

# HKUST ANNUAL REPORT

2020-2021



## 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.

## HKUST'S 5 CORE VALUES

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

## HKUST STRATEGIC PLAN 2021-2028

As HKUST heads toward its fourth decade, the University has embarked on an innovative new road map for talent development and leading-edge knowledge generation under our Strategic Plan 2021-2028. The Plan will enable us to contribute to the advancement of humankind through the fostering of an international community and nurturing of individuals through holistic education, original research, and knowledge transfer into society.

We have sharpened and updated our strategic directions in substantial ways. The refreshed five strategic objectives represent the desired emphasis for our next phase of development. Our underlying aspirations not only set out to sustain and advance HKUST as a trendsetter in both education and research landscapes for the long term, but also address the evolving needs and challenges facing society.



Find out more about the Plan:



<https://strategicplan.hkust.edu.hk>

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# CHAIRMAN'S FOREWORD

As HKUST approaches its 30th Anniversary, it is an opportune time for us to appraise the work that we have done and look far for future opportunities. It is not easy for a young university like us to come this far on our journey to excellence. In just three decades, HKUST has become a highly regarded university globally, thanks to the vision, hard work and support of our founding fathers, all our Council and Court Members, partners and friends.

HKUST's past achievements demonstrated the University's determination to spearhead in research breakthrough and aptitude to contribute to the world with innovative ideas. As the old Chinese saying goes, a person is established at the age of thirty (三十而立). This is truly a momentous occasion for us to refresh our minds and set for an even more promising future.

The implementation of a robust governance framework is undoubtedly one of the key success factors of the University's remarkable achievements over the years. Being the supreme governing body of HKUST, the Council has taken significant steps to consolidate its agenda to further enhance university governance. Through Council's steering of the University's overall strategic directions, HKUST has successfully achieved various development objectives and long-term goals.

Looking ahead, the University's Strategic Plan 2021-2028, under the Council's direction, would demonstrate how HKUST's potential could be fully realized along with an array of far-sighted strategies. With the professional expertise of our Members, the Council will continue to oversee the Management's performance, as well as its own effectiveness based on international governance standards.

As the University marches toward its fourth decade, we endeavor to create an even greater impact in the region. The imminent opening of HKUST(Guangzhou) will further exemplify the University's determination to seize new growth opportunities presented in the Greater Bay Area, with renewed approaches to education, research, and knowledge transfer. Under the Council's counsel, the governance standards of this new operation are expected to be fully aligned with that of the Clear Water Bay campus.

After years of hard work in overseeing all the important phases of its planning and construction life cycle, the Council is thrilled to witness the inauguration of the exquisitely designed Shaw Auditorium in Fall 2021. The newly added facility not only marks another important milestone in the University's history, but also creates an ideal venue for our next generation, both in fostering their whole-person development and in enriching their university experience. This new landmark will certainly serve as a cultural hub for further promoting the "East-meets-West" conceptions at HKUST, and a hot spot for interactions between us and the wider community.

The University's success over the years is a collective effort of all Members of our community. In another year that saw the University turning challenges into opportunities, I wish to give my heartfelt appreciation to my fellow Council and Court Members, staff, students and alumni, who have shown their HKUST spirit and are determined to stride ahead together despite all the external challenges. I would also like to thank our donors and friends, for supporting us in turning our dreams into reality.

Being one of the leading young universities in the world, HKUST would continue to initiate, to impact and to lead. As we enter a new chapter in our history, we pledge ourselves that HKUST would bring the world a more forthcoming future with more advanced scientific and technological innovations in the coming decade, and beyond.

Chairman, University Council  
**Mr. Andrew LIAO Cheung-Sing**  
GBS, SBS, SC, JP





# PRESIDENT'S REPORT

In a year when COVID-19 showed how unpredictable and transformative change can be, the HKUST community responded quickly to the many testing situations of 2020-21 with open-minded thinking and forward planning. This has set the University proactively on track to embrace the new normal of fast-moving times filled with both uncertainty and opportunity.

**Transformational Times:** Whether through bold yet prudent foresight, novel teaching initiatives, impactful research, comprehensive campus health measures, or the hard work of our offices and departments, colleagues and students have contributed their utmost over an extraordinary year, and fully deserve recognition and applause. Their dedication has enabled the University not only to continue our academic and research pursuits during the pandemic but also to directly assist in solving imminent challenges facing the regional and international communities, as evidenced by our innovation-led products and solutions, discoveries, and creative partnerships.

**Steadfast in Our Core Values:** In addition to the public health crisis, fractures and disagreements have challenged Hong Kong over the past few years. In such polarized times, the University has strived to uphold our apolitical principle and focus on our core values, including academic freedom, diversity, inclusiveness, and mutual respect, all of which form the basis of our academic environment. Indeed, since the University's founding days, we have been steadfast in our support of such openness, and this position continues.

**Addressing the Three Futures:** At the same time, a renewed system-wide framework is required for us to move to the next level in our education, research, knowledge transfer, and societal contribution. In this regard, the HKUST Strategic Plan 2021-2028, launched at the start of 2021, will be instrumental in achieving our goals. As laid out in the new Plan, and reinforced in the HKUST Planning Exercise Proposal endorsed by the University Grants Committee (UGC), three interlinked themes – sustainable conduct, intelligent industrialization, and human capital – will guide HKUST in fulfilling our aspirations to make a difference to the future of living, the future of work, and the future of people:

**Sustainable Conduct:** We see sustainability as an area of forever impact that affects everyone and must become a way of life to safeguard ecosystems for future generations. Reducing our eco footprint is only one part of our commitment to achieving true sustainability. HKUST members will leverage science and technology, policy, human behavior, and psychology to build smart and sustainable cities and lifestyles. Based on actual commitments made at our Clear Water Bay and Guangzhou campuses, the HKUST community is already actively engaged in supporting and working toward the global goal of sustainability in ways that are implementable, shared, agreeable, and seek to be scalable, as illuminated in our Sustainable Smart Campus as a Living Lab initiative (<https://ssc.hkust.edu.hk/>), HKUST 2028 Sustainability Challenge (<https://sust.hkust.edu.hk/about/2028challenge>), and net zero carbon drive.

**Intelligent Industrialization:** Achieving sustainability will also require the creation of smart technologies for different forms of production and working practices, with the fourth industrial revolution scaling up fast across diverse sectors, some spurred by the pandemic. As an international science and technology innovator, HKUST has a pivotal role to play in advancing intelligent industrialization in emerging areas such as AI, robotics, biotechnology, big data, and renewable energy, and contributing to wise, evidence-based policymaking to ensure these advances work together with the planet, its resources, and people. In line with this, the University is robustly assisting members in transferring their technological innovation to boost social and economic development. Support and dedication of resources, including substantial donations secured recently, are fruitfully spurring entrepreneurship and viable start-up companies founded by faculty and alumni in different industries. Likewise, academic and industry partnerships and collaborations formed across the globe are boosting the reach of our lab-to-market activities.



**Human Capital:** Alongside sustainable conduct and intelligent industrialization, there is a pressing need to improve the quality of people's lives in a world challenged by the ongoing health crisis and growing polarization. Through a focus on human-oriented research and endeavors in areas such as pedagogical rethinking and educational innovation, public health, aging and wellness, smart cities, and fintech, HKUST is seeking to build a better existence for people from birth to end. It is equally essential that we foster and sustain a quality workforce to address the complex problems the world faces. To achieve our goals, the University has made whole-person development an educational priority to nurture well-rounded individuals equipped with creative and critical thinking, entrepreneurial spirit, a sense of responsibility, compassion, and respect for diversity and social inclusion. HKUST's new and revamped programs and curricula, such as our novel "Major + X" extended degree option, will help our members to develop such capabilities, inspiring them to redefine problems and create mindful solutions.

**Ongoing Endeavors:** Our vision and strategy are being proactively supported by substantial development on the University's Clear Water Bay campus as well as at the new HKUST(GZ) campus. Here in Hong Kong, numerous capital projects are taking place, including (1) the 1,300-seat multi-purpose Shaw Auditorium, due to be completed in November 2021, will support and promote performance, creativity, and arts on campus; (2) the Jockey Club Global Graduate Tower, which offers more than 500 bed spaces,

will support graduate students' on-campus living, including family housing; (3) the Jockey Club i-Village, which provides 1,551 bed spaces, i.e. approximately more than one-third of the current capacity, will increase our much-needed undergraduate on-campus living; (4) the Martin Ka Shing Lee Innovation Building, which is under development, will support substantial additional capacity for research and knowledge transfer, especially in physical science and technology; and (5) the Life and Chemical Sciences and Technologies Building, which is due to start full development in 2022, will enhance our capacity in some key focused areas, including synthetic biology and multidisciplinary collaboration.

During the transition period, before the new buildings are ready, we have reached an agreement with Hong Kong Science and Technology Parks to use more than 14,000 square feet of working and research space in the Tseung Kwan O Industrial Estate. This will help meet immediate space needs from different activities on data science, robotics, fintech, smart city applications, among other emerging areas.

Together, we have committed more than \$4.6 billion to support the establishment of our new infrastructure, along with upgrades and renovation of multiple major research facilities at our Clear Water Bay campus. We greatly appreciate the strong support from the government, donors, and alumni, who see the importance and value of helping HKUST go forward energetically and enthusiastically.



On the human capital side, enrollment has been steadily increasing. Despite the decrease in number of undergraduate students across the UGC sector in recent years, excluding certain targeted priority areas, HKUST's allocated number has been continuously increasing. The University's current total number of students stands at approximately 16,000, comprising around 10,000 undergraduates and close to 6,000 postgraduates.



Given the increasing student enrollment and fast development in science, technology, business innovation, and societal development, HKUST has been proactively recruiting talents to join our faculty in all Schools and the Interdisciplinary Program Office. After substantial hiring of faculty in around 2010 in response to Hong Kong's sector-wide education reform, extending undergraduate degrees from three years to four years from 2012 onwards, we have been expanding the faculty numbers. Substantiated and substantiation-track faculty have increased by more than 15% since 2015, and the growth, supported by the new facilities and space, will be kept up. The University's annual budget has also correspondingly grown. With our success in external grants, contracts, donations, and other income, even though UGC has generously supported HKUST with an increased block grant, linked to our allocated student numbers, the share of the block grant in our total budget has reduced from 51% to 37% over the past decade.

There are many other important areas that we monitor, assess, and to which we commit additional resources. For example, globally and here in Hong Kong, mental wellness is an increasingly visible challenge. At HKUST, we have doubled the number of counsellors during the past decade, and are partnering with other organizations to develop community-wide support for our students, and employees. Particularly in times of the on-going pandemic, we have

offered online counselling services via different platforms, as an alternative to face-to-face sessions. A number of other wellness initiatives have been launched, including Peer Counselor Training Program, Therapy Dog Program, and enhanced staff training. A wide range of adaptive, assistive or rehabilitative tools are also made available for students with special educational needs.

In parallel, we have been actively recruiting faculty globally for HKUST(GZ), expecting that at least 150 will join by September 2022, and 1,000 research postgraduate students will be studying full-time there. Faculty numbers at the new campus are expected to grow to 400 by 2027 to support an enrollment of 4,000 research postgraduates and 1,500 undergraduates. Between the Clear Water Bay and Guangzhou campuses, we will foster close coordination of academic personnel, structures, and degree programs, and maximize the sharing of resources. HKUST is set to elevate our total contribution to society, both locally and globally, with minimum duplication while without overlapping of resources and programs.

**Realizing HKUST 2.0:** Thus, as HKUST turns 30 toward the end of 2021, we can also celebrate the University's entry into a new era of growth. In forthcoming years, our Guangzhou campus together with greatly enhanced facilities at Clear Water Bay will significantly contribute to our transformation journey. Under the Unified HKUST-Complementary Campuses framework, HKUST(GZ) will extend our resources, organizational structures, and physical settings to enable our members to pursue both curiosity-driven and mission-encouraged endeavors through our pioneering dual academic and research approach (<https://strategicplan.hkust.edu.hk/>) in order to broaden and deepen the University's impact. All will invigorate the University community's capacity to nurture, create, discover, invent, and innovate. As we stride into our fourth decade in the coming year, we look forward with exhilaration to the rapidly evolving times ahead and further remarkable achievements for a new chapter, namely, HKUST 2.0.

President

**Prof. Wei SHYY**  
JP

# UNIVERSITY MANAGEMENT



**Prof. Wei SHYY**  
President



**Prof. Lionel M. NI**  
Provost



**Prof. Nancy Y. IP**  
Vice-President for  
Research and  
Development



**Mr. Mark HODGSON**  
Vice-President for  
Administration and  
Business



**Prof. WANG Yang**  
Vice-President for  
Institutional  
Advancement



# LEARNING FOR LIFE

Facing a world reshaped by global challenges, HKUST vitalized the collaborative dexterity of its teaching and learning to stay ahead of the evolving education landscape while meeting society's changing needs

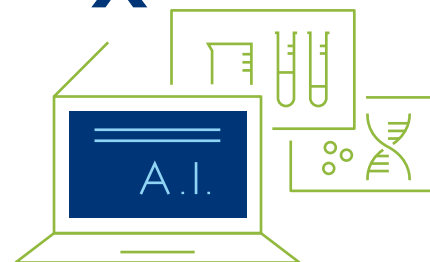
## UNLEASHING MULTIDIMENSIONAL TALENTS

In line with HKUST's proactive outlook, the University launched Hong Kong's first "Extended Major" under its new "Major + X" degree structure over 2020-21, with "X" representing artificial intelligence (AI), an area that is rapidly transforming multiple fields and jobs. By blending traditional majors with popular emerging areas, the novel degree option enhances the integration of existing and new knowledge, adding to students' multidimensional perspectives and skills, while increasing the University's agility to respond more rapidly in light of society's fast-changing needs. A second "X", focusing on digital media and creative arts, will be offered in 2022-23.

HKUST further advanced its Common Core Program, a key part of the University's undergraduate education that can broaden students' interests beyond their major field of study and inspire a lifelong passion for learning. This move introduces a progressive three-tier model comprising Foundation, Broadening, and Experiential courses, all of which will develop and track students' competencies as they progress through the program, to address the needs of future talents and to keep up with recent education advances and best practices from around the world. Two

## MAJOR

+ X



HK's First  
"Extended Major"



Foundation courses will be piloted in Fall 2021, while the overall revitalized structure will be launched for the incoming cohort from Fall 2022.

