or minor/major degree programs.

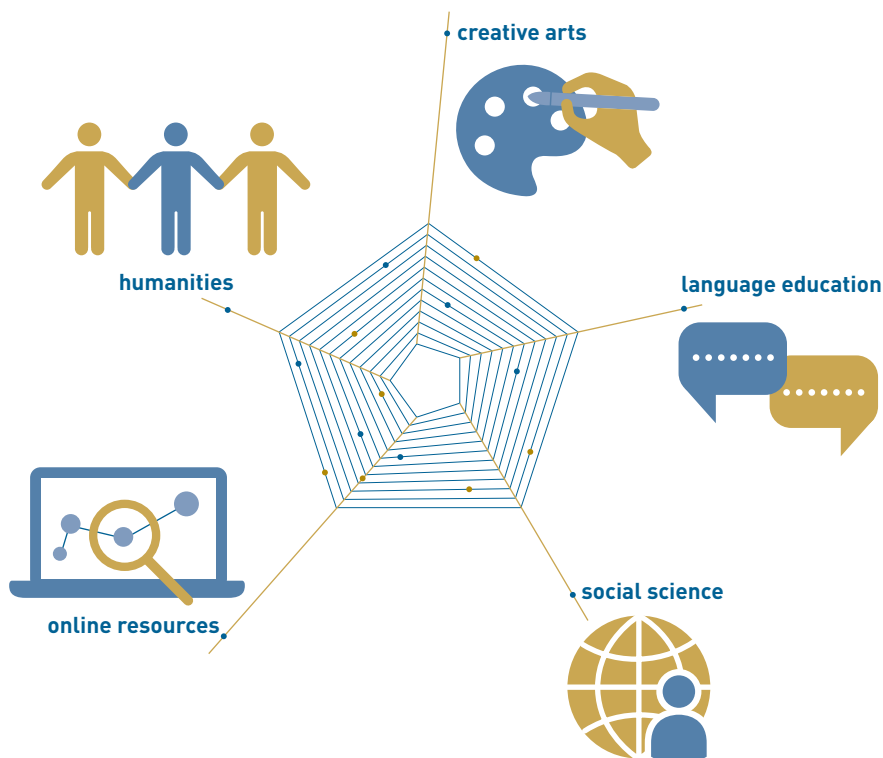
## FOCUSED ON A GLOBAL OUTLOOK

Prof Rehav Rubin, a geographer from the Department of Geography, Hebrew University of Jerusalem, was appointed the second Elman Family Visiting Professor of Jewish and Israeli Studies. Prof Rubin will be affiliated with the Division of Social Science in 2017 Fall term and teach an undergraduate course on Jerusalem through the Ages: Historical Geography of the Holy City.

Three faculty members, Prof Shengqing Wu and Prof Jianxiong Ma, both Division of Humanities, and Prof Wenkai He, Division of Social Science, received invitations to become Harvard-Yenching Visiting Scholars for 10 months from September 2016. Prof Daisy Du, Division of Humanities, will take up a similar role in 2017-18.



## Global China Studies On-line Curriculum showcases the School's world-class research strength in the following areas:



Among 29 Master of Science in Global China Studies (MGCS) students in the 2016-17 cohort, 11 will begin other Master programs in elite universities such as HKUST, University College London, Oxford, John Hopkins, and Peking University. The Master of Arts in International Language Education (MAILE) recruited 48 students for its cohort in 2017-18, with 18 students enrolled in the Teaching English as a Second Language concentration and 30 in the Teaching Chinese as a Second Language concentration. In addition, the MAILE dual degree pathway with University of Southern California's

Rossier School of Education received approval for recruitment for Fall 2017-18.

### FACULTY SPOTLIGHT

Prof Cameron Campbell was selected as a Changjiang Scholar by the Ministry of Education. As part of the Changjiang scheme, Prof Campbell was appointed a Visiting Distinguished Professor at Central China Normal University. Prof Jenny Smith received a prestigious Carnegie Fellowship for 2017-2019.

Over one-third of academics in the Division of Social Science were cited, quoted, or interviewed by local, regional, and international media outlets over the past year. Media include ABC News, *ALLAFRICA*, Bloomberg, Channel NewsAsia, *China Daily*, *Dutch Financial Daily*, *The Economist*, *LA Times*, *Lianhe Ribao*, *Ming Pao*, *New York Times*, *South China Morning Post*, *Time Magazine*, RTHK, *Xingdao Ribao*, Voice of America, *The Wall Street Journal*, *World Peace Forum*, among others.

### CREATIVE VISION

The Division of Humanities held successful conferences over the year on modern and contemporary Chinese literature, empires and religions, and literature and philosophy, attracting Mainland China and international academics to participate. The Division also joined with the Library and the Center for Education Innovation in sponsoring the University's First Red Bird Student Film Festival in May 2017.

In its seventh season, the annual Intimacy of Creativity, the pioneering international music workshop series founded and led by Artistic Director Prof Bright Sheng, YK Pao Distinguished Visiting Professor of Cultural Studies, organized the World Premiere Concert featuring the critically acclaimed New York Festival of Song at the Asia Society Hong Kong Center in March 2017.

# INTERDISCIPLINARY PROGRAMS OFFICE

A restructure of Divisions, further diversity of learning opportunities, and boundary-crossing research made 2016-17 an exciting year for IPO

## FRESH OUTLOOK

IPO, first established in 2008, can now appoint tenure-track faculty, providing a more sustainable structure to build a core group of faculty members to drive existing and new efforts to support institutional strategic goals in important and emerging interdisciplinary areas.

Over the year, the Division of Public Policy was established. This will serve as an interdisciplinary academic division that advances HKUST's vision in developing public policy as an emerging strategic area. The Division will also further enhance the synergy between public policy and on-going initiatives in interdisciplinary research and education, with an emphasis on policy-making guided by advances in science, technology and innovation, environment and sustainability.

The Division of Environment was renamed the Division of Environment and Sustainability and its mission broadened to enhance synergy across Schools and Departments in research, education and knowledge transfer in both areas. Externally, it will seek to work with industry, government and

non-government organizations in building a more sustainable environment for Hong Kong, the Pearl River Delta, Mainland China, and the world.

Effective July 2017, IPO's Division of Biomedical Engineering will be integrated with the Department of Chemical and Biomolecular Engineering to form the Department of Chemical and Biological Engineering under the School of Engineering.

## DIVERSE LEARNING AND SELF-DISCOVERY

IPO's Individualized Interdisciplinary Major (IIM) allows students to create a unique academic program that best suits their own intellectual interests and passions. A pioneering agreement was signed with the University of Hong Kong, Chinese University of Hong Kong and City University of Hong Kong to allow IIM students to take courses in these universities and transfer back credits where applicable, and vice versa. The local exchange opportunity provides a platform to diversify students' choices and expand their horizons.

The IPO Industrial Fellowship Program brought together seasoned professionals who are ready to share their personal workplace journey and impart industry insights to broaden students' perspective on career development. The program also seeks to help students align job aspirations with their passion and interests. Activities ranged from round table discussions to guest lectures and "bite-size" learning modules.

The Sustainability Thinking course, offered by the Division of Environment and Sustainability, enabled students to collect real-time consumption data through energy-monitoring equipment installed in student hostels. They analyzed data relevant to sustainable behaviors, particularly within the context of green buildings, and then used the information to design a real-time intervention to shift behaviors in a more sustainable direction. The course effectively raises awareness of the need to preserve energy and assists the University's estate management in delivering sustainability measures.





In line with its commitment to serving the local community, IPO joined hands with The Hong Kong Federation of Youth Groups to launch again the “Innovating Today, Imagining Tomorrow” Mentorship Program in 2016-17. Through interdisciplinary activities and mentoring sessions with faculty, the program aims to broaden local high school students’ horizons, and inspire them to unleash their potential and pursue personal goals.

## STRIVING TO BUILD A BETTER FUTURE

The Institute of Environment was funded a five-year project named “Personalized Real-time Air-quality Informatics System for Exposure (PRAISE-HK)” by the HSBC 150th Anniversary Charity Program. By combining state-of-the-art sensors technologies, air quality modelling system, big data, exposure science and more, PRAISE-HK provides personalized and location specific real-time air pollution data and health analysis to Hong Kong citizens. Based on the system data, users can plan cleaner routes and activities for the day, thereby effectively reduce exposure of polluted air and hence the health risks.

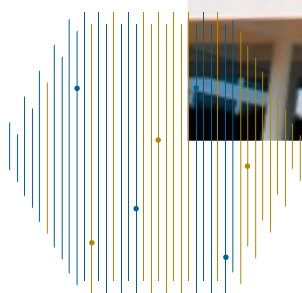
The cross-disciplinary “Early Childhood Intervention Project”, led by Prof Xiaogang Wu, Division of Social Science, Faculty Associate of the Institute of Public Policy and Prof Pauline Sung-Chan, Adjunct Associate Professor of the Institute of Public Policy examined the effectiveness of internet-based intervention to promote the developmental outcomes of young children living in poverty.

Prof Fei Sun, Division of Biomedical Engineering, and his research team successfully created photo-responsive hydrogels capable of controlled release of stem cells/proteins through covalently assembling recombinant proteins under mild physiological conditions. The findings, published in the *Proceedings of the National Academy of Sciences*, point to a versatile strategy for designing “smart” materials and open up opportunities for material biology and medical applications in the future.



# HKUST FOK YING TUNG GRADUATE SCHOOL

The University's Mainland platforms are assisting faculty, students and alumni to expand research, technology commercialization, and entrepreneurship



HKUST Fok Ying Tung Graduate School (FYTGS) was established in 2007, and is currently charged to oversee the University's knowledge transfer endeavors in HKUST's Mainland platforms located at Guangzhou, Shenzhen and Foshan, namely Guangzhou HKUST Fok Ying Tung Research Institute (FYTRI), the HKUST Shenzhen Research Institute (SRI), HKUST R and D Corporation (Shenzhen) Limited (RDCSZ), and HKUST LED-FPD Technology R&D Center at Foshan (FSC). This mission is realized by technology transfer, industry collaboration, and spin-offs. It operates as an open innovation platform and contributes to the community via technology commercialization.