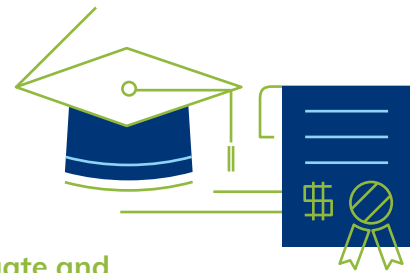
Postgraduates have also benefited through early initiatives under the novel Unified HKUST-Complementary Campuses framework, established to integrate provision at Clear Water Bay and our new Guangzhou campus, which is set to open in 2022. Over 2020-21, a Clear Water Bay-Guangzhou PhD dual-degree opportunity was initiated to provide access to complementary expertise and state-of-the-art equipment at both campuses and facilitate integration while MPhil and PhD degrees in 15 research thrust areas at the new campus were rolled out under the HKUST(GZ) Pilot Scheme.

To broaden HKUST's contribution to innovation and real-world problem-solving, a new MPhil/PhD program in Integrative Systems and Design and a Master of Public

Management are set to increase the pool of talent taking these two fields forward. The former places emphasis on the knowledge and technical skills essential to the creation of user-oriented products and services with human and societal benefits. The latter will bring interdisciplinary perspectives to policy, management, and governance issues, in particular those related to technological innovation and sustainability, and prepare participants for senior management roles in public sector organizations, among others.

In addition, two timely front-running business and management programs will accelerate corporate leadership development. The flexible Digital Master of Business Administration for Global Leaders is a first-of-its kind program in Asia for executives who have difficulty committing to regular face-to-face classes. The Doctor of Business Administration, launched in Fall 2021, offers rigorous training to leaders, senior executives, and entrepreneurs to enable them to develop a portfolio of skills in practice-based research.





Undergraduate and  
postgraduate scholarships  
totaling

**\$84.5 million**

## ADVANCING CREATIVE TEACHING AND STUDENT WELLBEING

Along with dynamic program innovation, University faculty effectively adapted their teaching to ensure students kept on top of their learning during the different waves of COVID-19. This resulted in some classes being delivered in “mixed-mode” (i.e., simultaneous on-campus and online interactions between instructor and students), with others conducted purely online. More than 10 new projects related to experiential learning courses, game-based learning, and augmented reality/virtual reality courses also gained support from the University Grants Committee’s Teaching Development Grants. Hong Kong’s first mixed-reality teaching and learning classroom was established to incorporate virtual reality-based components and immersive online learning, among other options, into engineering courses.

Such determination to advance student learning despite the pandemic was echoed in the University’s practical assistance for those facing difficulty in continuing their studies due to financial hardship brought by COVID-19 and other challenges. HKUST’s robust response led to a 54% increase in bursaries and loans in 2020-21 totaling \$10.3 million. In addition, the University awarded undergraduate and postgraduate scholarships totaling \$84.5 million over the year in recognition of academic and non-academic achievements in numerous areas.

Over 2020-21, 86 wellbeing sessions/workshops involving more than 5,200 students and staff members took place as part of the University’s wellness drive, with new topics including sexual health, how to work less and achieve more, and effective communication with supervisors for research postgraduates. Senior peer counselors and postgraduate students piloted the #SpeakUp Peer Chat Service, harnessing online and face-to-face platforms to reach out to students with counseling needs around the clock. The University also recruited two new in-house therapy dog trainees, with the aim of having the full team of five dogs in service for Fall 2021. Earlier in the year, the emotional wellbeing of more than 400 participants benefited from interaction with the current therapy dogs, meeting in small groups to adhere to social distancing.

## EXPANDING GLOBAL HORIZONS

As well as raising self-awareness, HKUST is committed to broadening students’ interest in others and widening perspectives through provision of academic and cultural learning experiences beyond the University. The flagship student exchange program is a particular focus and now

extends to over 240 quality partners worldwide. Despite COVID-19 affecting regular student exchanges over the year, HKUST moved forward to build more partnerships and provide increased opportunities for students once exchanges resume.

Demonstrating the global reach of the program, the University signed new agreements with University of St. Andrews (UK) and Kyushu University (Japan), and entered into strategic partnerships with Ewha Womans University (South Korea) and Koc University (Turkey). Exchange arrangements expanded from School-level to University-wide with Osaka University (Japan), Monash University (Australia), and Ewha Womans University (South Korea). In addition, virtual study abroad options created opportunities for over 300 students to engage in cultural exchange and learning. Partners helping to initiate these programs included Fudan University (Mainland), Massey University (New Zealand), University of New South Wales (Australia), Nanyang Technological University (Singapore), Rice University (US), as well as member universities of the Association of Pacific Rim Universities and the Association of East Asian Research Universities.

HKUST also co-organized the first Summer Institute in Computational Social Science to be held in Hong Kong. The world-renowned summer school was originated by Princeton and Duke Universities in the US. The Hong Kong event admitted students from HKUST and other local universities, assisting in building a research community in the field within the city.

## The Flagship Student Exchange Program





## GAINING A HEAD START ON CAREER OPTIONS

2020-21 was also a time for resourcefulness in assisting students to search for jobs or internships during the challenging economic environment. To boost openings, the University pursued new avenues and leveraged its strong relationships with industry and the business community. Job postings on the HKUST-exclusive job board doubled to almost 3,800 in 2021 compared with the same time period in the previous year, and more than 150 employers joined the week-long vMosaic job fair in April 2021, a rapid-response initiative that utilized the University's new in-house virtual career fair platform in light of the new trend of remote hiring. Meanwhile, online career development programs flourished, with more than 6,400 students having attended related programs and nearly 1,600 consultation sessions conducted in 2020-21.



HKUST students' enthusiasm for early work experience was highlighted by the pilot Science, Technology, Engineering and Mathematics (STEM) internship scheme for university students, organized by Hong Kong's Innovation and Technology Commission. The scheme attracted 522 HKUST interns over Summer 2020 and Winter 2021, the highest among all participating universities. Another novel opening was the opportunity to participate in virtual internships. Over 40 HKUST students took part in seven virtual schemes, with host organizations from Hong Kong, the Mainland, Australia, Europe, and the US.

## FOSTERING AN ENTREPRENEURIAL MINDSET

Developing students' entrepreneurship skills is a critical step in setting them up for success after graduation. This has led to the dedication of considerable resources in diverse areas at HKUST to nourish distinctive graduates and students to make a positive social impact through implementing innovation.

As an illustration of the University's own bold thinking to extend traditional entrepreneurial education provision, 2020 saw the introduction of "Entrepreneurship 1001: Building Your Own Future", a transdisciplinary Common Core course co-listed with liberal arts-oriented Lingnan University, adding a humanitarian perspective to entrepreneurship know-how and skills. In this fully experiential course, students are required to build their own business while highlighting the human condition and considerations that need to be incorporated in organizations and industries of the future. Over 150 HKUST students enrolled in Fall 2020 and Spring 2021, with 70 from Lingnan University joining the course.

Beyond the curriculum, HKUST Entrepreneurship Center provided practical entrepreneurship support to innovative new University-related businesses, incubating 46 start-up companies in 2020-21. Links between business newcomers from the University community and experienced industry dynamos were strengthened through mentorHUB@HKUST, which attracted over 35 established mentors and more than 200 mentees from nearly 90 start-up teams across fields and industries over the year. The scheme encourages mentors and mentees to reach out to one another, anytime and anywhere, to facilitate early-stage business growth. The Center also nominated over 20 start-ups for fast-tracking into incubation programs at Hong Kong Science and Technology Parks Corporation and Hong Kong Cyberport Management Company Limited.

Participation in competitions delivered additional know-how, motivation to translate ideas into action, and insight into other people's capabilities. In addition to annual competitions such as the Hong Kong Techathon 2021, co-organized by Hong Kong Science and Technology Parks Corporation, HKUST, and six other local universities, and hackUST, one of the largest student events of its kind in Greater China, there was also a dynamic response to the HKUST-Kaisa Autonomous RC-Car Racing Competition, which inspired over 90 participants from across the University to work on applications for autonomous radio-controlled vehicles before showcasing their technological innovations to the HKUST community.

## FLAGSHIP CONTEST CELEBRATES FIRST DECADE

The University's flagship One-Million-Dollar Entrepreneurship Competition celebrated its 10th anniversary in 2020, with a record 1,826 entries from eight cities and regions across China. Computer Engineering alumnus Dr. LIU Zhaojun and his start-up Shenzhen Sitan Technology Co., Ltd., focused on cutting-edge micro-LED technology display, won the Grand Final in Nansha. Hundreds of on-site spectators attended while 1.7 million

viewers watched the live online broadcast. In a special anniversary feature, 10 "Unicorns of Tomorrow" – start-ups founded by the HKUST community and valued between RMB1 billion and RMB10 billion – were also highlighted. In 2021, the Hong Kong regional contest received over 750 applicants from 185 teams, largely comprising HKUST faculty, staff, students, and alumni, and hailing from nine countries and regions.





# LAB TO MARKET

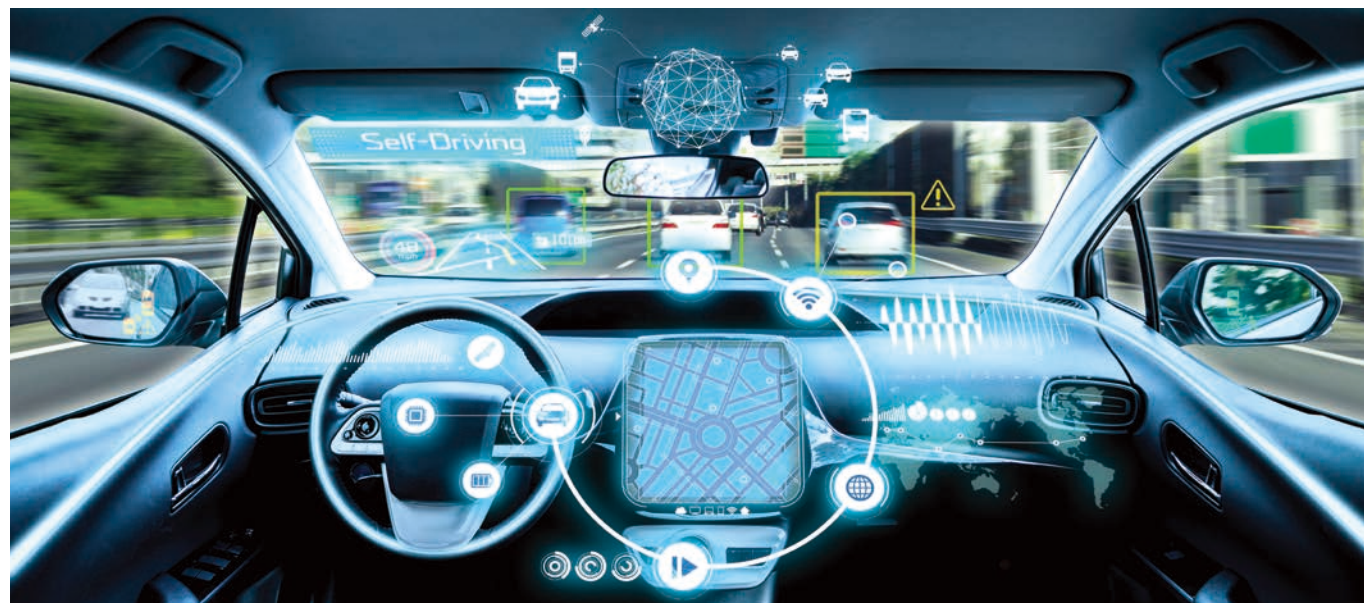
The University's dynamic research and innovation endeavors spurred impactful discovery and applications in essential and emerging areas for Hong Kong's development and global advancement, ranging from smart city solutions and AI-driven applications to COVID-19 resilience and sustainable conduct

## RESEARCH FUNDING TO POWER FORWARD INNOVATION

In 2020-21, HKUST strengthened its capabilities to deliver leading-edge contributions to societal development and academia in Hong Kong and the wider community by pursuing 1,556 new and ongoing research projects in high-impact and emerging areas. These areas encompassed smart urban environments, alternative energy, and preparedness for novel infectious diseases, among many others. The University generated cumulative external funding totaling \$1.03 billion to support its far-sighted endeavors.

### RGC Schemes

Hong Kong's Research Grants Council (RGC) continued to be a major source of research funding, providing \$247.6 million for 238 new projects. In 2020-21, the University achieved application success rates of 45% and 49%, in the General Research Fund and Early Career Scheme respectively, the highest combined success rate among all local institutions.

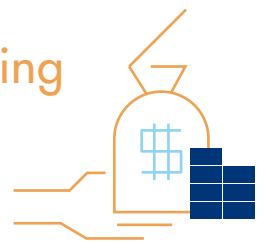


The RGC's prestigious Theme-based Research Scheme awarded \$33.3 million to a key smart city project led by Prof. CHEN Kai (Computer Science and Engineering). Working together with Hong Kong government departments, industry partners and other universities, the innovation will create an integrated "IT brain" to drive forward applications for a smart city through development of a high-performance AI computing cloud platform, initially for improved traffic management.

Collaborative Research Fund (CRF) proposals also received significant support, with 12 group research and equipment projects receiving a total of \$68 million. Group research advances included building more resilient urban forests, development of better-performing alkaline membrane fuel cells, the harnessing of ambient RF waves, and new aggregation-induced emission systems. Three physics group projects will explore challenges at quantum and microscale levels, seeking answers to the nature of dark matter and other major questions. In addition, all three collaborative research equipment applications resulted in funding, with a total of \$18.1 million allocated for acquisition of an integrated advanced packaging platform, a multifunctional correlative imaging and spectroscopy system, and an indium-rich metal jet.

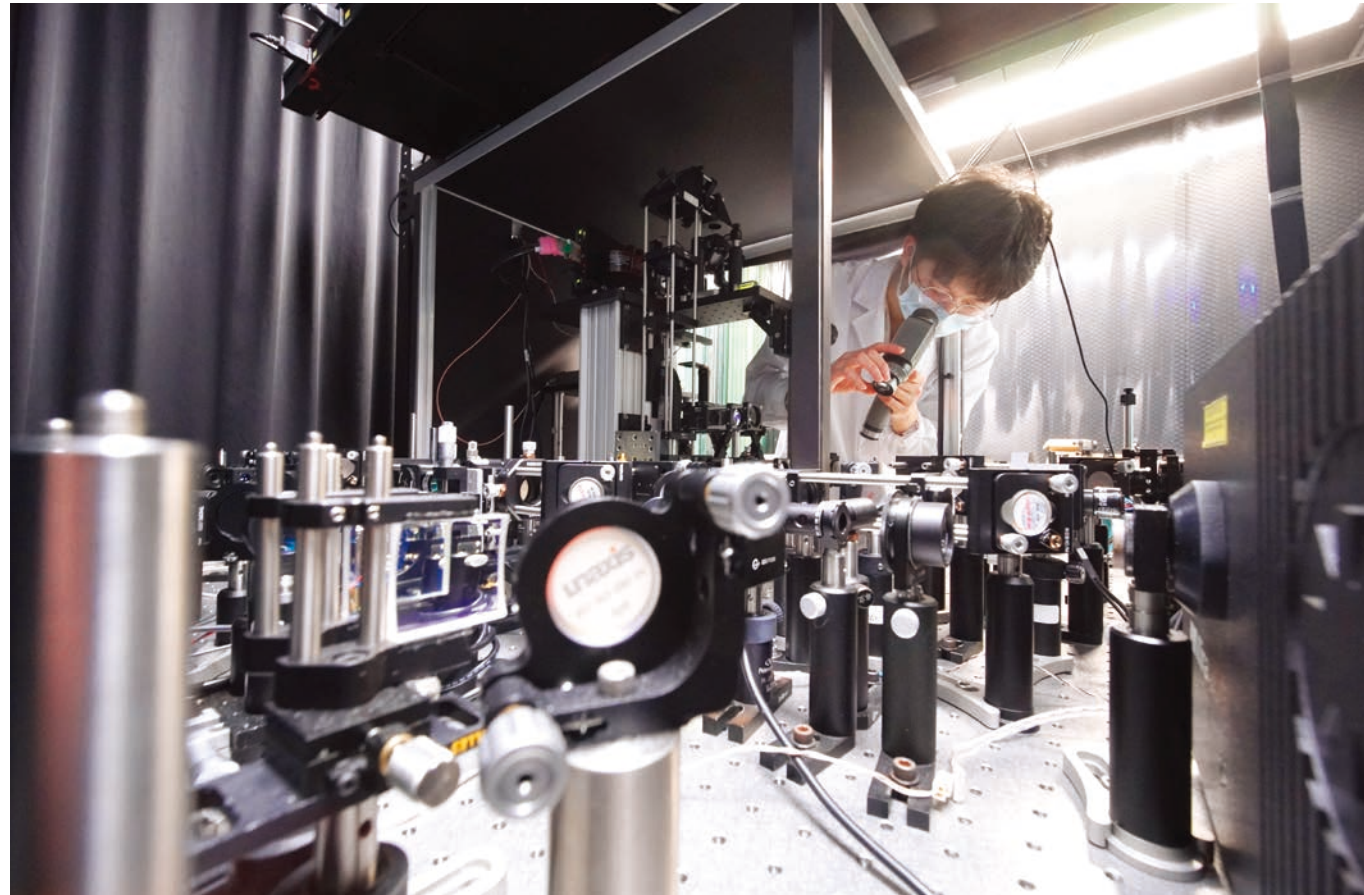
External Funding  
Totaling

**\$1.03 billion**  
granted to **1,556**  
projects



With research and innovation the key to strengthening preparedness for local and global health threats, two HKUST proposals received one-off CRF COVID-19 and Novel Infectious Disease funding totaling \$9.63 million. These projects, led by Prof. HSING I-ming (Chemical and Biological Engineering) and Prof. QI Xiangtong (Industrial Engineering and Decision Analytics) respectively, will develop devices to assist large-scale screening (\$5.73 million) and devise logistics management optimization strategies and models for accountable decision-making during disease outbreaks (\$3.9 million).





In addition, the Research Impact Fund awarded a total of \$12.3 million to two projects. Prof. ZHAO Tianshou (Mechanical and Aerospace Engineering) received \$6.58 million to develop safe, sustainable, energy-dense all-solid-state lithium batteries and help meet the ever-growing demand for more powerful, smaller, and longer-lasting power units. Prof. LI Bo (Computer Science and Engineering) was awarded \$5.72 million to design and build an advanced machine learning training platform, driven by pooled data from across organizational domains.

### Innovation and Technology Commission

The Innovation and Technology Commission (ITC), which supports local institutions in transferring knowledge into pace-setting applications, awarded \$123.7 million to the University for 31 applied projects starting in 2020-21. Among these, Prof. Gary CHAN's \$8.1 million project, jointly funded by the ITC and industry partners, will create novel internet of things and multimodal analytic technologies for smart and cost-effective car parks, while Prof. ZHU Pengyu (Public Policy)'s \$1.67 million multidisciplinary study will generate an aviation innovation blueprint in light of COVID-19 to inform Hong Kong's development as a global aviation hub in the next 10 years. HKUST is set to convene the first International Aviation Technology and Business Annual Conference in early 2022, fostering a long-term government-industry-academic collaborative network.

The ITC's Midstream Research Programme for Universities also supported four HKUST applications under the scheme's Health Technologies for Diagnosis theme. Among these, a \$7.7 million grant was awarded to a collaboration led by Prof. Nancy IP (Life Science) and involving Haven of Hope Christian Service, a non-profit organization, and Queen Mary Hospital. The team will develop a cost-effective blood-based biomarker platform for diagnosis of Alzheimer's disease. Other funded proposals seek to advance cancer diagnosis and pathogen detection.

### Mainland Support

Mainland bodies maintained their robust support for HKUST advances in hi-tech innovation. National support over the year included \$16.6 million from the Ministry of Science and Technology. Regionally, Zhongshan Municipal Science and Technology Bureau supported four projects totaling \$18.8 million. These encompassed studies into a driverless security monitoring vehicle system; smart gas sensor for the internet of things; smart soft exoskeleton for hand rehabilitation; and reusable rapid spectroscopic detection of pesticide residues.

## RESEARCH HUBS THAT ACTIVATE DISCOVERIES

HKUST research centers and joint labs strengthen and deepen areas of key focus and foster interaction among faculty by bringing together researchers beyond individual disciplines as well as with industry. 2020-21 saw four additional research centers and one joint lab established. The new entities – HKUST-Nan Fung Life Sciences Joint Laboratory, IAS Center for Quantum Technologies, Center on Smart Sensors and Environmental Technologies, Center for Medical Imaging and Analysis, and Center for Economic Policy – will leverage the University's research strength and emerging opportunities in life science, quantum technologies, smart sensors, and medical imaging, and boost innovation and development capabilities in these pivotal areas for the future.

This brings the total number of research laboratories, centers, and institutes on the Clear Water Bay campus to 64 which, along with the three research centers set up by HKUST under the Hong Kong government's InnoHK initiative, demonstrates the University is provisioned and committed to seeking collaborations to foster interdisciplinary research, the nurturing of next-generation talent, and social impact. These research endeavors will be further widened in subsequent years with the opening of HKUST(GZ).

## OUTSTANDING RESULTS IN RAE 2020

HKUST again demonstrated the world-class quality of its research in the six-yearly University Grants Committee's Research Assessment Exercise (RAE). In the 2020 exercise, 81% of the University's research outputs, impact cases, and research environment statements submitted by 446 eligible faculty members were judged by international experts to be "internationally excellent" or "world-leading". Research areas encompassed nine of the RAE's 13 broadly based assessment panels, with HKUST attaining the highest percentage of "world-leading" research among local universities in five panels: physical sciences, electrical and electronic engineering, built environment, business and economics, and social sciences. In addition, nearly 90% of the University's impact cases were assessed to have "considerable or outstanding impact" in reach and significance.





## USING INNOVATION TO BENEFIT SOCIETY

### Setting Ideas and Concepts to Work

The University sustains and advances its robust innovation pipeline with adequate protection and vigorous promotion of HKUST intellectual property (IP). Over the year, the University's nurturing of the technopreneurial spirit, and incubation and acceleration of new companies, raised the number of HKUST active start-ups and spin-offs to 290, of which 19% leveraged University technologies.

The year also saw the setting up of a new IP management team to strategically identify IP with strong commercialization potential and opportunities to optimize development of the University's patent portfolios. Reengineering the existing process significantly enhanced efficiency, facilitating industrial collaboration and helping to generate a record number of new license agreements over the year, which tripled to 23. Patents used totaled 91, an increment of 3.6 times compared with the previous year.

The Bridge Gap Fund, which assists faculty in preparing their technologies for licensing, the formation of start-ups, and industry collaboration, supported a total of 14 projects with up to \$500,000 each, covering biotechnology, materials, electronics, IoT, and robotics. This represented an increase of over 25% from the previous year. The Fund also launched its Seed Project Support Scheme in 2021 to encourage young faculty to translate research into viable IP and enhance its commercialization prospects.

### Start-up Support

In 2014, the Innovation and Technology Commission (ITC) launched the Technology Start-up Support Scheme for Universities (TSSSU) to provide six local universities with support for technology-focused start-ups. With TSSSU funding, HKUST awardees can further commercialize HKUST technologies to benefit society. Around 92% of the 2020 awardees have participated in incubation programs organized by Hong Kong Science and Technology Parks Corporation and Hong Kong Cyberport Management Limited, an increase of more than 20% compared with the previous TSSSU round. The awardees have also undergone notable business development, with around 86% receiving external funds and creating around 50 jobs and training opportunities. TSSSU 2021 attracted a record-high 54 applications, bringing total University applications to the scheme in the past eight years to 324. With 19 start-ups recommended to the ITC by the HKUST vetting committee, the total number of HKUST-affiliated TSSSU start-ups rose to 78.

Meanwhile, in its second year of operation, the HKUST Entrepreneurship Fund (E-Fund) team worked with the Technology Transfer Center (TTC) and Entrepreneurship Center (EC) to support University start-ups by providing practical training, mentorship, and coaching to teams being incubated by the Bridge Gap Fund. The fund also assisted HKUST start-ups and companies admitted to the Hong Kong Science and Technology Parks and Cyberport incubation programs by helping to establish connections with co-investment partners and advisors. There are currently 13 such partners under the E-Fund's co-investment model, managing an investment pool of more than \$7 billion and investing approximately \$25 million in E-Fund portfolio companies.

### Spurring Greater Bay Area Entrepreneurship

HKUST Mainland platforms in Nansha, Shenzhen, and Foshan currently support a total of 70 start-up and spin-off companies, and various entrepreneurial programs. At the HKUST Shenzhen platforms located at Nanshan and Futian respectively, the Blue Bay Incubator has successfully established an ecosystem of support schemes to foster HKUST entrepreneurs and start-ups at different stages of the journey from concept to commercialization. In 2020-21, start-ups supported by Blue Bay, a National Makerspace (國家備案眾創空間) accredited by the Ministry of Science and Technology, totaled 47.

### Partnerships to Enhance Living and Livelihoods

Through HKUST R and D Corporation, the University partnered with 49 local and global companies from the US, South Korea and Japan, as well as nine Hong Kong government departments to carry out downstream technology development and services in 2020-21. The new project contracts signed are worth \$103.1 million. Some highlighted projects include:

- Multiple research and development contracts for next-generation wireless communication systems for a leading global networking and telecommunications technology provider.
- Collaborations with the Hong Kong government to deploy eco-friendly wastewater treatment technologies.
- A Mainland aviation company's utilization of HKUST low-frequency noise reduction technology in airplane engine casing.

## FIRST AUTONOMOUS VEHICLE TRIAL ROLLED OUT ON CAMPUS



Hong Kong's first autonomous vehicle (AV) trial without an operator on board commenced at the HKUST campus in late 2020, with support from the Hong Kong government's Transport Department. The electric vehicle was designed by Prof. LIU Ming, Director of HKUST's Intelligent Autonomous Driving Center, and his team of students. Equipped with all-terrain 3D mapping and large-scale visual and sensor navigation, among other technologies, the vehicle can plan its route after collecting data on the road and detect on-road obstacles. It will eventually be used to deliver food and mail throughout the campus.

New project  
contracts signed  
worth

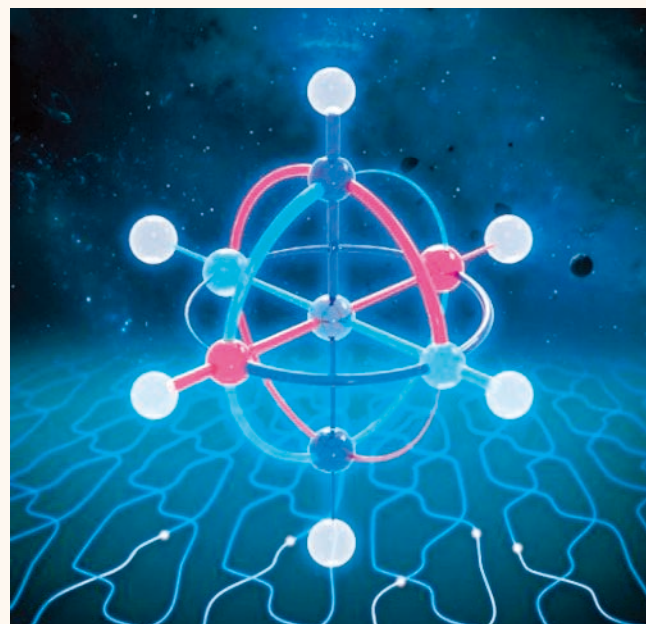


**\$103.1  
million**



# Research Excellence

Highlights of HKUST's curiosity-driven breakthroughs and mission-encouraged cross-disciplinary solutions over 2020-2021.

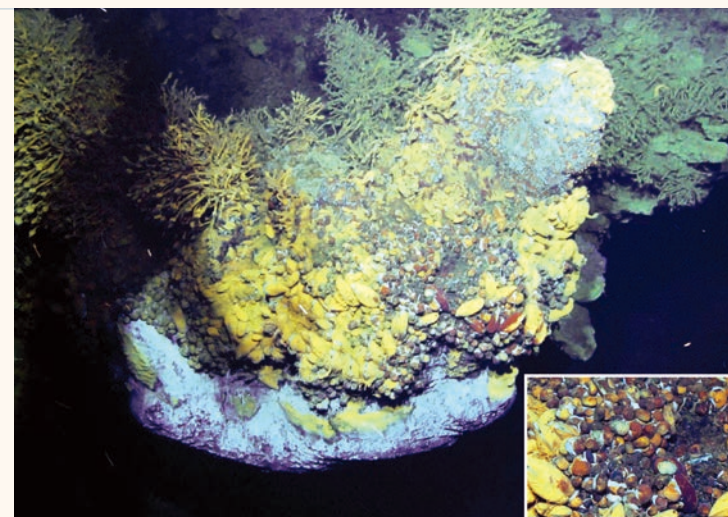


## New Era of Topological Phase Exploration

Revealing a new connection between mathematics and physics that could potentially lead to novel applications, a research group led by Prof. CHAN Che-Ting (Physics) and his collaborators designed and constructed a system that carries non-Abelian topological charges in momentum space. The work serves as the first observation of non-Abelian topological charges and their bulk-edge correspondence, paving the way to a new era of topological phase exploration.