## GUANGZHOU HKUST FOK YING TUNG RESEARCH INSTITUTE

### Technological Advancement

Relying on the research, development and educational advantages of HKUST, combined with the development needs of universities, institutions and enterprises in the Pearl River Delta, FYTRI mainly focuses on the research and development of Internet of Things, Advanced Manufacture and Automation, Advanced Materials, and Environment and Sustainable Development. In 2015-2016, a total of 28 government projects were secured, at a total fund amount of over RMB 39 million. As of 31 December 2016, FYTRI undertook 75 government research projects and the total amount of received funds is RMB 111 million.

### Boost for Entrepreneurship

Following last year's expansion of the HKUST One Million Dollar Entrepreneurship Competition from Hong Kong to Guangzhou, Shenzhen,

Beijing and Macau, the competition has gained broader popularity and renown. In 2017, 945 teams participated in the competition, almost doubled the previous year's total. The Guangzhou regional competition recorded a significant increase in teams taking part, rising from 158 in 2016 to 264 in 2017.

### Pace-Setting Supercomputing

To promote and expand the use of FYTRI Supercomputing Service Platform by Hong Kong researchers to enhance their research efficiency, FYTRI organized information sessions in 2016-2017. More than 70 accounts were set up for users to access TianHe-2, one of the fastest supercomputers in the world, hosted in the National Supercomputing Center in Guangzhou. FYTRI won the award for "TianHe's Best Sub-center" in 2017 for the excellence in Supercomputing Service Platform promotion and service.



### **International Smart Manufacturing Platform**

The International Smart Manufacturing Platform (ISMP), a Guangzhou Municipal Government accredited platform for open innovation, supports the vision of Guangzhou to become an international technology innovation hub to promote the upgrade of “Made in China” for developing into a smart country and to attract overseas and domestic manufacturing talents to the area through building a research service and incubator system focused on Internet of Things and new materials. ISMP synergizes cutting-edge university research and industry know-how and contributes to the success of Made in China 2025.

### **Spin-Offs**

FYTRI successfully spun off three companies during 2016-17, bringing the total number of firms established and active in the past two years to six.

## **THE HKUST SHENZHEN RESEARCH INSTITUTE AND HKUST R AND D CORPORATION (SHENZHEN) LIMITED**

### **Government Project Funding**

SRI has achieved remarkable success in taking on major R&D projects in Mainland China. In 2015-16, a total of 39 government projects were secured, at a total fund amount of over RMB 24 million. As of 31 December 2016, SRI undertook 80 government research projects and the total amount of received funds reached RMB 118 million.

### **Incubation and Start-Ups**

RDCSZ set up the Blue Bay Incubator in the Industry, Education and Research Complex (IER2) Building in Nanshan, Shenzhen, in late 2016. The program's goal is to provide a full range of entrepreneurship services to the HKUST community to foster innovation and entrepreneurship. In June 2017, the Blue Bay Incubator became a member of the Qianhai Shenzhen-Hong Kong Youth Innovation and Entrepreneur Hub and will establish the venue as an open innovation platform. The Shenzhen regional competition of the HKUST One Million Dollar Entrepreneurship Competition also recorded a significant increase in teams taking part.

### **Strengthening Alumni Links**

To strengthen connections with HKUST Mainland China alumni, SRI co-organized “HKUST SRI and SENG Alumni Day (Shenzhen)” with the School of Engineering in March 2017.

The event gathered over 120 cross-disciplined faculty members, students and alumni. The day's activities included an update on the latest developments at the Institute.

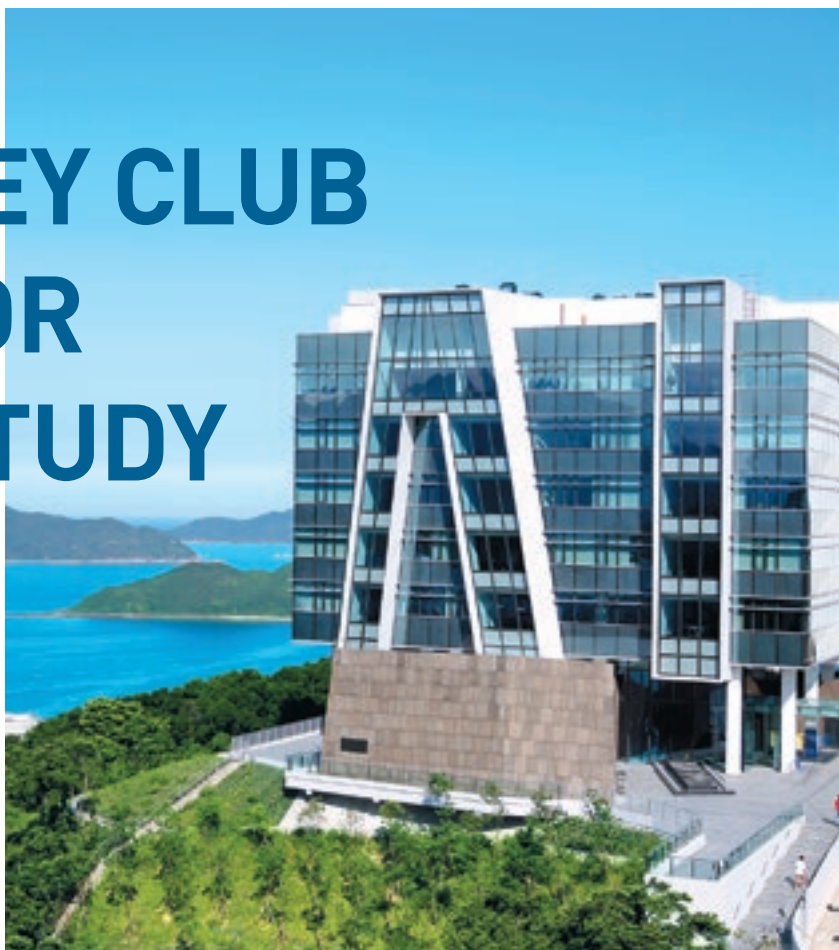
## **HKUST LED-FPD TECHNOLOGY R&D CENTER AT FOSHAN**

FSC focuses on the development and transference of LED (Light-Emitting Diode) and FPD (Flat Panel Display) technologies for relevant industrial partners in the Guangdong Province. FSC has seven well-equipped high-end labs that have passed the certification of CNAS qualification.



# HKUST JOCKEY CLUB INSTITUTE FOR ADVANCED STUDY

Under the helm of a new Director, the Institute continued to draw top minds from around the world and inspire fresh intellectual endeavors



## GATHERING OF GREAT MINDS

High energy physicist Prof Andrew Cohen took up his post as Director of the Institute, Lam Woo Foundation Professor and Chair Professor of Physics in January 2017. Prof Cohen, previously at Boston University, is a leading expert in theoretical particle physics and a prominent figure in the international scientific community. He succeeds Prof Henry Tye, who led the Institute for six years. Prof Tye is continuing his research endeavors in the capacity of an IAS Professor.

Among distinguished recognitions and events over the year, IAS Bank of East Asia Professor Ching W Tang received the 2017 IEEE Jun-ichi Nishizawa Medal and was elected a Fellow of the Hong Kong Academy of Engineering

Sciences. IAS Si Yuan Professor Gunther Uhlmann was featured in *Nature* for a “long-awaited” mathematical solution to a geometric problem that may help determine the inner structure of a complex object, such as the Earth. In celebration of the University’s 25th Anniversary, IAS Helmut & Anna Pao Sohmen Professor-at-Large Sir Christopher Pissarides delivered a keynote speech at a conference in Beijing on Chinese economic development in a global context and Prof George Smoot offered his insights on gravitational waves.

Seventeen eminent HKUST faculty members are now affiliated with IAS as Fellows or Senior Fellows to catalyze synergy among researchers. Rising stars from various disciplines are also invited to join the IAS family and work closely with Fellows and faculty. In 2016-17, the Institute was working with 24 Junior Fellows and 24 Postdoctoral Fellows.

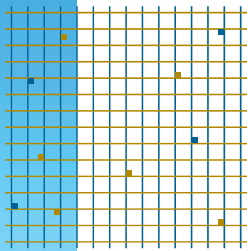
Outstanding scholars from other leading institutions are appointed as IAS Visiting Professors and Visiting Fellows to foster collaborations. During the year, IAS hosted 33 Visiting Professors, 13 Senior Visiting Fellows and seven Visiting Fellows. Their residence at the Institute opens up opportunities for novel research directions to take shape.

## GENERATING SOLUTIONS AND NEW KNOWLEDGE

In line with IAS’s role as a global knowledge hub, the Institute held over 190 academic events, including 47 distinguished or Nobel lectures, and 54 joint school lectures over the year. These activities drew around 9,000 participants in total.

To enhance cutting-edge research, the Institute organizes topical programs on specialized subjects covering different disciplines to foster the formation of new research groups. In 2016-17, the





Wave Functional Materials Program attracted over 180 participants. Workshops and short courses were also held to provide deeper understanding of the most recent breakthroughs.

Eight Gordon Research Conferences, prestigious academic gatherings of world-renowned scholars, took place at the Institute in Summer 2016. The conferences covered fields in life science, engineering and physical sciences and two were chaired by HKUST faculty. In addition, IAS hosted two affiliated Gordon Research Seminars for young researchers to engage with the academic community.



**“9,000** participants attended  
over **190** academic events”



# SUSTAINABILITY

The University is seeking to integrate sustainability into all its activities and serve as a living laboratory for eco-advancement and awareness

In 2016, the University adopted the sustainability mission “to become a global leader in sustainability education by transforming the Clear Water Bay campus into a living laboratory for experiential learning, demonstrating cutting-edge research and sustainable operations within a vibrant and engaged community” and set out the HKUST 2020 Sustainability Challenge strategy to achieve specific goals, targets, and priorities. In 2016-17, there was good progress on the four pillars of the strategy: sustainable operations; sustainable communities; sustainability research and demonstration; and sustainability education.

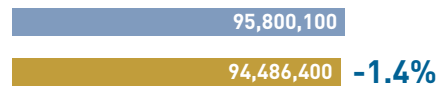
## SUSTAINABLE OPERATIONS

The Sustainable Operations Executive Committee oversaw a significant spike in activities to reduce greenhouse gas emissions and landfill waste. Several important investments were made in waste reduction strategies, including food waste collections from canteens and office pantries, installing recycling bins on all floors of residence halls, modifying cleaning contracts to gain accurate daily weight data, and conducting waste audits to provide a clearer picture of sources and causes of waste. Recycling rates were nearly doubled which resulted in an overall

## Performance of sustainable operations



### Electricity (kWh)



### Greenhouse gas (ton CO<sub>2</sub>-e)



### Trash (ton)



### Recyclables (ton)



### Food waste recycling (ton)



2015-2016

2016-2017

\* The performance data in 2015-16 was revised with changes of scope and baseline calculation.





reduction of landfill waste of 6.6% compared to last year. The University saw its annual greenhouse gas emissions shrink by 1.5%, thanks to continued energy efficiency upgrades, such as the installation of LED lighting and more efficient air-conditioning systems.