## Deep-sea Snails Shed Light on Origins of life

Prof. QIAN Peiyuan (Ocean Science) and his research team decoded the genomes of a deep-sea hydrothermal vent snail (*Gigantopelta aegis*), found at depths of around 2,800 meters, and two types of bacteria (sulfur-oxidizing and methane-oxidizing) housed within part of the snail's digestive system. The team's research provided insights into how the creature could survive the extreme conditions it inhabits. These conditions include high pressure, high temperatures, and low oxygen levels, resembling Earth's early environment and offering fresh understanding of the origins of life on our planet.

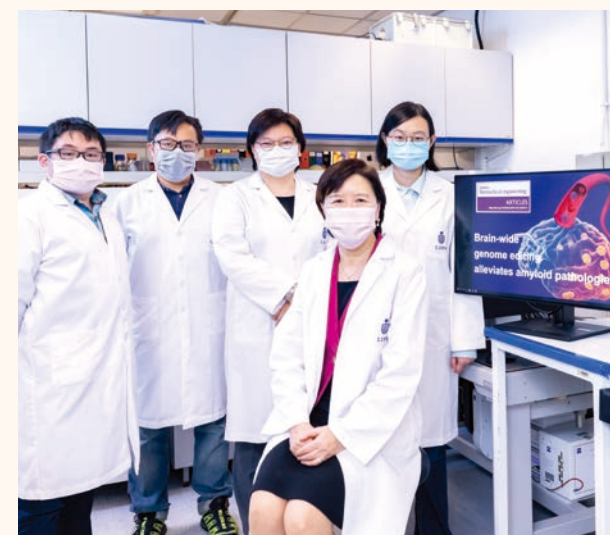


## Spherical Molecules Open Up Drug Therapy Hope

Bringing hope for therapeutic drug development to combat cancers and other diseases, Prof. SUN Jianwei (Chemistry) and his collaborators discovered a method facilitating production of a unique family of spherical molecules – chiral tetraarylmethanes – for which synthesis strategies were previously limited. Preliminary testing has shown such molecules display good deterrent effects against cervical, lung, breast, and colorectal cancer cells, as well as the virus causing Hand, Foot and Mouth disease, and a type of coronavirus.

## Super-strong Polymer Nanofilm with High Application Potential

Prof. GAO Ping (Chemical and Biological Engineering) and her team have developed an ultrathin super-strong polymer nanomembrane that is transparent, gas-permeable, and waterproof with adjustable porous properties, making it suitable for wearable devices, medical protection, desalination, electronics, solar cells, and many other technologies. The team went on to create a prototype transparent face mask with 99% filtration efficiency for viruses, bacteria, and particulate matter in tests in line with N95 respirator standards. The researchers have filed a total of seven patents for different applications of the material.



## Novel Imaging Technology Examines Brain Functions

An imaging technology – the adaptive optics two-photon endomicroscopy system – devised by Prof. QU Jianan (Electronic and Computer Engineering), in collaboration with Prof. Nancy IP (Life Science), has provided a way to examine brain functions in regions previously difficult to explore. The new technology makes it feasible to carry out unprecedentedly high-resolution in vivo (live) imaging of deep brain structures. The system is expected to accelerate understanding of many neurodegenerative diseases, such as Alzheimer's disease, and development of therapeutic pathways.



## Brain Vessel Disorder Discovery

Computational biologist Prof. WANG Jiguang (Life Science, Chemical and Biological Engineering) and his national co-researchers used next-generation sequencing and a computational approach to uncover a new gene mutation responsible for cerebral cavernous malformation (CCM) in non-familial patients. The discovery also lays the foundation for non-invasive diagnosis and potential treatment of the brain vascular disorder that afflicts 10 to 30 million people around the world.



## Seeding Strategies for Social Media

Who is influential in a social network is important for firms recruiting people to share marketing messages on platforms such as Instagram, Weibo, and TikTok. While previous research suggested targeting people with many well-connected friends obtained the largest reach, Prof. Ralf VAN DER LANS (Marketing) and colleagues showed targeting people with many friends, who in turn have only a few friends, is more effective, increasing a campaign's reach by 70%. They also found people with many friends were less likely to respond to marketing messages because of increased information received and limited attention to each message.



## Insights into Product Market Competition

Prof. YAN Ji (Finance) and his co-authors proposed an asset pricing model with dynamic strategic competition, showing through their model and data that product market competition intensifies during recessions. In industries with more stable market leadership, firms' profit margins are higher yet more volatile, rationalizing their higher expected stock returns. The study won the best paper award at the China International Conference in Macroeconomics 2019.

## More Information, Greater Political Manipulation

In this study, Prof. LU Yang (Economics) and her co-author interpreted the social media revolution as a shock that simultaneously improves the precision of citizens' information but also reduces politicians' costs of manipulation. In developing a model in which a politician seeks to prevent a group of citizens from making informed decisions, the research showed that there is a critical threshold for this equilibrium whereby if the costs of manipulation fall enough, the social media revolution makes citizens worse off despite the underlying improvement in their information.

## Examining Governance in China

Prof. Kellee TSAI (Social Science) co-edited *Evolutionary Governance in China: State-Society Relations under Authoritarianism* (Harvard University Press 2021), with collaborators in the Mainland and Taiwan. In this work, social scientists examine how the Chinese state relates to non-state actors across several fields of governance, including the economy, environment, labor, local community, public health, society, and religion. The authors identify areas in which state-society interactions shifted over time, ranging from more constructive engagement to protracted conflict. This evolutionary approach provides insights into circumstances where the party-state exerts its coercive power versus more flexible responses or policy adaptations.

## Generations and Gender Survey to Dissect Hong Kong Social Phenomena

Prof. Stuart GIETEL-BASTEN (Social Science and Public Policy) implemented a pilot version of the Generations and Gender Survey in Hong Kong to better understand why local society is aging rapidly, young people are struggling to access good jobs and affordable housing, and other such phenomena and their root causes. The Generations study is the world's leading internationally comparative, longitudinal survey of families, gender roles, and intergenerational relations, with the research in Hong Kong seeking to delineate the development of policy support. The pilot employed a novel online process and incentive experiments, advancing both survey methodology in the region and key clues to family formation in Hong Kong. It also provides a solid basis for advancing the full first wave of the survey in 2021-22.

## 3D Air Quality Measurement Platform Helps Mitigate Ozone Pollution

The Division of Environment and Sustainability's Air Research Team developed a 3D air quality research platform, in cooperation with the Hong Kong government, to increase understanding of photochemical ozone pollution, its complex precursors, atmospheric processes as well as to step up mitigation. The novel measurement set-up includes a flying observation platform using an H175 Cheetah helicopter from the Government Flying Service, a marine monitoring vessel fleet supported by the Environmental Protection Department, and a series of funded projects conducted to measure species components and air pollutants from ocean, land, and air. Enhancing air-quality monitoring capacity and research findings will assist the government in identifying key emission sources and developing effective control measures to improve air quality in Hong Kong.





# CONNECTING PEOPLE AND COMMUNITIES

Students, faculty, and alumni stepped up their ideas and practical impact in the community and beyond to tackle social issues, better people's lives, and catalyze sustainable change



## IMPROVING LIVES

### Changemakers Add to Social Good

HKUST Connect, the University-wide flagship community service platform, reshaped its activities in 2020-21, launching the Changemaker Pathway to encourage students to create positive change in the community. Over 525 participants teamed up during the program to stretch their own knowledge, skills, and collaborative abilities to develop solutions to real-world needs in relation to the 17 United Nations' Sustainable Development Goals. In April 2021, 148 students across years and disciplines formed over 40 teams to take part in the Connect for Change ideas competition, focusing in particular on solutions for healthy lives, reduction of inequalities, and climate action. Winning concepts, including biodegradable cutlery, a mobile app to promote sustainable eating, and interactive channels helping raise awareness on sexual harassment and assault, received funding and assistance in connecting up with NGOs to implement their ideas. The contest received community support from the Hong Kong Women Professionals and Entrepreneurs Association and Sustainable Development Solutions Network Hong Kong.

### Elevating Seniors' Quality of Life

HKUST's Center for Aging Science partnered with Haven of Hope Christian Service, a non-governmental philanthropic organization, to apply research findings and innovations



that can provide a better quality of life for the elderly as well as promote healthy aging in Hong Kong. The partnership combines the practical knowledge of the social service group with HKUST expertise and solution-building to address the everyday challenges facing elderly people and their carers. Projects include: automated computer vision technologies and video analytics to recognize early signs of certain mental or physical diseases; a virtual therapist platform to detect negative emotions to allow early intervention for older people; autonomous guided vehicular platforms that can assist with moving seniors in wheelchairs in healthcare centers; a water disinfection device that retains most of the nutritional value; improved healthcare operations using optimization modeling; and genetic screening to identify people at risk of dementia.

## ADVANCING ECO-WELLNESS

### Building Air Quality Awareness

The Institute for the Environment team behind the Personalised Real-Time Air Quality Informatics System for Exposure – Hong Kong (PRAISE-HK), and its related app, continued to boost community interest in managing and reducing exposure to air pollution. The leading-edge

app provides real-time air quality information down to street level, enabling people to make health-informed decisions about their daily routines and commuting choices. Total app downloads have now topped 7,000, with team members reaching out to around 2,000 people over the year. The Hong Kong Red Cross also became a PRAISE-HK strategic partner, including air pollution in its "definition list of disasters to human beings" and integrating PRAISE-HK information into its own disaster and preparedness app.

### Tackling Regional Ozone

At the regional level, an environment and sustainability research team has been conducting the advance work for a three-year project, in partnership with the HKSAR Government, aimed at monitoring regional ozone pollution in Hong Kong and the Greater Bay Area. The project involves a groundbreaking cross-border study to assist evidence-based policymaking to improve air quality. (See also p.25)



## FOSTERING FINTECH LEADERSHIP

### Seizing Opportunities in Digital Transformation

HKUST co-presented a webinar on the post-COVID-19 role of fintech, together with the University of Chicago, attracting 10,000 viewers globally. The event featured prominent academics and leaders in fintech, including Prof. TAM Kar-Yan, Dean of the School of Business and Management. The experts offered diverse perspectives on how fintech can seize the opportunity presented by the digital transformation brought by the pandemic to grow and expand, with Prof. Tam sharing results from his study on virtual banks and insurers in Hong Kong. The University also participated in the launch webinar of the Hong Kong Academy of Finance's Fintech and Digitalization program, presenting on the concepts and applications of artificial intelligence and machine learning.

## BROADENING CULTURAL HORIZONS

### Extending Creative Endeavors

Arts and culture endeavors continued to play a significant role in the life of the University and connectivity beyond the campus during COVID-19. The opening of the University's multipurpose Shaw Auditorium in late 2021 represents another major step in the integration of artistic awareness and excellence at HKUST and a closer relationship with the local community, with preparatory work for the launch of the landmark venue on-going over 2020-21. (See also p.35)

In Spring 2021, the inaugural Conference of the Association for Chinese Animation Studies provided the University community and members of the public with a notable opportunity to engage with leading experts in the Chinese animation field from around the world, as well as view screenings via webinars.

Another first saw the launch of HKUST's Cosmopolis Festival, introducing the public and University to music from a cross-section of cultural, linguistic, ethnic, and economic backgrounds, and musical genres. In addition, the HKUST Arts Festival 2021, delivered an uplifting program under the apt theme of "Art, Despite the Pandemic". This festival took audiences travelling through performances and exhibitions that celebrated different world cultures, including a novel interactive display creating a multisensory experience of the music and costumes of central Asia and the Middle East via multimedia technologies.

## Building Heritage Knowledge

In relation to cultural heritage, the University's South China Center continued to build up community knowledge about local and South China traditions and customs through participation in the three-year Yim Tin Tsai Arts Festival pilot scheme, launched in 2019 and organized by the Tourism Commission. Located on a small island off Sai Kung, Yim Tin Tsai is home to a 300-year-old Catholic Hakka village. Festival-related activities over 2020-21 encompassed a tree-planting project in the village, an exhibition on village life and Hakka culture, and consultancy on the creation of an audio-visual exhibition hall.

## ALUMNI PACE-SETTERS

### Fast Forwarding Fresh Graduates and Young Entrepreneurs

An Alumni Co-op program was launched to help students develop the skills and knowledge to have a successful career through a six-month work placement and guidance by an alumni mentor. The initiative is HKUST's first credit-bearing work placement program that systematically matches up students with alumni employers and mentors. Alumni coach students on different career development topics during the placement.

Meanwhile, HKUST United, a program that leverages the alumni network to help fresh graduates through challenging times in the job market due to COVID-19,

resulted in almost 500 job postings over the year. Online workshops, focus groups, and sharing sessions with alumni in different fields took place, providing advice on kick-starting a career to students. The experiential learning and internship needs of HKUST(GZ) Pilot Scheme students were also addressed by partnering with alumni and corporate giants involved in smart electric cars, smart manufacturing, fintech, environmental consultancy, and higher education institutions.

During 2020-21, start-up OFLO was able to implement a one-month trial of the company's proprietary walkie-talkie technology for Android phones, as part of the Full Circle @ HKUST initiative. This scheme opens up opportunities for alumni businesses to showcase novel ideas and approaches on campus in line with the University's goal of fostering an entrepreneurial community and where the innovation can add value to the HKUST community.

## Strengthening Bonds

With the pandemic still restricting in-person gatherings over 2020-21, a Virtual Alumni Reunion was held in March 2021, bringing together Schools and alumni groups in Hong Kong, the Mainland, and overseas. The successful event drew more than 1,200 alumni globally for a fun and inspiring online get-together. The same month saw the election of a new HKUST Convocation Standing Committee. The Convocation serves as an essential communication channel between the alumni community and HKUST, enabling both to keep informed of developments and to share their views.