The building of sustainable operations within the University took place across many departments and groups. The Cleaning Steering Committee identifies waste reduction opportunities at major events and formulates recycling strategies for resources. The Green Lab Working Group monitors energy performance in labs through real-time metering and designs energy reduction initiatives for lab equipment and recycling programs. The Energy Performance Review team regularly studies energy consumption data and builds energy-saving capacity through operations and newly invested projects.

## **SUSTAINABLE COMMUNITIES**

The Office of the President launched the HKUST Sustainability Network to infuse sustainability initiatives into offices and departments across the University and develop green practices campus-wide.

Led by staff and students dedicated to improving campus sustainability, the HKUST Green Team undertook several projects to promote sustainable food choices over the year. The Shanghai Commercial Bank-HKUST Sustainable Campus Leadership Program continued to support students in designing green campus projects and learning about eco-project management and problem-solving by collaborating with administrative and operations departments at HKUST.

## **SUSTAINABILITY DEMONSTRATION**

To advance sustainable practices and experiential learning, the University invested in a series of real-time energy meters and monitors to enable the HKUST community to track the inner workings of the campus from their desktops.

Events and educational campaigns throughout the year encouraged members of the University to become greener, including the first E-waste Recycling Day, No Straw Day, a Green Products Fair, numerous urban gardening workshops, and “Tap It Forward”, an innovative collaboration between students and staff to promote a plastic water bottle-free campus.

## **SUSTAINABILITY EDUCATION**

The Sustainability Education Advisory Group is tasked with consulting widely with the University community to find ways to actively advance sustainability education at HKUST. In parallel, the Sustainability Education Network provides a platform for faculty and instructors to engage in multidisciplinary dialogue, collaboration, and support for sustainability education and practice within the University.

HKUST became one of the founding members of the Global Consortium for Sustainability Outcomes, a network of universities dedicated to scaling sustainability solutions with like-minded partners around the world.



# GOVERNANCE

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Under the HKUST Ordinance, the Council, Court, and Senate serve as the University's three major governing bodies

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## The Council

In line with its fiduciary duties, the Council steers the University's overall direction to ensure that robust institutional governance is in place. During the year under review, the Task Force to review Council effectiveness appraised University policies, regulations and procedures with reference to the roles and responsibilities of the Council and its committees.

Following the release of the University Grants Committee (UGC)'s "Governance in UGC-funded Higher Education Institutions in Hong Kong" report in 2016, the Council has worked with the University management to address its recommendations, with a particular focus on the Council's strategic planning role, the range of skills among Council and committee members, and induction and development requirements for members. The Council also maintained a dialogue with the UGC on a proposed "University Accountability Agreement" (UAA), a written accountability framework that would underpin the UGC's relationship with all its funded

universities. The UAA would enable external stakeholders to assess the performance and progress of the sector as a whole.

To enhance the University's accountability through greater transparency, the Council hosted a forum on governance in October 2016. At the forum, Council and University leaders discussed their roles, responsibilities, and latest initiatives with staff members, students and alumni.

## The Court

The Court, the University's supreme advisory body, met twice during the year to receive reports from the University management and the Council respectively. Members' advice was sought on two key University initiatives: knowledge transfer activities; and the HeadStart@HKUST Program, which is centered on early workplace immersion and career development. The University management reported the success of several start-up companies and innovation projects as part of HKUST's knowledge transfer endeavors. Student

participants of the HeadStart@HKUST Program related their internship experiences with an array of corporate partners.

In advice on University planning priorities, Court members emphasized HKUST's need to keep abreast of the latest developments in higher education, such as online teaching, and to respond to the region's competitive environment.

## The Senate

The Senate, the supreme academic body, reviewed and approved a number of academic policies, in consultation with Schools and the respective committees, including a Strategic Framework for Taught Postgraduate Education. The Senate also approved the establishment of the Division of Public Policy under the Interdisciplinary Programs Office and the integration of the Division of Biomedical Engineering and Department of Chemical and Biomolecular Engineering to form the new Department of Chemical and Biological Engineering.





# AWARDS AND RECOGNITIONS

Faculty members and students received numerous honors and accolades over the year. The following list is not exhaustive

## FACULTY

- 1 **Prof Peiyuan Qian**, Division of Life Science, received a State Natural Science Award, Second Class, from the State Council of the PRC, for his research into “Chemical (Compounds) Signal Production of Biofilm in Response to Environmental Changes: Its Impact on Initial Colonization of Marine Benthos and Ecosystem Structure and Functionality”.
- 2 **Prof Ching W Tang**, Department of Chemistry, Department of Electronic and Computer Engineering and Department of Physics, was awarded the IEEE Jun-ichi Nishizawa Medal 2017.
- 3 **Prof Danny Leung**, Division of Life Science, was honored with a prestigious Croucher Innovation Award 2017 by the Croucher Foundation.
- 4 **Prof Sherry Chen**, Department of Mechanical and Aerospace Engineering, and **Prof Yi Wang**, Department of Physics, received Early Career Scheme Awards from the Research Grants Council.
- 5 **Prof Angela Wu**, Division of Biomedical Engineering, and Division of Life Science, was named among the Top 10 Innovators Under 35 in Asia Pacific by *MIT Technology Review*.
- 6 **Prof Guanghao Chen**, Department of Civil and Environmental Engineering, received a newly established National Innovation Pioneer Award from the Chinese government.
- 7 **Prof Guillermo Gallego**, Department of Industrial Engineering and Logistics Management, was awarded the 2016 Impact Prize by the Institute for Operations Research and the Management Sciences.
- 8 **Prof Kei May Lau**, Department of Electronic and Computer Engineering, was honored with the Aron Kressel Award by the IEEE Photonics Society.
- 9 **Prof Zongjin Li**, Department of Civil and Environmental Engineering, was awarded the Arthur R Anderson Medal by the American Concrete Institute.
- 10 **Prof Tianshou Zhao**, Department of Mechanical and Aerospace Engineering, was named a Highly Cited Researcher in Engineering by Thomson Reuters for the third consecutive year.
- 11 **Prof Shing-chi Cheung** and **Prof Pan Hui**, Department of Computer Science and Engineering, were elected Distinguished Scientists of the Association for Computing Machinery.
- 12 **Prof James Thong**, Department of Information Systems, Statistics and Operations Management, received a Fellow Award 2016 from the Association for Information Systems.
- 13 **Prof Wenkai He**, Division of Social Science, **Prof Jianxiong Ma** and **Prof Shengqing Wu**, Division of Humanities, were awarded prestigious Harvard-Yenching Scholarships for 2016-17.
- 14 **Prof Cameron Campbell**, Division of Social Science, was selected as a Changjiang Scholar by the Ministry of Education.

## Fellows & Board Memberships

- 15 **Prof Allen Moy**, Department of Mathematics, was elected a Fellow of the American Mathematical Society.
- 16 **Prof James Kwok**, Department of Computer Science and Engineering, was elected a Fellow of the Institute of Electrical and Electronics Engineers.
- 17 **Prof Fangzhen Lin**, Department of Computer Science and Engineering, was elected a Fellow of the Association for the Advancement of Artificial Intelligence.
- 18 **Prof Fugue Tsung**, Department of Industrial Engineering and Logistics Management, was elected a Fellow of the American Statistical Association.





## STUDENTS AND RESEARCHERS

The HKUST Robotics Team, comprising 61 students from different departments, gained many awards over the year.

### Robocon Team

- 19 Champion, Robocon 2017  
Hong Kong Contest

### Remotely Operated Vehicle (ROV) Team

- 20 Champion, Explorer Class, 12th  
Hong Kong Regional MATE  
International ROV Competition
- 21 All-around Champion and Safety  
Conscious Award, MATE  
International ROV Competition  
2017

### Smart Car Team

- 22 Second Class Awards in the  
Balance Group, Beacon Group and  
Camera Group, and a Certificate of  
Merit in the Chasing Group, 11th  
NXP Cup Intelligent Car Racing  
Competition, South China Region

### Others

- 23 Post-doctoral Fellow **Menglong Zeng**, Division of Life Science, received a 2016 Young Scientist Award from the Hong Kong Institution of Science.

- 24 PhD student **Li Chen**, Department of Computer Science and Engineering, was granted a 2016 Microsoft Research Asia Fellowship Award.
- 25 PhD students **Quanming Yao** and **Hong Zhang**, Department of Computer Science and Engineering, received Google 2016 Global PhD Fellowship Awards.
- 26 An undergraduate team from the School of Business and Management, comprising **Grace Tin Wai Lam**, **Chun Kit Tam**, and **Ming Lun Cheung**, won the championship at the ISACA Case Competition 2017.
- 27 A team comprising Global Business students **Ernest Man-hing Hung**, **Johnny Jong-chin Lam** and **Sahil Mohnani**, won the SCMP/IFPHK Financial Planner Awards for 2016 (University Student Category).
- 28 Undergraduate **Hercules Kai Ho Chan**, Risk Management and Business Intelligence, and PhD student **Harry Kai Ho Chan**, Department of Computer Science and Engineering, won the Best Student Invention Grand Award at the Hong Kong ICT Awards 2017.

- 29 Environmental Management and Technology undergraduates **Wendy Cheng** and **Maryellen Wat** won the 2nd Business Sustainability and Risk Management Case Analysis Competition 2017, organized by The Association of International Accountants, Hong Kong Branch.

## HKUST MEDALS

- 30 A Mechanical and Aerospace Engineering undergraduate team, comprising **Alexander Tse**, **Peng Zhou**, **Zihang Zhang**, **Chenxi Feng**, and **Chunli Jiang**, won the HKUST President's Cup.
- 31 **Prof Garvin Percy Dias**, Information Systems, Business Statistics and Operations Management, received the Michael G Gale Medal for Distinguished Teaching.
- 32 **Karen Ka Wun Wong**, Global China Studies, Vice-Chairperson of the Council of Students' Union in 2015-2016, was awarded the Stephen Cheong Kam-chuen Medal for Distinguished Service to the Student Body.
- 33 **Dr Jason Chan**, Department of Chemistry, received the HKUST Common Core Teaching Excellence Award 2016 for his course, "Chemistry in Everyday Life".



19 Robocon Team



20 ROV Team



21 ROV Team



22 Smart Car Team

23 Menglong Zeng (right)

24 Li Chen (middle)

25 Quanming Yao

Hong Zhang





26 Grace Tin Wai Lam, Chun Kit Tam and Ming Lun Cheung

27 Ernest Man-hing Hung, Johnny Jong-chin Lam and Sahil Mohnani

28 Hercules Kai Ho Chan and Harry Kai Ho Chan

29 Wendy Cheng and Maryellen Wat



30 Mechanical and Aerospace Engineering undergraduate team

31 Prof Garvin Percy Dias

32 Karen Ka Wun Wong (left)

33 Dr Jason Chan

## HONORARY DOCTORATES AND HONORARY FELLOWS

### Honorary Doctorates

**Dr Gerald L Chan**, Chairman and Co-founder of the Morningside Group

**Prof Ingrid Daubechies**, James B Duke Professor of Mathematics and Electrical and Computer Engineering at Duke University

**Prof Robert S Langer**, David H Koch Institute Professor at Massachusetts Institute of Technology

**Mr Liu Chuanzhi**, Chairman of the Board of Legend Holdings Corporation and Founder of Lenovo Group Limited

**Prof Kam Biu Luk**, Professor of Physics at the University of California, Berkeley

**Prof Elizabeth J Perry**, Henry Rosovsky Professor of Government at Harvard University and Director of the Harvard-Yenching Institute



### Honorary Fellows

**Mr John B Harrison**, former Chairman of KPMG Asia Pacific

**Ms Anita Fung Yuen Mei**, BBS, JP, former CEO for Hong Kong at HSBC

**Prof Cheng Shiu Yuen**, Emeritus Professor of Mathematics at HKUST

# CALENDAR OF EVENTS

## 2016

### JUL

HKUST hosted the 57th International Mathematics Olympiad, with more than 1,000 mathematical talents from over 100 countries and regions participating in the large-scale event.



### AUG

The School of Engineering organized its first Technology Leadership and Entrepreneurship Youth Camp, a five-day introduction to entrepreneurship for secondary school students.



### SEP

The School of Business and Management hosted the “New Role of China in the World Economy” conference in Beijing as part of HKUST’s 25th Anniversary global celebrations.



The University announced the signing of agreements with four leading higher education institutions at the inaugural Times Higher Education Asia Universities Summit: the University of Glasgow, Jagiellonian University, University of Warwick and University of Waterloo. The agreements will foster student international exchange opportunities. The Summit was jointly presented by HKUST in June 2016.



Prof Sir Christopher Pissarides, 2010 Nobel Laureate in Economics and IAS Helmut & Anna Pao Sohmen Professor-at-Large at the HKUST Jockey Club Institute for Advanced Study (IAS), provided insights into the impact of Brexit on global economies as part of the BizInsight@HKUST seminar series.



HKUST hosted a conference on the “Splendor of Modern and Contemporary Chinese Literature”, chaired by Prof Jianmei Liu (Humanities).



## OCT

The Kellogg-HKUST Executive MBA (EMBA) program was ranked first in the world in the *Financial Times* Global Executive MBA Ranking survey.



IAS and the Hong Kong Branch of the Chinese National Engineering Research Center for Heavy Metal Pollution Control and Treatment at HKUST co-organized the "IAS Summit Hong Kong – Inventing Today Imagining Tomorrow for Water Pollution Control".



The Division of Environment and Sustainability held a Climathon conference on "Extreme Heat, Extreme Density: Problems and Solutions".



## NOV

The University's 24th Congregation conferred honorary doctorates on six distinguished academics and community leaders.



HKUST rose one place to No.13 worldwide and remained No.1 in Greater China in the high-profile annual Global Employability University Ranking 2016. HKUST graduates have ranked in the world's top 20 most employable and as the most employable in Greater China for the past four years.



## DEC

Prof Michael Wong (Physics) organized the 16th Japan-China-Korea Joint Workshop on Neurobiology and Neuroinformatics, which focused on deep learning and visual information processing.



HKUST celebrated the opening of the Academy for Bright Future Young Engineers. The Academy provides opportunities for HKUST engineering students to serve as mentors and engage secondary school students in authentic engineering experience.

# 2017

## MAR

The University and Consulate General of France in Hong Kong and Macau jointly established the France-HKUST Innovation Hub.

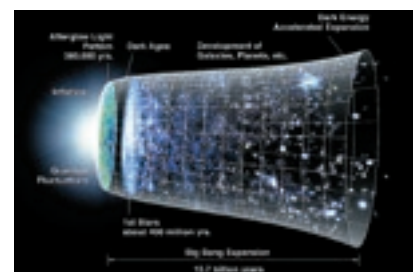


## FEB

The HKUST Jockey Club Hall was officially opened. The new residential building at Tseung Kwan O provides 512 bed spaces for undergraduate students.



Prof Yi Wang (Physics) gave a public talk on “The Universe: Past, Now and Future” at the Hong Kong Space Museum.



## JAN

HKUST received a donation from Kingworld Medicines Group to support the University's Center for Chinese Medicine R & D and student exchange activities at the School of Business and Management.



The Intimacy of Creativity 2017 Contemporary Song Festival was presented in collaboration with the New York Festival of Song and Asia Society Hong Kong Center.



The Kellogg-HKUST Executive MBA was ranked the world's top program in Quacquarelli Symonds' inaugural Global EMBA Rankings table.





**APR**

The Intimacy of Creativity 2017 Instrumental Chamber Music Festival took place. Compositions included works by IAS Helmut and Anna Pao Sohmen Professor-at-Large Prof Bright Sheng, Distinguished Guest Composer Marc Satterwhite, and Composer Fellows.

**JUN**

HKUST conferred Honorary Fellowships on three distinguished leaders.

**MAY**

The Big Data Institute of HKUST held its first Big Data and AI Day, gathering leading academics and industry practitioners to share information and insights into the future of these high-impact research and development areas.



Two prestigious Gordon Research Conferences, on Particle Physics and on Topological and Correlated Matter, were held at the HKUST Jockey Club Institute for Advanced Study.



The Division of Humanities organized a two-day Literature and Philosophy International Symposium.

# FACTS AND FIGURES

## STUDENTS

### STUDENT ENROLMENT (as of 30 Sep 2017)

School/ Area	Undergraduate	Postgraduate		Total
		Research	Taught	
Science	2,076	579	384	3,039
Engineering	3,341	1,210	945	5,496
Business and Management	3,449	105	1,313	4,867
Humanities and Social Science	234	71	167	472
Joint School/Interdisciplinary Programs	654	55	223	932
HKUST Fok Ying Tung Graduate School	0	1	0	1
<b>Total</b>	<b>9,754</b>	<b>2,021</b>	<b>3,032</b>	<b>14,807</b>

### NON-LOCAL STUDENT ENROLMENT (2016-17)

Home Country	Undergraduate	Postgraduate		Total
		Research	Taught	
Mainland China	679	1,373	1,510	3,562
Other Places in Asia	694	183	220	1,097
Rest of the World	183	75	143	401
<b>Total</b>	<b>1,556</b>	<b>1,631</b>	<b>1,873</b>	<b>5,060</b>

### UNDERGRADUATE EXCHANGES (2016-17)

Host/ Destination Region	Exchange-in	%	Exchange-out	%
Mainland China	66	6.1	20	2.2
Asia	141	13.1	178	19.3
North America	416	38.7	279	30.3
Central and South America	3	0.3	1	0.1
Europe	442	41.1	429	46.6
Australia and New Zealand	8	0.7	13	1.4
Africa	0	0	0	0
<b>Total</b>	<b>1,076</b>	<b>100</b>	<b>920</b>	<b>99.9</b>

### GRADUATE NUMBERS (2017)

School/ Area	Undergraduate	Postgraduate		Total
		Research	Taught	
Science	467	128	193	788
Engineering	795	298	765	1,858
Business and Management	714	30	942	1,686
Humanities and Social Science	45	28	142	215
Joint School/Interdisciplinary Programs	134	11	103	248
<b>Total</b>	<b>2,155</b>	<b>495</b>	<b>2,145</b>	<b>4,795</b>



## EMPLOYMENT (2016)

	Undergraduates	Postgraduates			
		PhD	MPhil	Taught Master (Except MBA)	MBA
Employment Situation	%	%	%	%	%
Employed	82.9	60.8	33.6	32.7	100
Further Studies	11.7	1.9	43	6.1	0
Returned to Home Country or Emigrated	1.5	34.8	22.4	60.1	0
Others	3.9	2.4	0.9	1	0
Employment Situation by Industry	%	%	%	%	%
Commerce and Business	55.6	6.7	26.9	56.1	75.9
Engineering and Industry	30.6	15	26.9	24	20.7
Education	6.9	76.7	41.8	15.1	1.1
Government and Related Organizations	3.2	1.7	4.5	4.1	0
Community and Social Services	3.7	0	0	0.7	2.3

Percentages may not add up to 100%, as they are rounded to the nearest percent.

## FACULTY

### FACULTY MEMBERS (as of 30 Jun 2017) (Full-time Equivalent)^

School/ Area	Regular	Visiting	Total
Science	146	19	165
Engineering	200	12	212
Business and Management	131	13	144
Humanities and Social Science*	149	6	155
Interdisciplinary Programs	15	3	18
<b>Total</b>	<b>641</b>	<b>53</b>	<b>694</b>

^ The above faculty numbers are reported in Full-time Equivalent (FTE) basis to reflect faculty's service distribution to each school.

\* The teaching staff of the Centre for Language Education are included following its merger with SHSS on 1 July 2012.

## RESEARCH

### NO. OF NEW RESEARCH PROJECTS AND FUNDING (2016-17)

	Number	Funding (in HK\$M)
UGC	448	117.6
RGC	218	191.3
Others	455	382
<b>Total</b>	<b>1,084*</b>	<b>690.9**</b>

\* No. of projects does not add up due to projects with multiple sponsors.

\*\* Includes R&D projects administrated by R and D Corporation and Mainland platforms.