## INSPIRING TOMORROW'S TECHNOSTARS

### Generating Enthusiasm for Science and Technology

Community science, technology, engineering, mathematics (STEM) endeavors powered forward with the announcement that HKUST and Hang Lung Properties would jointly organize the biennial Hang Lung Mathematics Awards (HLMA) from 2021. The established initiative promotes mathematics and science education among secondary students and identifies young mathematicians with high potential. Students work in teams, under the supervision of a teacher, to identify a mathematics research topic, conduct independent research, submit a report, and if shortlisted, undertake an oral defense. Tuition scholarships for the University's MSc in Mathematics for Educators are also offered to nominated teachers. In addition, the Academy for Bright Future Young Engineers received a further donation from Prof. Roy CHUNG, Founder of Bright Future Charitable Foundation, to fund the Academy for two more years and develop the Bright Future Cup Soccer Robot Competition for secondary and primary school students. First established in 2016, the Academy inspires school students' interest in technology and engineering through a variety of workshops where they can interact with HKUST engineering students.





# LOCAL TO GLOBAL

In a milestone year, the Founding President of the University's Guangzhou campus was appointed, while the new institution's academic and physical infrastructure rapidly took shape. HKUST also advanced Mainland and global collaborative activities and networks, fueling synergy and productive virtual interaction



## MAINLAND FOOTPRINT

### HKUST(GZ) Campus President Appointed

In April 2021, Prof. Lionel NI was appointed the Founding President of HKUST(GZ). Prof. Ni is a highly accomplished computer science and engineering scholar. He served as Provost of HKUST at Clear Water Bay prior to the appointment and has been playing a key role in the development of the pioneering Unified HKUST-Complementary Campuses (港科大一體·雙校互補) framework that underpins the integration of the two campuses academically, administratively, and in knowledge transfer. Under Prof. Ni's leadership, HKUST(GZ) will continue to promote innovation at the University, deepen the connection between research and industry, as well as to nurture global talents in the Greater Bay Area for future technological development and positive societal impact in the region and beyond. The appointment will become effective following official approval from the Ministry of Education for the formal establishment of HKUST(GZ).



### Campus Construction Fast-Track

Construction of the University's Guangzhou campus proceeded at a fast pace over 2020-21, with the topping out of the first academic and research building in June 2021. The building will house cutting-edge research laboratories, including the Nanosystem Fabrication Facility, Electromagnetic/Acoustic Wave Lab, and Polymer Lab, among others, and forms a core element of the state-of-the-art campus. The Ministry of Education approved the preparatory status of HKUST(GZ) in September 2019,

becoming the first Mainland-Hong Kong cooperative education institution approved as a legal entity following the release of the Outline Development Plan for the Guangdong-Hong Kong-Macao Greater Bay Area. Designed to be low-carbon, smart, and sustainable, the completed site is expected to be handed over in May 2022, with the University opening in September the same year.

### Alliances Deepen Academic Ties

HKUST became executive chair of the Beijing-Hong Kong Universities Alliance for 2021-22, hosting two online meetings together with Peking University in Spring and Summer respectively. These were attended by more

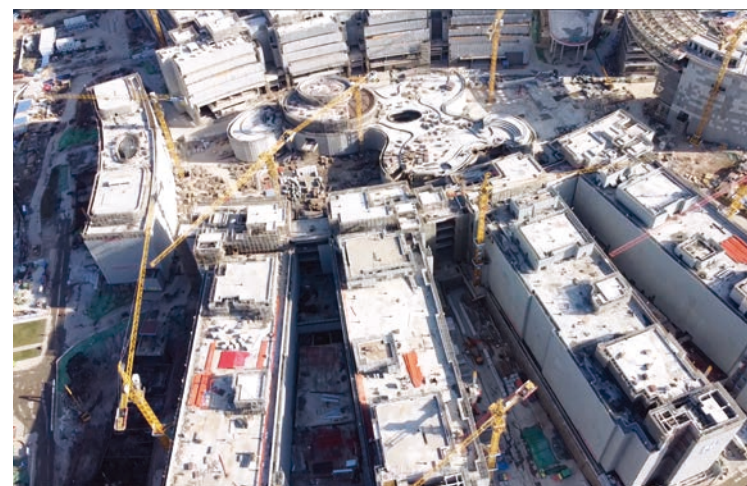
than 130 representatives from the Ministry of Education, Beijing Education Commission, Liaison Office of the Central People's Government in the HKSAR, Hong Kong's Education Bureau, and member universities of the Alliance.

In a further bond-strengthening encounter with top national higher education institutions, the Vice-President for Institutional Advancement attended the annual meeting of the Mainland's C9 group of renowned research universities, presenting on building a first-class university and advancing first-rate innovation.

### Partnerships Foster Innovation Leaders

A bevy of partnerships signed over the year with Mainland business enterprises and institutions created impetus for innovation in high-impact fields that are set to drive development.

HKUST entered a cooperation agreement with Guangzhou Metro Group Co. Ltd. in July 2020 for joint supervision of selected University postgraduates for training in intelligent transportation, an emerging cross-disciplinary area that combines transport management, AI, and data science. The partnership seeks to foster professional skills, build new systems, and enhance mobility of people and goods in the Greater Bay Area. Intelligent transportation is a key HKUST(GZ) research thrust area.







Meanwhile, new digital and innovation leaders are set to be trained under Memoranda of Understanding with: AMTD Group, a financial institution, and AMTD Charity Foundation; China Construction Bank, to co-organize the Greater Bay Area's first MSc in Financial Technology; and Tencent Finance Academy. The Tencent agreement is expected to generate a fintech curriculum integrating the company's business experience, fintech case study series, and internship opportunities for HKUST students.

To foster synergy with Greater Bay Area researchers in key emerging areas, HKUST(GZ) signed a strategic cooperation agreement in June 2021 with International Digital Economy Academy, a Shenzhen-based research institute founded in 2020, to forge collaborative relationships in fields including artificial intelligence, digital economy, and fintech.

In addition, the University's Academy for Continuing Education was established in the Shenzhen-Hong Kong Special Collaborative Demo Zone in 2020 to provide high-quality training to keep executives up to date on the latest technology and industry developments. Among program highlights over the year, the Academy invited top universities and industry leaders, including Tsinghua University, University of California at Santa Barbara, Zhejiang University, and WITinMEM to deliver nine seminars to the region's professionals. The seminars were organized in collaboration with IEEE, the world's largest association for technical professionals.

### Foshan Initiatives Boost Technology Transfer

In the 2020 round of the Foshan-HKUST Projects initiative, 12 applications under the University-Enterprise Collaborative R&D Program were approved, with RMB31.4 million total funding allocated. Under the Induction of Entrepreneurship Talents Program, eight projects were granted funding, totaling RMB3.62 million. The Foshan-HKUST scheme, organized with the Foshan city government and Nanhai district government, is providing RMB35 million annually from 2019 to 2023 for joint projects with local industry. The projects, managed by the University, facilitate knowledge transfer and technical collaboration, particularly in the field of smart manufacturing.

In April 2021, the HKUST Foshan Center for Technology Transfer and Commercialization opened in the Sanlongwan Innovation Cluster in Nanhai, fortifying on-going technology transfer and cooperation. Eleven incubation project teams, six of which from the HKUST community, were successfully introduced to the Center.

## INTERNATIONAL CONNECTIVITY

### Moving Ahead on Global Priorities

HKUST remains the only Hong Kong university member of the World Economic Forum (WEF)'s Global University Leaders Forum (GULF), with President Prof. Wei SHYY regularly discussing trends, challenges, and best practices in higher education and research with the 28 other presidents of eminent global universities.

In the GULF meeting in January 2021, the higher education heads explored ways that universities can contribute to the provision of skills and reskilling opportunities for tomorrow's society. Subsequently, HKUST's Associate Provost (Teaching & Learning) was chosen to represent the University in a working group on the "Reskilling Revolution" initiative. The initiative is a key WEF priority seeking to future-proof one billion people's employability by 2030 by providing better education, skills, and jobs in readiness for the new roles anticipated in the Fourth Industrial Revolution and global shifts to sustainability.

Also in January, President Shyy participated in the WEF's first virtual Davos agenda, which brought together global decision-makers in government, industry, business, and civil society to discuss sustainability, economic recovery from the pandemic, and technology advancement, among others. Later in the year, he joined WEF-related virtual summits on global technology governance and the post-COVID jobs reset.

Adding input to smart urban development worldwide, Prof. Masaru YARIME (Public Policy) contributed to the privacy impact assessment section of the Global Policy Roadmap, released by the G20 Global Smart Cities Alliance on Technology Governance and aimed at helping identify model policies for the evolution of smart, ethical, and successful cities. The roadmap provides a baseline for cities to develop policy and identify existing policy gaps. The privacy assessment is part of the Privacy and Transparency key principle, one of five principles identified for model policies.

### Virtual Ways to Wider Horizons

Overseas ties and intercultural understanding were enhanced when HKUST became one of 13 founding members of the Association of Pacific Rim Universities (APRU)'s Virtual Student Exchange Program, the first of its kind in Asia. With the difficulties in in-person exchanges during the pandemic, the founding universities have made available more than 100 credit-bearing academic courses and co-curricular programs to students, with over 1,200 students participating.

In a second step ahead for joint global endeavors fostering online learning, the HKUST Business School joined the Future of Management Education Alliance. The Alliance comprises global business schools that seek to develop top technology for online learning and to explore new business education models. Other members include Imperial College Business School (UK), ESMT Berlin (Germany), University of Melbourne (Australia), and Ivey Business School (Canada).

### Webinars Fathom Forthcoming Trends

Numerous inspiring joint webinars with international partners explored visions and potential directions in a range of fields, offering thought-provoking insights for those attending. These events saw HKUST join with the University of Chicago to fathom post-pandemic fintech directions; KTH Royal Institute of Technology on the latest scientific discoveries on testing and vaccines on COVID-19; and University of Southern California on urban sustainability. Trends in sustainability were also the focus of virtual panel discussions with the French Consulate-General and faculty members, focusing on finance, fashion, and energy. A further joint session brought together the University and Microsoft Hong Kong to discuss technology's role in keeping and developing talents in Hong Kong in the decades ahead, in celebration of the two organizations' respective 30th anniversaries in Hong Kong in 2021. In total, over 10,000 audience members from the HKUST community, partner organizations, industry, and institutions took part in these events.





# BEST-IN-CLASS OPERATIONS

The University put in place key administrators to spearhead institutional performance and development, and advanced campus facilities to support future achievements, while keeping health and safety of the campus community a priority

## NEW VICE-PRESIDENTS DRIVE FORWARD DEVELOPMENT

Two Vice-Presidents were appointed over the year to take forward the University's external relations and internal administrative development respectively. Prof. WANG Yang, a world-renowned mathematician with extensive academic and administrative experience, took up the position of Vice-President for Institutional Advancement starting October 1, 2020, to advance the University's visibility and strategic partnerships, and champion HKUST innovations. Prof. PONG Ting-Chuen, a founding faculty member of the University who has served in many senior administrative roles at the University and externally, was appointed Vice-President for Administration and Business, effective July 1, 2021. Prof. Pong oversees planning and management of administrative resources at HKUST in support of academic and research endeavors.



## LANDMARK CAMPUS DEVELOPMENT

Set to open in November 2021 to coincide with HKUST's annual Congregation and the start of the University's 30th anniversary celebrations, the much-anticipated Shaw Auditorium reached its final stages of construction, with structural and building services work completed and progress made in the fit out and external landscaping.

The design of the Martin Ka Shing Lee Innovation Building also progressed. This major structure is due to provide space for dry laboratories and project rooms as well as a large maker-space for prototypes to be constructed and tested, among other uses. In addition, it will form a critical hub for the southern end of the campus, with a bridge link and footpaths providing greater connectivity between different buildings. On-site work is expected to start in the year ahead.

Projects handed over during 2020-21 included several specialist research laboratories, both on campus and as part of the InnoHK scheme at the Hong Kong Science and Technology Park. The first phase of the remodeled Senior Staff Quarters completed and residents moved in, with the second phase of the project now underway.

On-site work commenced on the Jockey Club i-Village, which provides 1,551 bed spaces for students. Once completed, the hostel will connect with the Lee Shau Kee Business Building at roof level and provide a step-free route to the HKUST Jockey Club Institute for Advanced Study (IAS).

Meanwhile, the proposed Life and Chemical Sciences and Technologies Building gained initial approval by the government, enabling design work to start. The building will provide best-in-class research laboratories adjacent to IAS.







EMPLOYER OF CHOICE

The University administration has remained agile throughout the pandemic, successfully maintaining operational efficiency, including talent sourcing via online meetings and interviews with local and overseas candidates. A human resources management framework was also put in place to support the setting up of HKUST(GZ), taking into account both Clear Water Bay campus policies and market practices in Guangzhou. Talents for HKUST(GZ) were sourced through secondment from Clear Water Bay, as well as international and local recruitment in Guangzhou. HKUST(GZ) faculty members have been offered affiliated appointments with the Hong Kong campus to foster knowledge exchange and cohesion.

The Committee on Faculty Diversity and Early Career Support carried out surveys that indicated improvement in gender diversity among faculty, and varying degrees of engagement in faculty mentorship programs at the school/department level. The latter led to recommendations on strategies to enhance mentorship-support to early career faculty. As a boost for retention, a structured approach was introduced to offer extension of appointments beyond the University's normal retirement age for high-performing substantiation-track faculty without administrative appointments.

SAFEGUARDING HEALTH AND STAYING VIGILANT

Over 2020-21, the Health, Safety and Environment Office (HSEO) continued to work with departments across the University and outside health agencies to tackle COVID-19. Among major undertakings, HSEO advised senior management on anti-epidemic policies and campus preventive measures, and provided guidance and consultation to departments and units on specific prevention measures. HSEO also inspected workplaces including laboratories, teaching facilities, catering outlets, and sports facilities to ensure compliance with requirements such as reduced capacity, enhanced ventilation, and other hygiene measures.

For most of 2020-21, the Conference Lodge campus hotel was used as a self-isolation facility for members traveling from areas with higher infection risk. From December 2020, after inspection and approval by the Centre for Health Protection, the Lodge became an approved facility for compulsory home quarantine. Some 1,200 University members used the Lodge for self-isolation or quarantine over the past year.



In March 2021, HSEO arranged for a mobile lab from CMA Testing, a third-party assurance body, to offer a rapid polymerase chain reaction (PCR) test using a portable instrument developed by Prof. WEN Weijia (Physics). A total of 570 staff and students took the test over three days, with no positive result found.



In our efforts to resume normal teaching and learning and other campus activities starting fall 2021, the University announced in May 2021 that all students, faculty, staff, and contractors working on campus were encouraged to get vaccinated by the Fall Term, or conduct regular testing if unfit for vaccination. In June 2021, HSEO worked with the Civil Service Bureau to arrange an on-campus COVID-19 vaccination service. More than 700 University members received two injections of a COVID-19 vaccine through this service.