### NO. OF PATENTS (2016-17)

Filed	205
Granted	134

## INTERNATIONAL RANKINGS

HKUST	<b>No. 2 in the world</b> (World's Top 150 Universities Under 50, QS Top 50 Under 50 2018)
	<b>No. 3 in Asia</b> (Asia's Top 400 Universities, QS Asian University Rankings 2018)
	<b>No. 30 in the world</b> (World's Top 1,000 Universities, QS World University Rankings 2018)
	<b>No. 44 in the world</b> (World's Top 1,000 Universities, Times Higher Education World University Rankings 2018)
	<b>No. 12 in the world</b> (Global Employability University Ranking 2017, Emerging)
School of Science	<b>No. 1 in Hong Kong, No. 27 in the world</b> (World's Top 500 Universities in Chemistry, QS World University Rankings by Subject 2017)
	<b>No. 43 in the world</b> (World's Top 400 Universities in Mathematics, QS World University Rankings by Subject 2017)
	<b>No. 1 in Hong Kong, No. 23 in the world</b> (World's Top 300 Universities in Materials Sciences, QS World University Rankings by Subject 2017)
	<b>No. 86 in the world</b> (World's top 500 Universities in Life Sciences, Times Higher Education World University Rankings 2018)
School of Engineering	<b>No. 1 in Hong Kong, No. 28 in the world</b> (World's Top 300 Universities in Computer Science, Times Higher Education World University Rankings 2018)
	<b>No. 2 in Greater China, No. 18 in the world</b> (World's Top 500 Universities in Engineering and Technology, Times Higher Education World University Rankings 2018)
	<b>No. 1 in Hong Kong, No. 19 in the world</b> (World's Top 500 Universities in Computer Science and Information Systems, QS World University Rankings by Subject 2017)
	<b>No. 1 in Hong Kong, No. 23 in the world</b> (World's Top 400 Universities in Mechanical, Aeronautical and Manufacturing Engineering, QS World University Rankings by Subject 2017)
	<b>No. 26 in the world</b> (World's Top 200 Universities in Civil and Structural Engineering, QS World University Rankings by Subject 2017)
	<b>No. 1 in Hong Kong, No. 29 in the world</b> (World's Top 400 Universities in Electrical and Electronic Engineering, QS World University Rankings by Subject 2017)
	<b>No. 2 in Greater China, No. 29 in the world</b> (World's Top 300 Universities in Chemical Engineering, QS World University Rankings by Subject 2017)
	<b>No. 2 in Greater China, No. 6 in the world</b> (World's Top 200 Universities in Transportation Science & Technology, Global Ranking of Academic Subjects, Academic Ranking of World Universities 2017)
	<b>No. 1 in Hong Kong, No. 16 in the world</b> (World's Top 200 Universities in Telecommunication Engineering, Global Ranking of Academic Subjects, Academic Ranking of World Universities 2017)

<b>School of Business and Management</b>	<b>Kellogg-HKUST EMBA Program: No. 1 in the world</b> (Global EMBA Rankings, Financial Times 2017) (QS Global Joint EMBA Rankings 2017)
	<b>Full-Time MBA Program: No. 15 in the world</b> (Global MBA Rankings, Financial Times 2017)
	<b>No. 2 in Asia, No. 20 in the world</b> (World's Top 300 Universities in Business and Management Studies, QS World University Rankings by Subject 2017)
	<b>No. 26 in the world</b> (World's Top 200 Universities in Statistics and Operational Research, QS World University Rankings by Subject 2017)
	<b>No. 1 in Asia, No. 17 in the world</b> (World's Top 200 Universities in Accounting and Finance, QS World University Rankings by Subject 2017)
	<b>No. 1 in Greater China, No. 24 in the world</b> (World's Top 400 Universities in Economics and Econometrics, QS World University Rankings by Subject 2017)
	<b>No. 1 in Asia, No. 26 in the world</b> (University of Texas at Dallas (UTD) Top 100 Business School Research Rankings 2017, based on research contributions in 2012-2016)
	<b>No. 1 in Asia, No. 14 in the world</b> (World's Top 200 Universities in Business & Economics, Times Higher Education World University Rankings 2018)
	<b>No. 27 in the world</b> (World's Top 400 Universities in Social Sciences and Management, QS World University Rankings 2017)
	<b>No. 1 in Asia, No. 29 in the world</b> (World's Top 400 Universities in Business Administration, Global Ranking of Academic Subjects, Academic Ranking of World Universities 2017)
<b>School of Humanities and Social Science</b>	<b>No. 21 in the world</b> (World's Top 400 Universities in Management, Global Ranking of Academic Subjects, Academic Ranking of World Universities 2017)
	<b>No. 32 in the world</b> (World's Top 200 Universities in Finance, Global Ranking of Academic Subjects, Academic Ranking of World Universities 2017)
	<b>No. 27 in the world</b> (World's Top 400 Universities in Social Sciences and Management, QS World University Rankings 2017)
	<b>No. 61 in the world</b> (World's Top 400 Universities in Social Sciences, Times Higher Education World University Rankings 2018)



# APPENDICES

## APPENDIX 1

COURT, COUNCIL AND SENATE As of 30 June 2017

COURT MEMBERSHIP		
Ex-Officio Members	<b>Dr John C C Chan</b> GBS, JP Chairman & Honorary Chairman	
	<b>Dr the Hon Sir Sze-Yuen Chung</b> GBM, JP Honorary Chairman	<b>Dr the Hon Vincent H S Lo</b> GBM, GBS, JP Honorary Chairman
	<b>The Hon Andrew Liao Cheung-Sing</b> GBS, SC, JP Chairman of the Council	<b>Prof Wei Shyy</b> Executive Vice-President & Provost
	<b>Prof John Chai Yat-Chiu</b> JP Vice-Chairman of the Council	<b>(Vacant)</b> President of the Students' Union
Honorary Members	<b>Prof Patrick Yeung Kai-Cheung</b> Treasurer of the University	<b>Mr Dicky Yuen</b> President of the Alumni Association
	<b>Prof Tony F Chan</b> JP President of the University	<b>Mr Donny K M Siu</b> Chairman of the Staff Association
	<b>The Hon Sir David Akers-Jones</b> GBM, JP <b>Dr Charles S C Chan</b> BBS, JP <b>Dr Robin Y H Chan</b> GBS, JP <b>The Hon Ronnie C Chan</b> GBM <b>Dr Thomas T T Chen</b> <b>Dr Christopher Cheng</b> GBS, OBE, JP <b>Dr the Hon Henry Cheng</b> GBM, GBS <b>Dr Cheng Hon-Kwan</b> GBS, OBE, JP <b>Mr Paul M F Cheng</b> JP <b>Mr Linus W L Cheung</b> JP <b>Dr Raymond K F Ch'ien</b> GBS, JP <b>Dr Alice Chiu</b> BBS, JP <b>Dr Paul M Y Chow</b> GBS, JP <b>Dr Stephen Chow</b> GBS, JP <b>Dr Chow Yei Ching</b> GBS <b>Dr Kenneth H Fang</b> GBS, JP <b>Mr Tim Freshwater</b> <b>Dr William K Fung</b> SBS, JP <b>Dr Aron H Harilela</b> JP <b>Mr John B Harrison</b> <b>The Hon Hu Fa-Kuang</b> GBM, GBS, CBE, JP <b>Mr Herman S M Hu</b> SBS, JP <b>Mr Lester G Huang</b> JP	<b>Dr Simon S O Ip</b> GBS, JP <b>Prof Roger King</b> <b>Mr Walter P S Kwok</b> JP <b>Dr Lau Wah-Sum</b> GBS, JP <b>The Hon Lau Wong-Fat</b> GBM, GBS, JP <b>Dr the Hon Charles Y K Lee</b> GBM, GBS, JP <b>Dr the Hon Lee Shau-Kee</b> GBM <b>Dr the Hon Andrew K N Li</b> GBM <b>Ms Kai-Yin Lo</b> SBS <b>Mr Winston Yau-Lai Lo</b> SBS <b>Dr the Hon Lui Che-Woo</b> GBM, GBS, MBE, JP <b>Mr Tim Lui Tim-Leung</b> SBS, JP <b>Dr Michael H H Mak</b> SBS, JP <b>Dr Anthony Neoh</b> SC, JP <b>Mr David Teng Pong</b> <b>Mr Sin Chung-Kai</b> SBS, JP <b>Mr Kenneth Ting Woo-Shou</b> SBS, JP <b>Mrs Christine Wong</b> SBS <b>Dr Lawrence T Wong</b> <b>Dr Wilfred Y W Wong</b> GBS, JP <b>Ms Marjorie Yang</b> GBS, JP <b>Dr Larry C K Yung</b>
Appointed Members	<b>Mr Bernard Auyang</b> <b>Dr Anissa Chan</b> BBS, MH, JP <b>Dr Ian Chan Yau-Nam</b> MH <b>Mr Herbert S Cheng</b> Jr <b>Ms Lai-Yuen Chiang</b> JP <b>Mrs Susan Chow</b> <b>Mr Ian C W Fok</b> SBS, JP <b>Dr Patrick Y B Fung</b> JP <b>Mrs Yvette Yeh Fung</b> <b>Dr Hans Michael Jebson</b> BBS <b>Mr David W H Lee</b> <b>Mr Marcus C W Lee</b> <b>Ms Margaret Lee Pui-Man</b> <b>Ms Rose Lee Wai-Mun</b> JP	<b>The Hon Starry Lee Wai-King</b> SBS, JP <b>Dr Raymond Leung Siu-Hong</b> <b>Mr Sing-Cheong Liu</b> JP <b>Mr Raymond C Lo</b> <b>Mr Francis Lui Yiu-Tung</b> <b>Mr Maximilian Yung-Kit Ma</b> <b>Mr Daryl Ng Win-Kong</b> JP <b>The Hon Abraham Shek Lai-Him</b> GBS, JP <b>Mrs Audrey Slighton</b> <b>Dr James E Thompson</b> GBS <b>Mr Wang Shi</b> <b>Mr Samuel Tat-Sum Wong</b> <b>Mr Patrick Yeung Wai-Tim</b>
Appointed Senate Representatives	<b>Prof David K Banfield</b> <b>Prof I-Ming Hsing</b>	<b>Prof Charles W W Ng</b> <b>Prof Min Yan</b>

## COUNCIL MEMBERSHIP

	<b>The Hon Andrew Liao Cheung-Sing</b> GBS, SC, JP Chairman	<b>Prof Wei Shyy</b> Executive Vice-President & Provost
	<b>Prof John Chai Yat-Chiu</b> JP Vice-Chairman	<b>Prof Nancy Y Ip</b> BBS, MH, JP Vice-President for Research and Graduate Studies
	<b>Prof Patrick Yeung Kai-Cheung</b> Treasurer of the University	<b>Prof Tim Kwang-Ting Cheng</b> Dean of Engineering
	<b>Prof Tony F Chan</b> JP President of the University	<b>Prof Enboa Wu</b> Dean of HKUST Fok Ying Tung Graduate School
	<b>Prof Christopher Yu-Hang Chao</b>	<b>Prof Roger Shu-Kwan Cheng</b>
Academic Members of the Senate		
Chairman of Convocation	<b>Mr Alvin Lam</b>	
Elected Staff Member	<b>Dr Tony Lam Wai-Leung</b>	
Elected Student Member	<b>Mr Chris Lau Yan-Chun</b>	
Members Not Being Employees or Students of the University	<b>Mr Johnson Cha Mou-Daid</b> <b>The Hon Ben Chan Han-Pan</b> JP <b>Mr Nicholas Chan Hiu-Fung</b> MH <b>Mr David Fong Man-Hung</b> BBS, JP <b>Mr Wilson Fung Ying-Wai</b> <b>Prof Albert Yuk Keung Ip</b> <b>Prof Jack Lau</b>	<b>Mr Quinn Y K Law</b> SBS, JP <b>Mr Michael Lee Tze-Hau</b> JP <b>Ms Catherine K C Leung</b> <b>Mr Kyran Sze</b> MH <b>Ms Woo Chun-En Jennifer</b> <b>Mr Michael Wu Wei-Kuo</b> <b>Mr Stephen Yiu Kin-Wah</b>

## SENATE MEMBERSHIP

	<b>Prof Tony F Chan</b> <i>President</i> Chairman	
	<b>Prof Wei Shyy</b> Executive Vice-President & Provost	<b>Mr Mark Hodgson</b> Vice-President for Administration and Business
	<b>Dr Eden Y Woon</b> Vice-President for Institutional Advancement	<b>Prof Nancy Y Ip</b> Vice-President for Research and Graduate Studies
School of Science	<b>Prof Yang Wang</b> , <i>Dean</i> <b>Prof Michael S Altman</b> <b>Prof Bradley A Foreman</b> <b>Prof Karl Herrup</b> <b>Prof Zhenyang Lin</b>	<b>Prof Xiaoping Wang</b> , <i>Acting</i> <b>Prof Jun Xia</b> <b>Prof Min Yan</b> <b>Prof Jianzhen Yu</b>
School of Engineering	<b>Prof Tim Kwang-Ting Cheng</b> , <i>Dean</i> <b>Prof Man-Sun Chan</b> <b>Prof Christopher Yu-Hang Chao</b> <b>Prof Guanghao Chen</b> <b>Prof Guillermo Gallego</b> <b>Prof Henry Lam</b> , <i>Acting</i>	<b>Prof Hong-Kam Lo</b> <b>Prof Huihe Qiu</b> <b>Prof Bertram Shi</b> <b>Prof Qiang Yang</b> <b>Prof Shuhuai Yao</b>
School of Business and Management	<b>Prof Kar-Yan Tam</b> , <i>Dean</i> <b>Mr Sean Ferguson</b> <b>Prof Albert Ha</b> <b>Prof Mingyi Hung</b> , <i>Acting</i> <b>Prof Siu-Fai Leung</b>	<b>Prof J T Li</b> <b>Prof Anirban Mukhopadhyay</b> <b>Prof Anaimalai V Muthukrishnan</b> <b>Prof James Y L Thong</b> <b>Prof Chu Zhang</b> , <i>Acting</i>
School of Humanities and Social Science	<b>Prof James Lee</b> , <i>Dean</i> <b>Prof Billy Kee-Long So</b>	<b>Prof Kellee Tsai</b> <b>Prof Xiaogang Wu</b>
HKUST Fok Ying Tung Graduate School	<b>Prof Enboa Wu</b> , <i>Dean</i>	
Dean of Students	<b>Dr Robert Wessling</b>	
Interdisciplinary Programs Office	<b>Prof King-Lau Chow</b> , <i>Director</i> <b>Prof Jimmy Fung</b>	<b>Prof I-Ming Hsing</b> <b>Prof Xun Wu</b>
Elected Members of the Academic Staff	<b>Prof Pak-Wo Leung</b> <b>Prof Weiping Li</b>	<b>Prof Zilong Wen</b>

<b>Co-opted Members of the Academic Staff</b>	<b>Prof David K Banfield</b> <b>Prof Che-Ting Chan</b> <b>Prof Roger Shu-Kwan Cheng</b> <b>Prof Andrew Cohen</b> <b>Prof Bradley A Foreman</b>	<b>Prof Ravindra S Goonetilleke</b> <b>Prof Robert K M Ko</b> <b>Prof Charles W W Ng</b> <b>Prof Karl W K Tsim</b> <b>Prof Min Yan</b>
<b>Directors</b>	<b>Mr James Prince</b> , <i>Academic Registrar</i> <b>Ms Diana L H Chan</b> , <i>Library</i>	<b>Mrs Pandora Yuen</b> , <i>Student Affairs</i>
<b>Student Representatives</b>	<b>(Vacant)</b> , <i>President of Students' Union</i> <b>Mr Cyrus Chun-Yin Wong</b> , <i>Undergraduate Representative</i>	<b>Mr Awais Farid</b> , <i>Postgraduate Representative</i>

## MEMBERSHIP OF STANDING COMMITTEE

<b>Chairman</b>	<b>The Hon Andrew Liao Cheung-Sing</b>	
<b>Vice-Chairman</b>	<b>Prof John Chai Yat-Chiu</b>	
<b>Members</b>	<b>Prof Tony F Chan</b> <b>Mr David Fong Man-Hung</b> <b>Mr Mark Hodgson</b> <b>Prof Albert Yuk Keung Ip</b> <b>Prof Nancy Y Ip</b> <b>Prof Jack Lau</b> <b>Mr Quinn Y K Law</b>	<b>Mr Michael Lee Tze-Hau</b> <b>Ms Catherine K C Leung</b> <b>Prof Wei Shyy</b> <b>Mr Kyran Sze</b> <b>Dr Eden Y Woon</b> <b>Mr Michael Wu Wei-Kuo</b> <b>Prof Patrick Yeung Kai-Cheung</b>

## MEMBERSHIP OF AUDIT COMMITTEE

<b>Chairman</b>	<b>Mr Quinn Y K Law</b>	
<b>Members</b>	<b>Mr Nicholas Chan Hiu-Fung</b> <b>Mr Wilson Fung Ying-Wai</b>	<b>Mr Robert Gazzi</b>

## MEMBERSHIP OF CAMPUS DEVELOPMENT COMMITTEE

<b>Chairman</b>	<b>Mr Kyran Sze</b>	
<b>Vice-Chairman</b>	<b>Mr David Fong Man-Hung</b>	
<b>Members</b>	<b>Mr Thomas Chan Chun-Yuen</b> <b>Dr Tony Lam Wai-Leung</b>	<b>Mr Chris Lau Yan-Chun</b>
<b>Ex-officio</b>	<b>Mr Mark Hodgson</b>	

## MEMBERSHIP OF FINANCE COMMITTEE

<b>Chairman</b>	<b>Prof Patrick Yeung Kai-Cheung</b>	
<b>Members</b>	<b>Mr Johnson Cha Mou-Daid</b> <b>Prof Albert Yuk Keung Ip</b> <b>Mr Michael Lee Tze-Hau</b>	<b>Mr Ronald Seng-Yum Tham</b> <b>Mr Stephen Yiu Kin-Wah</b>
<b>Ex-officio</b>	<b>Prof Wei Shyy</b>	<b>Mr Mark Hodgson</b>

## MEMBERSHIP OF HONORARY AWARDS COMMITTEE

<b>Chairman</b>	<b>The Hon Andrew Liao Cheung-Sing</b>	
<b>Vice-Chairman</b>	<b>Prof Tony F Chan</b>	
<b>Members</b>	<b>Prof John Chai Yat-Chiu</b> <b>Dr Charles S C Chan</b> <b>Prof Che Ting Chan</b> <b>Prof Ping Gao</b>	<b>Prof Albert Y Ha</b> <b>Ms Catherine K C Leung</b> <b>The Hon Abraham Shek Lai-Him</b> <b>Prof Billy Kee-Long So</b>



## MEMBERSHIP OF HUMAN RESOURCES COMMITTEE

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Vice-Chairman	Prof Albert Yuk Keung Ip	
Members	Ms Catherine K C Leung Dr Michael H H Mak	Ms Woo Chun-En Jennifer Mr Stephen Yiu Kin-Wah
Ex-officio	Prof Tony F Chan Prof Wei Shyy	Mr Mark Hodgson

## MEMBERSHIP OF INSTITUTIONAL ADVANCEMENT AND OUTREACH COMMITTEE

Chairman	Ms Catherine K C Leung	
Vice-Chairman	Mr Michael Lee Tze-Hau	
Members	Mr Bernard Auyang Dr Charles S C Chan Mrs Yvette Yeh Fung Prof Roger King Mr Anish Lalvani Prof Jack Lau Mr David W H Lee	Ms Margaret Lee Pui-Man Mr Maximilian Yung-Kit Ma Mr Daryl Ng Win-Kong Dr James E Thompson Mr Philip Tsai Ms Woo Chun-En Jennifer
Ex-officio	Dr Eden Y Woon Prof James Lee	Prof Kar-Yan Tam

## MEMBERSHIP OF KNOWLEDGE TRANSFER COMMITTEE

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Vice-Chairman	Prof Jack Lau	
Members	Mr Nicholas Chan Hiu-Fung Mr Peter Cheung Kam-Fai Ms Catherine K C Leung	Prof Ping Sheng Prof Chi-Ying Tsui Mr Michael Wu Wei-Kuo
Ex-officio	Prof Wei Shyy	Prof Enboa Wu

## MEMBERSHIP OF SENIOR EXECUTIVES AFFAIRS COMMITTEE

Chairman	The Hon Andrew Liao Cheung-Sing	
Vice-Chairman	Prof John Chai Yat-Chiu	
Members	Mr Michael Wu Wei-Kuo	Prof Patrick Yeung Kai-Cheung

For the attendance and biographies of Council Members, please visit: <https://www.ab.ust.hk/ccss/Council.htm>

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## APPENDIX 2

### ADVISORY COMMITTEE

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#### SCHOOL OF SCIENCE ADVISORY COMMITTEE