Over the year, HSEO maintained close communication with the relevant government bodies and coordinated efforts to identify possible contacts of HKUST members and contractors with confirmed COVID-19 infection, arranged PCR testing, recommended temporary accommodation where necessary, and ensured additional cleaning was carried out in appropriate locations. Most cases were isolated and did not cause further transmission on campus. The two related cases occurred in the workplace, and they did not lead to further transmission.

In recognition of the dedication and commitment shown during COVID-19 and the social incidents, senior management issued Letters of Appreciation to 94 staff recipients for their exceptional contributions to the University community and HKUST's mission.



# SUSTAINABLE HORIZONS

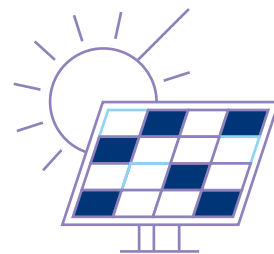
With the University's holistic "Living Lab" campus concept successfully introduced and the new sustainability master plan "2028 Sustainability Challenge" launched, HKUST is set to drive operations, community, research and education overall to fresh heights of innovative environmental leadership. Successful approaches implemented at the Clear Water Bay campus will also be integrated at HKUST(GZ)



## EXPANDING NEXT-LEVEL OPERATIONS AND PERFORMANCE

The 2028 Challenge extends targets to build toward the goals of zero-carbon, zero-waste, and net-positive environmental campus operations. Along with reducing energy, greenhouse gases, and waste to landfill, the University will now also focus on water, landscape, and biodiversity.

In 2020-21, waste generation was already 57% less than the 2014 baseline, with the range of recyclables extended to 16 following the launch of a beverage carton recycling program. The 2028 waste target seeks a reduction of 75%. Regarding energy, the new target is to reach a 15% reduction compared with 2014, which is above the Hong Kong government's target of 11% over the same time frame. In the past year, energy consumption increased by 2.8 percentage points due to the resumption of normal work arrangements following COVID-19 restrictions and campus construction. However, overall campus consumption was 5.1% below the 2014 baseline despite an expansion of over 8% in campus space. To help the community achieve the 2028 Challenge goals, significant energy-efficient initiatives have been rolled out over 2020-21, including:



**8,000** solar panels  
installed at **over 50**  
campus locations

- The launch of Hong Kong's largest solar power system, with around 8,000 solar panels installed at over 50 campus locations. The panels are set to generate an average of around \$5 million per year for the University under CLP's current Feed-in Tariff Scheme. The income will be used for energy efficiency and carbon reduction projects.

New freshwater  
cooling towers saving  
energy usage of

**1.8** million kWh



- New freshwater cooling towers installed to increase overall plant efficiency and chiller plant resilience, with estimated annual energy savings of about 1.8 million kilowatt hours (kWh).
- A chiller replacement project completed and supported by the CLP Eco Building Fund is expected to deliver estimated annual energy savings of 970,000kWh in coming years.



Chiller replacement project  
bringing annual energy  
savings of

**970,000** kWh

## EMPOWERING MINDSETS FOR SUSTAINABLE COMMUNITIES

HKUST aims to play a leading role in demonstrating how to achieve net zero carbon, in line with Hong Kong's target to become carbon neutral by 2050. A working group will envision and define future pathways and action plans in areas of campus operations, research, policy, and education. Meanwhile, to propel forward campus engagement, a kick-off event for the HKUST 2050 Net-Zero Carbon Workshop Series in Spring 2021 discussed opportunities for project ideas and research arising from this drive.

Beyond the University's own campus, HKUST served as the 2020 convenor of the Hong Kong Sustainable Campus Consortium, comprising the eight publicly funded universities. In this role, HKUST kept up members' collaborative spirit during COVID-19 limitations via working groups on sustainability performance, education, and campaigns. In Spring 2021, the Hong Kong Jockey Club announced its support for the consortium to launch a Sustainable Consumer Program, led by HKUST, to encourage over 100,000 students to adopt responsible consumption patterns in food, energy, water, and other consumables.





# GOVERNANCE

In accordance with the HKUST Ordinance, the Council, Court, and Senate are the University's supreme governing, advisory and academic bodies, respectively.

## APPLYING ECO-RESEARCH IDEAS ON OUR “LIVING LAB” CAMPUS

The Sustainable Smart Campus as a Living Lab initiative continued to inspire researchers, staff, and students to test a wide range of novel sustainability-related ideas, with the total number of projects funded under the scheme reaching around 30 since launch in 2019. Initiatives receiving funding in 2020-21 included an innovative way to turn waste into soil amendments; smart tracking lab trays that help automate inventory tracking and storage of chemicals to eliminate wastage of materials in wet laboratories; and food waste analytics and visual feedback to encourage changes in behavior.

Over the year, a section of the Academic Concourse – a major thoroughfare – was renovated to provide a dedicated space with large interactive displays to further raise the profile of the Living Lab initiative. Set to be launched in 2021-22, the Living Lab area will serve as a showcase for its projects and real-time data generated by sustainability initiatives.

## EMBEDDING SUSTAINABILITY INTO THE CURRICULUM

Providing the conditions for students to graduate with sustainability skills and competencies is another key 2028 Challenge objective. A University study, updated over 2020-21, showed that 68% of recent graduates have now completed two or more sustainability-focused courses and 95% taken at least one course. One exemplary course is “Introduction to Sustainability”, which provides a foundational basis for sustainability learning, co-taught by a six-person Division of Environment and Sustainability teaching team. The course educators were recognized campus-wide for their contribution as the joint recipients of the HKUST Common Core Teaching Excellence Award 2020. A sustainability literacy survey was also developed over the year to assess students' understanding of sustainability. Responses received in the first survey will form the baseline for progress in a longitudinal study.

## THE COUNCIL

The Council is the supreme governing body of the University. With a pivotal role in steering the University's strategic direction, the Council has also referred to the Report on “Governance in UGC-funded Higher Education Institutions in Hong Kong” (“the Newby Report”) of the University Grants Committee (UGC) and international best practice on University governance to further promote effective governance of the University over the years. The Council aspires to monitor the performance of the Administration “as to lead to effective performance in achieving desired outcomes and the satisfaction of stakeholders” and supports that the presence of robust systems of governance shall be important “for sustaining public trust and stakeholder confidence” as highlighted in UGC's Report. Despite the challenges brought by COVID-19, the Council met over eight to 10 times annually in the past two years, including meetings of the Standing Committee, an executive committee of the Council. Some of those are special meetings focused on topical and time-sensitive issues.

The Council has been tracking the performance of the University with reference to the University Accountability Agreement (UAA) which was signed between the University and UGC. The Council has been proactively monitoring the performance of various operations of the University through the review of a list of sector-wide Performance Measures and institutional specific Key Performance Indicators as depicted in the UAA. For better management of potential risks and to ensure long-term development of the University, the Council has taken an active role in reviewing the Strategic Risk Assessment Report and advised the Administration on the appropriate mitigating measures to be adopted.



To further enhance its functions and operation, the Council has reviewed and revamped its Guidelines, based on international practice on University governance, recommendations in the Newby Report, and related guidelines of public institutions. The new document, with the title *Guidelines and Code of Practice for Council Members*, aims to spell out the roles and responsibilities of Council Members and the framework under which they are expected to carry out their responsibilities diligently as public servants.

Over 2020-21, the Council has also reviewed the Strategic Plan of the University, which was extended from 2021-2025 to 2021-2028 as proposed by the Administration with an aim of aligning with UGC's Planning Exercise. With reference to the Strategic Plan 2021-2028, the



Council would continue to maintain its oversight of various projects of the University including the new campus in Nansha, Guangzhou, and capital projects such as the Shaw Auditorium, the Hong Kong Jockey Club Global Graduate Tower and the soon-to-open Martin Ka Shing Lee Innovation Building.

Riding on the opportunities of the Country’s Greater Bay Area blueprint, the establishment of HKUST(GZ) would help enhance education and research collaborations amongst the University and other institutions and industries in the Greater Bay Area. The Council has actively participated in overseeing the governance of HKUST(GZ), primarily through the appointment of eight HKUST representatives to serve on the Governing Board of HKUST(GZ) to review important matters of this entity. Operated under the “Unified HKUST – Complementary Campuses” framework, HKUST(GZ) is expected to achieve a governance standard comparable to the current operations in Clear Water Bay. Given the importance of this initiative to the University and its pace of development, the Council has strengthened its governance role in HKUST(GZ) through the work of its Committee on HKUST(GZ) and Task Force on HKUST(GZ). A *Governance Framework for HKUST(GZ)* has also been developed to delineate the roles and responsibilities of the Council and its Committees in handling crucial matters related to this new project.

To conclude the year of 2021, the Council is delighted to witness the opening of Shaw Auditorium which is a new landmark of arts and culture on campus. With the state-of-the-art facilities, the Auditorium will instill new energy for arts and cultural activities into the campus community. The Council and its Committees have all along been overseeing



the whole project, starting from the review of the proposed design, budget, functionality, construction process, with reference to the *Large Capital Works Governance Process* as developed by the Council, as well as the publicity plan. The Shaw Auditorium demonstrates HKUST’s mission to advance students’ learning and knowledge beyond science and technology and in due course facilitate their whole-person development.

Over the years, the Council has developed various governance frameworks to delineate the authorities for University matters to be properly handled. This schema of delegation in the form of scope of responsibilities tables of Committees has been formulated to ensure that respective parties would follow the legitimate pathways to present their proposals to the Council with proper oversight.

With a firm foundation of success in the past 30 years, the University takes pride in its achievements while planning ahead for the new phase. The Council will continue to focus its endeavor on how to further enhance effective governance of the University, for the achievement of both of its short and long-term strategic objectives.

## THE COURT

The Court welcomed the appointment of several new Members and the re-appointment of the Court Chairman for another term. At the same time, a number of Court Members have been appointed Honorary Members following their diligent service on the Court for over six years.

In the past year, the Court had conducted, for the first time, its meeting using online platform. At the Meeting, Members received a report from the Council which highlighted governance-related issues that the Council had been dealt with in the past months, and how the Council had been involved in the strategic planning process of the University. Court Members had also been apprised by the Senior Administration team of the work done in response to the challenges brought about by COVID-19. In response, Members had offered their advice to the Administration on various topics, such as those related to fundraising, capital work projects, as well as the establishment and operation of HKUST(GZ).

A special retreat session was held this year following the Court Meeting during which Members of the Council and the Administration had a fruitful exchange on the latest development of the University. At the retreat, Members offered their insights to the Administration on an array of initiatives to facilitate the long-term planning of the University.



## THE SENATE

As in the past, the Senate has reviewed a number of program proposals and matters related to academic policies. The items transacted also included those related to standard and arrangements of online teaching which has been the new mode of delivery since the outbreak of the pandemic.

In anticipation of the opening of HKUST(GZ) next Fall, the Senate has approved the establishment of a Joint Academic Board (JAB) for overseeing related core academic matters. JAB, comprising all the Senate Members and key academic leaders of HKUST(GZ), is tasked to review the standard and quality of the academic programs for the Senate’s approval. Respective personnel of HKUST(GZ) would also be included in some Senate Committees in the long-run.

To facilitate undergraduate students’ pursuit of postgraduate studies immediately upon graduation, the Senate has also approved some amendments to the Academic Regulations Governing Postgraduate Studies to the effect that some of the credits earned during students’ undergraduate studies would be transferred to their postgraduate programs on either of the campuses.

Other than policies and regulations, the Senate has reviewed and approved a new framework for the Common Core Program, with more emphasis put on interdisciplinary broadening and students’ communication competencies.

Preparing for the future, the Senate has reviewed and approved the implementation of a number of new programs, covering, at undergraduate level, programs in Artificial Intelligence, Supply Chain Management and Sustainable and Green Finance, and for postgraduate studies, new disciplines such as Management in Public Sector, Integrated Circuit Design Engineering, Global Marine Resources Management and Integrative Systems and Design.



# AWARDS AND RECOGNITIONS

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

## FACULTY

- IAS Si Yuan **Prof. Gunther UHLMANN**, Chair Professor, Department of Mathematics, was awarded the 2021 AMS-SIAM George David Birkhoff Prize in Applied Mathematics for his contributions to inverse problems, partial differential equations, boundary rigidity, microlocal analysis, and cloaking, which have helped advance significant applications, especially in medical imaging and seismic prospecting.
- IAS Sin Wai Kin Prof. of Chinese Culture **Prof. YAN Lianke**, Chair Professor, Division of Humanities, received the 2021 Newman Prize for Chinese Literature from the Institute for US-China Issues, University of Oklahoma, for his "life-long contributions to world letters".
- **Prof. HUANG Xuhui**, Department of Chemistry and Department of Chemical and Biological Engineering, received the 16th China Youth Science and Technology Award and the Pople Medal from the Asia-Pacific Association of Theoretical & Computational Chemists.
- **Prof. LI Weiping**, Department of Mathematics, was honored with a 2021 Higher Education Outstanding Scientific Research Output Award (First Class) from the State Ministry of Education.
- **Prof. WANG Jiguang**, Division of Life Science and Department of Chemical and Biological Engineering, received the Zhong Nanshan Youth Science and Technology Innovation Award for his outstanding contributions to the fields of medicine and life science.
- **Prof. Tim CHENG Kwang-Ting**, Dean of Engineering, was honored with a Pan Wen Yuan Foundation Award for Outstanding Research in recognition of his international contributions to very-large-scale integration (VLSI) testing and design verification, design automation of electronic and photonic systems, mobile computer vision, and learning-based multimedia computing.
- **Prof. Gary CHAN Sheung-Han**, Department of Computer Science and Engineering, and **Prof. YEUNG King-Lun**, Department of Chemical and Biological Engineering and Division of Environment and Sustainability, were each awarded the Chief Executive's Commendation for Community Service 2020.
- Five HKUST faculty members were named 2020 Excellent Young Scientists by the Natural Science Foundation of China. They comprised **Prof. CHEN Qing**, Department of

Mechanical and Aerospace Engineering and Department of Chemistry, **Prof. LIU Junwei**, **Prof. PAN Ding**, and **Prof. WANG Yi**, all from the Department of Physics, and **Prof. YU Man**, Department of Information Systems, Business Statistics and Operations Management.

- **Prof. James THONG Yeong-Liang**, Department of Information Systems, Business Statistics and Operations Management, received the AIS Technology Challenge Award at the 2020 International Conference of the Association for Information Systems.
- **Prof. James LEE**, Yan Ai Foundation Professor of Social Science and Chair Professor, Division of Social Science and Division of Humanities, and researchers in the Lee-Campbell Research Group were awarded a Second Prize for Outstanding Achievement in Philosophy and Social Science by the Jiangsu Academe for their publication on university students during the Republic of China (2017, 民国上海大学生社会来源量化研究1913-1949).
- **Prof. Jimmy FUNG Chi-Hung**, Division of Environment and Sustainability and Department of Mathematics, together with industry professionals, won the Silver Award at the Hong Kong Institute of Planners Awards 2020 for their pioneering study investigating the effects of major planning and development proposals on urban ventilation.

## FELLOWS AND BOARD MEMBERSHIPS

- **Prof. LAW Kam-Tuen**, Department of Physics, and **Prof. Henry YAN He**, Department of Chemistry, were elected members of the RGC Research Fellow Scheme.
- **Prof. Randy POON Yat-Choi**, Division of Life Science, was awarded a Croucher Senior Research Fellowship.
- **Prof. SUN Jianwei**, Department of Chemistry, was elected a Fellow of the Royal Society of Chemistry.
- **Prof. Khaled B. LETAIEF**, New Bright Professor of Engineering and Chair Professor of Electronic and Computer Engineering, was elected an international member of the US National Academy of Engineering, and 2020 Fellow of the Hong Kong Academy of Engineering Sciences.
- **Prof. Francesco CIUCCI**, Department of Mechanical and Aerospace Engineering and Department of Chemical Biological Engineering, was elected a Fellow of the Royal Society of Chemistry.

- **Prof. KWOK Hoi-Sing**, Department of Electronic and Computer Engineering, was elected a 2020 Fellow of the National Academy of Inventors.
- **Prof. Ralf VAN DER LANS**, Department of Marketing, has become a Marketing Science Institute scholar.
- **Prof. QU Huamin**, Director of the Interdisciplinary Programs Office, was inducted into the IEEE Visualization Academy.

## STUDENTS AND RESEARCHERS

- Undergraduates **CHOW Chun-Sing**, Department of Ocean Science, and **CHEUNG King-Pok**, **HO Man-Yat**, and **WONG Pui-Him**, Department of Chemical and Biological Engineering, won the Championship of the Hong Kong Institution of Engineering's Best Final Year Environmental Project for their Smart Fish craft, which helps collect microplastics in the ocean.
- PhD student **Cyril DE LAVERGNE**, Department of Mathematics, received the Endeavour Merit Award from the HKSAR Government Scholarship Fund.
- The various teams under the HKUST Robotics Team received numerous accolades, including Champion, Second Runner-up, and Best Engineering Award in the Robocon 2021 Hong Kong Contest; First Runner-up, Best Presentation Award and Special Award in the Asia-Pacific Broadcasting Union (ABU) Robocon Festival 2020; and the Championship in the 16th Hong Kong Regional contest of the MATE International ROV Competition.
- The HKUST Wu Zhi Qiao Team received a Gold Award for Volunteer Service from the HKSAR Government's Social Welfare Department for their contributions to footbridge construction projects in remote areas of the Mainland.
- Postgraduate students **Teric CHAN Tsz-Tai** and **Nick CHIN Jing-Wei**, Department of Industrial Engineering and Decision Analytics, and **Kyle WONG Kwan-Long**, Department of Chemical and Biological Engineering, and their supervisor **Prof. Richard SO** were awarded the First Prize in the Startup section of the 7th Hong Kong University Student Innovation and Entrepreneurship Competition.
- Financial Technology MSc students **Karen HE Hui-Ying**, **Matthew LEE Zijin**, **Arnold NG Kwok-Ching**, **YU Ho-Chi**, and **ZHANG Ruiqi** won the First Runner-up prize at Hong Kong Techathon 2021.
- Undergraduate teams from the HKUST Case Analysis Team established a record for the University in the HKU-NWS Joint University Case Competition 2021, receiving the Championship and Best Presenter awards as well as the First, Second, and Third Runner-up titles.

- Global Operations MSc student **HU Xinyu** was awarded a place on the 2021/22 Asian Future Leaders Scholarship Program, organized by the Bai Xian Asia Institute.

## HKUST MEDALS

- **Prof. Raymond WONG Chi-Wing**, Department of Computer Science and Engineering, received the Michael G. Gale Medal for Distinguished Teaching.
- The six-person teaching team for the SUST1000 Introduction to Sustainability course received the HKUST Common Core Teaching Excellence Award 2020. The team from the Division of Environment and Sustainability comprised **Prof. Laurence DELINA**, **Prof. Arthur LAU**, **Prof. LU Zhongming**, **Prof. SHI Xiaoming**, **Prof. Benjamin STEUER** and **Dr. Meike SAUERWEIN**.

## HONORARY DOCTORATES AND HONORARY FELLOWS

### Honorary Doctorates

- **Prof. Arup K. CHAKRABORTY**, Professor of Chemical Engineering, Physics and Chemistry, at Massachusetts Institute of Technology
- **Prof. CHAN Ka-Keung Ceajer**, GBS, SBS, JP, Senior Advisor to the Dean and Professor Emeritus in Finance, HKUST, Former Secretary for Financial Services and the Treasury of the HKSAR
- **Prof. John HARDY**, Chair of Molecular Biology of Neurological Disease at University College London, Principal Investigator of UK Dementia Research Institute, Institute of Neurology
- **Dr. the Hon LI Dak-Sum**, GBM, JP, Chairman of Roxy Property Investment Co. Ltd. and Singapore's Carlton Group of Hotels
- **Prof. Kenneth POMERANZ**, University Professor of Modern Chinese History and in the College, University of Chicago

### Honorary Fellows

- **Mr. Quinn LAW Yee-Kwan**, SBS, JP, former Deputy Chairman and Managing Director for the Urban Renewal Authority of the HKSAR
- **Mr. Michael LEE Tze-Hau**, JP, Director of Oxer Limited
- **Mr. Winston LO Yau-Lai**, SBS, Executive Chairman of Vitasoy Group
- **Mr. Kyran SZE, MH**, Chairman of KYSS Properties Limited
- **Prof. Caroline WANG Chia-Ling**, Adjunct Professor, of the School of Business and Management, HKUST



# EVENT HIGHLIGHTS 2020-21

2020

JUL

The University conferred Honorary Doctorates and Honorary Fellowships on 10 distinguished individuals from Hong Kong and around the world in HKUST's first virtual presentation ceremony for these recognitions.

AUG

The virtual hackathon Hack Viral! brought together students and professionals to explore what technology could do to solve issues stemming from the pandemic in youth development and education, travel, and the well-being of vulnerable communities.



SEP

A joint webinar was held with the University of Chicago on how to "Thrive Amidst Disruptions: Role of Fintech Post COVID-19", as part of a joint effort to share ideas and promote international partnership.

OCT

The inaugural HKUST Virtual Information Day took place for prospective students, parents, and teachers. Activities included admissions talks and interactive live student sharing, virtual booths for all departments, individualized admissions consultations, and a 360-degree virtual campus tour, among others.

NOV



The University held a virtual Congregation for the first time, conferring 2,405 bachelor's degrees, 2,860 master's degrees and 285 doctoral degrees, bringing HKUST's alumni network to 89,819.

DEC

Dr. ZHANG Yunfei, Founder and President of Zhuhai Yunzhou Intelligence Technology Ltd., China's first unmanned surface vehicles company, shared his insights on innovation and entrepreneurship at a webinar. The event was part of the HKUST Entrepreneurship Fireside Chat Series. Dr. Zhang is an HKUST PhD graduate.



2021

JAN

More than 600 participants from 55 universities in 13 countries and regions participated in the online Conference on Industrial and Applied Mathematics. The conference provided a forum on the latest advances in the field.



FEB

Hong Kong-based leaders in green finance shared valuable observations and understanding in a webinar focused on Mobilizing Capital for the Brown to Green Transition, co-organized by HKUST Business School, Division of Environment and Sustainability and Institute for the Environment.

MAR

The Inaugural Conference of the Association for Chinese Animation Studies was held online from March to May 2021. Over 70 speakers from 32 countries and regions were invited to give lectures, covering topics related to Chinese animation and live action, animation research and education, among others.

APR

HKUST presented *A Night at the Opera* in collaboration with the Istituto Italiano di Cultura Hong Kong as part of the University's new Cosmopolis Festival.



MAY

The "Shaw Auditorium: Spark of Inspiration" Exhibition was launched in the University Atrium to familiarize HKUST students, faculty, staff, and alumni with the landmark venue, opening on campus later in 2021. A virtual interactive tour was also made available.



JUN

The University co-organized the first Summer Institute in Computational Social Science to be held in Hong Kong. The world-renowned summer school, originated by Princeton and Duke Universities, drew 90 applications and admitted 17 mostly graduate students from Hong Kong, the Mainland, the US, and Australia.



# FACTS AND FIGURES

## STUDENTS

### Student Enrolment (as of 30 Sep 2021)

School / Area	Undergraduate	Postgraduate			Total
		MPhil	PhD	Taught	
Science	2,218	124	607	558	3,507
Engineering	3,504	278	1,105	1,066	5,953
Business and Management	3,508	56	71	1,503	5,138
Humanities and Social Science	206	30	35	305	576
Interdisciplinary Programs	300	39	86	291	716
Joint School	654	0	0	304	958
Total	10,390	527	1,904	4,027	16,848

### Non-Local Student Enrolment (2020-21)

Home Country	Undergraduate	Postgraduate		Total
		Research	Taught	
Mainland	853	1,718	2,044	4,615
Other Asian Places	915	270	121	1,306
Rest of the World	182	109	75	366
Total	1,950	2,097	2,240	6,287

\*as of Oct 2020

### Graduate Numbers (2021)

School / Area	Undergraduate	Postgraduate		Total
		Research	Taught	
Science	529	158	323	1,010
Engineering	802	282	652	1,736
Business and Management	881	29	858	1,768
Humanities and Social Science	54	20	195	269
Interdisciplinary Programs	64	24	116	204
Joint School	190	1	160	351
Total	2,520	514	2,304	5,338

\*as of Aug 2021

### Employment (2020)

	Undergraduates	Postgraduates			MBA
		PhD	MPhil	Taught Master (Except MBA)	
Employment Situation	%	%	%	%	%
Employed	73.1	59	24.3	21	92
Further Studies	19.9	2.3	47	6	1.3
Returned to Home Country or Emigrated	4.5	36.8	28.7	72.2	0
Others	2.5	1.9	0	0.8	6.7
Employment Situation by Industry	%	%	%	%	%
Commerce and Business	62.2	6.1	13.6	63.4	83.3
Engineering and Industry	23.3	11.5	18.9	16.9	16.7
Education	8.1	80.4	59.1	16	0
Community and Social Services	3.5	1.4	6.8	0.9	0
Government and Related Organizations	2.9	0.7	2.3	2.8	0

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

## FACULTY

### Faculty Members (as of 30 Jun 2021) (Full-Time Equivalent^)

School / Area	Regular	Visiting	Total
Science	177	6	183
Engineering	213	5	218
Business and Management	148	3	151
Humanities and Social Science*	142	5	147
Interdisciplinary Programs	31	5	36
HKUST Jockey Club Institute of Advanced Study	2	0	2
Institute for Public Policy	1	0	1
Total	714	24	738

^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 (2020-21)

	Number	Funding (in HK\$M)
UGC	471	190.6
RGC	238	247.6
Others	847	595.4
Total	1,556	1,033.6**

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

### No. of Patents (2020-21)

Filed	332
Granted	205

## INTERNATIONAL RANKINGS

HKUST	<b>No. 2 in the World</b> World’s Top 150 Universities Under 50, QS Top 50 Under 50 2021 <b>No. 3 in the World</b> World’s Top 450+ Young Universities, Times Higher Education Young University Rankings 2021 <b>No. 8 in Asia</b> Asia’s Top 500+ Universities, Times Higher Education Asia Universities Rankings 2021 <b>No. 9 in Asia</b> Asia’s Top 500+ Universities, QS Asia University Rankings 2022 <b>No. 34 in the World</b> World’s Top 1000+ Universities, QS World University Rankings 2022 <b>No. 66 in the World</b> World’s Top 1500+ Universities, Times Higher Education World University Rankings 2022 <b>No. 23 in the World</b> Global University Employability Ranking 2021, Emerging, published by Times Higher Education
School of Science	<b>No. 31 in the World, No. 1 in Hong Kong</b> World’s Top 600 Universities in Chemistry, QS World University Rankings by Subject 2021 <b>No. 16 in the World, No. 1 in Hong Kong</b> World’s Top 400 Universities in Materials Sciences, QS World University Rankings by Subject 2021 <b>No. 36 in the World, No. 1 in Hong Kong</b> World’s Top 500 Universities in Mathematics, QS World University Rankings by Subject 2021 <b>No. 37 in the World, No. 1 in Hong Kong</b> World’s Top 600 Universities in Physics and Astronomy, QS World University Rankings by Subject 2021