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**Prof Marvin Cohen**

University Professor, Department of Physics,  
University of California, Berkeley, USA

**Prof Roger E Howe**

Professor, Department of Mathematics,  
Yale University, USA

**Prof Roberto Kolter**

Professor, Department of Microbiology and  
Immunology, Harvard Medical School, USA

**Prof Jean-Marie Lehn**

Director of the Supramolecular Chemistry  
Laboratory, Institut de Science et d'Ingénierie  
Supramoléculaires (ISIS), Université Louis  
Pasteur, Strasbourg, France

**Prof Patrick Lee**

William & Emma Rogers Professor of Physics,  
Division Head, Atomic, Biological,  
Condensed Matter and Physics,  
Massachusetts Institute of Technology, USA

**Prof George Papanicolaou**

Robert Grimmett Professor in Mathematics,  
Department of Mathematics,  
Stanford University, USA

**Prof Randy Schekman**

Howard Hughes Investigator and Professor  
of Cell and Developmental Biology,  
Department of Molecular and Cell Biology,  
University of California, Berkeley, USA

**Prof Xiaodong Wang**

Director and Investigator, National Institute  
of Biological Sciences, Beijing, PR China

**Prof Weitao Yang**

Philip Handler Professor of Chemistry,  
Department of Chemistry, Duke University,  
USA

**Prof King-Wai Yau**

Professor of Neuroscience, The Solomon  
H. Snyder Department of Neuroscience,  
Johns Hopkins University, USA

#### SCHOOL OF ENGINEERING ADVISORY COMMITTEE

---

**Dr Frank Fuk-kay Tong**

Chief Executive Officer  
Hong Kong Applied Science and Technology  
Research Institute (ASTRI)

**Mr Oscar Chow**

Non-Executive Director  
Chevalier Group

**Ir Prof Daniel MC Cheng**

Managing Director, Dunwell Group  
Chairman, Federation of Hong Kong  
Industries

**Ir Chi Chiu Chan**

Immediate Past President  
The Hong Kong Institution of Engineers

**Dr Kaifu Lee**

Chairman & Chief Executive Officer  
Sinovation Ventures

**Dr Hongjiang Zhang**

Former Chief Executive Officer  
Kingsoft and Kingsoft Cloud

**Mr Victor Ng**

Managing Director  
Micom Tech Limited

**Dr Ben Wang**

Chief Technology Officer  
Cainiao

**Ir Dr Wai-kwok Lo**

Member of Legislative Council (Engineering  
Functional Constituency) of the Hong Kong  
Special Administrative Region

**Mr Paul Poon**

Vice Chancellor – CLP Power Academy  
CLP Power Hong Kong Limited

**Dr Xinguo Zhang**

Executive Vice President and CIO  
Aviation Industry Corporation of China (AVIC)

#### SCHOOL OF BUSINESS AND MANAGEMENT ADVISORY COUNCIL

---

**Chairman****Dr Hans Michael Jebsen** BBS

Chairman  
Jebsen & Co Ltd

**Members****Prof Sally Blount**

Dean  
Kellogg School of Management,  
Northwestern University

**Mr Louis McDaniel Bowen**

Chairman and Chief Executive Officer  
Asia Capital Management Limited and  
China Advisors Limited

**Dato' Cheng Hye Cheah**

Chairman and Co-Chief Investment Officer  
Value Partners Group Ltd

**Mr Philip Chen** GBS, JP

Managing Director  
Hang Lung Properties

**Mr Eric Fok Kai Shan**

Vice President  
Fok Ying Tung Group

**Dr William Fung Kwok Lun** SBS, OBE, JP

Group Chairman  
Li & Fung Ltd

**Ms Wendy Gan**

Senior Advisor  
Pacific Century Premium  
Developments Limited

**Mr Benjamin Hung Pi Cheng** BBS, JP

Regional CEO, Greater China & North Asia  
CEO, Retail Banking  
Standard Chartered Bank

**Prof Albert Ip Yuk Keung**

Chief Executive Officer  
Langham Hospitality Investments Limited

**Mr Keith Kerr** SBS, JP

Chairman  
The Development Studio Ltd

**Ms Teresa Ko Yuk Yin** JP

China Chairman  
Freshfields Bruckhaus Deringer

**Mr Manoj Kohli**

Executive Chairman  
Softbank Energy

**Mr Anish Lalvani**

Chairman  
Euro Suisse International Ltd

**Dr Jack Lau**

Founder and Former Chairman & CEO  
Perception Digital Ltd

**Mr David Lee**

Director  
Lee Kum Kee Company Limited

**Mr Michael Lee** JP

Director  
Oxer Ltd

**Ms Catherine Leung**

Principal and Founding Partner  
MizMaa Ventures Ltd

**Mrs Margaret Leung** SBS, JP

Deputy Chairman and Managing Director  
Chong Hing Bank Ltd

**Ms Nisa Leung**

Managing Partner  
Qiming Venture Partners

**Mr Sing Cheong Liu** JP

Chairman  
My Top Home (China) Holdings Ltd

**Dr Vincent H. S. Lo** GBM, GBS, JP

Chairman  
Shui On Holdings Ltd

**Mr Maximilian Y K Ma**

Chairman  
Lee Heng Diamond Group

**Mr Anthony Nightingale** CMG, SBS, JP

Director  
Jardine Matheson Holdings Ltd

**Mr Wai Kwong Seck**

Chief Executive Officer, Asia Pacific  
State Street Bank and Trust Co

**Mr Sukanto Tanoto**

Chairman  
RGE Pte Ltd

**Dr James E Thompson** GBS

Chairman  
Crown Worldwide Holdings Ltd

**Mr Andy Tung**

Chief Executive Officer  
Orient Overseas Container Line Ltd

**Dr Rosanna Wong Yick Ming** DBE, JP

Executive Director  
The Hong Kong Federation of Youth Groups

**Mr Douglas Woo Chun Kuen**

Chairman and Managing Director  
Wheelock and Company Ltd

**Mr Thomas Jefferson Wu**

Managing Director  
Hopewell Holdings Ltd

**Mr Arthur Yuen Kwok Hang** JP

Deputy Chief Executive  
Hong Kong Monetary Authority

**Mrs Betty Yuen So Siu Mai**

Vice Chairman  
CLP Power Hong Kong Ltd

**Mr Shengman Zhang**

Former Chairman, Asia Pacific  
Citi

## SCHOOL OF HUMANITIES AND SOCIAL SCIENCE ADVISORY COMMITTEE

**Prof Angela Ki Che Leung**

Chair Professor of History  
Joseph Needham-Philip Mao Professor in  
Chinese History, Science & Civilization  
Hong Kong Institute for the Humanities and  
Social Sciences  
The University of Hong Kong

**Prof Lydia Liu**

Wu Tsun Tam Professor in Humanities  
Professor of Chinese and Comparative  
Literature  
Columbia University

**Prof Andrew Walder**

Denise O'Leary and Kent Thiry Professor  
Department of Sociology  
Stanford University

**Prof Kenneth Pomeranz**

Department Chair  
University Professor of Modern Chinese  
History and in the College  
University of Chicago

**Prof Yunxiang Yan**

Professor  
Department of Anthropology  
UCLA

## INTERDISCIPLINARY PROGRAMS OFFICE ADVISORY BOARD

**Prof Donald R Blake**

Professor, Chemistry  
School of Physical Sciences  
Professor, Earth System Science  
School of Physical Sciences  
University of California, Irvine

**Prof Gad Allon**

Director of the Jerome Fisher Program in  
Management & Technology Program  
Jeffrey A Keswin Professor and  
Professor of Operations,  
Information and Decisions  
University of Pennsylvania, USA

**Prof Roger R Stough**

University Professor  
Schar School of Policy and Government  
George Mason University

**Prof Steven Kou**

Professor, Mathematics  
Director, Risk Management Institute  
National University of Singapore



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## APPENDIX 3

### FINANCE

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#### OVERVIEW

The Financial year 2016/17 recorded a surplus of \$581 million (\$316 million for 2015/16). The higher surplus for 2016/17 was mainly attributable to a very favourable investment return, but partly offset by lower donation following the conclusion of the 25th Anniversary fund-raising campaign.

#### CONSOLIDATED INCOME AND EXPENDITURE

The consolidated income increased by \$559 million to \$4,877 million in 2016/17 (\$4,318 million in 2015/16), contributed by a growth in investment income for \$652 million, a reduction in donation income of \$250 million, with the remainder increase mainly due to the usual additional University Grants Committee (“UGC”) supplementary grants for General Pay Adjustment (“GPA”) on salaries.

The consolidated expenditure increased by \$286 million to \$4,304 million (\$4,018 million in 2015/16) which was mainly attributable to higher salary costs arising from GPA, general increases in teaching and research activities, growth in student expenses on scholarships and operating expenses for expanded student accommodation, as well as higher repair and maintenance costs for campus buildings.

#### SEGMENT RESULTS

Commentary on the operating segments, analysed by UGC-Funded Activities and non-UGC Funded Activities, is as follows:

##### UGC-Funded Activities

UGC-Funded Activities showed a surplus of \$186 million (deficit \$28 million for 2015/16). The 2016/17 surplus primarily came from the favourable investment return. The University has continued to build up the UGC reserves which stood at \$2,541 million (\$2,355 million in 2015/16).

##### Non-UGC Funded Activities

###### Self-Financing Continuing Professional Education Programs (“CPEP”), Research and Other Activities

Self-financing CPEP activities contributed a surplus of \$103 million (\$135 million for 2015/16) to the University. Non-UGC funded research contributed a surplus of \$14 million (\$17 million for 2015/16), mainly from completed commercial research projects and government subsidies. The operating surplus from other non-UGC funded activities excluding donation achieved \$156 million (deficit of \$3 million for 2015/16), contributed by higher investment returns from the retained non-UGC reserves. In aggregate, the overall surplus of these operating segments amounted to \$273 million (\$149 million for 2015/16).

##### Donations Activities

After the phenomenal success of the 25th Anniversary fund raising campaign in the previous year, income from donation dipped to \$66 million for 2016/17 (\$316 million for 2015/16). The reduction in donation income in the year was partly compensated by the higher investment return. Overall the segment showed a surplus of \$122 million (\$195 million for 2015/16).

##### Non-UGC Reserves

Non-UGC reserve balances stood at \$5,236 million at the end of 2016/17 (\$4,440 million for 2015/16). Apart from surpluses from the aforesaid self-financing activities, the growth in the reserve balances was partly attributable to recognition in the Investment Revaluation Reserve, with an un-realised gain close to \$400 million arising from investment in an unlisted company.

#### CAPITAL EXPENDITURE

A number of construction projects are underway for enhancing the University’s facilities to cater for accommodation and amenity needs of students, as well as infrastructure for academic and research activities. They include the multi-purpose auditorium, residence apartment for research postgraduate students, indoor sports centre, waterfront facilities and animal care facility.

As at 30 June 2017, the total commitments for approved construction projects and other capital items amounted to \$1,713 million: \$51 million of which will be funded by deferred income on hand, \$1,238 million from existing University’s Funds, \$89 million by approved but yet to be received UGC grants, and \$335 million by pledged donations.

#### OUTLOOK

The University has started to incorporate environment, social and corporate governance (ESG) factors in its investment policy. The University’s financial position is healthy and the Management is actively enhancing and improving its infrastructure to cater for the University’s long term needs. The University is also exploiting opportunities to invest in innovative initiatives and projects, in pursuit of the University’s academic mission.

# CONSOLIDATED STATEMENT OF COMPREHENSIVE INCOME

FOR THE YEAR ENDED 30 JUNE 2017

	2017 \$ million	2016 \$ million
<b>Income</b>		
Government Subventions and Grants	2,456	2,334
Tuition, Programs and Other Fees	1,099	1,104
Interest and Investment Income	646	(6)
Donations and Benefactions	66	316
Auxiliary Services and Other Income	364	353
Transfers from Deferred Capital Funds	246	217
	<b>4,877</b>	<b>4,318</b>
<b>Expenditure</b>		
Teaching, Learning and Research		
Teaching and Research	2,710	2,528
Library	111	108
Central Computing Facilities	131	118
Other Academic Services	86	106
	<b>3,038</b>	<b>2,860</b>
Institutional Support		
Management and General	313	289
Premises and Related Expenses	628	574
Student and General Education Services	275	246
Other Activities	50	49
	<b>1,266</b>	<b>1,158</b>
	<b>4,304</b>	<b>4,018</b>
<b>Surplus from operation for the year</b>	<b>573</b>	<b>300</b>
Share of Result of an Associate	8	15
Share of Result of a Joint Venture	0	1
<b>Surplus for the year before taxation</b>	<b>581</b>	<b>316</b>
<b>Taxation</b>	<b>0</b>	<b>0</b>
<b>Surplus for the year after taxation</b>	<b>581</b>	<b>316</b>
<b>Other comprehensive income for the year</b>		
Items that may be reclassified subsequently to income and expenditure:		
Unrealised gain / (loss) on Available-for-Sale Financial Assets	403	(4)
Exchange differences arising from retranslation	(2)	(15)
	<b>401</b>	<b>(19)</b>
<b>Total comprehensive income for the year</b>	<b>982</b>	<b>297</b>
<b>Transfers to / (from):</b>		
UGC Funds	186	(28)
Restricted Funds	19	238
Other Funds	777	87
	<b>982</b>	<b>297</b>

## CONSOLIDATED BALANCE SHEET

AS AT 30 JUNE 2017

	2017 \$ million	2016 \$ million
<b>Non-Current Assets</b>		
Property, Plant and Equipment	5,078	4,976
Intangible Assets	6	7
Held-to-Maturity Financial Assets	69	71
Available-for-Sale Financial Assets	421	18
Financial Assets at Fair Value through Profit or Loss	5,865	5,275
Interest in an Associate	78	73
	<b>11,517</b>	<b>10,420</b>
<b>Current Assets</b>		
Held-to-Maturity Financial Assets	2	0
Inventories	1	1
Accounts Receivable and Prepayments	205	187
Bank Deposits with Original Maturity over Three Months	807	716
Cash and Cash Equivalents	798	888
	<b>1,813</b>	<b>1,792</b>
<b>Current Liabilities</b>		
Accounts Payable and Accruals	731	700
Provision for Staff Benefits	176	165
Deferred Income	725	687
Tax Payable	0	1
	<b>1,632</b>	<b>1,553</b>
<b>Net Current Assets</b>	<b>181</b>	<b>239</b>
<b>Total Assets Less Current Liabilities</b>	<b>11,698</b>	<b>10,659</b>
<b>Non-Current Liabilities</b>		
Provision for Staff Benefits	31	29
Deferred Capital Funds	3,890	3,835
	<b>3,921</b>	<b>3,864</b>
<b>NET ASSETS</b>	<b>7,777</b>	<b>6,795</b>
<b>UGC Funds</b>	<b>2,541</b>	<b>2,355</b>
<b>Restricted Funds</b>	<b>1,197</b>	<b>1,177</b>
<b>Other Funds</b>	<b>4,039</b>	<b>3,263</b>
<b>TOTAL FUNDS</b>	<b>7,777</b>	<b>6,795</b>



## APPENDIX 4

### INTERNAL CONTROL AND RISK MANAGEMENT

#### SUMMARY OF INTERNAL CONTROL AND MEASURES

The University has developed a system of internal control comprising both IT application based and manual controls as well as management reporting. In order to receive assurance that the system of internal control is effective and operating satisfactorily, the following arrangements are in place:

- (a) A Control Self-Assessment Program requires individual units to self-review periodically the controls for which they are responsible and communicate the results to Management for follow-up action. This Program aims to raise awareness of internal control throughout the University and helps to assess the adequacy of the University's control processes.
- (b) A consulting firm is appointed as the University's internal auditors to perform risk based independent reviews on the adequacy and effectiveness of the University's system of internal control and recommend areas for improvement.
- (c) In addition to the statutory annual audit of the University's financial statements, the external auditors also carry out an independent assurance engagement on the University's compliance with the guidelines, terms and conditions imposed by the Government's University Grants Committee.
- (d) The Audit Committee of the University agrees a program of work for the internal auditors; receives reports and considers control issues raised by the internal auditors and the external auditors. The program of audit work provides assurance that Management has put in place and upholds an effective internal control system.
- (e) A Whistle Blowing Policy provides a safe and protected means by which employees and students of the University are enabled to raise concerns with the appropriate University authorities against any malpractice within the institution.

#### RISK MANAGEMENT

Council has approved a new Principal Risk Management Process ("The Process") to manage major or principal institutional risk, comprising a Statement of Risk Appetite, Risk Policy and Risk Process. The Process complies with the recommendation on management of major institutional risk included in the Newby Report on Governance in UGC-funded Higher Education Institutions in Hong Kong, published on 30 March 2016. Management utilized the Process and presented its 2016-17 Assessment of Principal Risk to Council in October 2017. The following summary is derived from this report.

##### Overall Conclusion

The University faces a number of principal risks and these are classified under three headings according to Policy: Financial Risks, Reputational Risks and Risks to Operations. In general, the Principal Risks identified have appropriate mitigation and the University has reliable sources of assurance that the mitigation is effective. In some cases, Management believes it can strengthen risk mitigation and has identified new actions to be taken. Resource will be focused on implementing these new actions in the coming year.

The University recognizes that new Principal Risks may emerge at any time. Implementation of The Process shall ensure the timely assessment and mitigation of new Principal Risks as they emerge.

##### Financial Risks

The University is dependent on funding from the Government and is therefore exposed to a substantial one off reduction in funding or sustained reduction of a significant part of its funding. The University also derives significant income from non-Government sources, such as its self-financed teaching courses where it is dependent on the competitiveness of its offering both locally and internationally. The key mitigations for funding risks are maintaining a high academic reputation in both teaching and research the amount of cash reserve available and pledges for future donations. The University is also exposed to financial risks, mainly market risks on its investments. Investment risk is mitigated by a diversified investment strategy with acceptable risk and return objectives approved by Council and the employment of external advisors and investment managers. The Financial Statements contain further information about financial risks and their mitigation.

## Reputational Risks

The University strives to be a leader in education and research and it is essential it maintains an excellent reputation in these areas and is able to attract and retain the best global talents including students, faculty and staff. The University has broad and robust risk mitigation and assurance in academic areas including the quality of its faculty and UGC's direct review and assessment. In particular, the University undergoes periodic exercises such as ADP, RAE and QAC audits, each containing a broad range of topics including SWOT analysis. Some of the academic endeavors, such as research and growing parts of knowledge transfer, services and education, are also open to international benchmarking and peer review.

The University places high importance on full compliance with all relevant regulatory requirements, whether academic, operational, accounting, legal, tax, environmental, building code or the specific requirements of funders. It would not knowingly breach any requirements. The key mitigations are the employment of seasoned and qualified staff to ensure compliance, use of professional advisers whenever required, internal control procedures and independent audit.

It is essential that the University upholds the standards expected of a publicly funded institution. The University has a comprehensive code of conduct policy that all its members must comply with. Student welfare, on and off campus, is paramount and the University has implemented various measures to identify and manage any concerns of students. These include confidential access to team of professionally trained counselors if required.

## Risks to Operations

The University has set itself high academic and non-academic standards, consistent with those of a world-class institution. It strives to ensure its facilities and infrastructure are meeting the expected standard and available at all times. Inevitably there are occasions when the availability or quality of facilities and infrastructure is below the expected standard but this is mitigated by a comprehensive programme of preventative maintenance and in-built infrastructure resilience. Despite all planning and risk management, the University is vulnerable to a disaster whether naturally occurring or deliberately instigated. The University has the key components of a disaster recovery plan already developed, including tested emergency response procedures and restoration of back-up IT systems if necessary.

The University is a complex campus where staff and students, live, work and study with continuous activity to maintain and expand campus facilities. The University has an on-campus medical facility, able to respond to any situations. All contractors on site must comply with Hong Kong Healthy and Safety standards. University sports facilities are suitably supervised with users receiving appropriate training if necessary.

Some University operations require the use of hazardous materials, which can cause serious injury or death if not managed correctly. The University has a comprehensive Environmental Health & Safety (EHS) management program designed to manage this risk.

As an open community, the University is vulnerable to unauthorized penetration of its IT networks, applications and data with potentially serious consequence. The University has a comprehensive cyber security policy and has implemented a variety of security measures including a dedicated team monitoring compliance with policy and any incidents. The University uses external service providers to perform intensive IT audits periodically.

The University has identified the creation of a performance culture as a strategic priority. Ensuring the buy-in of all staff to performance expectations and the related change program and maintaining staff morale during this time is a key risk. This is mitigated by a performance incentive for academic staff and broad staff engagement to communicate the rationale of strategies.