School of Engineering	<b>No. 20 in the World, No.2 in Greater China</b> World's Top 500 Universities in Engineering and Technology, QS World University Rankings by Subject 2021
	<b>No. 28 in the World, No.1 in Hong Kong</b> World's Top 1000+ Universities in Engineering, Times Higher Education World University Rankings 2022
	<b>No. 30 in the World, No. 1 in Hong Kong</b> World's Top 600 Universities in Computer Science and Information Systems, QS World University Rankings by Subject 2021
	<b>No. 20 in the World, No.2 in Greater China</b> World's Top 500 Universities in Electrical and Electronic Engineering, QS World University Rankings by Subject 2021
	<b>No. 28 in the World, No.1 in Hong Kong</b> World's Top 500 Universities in Mechanical, Aeronautical and Manufacturing Engineering, QS World University Rankings by Subject 2021
	<b>No. 16 in the World, No.2 in Greater China</b> World's Top 200 Universities in Civil and Structural Engineering, QS World University Rankings by Subject 2021
	<b>No. 26 in the World, No.1 in Hong Kong</b> World's Top 800+ Universities in Computer Science, Times Higher Education World University Rankings 2022
	<b>No. 32 in the World, No.1 in Hong Kong</b> World's Top 400 Universities in Chemical Engineering, QS World University Rankings by Subject 2021
	<b>No. 22 in the World</b> World's Top 200 Universities in Transportation Science & Technology, Global Ranking of Academic Subjects, Academic Ranking of World Universities 2021
	<b>No. 18 in the World</b> World's Top 300 Universities in Telecommunication Engineering, Global Ranking of Academic Subjects, Academic Ranking of World Universities 2021
	<b>School of Business and Management</b>
	<b>No. 2 in the World</b> Global EMBA Rankings - Kellogg-HKUST EMBA Program, Financial Times 2021
	<b>No. 3 in the World</b> QS Global Joint EMBA Rankings - Kellogg-HKUST EMBA Program, QS Global Joint EMBA Rankings 2021
	<b>No. 22 in the World</b> Global MBA Rankings - Full-Time MBA Program, Financial Times 2021
	<b>No. 22 in the World, No.3 in Asia</b> World's Top 500 Universities in Business and Management Studies, QS World University Rankings by Subject 2021
	<b>No. 22 in the World, No.2 in Asia</b> World's Top 300 Universities in Accounting and Finance, QS World University Rankings by Subject 2021
	<b>No. 27 in the World, No. 3 in Greater China</b> World's Top 500 Universities in Economics and Econometrics, QS World University Rankings by Subject 2021
	<b>No. 31 in the World, No.1 in Asia</b> Top 100 Business School Research Rankings, University of Texas at Dallas (UTD) Top Business School Research Rankings 2016-2020
	<b>No. 33 in the World</b> World's Top 700 Universities in Business & Economics, Times Higher Education World University Rankings 2022
	<b>No. 27 in the World, No.3 in Greater China</b> World's Top 500 Universities in Management, Global Ranking of Academic Subjects, Academic Ranking of World Universities 2021
	<b>No. 38 in the World, No.2 in Greater China</b> World's Top 200 Universities in Finance, Global Ranking of Academic Subjects, Academic Ranking of World Universities 2021
	<b>School of Humanities and Social Science</b>
	<b>No. 39 in the World</b> World's Top 500 Universities in Social Sciences and Management, QS World University Rankings by Subject 2021

# APPENDICES

## APPENDIX I

### COURT, COUNCIL AND SENATE As of 30 June 2021

#### Court Membership

	<b>Chairman &amp; Honorary Chairman</b>	Dr. John C C Chan, GBS, JP
	<b>Honorary Chairman</b>	Dr. the Hon Vincent H S Lo, GBM, GBS, JP
	<b>Chairman of the Council</b>	Mr. Andrew Liao Cheung-Sing, GBS, SBS, SC, JP
	<b>Vice-Chairman of the Council</b>	Prof. John Chai Yat-Chiu, BBS, JP
	<b>Treasurer of the University</b>	Prof. Patrick Yeung Kai-Cheung
	<b>President of the University</b>	Prof. Wei Shyy, JP
	<b>Provost</b>	(Vacant)
	<b>President of the Students' Union</b>	(Vacant)
	<b>President of the Alumni Association</b>	Mr. Dicky Yuen
	<b>Chairman of the Staff Association</b>	Ms. Grace Ling
	<b>Honorary Members</b>	Dr. Anissa Chan, SBS, MH, JP Dr. Charles S C Chan, BBS, JP Dr. the Hon Robin Y H Chan, GBM, GBS, JP The Hon Ronnie C Chan, GBM Dr. Thomas T T Chen Dr. Christopher Cheng, GBS, OBE, JP Dr. the Hon Henry Cheng, GBM, GBS Mr. Paul M F Cheng, JP Dr. Cheng Hon-Kwan, GBS, OBE, JP Mr. Linus W L Cheung, JP Dr. Raymond K F Ch'ien, GBS, JP Prof. Alice Chiu, BBS, JP Dr. Paul M Y Chow, GBS, JP Prof. Stephen Chow, GBS, JP Dr. Kenneth H Fang, GBS, JP Dr. Ian C W Fok, SBS, JP Mr. Tim Freshwater Dr. William K Fung, SBS, JP Mrs. Yvette Yeh Fung Dr. Aron H Harilela, BBS, JP Mr. John B Harrison Dr. Herman S M Hu, SBS, JP The Hon Hu Fa-Kuang, GBM, GBS, CBE, JP Mr. Lester G Huang, SBS, JP
		Dr. Simon S O Ip, GBS, JP Prof. Roger King Dr. Lau Wah-Sum, GBS, JP Dr. the Hon Charles Y K Lee, GBM, GBS, JP Ms. Margaret Lee Pui-Man Dr. the Hon Lee Shau-Kee, GBM Dr. the Hon Andrew K N Li, GBM Ms. Kai-Yin Lo, SBS Mr. Winston Yau-Lai Lo, SBS Mr. Francis Lui Yiu-Tung Mr. Tim Lui Tim-Leung, SBS, JP Dr. the Hon Lui Che-Woo, GBM, GBS, MBE, JP Mr. Maximilian Yung-Kit Ma Dr. Michael H H Mak, SBS, JP Dr. Anthony Neoh, SC, JP Mr. David Teng Pong The Hon Abraham Shek Lai-Him, GBS, JP Mr. Sin Chung-Kai, SBS, JP Mr. Kenneth Ting Woo-Shou, SBS, JP Mrs. Christine Wong, SBS Dr. Lawrence T Wong Dr. Wilfred Y W Wong, GBS, JP Ms. Marjorie Yang, GBS, JP Dr. Larry C K Yung
	<b>Appointed Members</b>	Mr. Bernard Auyang Ms. Dee Dee Chan Ms. Anita Fung Yuen-Mei, BBS, JP Mr. Eugene Michael Fung Yue-Ming Dr. Hans Michael Jebsen, BBS Ms. Catherine Kwai Yuk-Nin Dr. Colin Lam Ko-Yin, SBS Mr. Quinn Y K Law, SBS, JP Mr. David W H Lee Mr. Marcus C W Lee Mr. Michael Lee Tze-Hau, JP The Hon Starry Lee Wai-King, SBS, JP Mr. Lee Shing-Put, BBS Ms. Catherine K C Leung
		Mr. Kenneth Benjamin Li Mr. Sing-Cheong Liu, JP Mr. Raymond C Lo Mr. Paul Mak Tak-Chuen Mr. Sebastian Man Shiu-Wai Dr. Daryl Ng Win-Kong, JP Mr. Benedict Sin Nga-Yan Mr. Kyran Sze, MH Dr. James E Thompson, GBS Mr. Samuel Tat-Sum Wong Ms. Jennifer Woo Chun-En Mr. Michael Wu Wei-Kuo Mr. Patrick Yeung Wai-Tim
	<b>Appointed Senate Representatives</b>	Prof. Kai-Lung Hui Prof. Guocheng Jia Prof. Anirban Mukhopadhyay Prof. Ian D Williams



Council Membership

	<b>Chairman</b>	Mr. Andrew Liao Cheung-Sing, GBS, SBS, SC, JP
	<b>Vice-Chairman</b>	Prof. John Chai Yat-Chiu, BBS, JP
	<b>Treasurer of the University</b>	Prof. Patrick Yeung Kai-Cheung
	<b>President of the University</b>	Prof. Wei Shyy, JP
	<b>Provost</b>	(Vacant)
	<b>Vice-President</b>	Prof. Yang Wang, Institutional Advancement
	<b>Deans</b>	Prof. King-Lau Chow, Acting Dean of Students Prof. Kar-Yan Tam, MH Dean of Business and Management
<b>Academic Members of the Senate</b>		Prof. Jensen Tsan Hang Li Prof. Jiang Xu
<b>Chairman of Convocation</b>	Mr. Stanley Choi Tak-Shing, JP	
<b>Elected Staff Member</b>	Ms. Grace Ling	
<b>Elected Student Member</b>	Miss Cheung Lai Shan	
<b>Members Not Being Employees or Students of the University</b>	Mr. Johnson Cha Mou-Daid The Hon Ben Chan Han-Pan, BBS, JP Ms. Cally Chan Shan-Shan Mr. Nicholas Chan Hiu-Fung, MH Mr. Peter Cheung Kam-Fai, SBS Mr. David Fong Man-Hung, BBS, JP Mr. Wilson Fung Ying-Wai	Prof. Albert Yuk Keung Ip Mrs. Helen Kan Mr. Rembert Lai Siu-Kin Prof. Jack Lau Ms. Edith Shih Mr. Stephen Yiu Kin-Wah Dr. Samuel W K Yung, SBS, MH, JP

Membership Of Standing Committee

<b>Chairman</b>	Mr. Andrew Liao Cheung-Sing, GBS, SBS, SC, JP	
<b>Vice-Chairman</b>	Prof. John Chai Yat-Chiu, BBS, JP	
<b>Members</b>	Ms. Cally Chan Shan-Shan Mr. Nicholas Chan Hiu-Fung, MH Mr. David Fong Man-Hung, BBS, JP Mr. Wilson Fung Ying-Wai Mr. Mark Hodgson Prof. Albert Yuk Keung Ip Prof. Nancy Y Ip, BBS, MH, JP Mrs. Helen Kan	Mr. Rembert Lai Siu-Kin Prof. Jack Lau Prof. Wei Shyy, JP Prof. Yang Wang Prof. Patrick Yeung Kai-Cheung Mr. Stephen Yiu Kin-Wah Dr. Samuel W K Yung, SBS, MH, JP

Membership Of Audit Committee

<b>Chairman</b>	Mr. Wilson Fung Ying-Wai	
<b>Vice-Chairman</b>	Mrs. Helen Kan	
<b>Members</b>	Mr. Nicholas Chan Hiu-Fung, MH Mr. Colin Chau Yu-Nien Mr. Peter Cheung Kam-Fai, SBS	Prof. Jack Lau Mrs. Agnes K Nardi Mr. Martin Siu Man-Tat, SBS

Membership Of Campus Development Committee

<b>Chairman</b>	Mr. David Fong Man-Hung, BBS, JP	
<b>Vice-Chairman</b>	Mr. Rembert Lai Siu-Kin	
<b>Members</b>	Sr. Au Choi Kai, SBS Mrs. Margaret Brooke The Hon Ben Chan Han-Pan, BBS, JP Mr. Wilson Fung Ying-Wai	Mr. Jimmy Leung Cheuk-Fai, SBS Ms. Grace Ling Mr. Ben Lui Sau-Shun
<b>Ex-officio</b>	Mr. Mark Hodgson	

Membership Of Committee On HKUST(GZ)

<b>Chairman</b>	Mr. Andrew Liao Cheung-Sing, GBS, SBS, SC, JP	
<b>Vice-Chairman</b>	Prof. John Chai Yat-Chiu, BBS, JP	
<b>Members</b>	Mr. David Fong Man-Hung, BBS, JP Mr. Wilson Fung Ying-Wai Prof. Jack Lau	Prof. Wei Shyy, JP Prof. Patrick Yeung Kai-Cheung Mr. Stephen Yiu Kin-Wah

Membership Of Finance Committee

<b>Chairman</b>	Prof. Patrick Yeung Kai-Cheung	
<b>Vice-Chairman</b>	Mr. Stephen Yiu Kin-Wah	
<b>Members</b>	Mr. Johnson Cha Mou-Daid Mr. Jackson Cheung Wing-Kwong Mr. Stanley Choi Tak-Shing, JP	Prof. Albert Yuk Keung Ip Ms. Edith Shih Mr. Ronald Seng-Yum Tham
<b>Ex-officio</b>	Mr. Mark Hodgson	

Membership Of Honorary Awards Committee

<b>Chairman</b>	Mr. Andrew Liao Cheung-Sing, GBS, SBS, SC, JP	
<b>Vice-Chairman</b>	Prof. Wei Shyy, JP	
<b>Members</b>	Prof. Yongshun Cai Mr. David Fong Man-Hung, BBS, JP Prof. Albert Yuk Keung Ip Mr. Raymond C Lo	Prof. Lionel M Ni Prof. Pei-Yuan Qian Prof. James Y L Thong Mr. Michael Wu Wei-Kuo

Membership Of Human Resources Committee

<b>Chairman</b>	Prof. John Chai Yat-Chiu, BBS, JP	
<b>Vice-Chairman</b>	Prof. Albert Yuk Keung Ip	
<b>Members</b>	Ms. Cally Chan Shan-Shan Mr. David Fong Man-Hung, BBS, JP	Ms. Edith Shih Mr. Stephen Yiu Kin-Wah
<b>Ex-officio</b>	Mr. Mark Hodgson	Prof. Wei Shyy, JP

Membership Of Institutional Advancement And Outreach Committee

<b>Chairman</b>	Prof. Jack Lau	
<b>Vice-Chairman</b>	Dr. Samuel W K Yung, SBS, MH, JP	
<b>Members</b>	The Hon Ben Chan Han-Pan, BBS, JP Dr. Charles S C Chan, BBS, JP Mr. Peter Cheung Kam-Fai, SBS Mrs. Helen Kan	Ms. Margaret Lee Pui-Man Mr. Michael Lee Tze-Hau, JP Mr. Philip Tsai, BBS, JP Mr. Ryan Wong Man-Yeung
<b>Ex-officio</b>	Prof. Kar-Yan Tam, MH Prof. Kellee Tsai	Prof. Yang Wang

Membership Of Knowledge Transfer Committee

<b>Chairman</b>	Mr. Nicholas Chan Hiu-Fung, MH	
<b>Vice-Chairman</b>	Ms. Cally Chan Shan-Shan	
<b>Members</b>	Mr. Peter Cheung Kam-Fai, SBS Mr. Stanley Choi Tak-Shing, JP Prof. I-Ming Hsing Ms. Catherine K C Leung	Mr. Brandon Ho-Ping Lin Prof. Chi-Ying Tsui Prof. Ping Sheng Ms. Edith Shih
<b>Ex-officio</b>	Prof. Nancy Y Ip, BBS, MH, JP Prof. Ricky S W Lee	Prof. Enboa Wu

Membership Of Senior Executives Affairs Committee

<b>Chairman</b>	Mr. Andrew Liao Cheung-Sing, GBS, SBS, SC, JP	
<b>Members</b>	Prof. John Chai Yat-Chiu, BBS, JP	Prof. Patrick Yeung Kai-Cheung

For the attendance and biographies of Council Members, please visit: <https://ccss.ust.hk/council/about-the-council>



Senate Membership

	<b>Chairman</b>	Prof. Wei Shyy, JP, President
	<b>Provost</b>	Vacant
	<b>Vice-Presidents</b>	Mr. Mark Hodgson, <i>Administration and Business</i> Prof. Yang Wang, <i>Institutional Advancement</i> Prof. Nancy Y Ip, BBS, MH, JP, <i>Research and Development</i>
<b>School of Science</b>	Prof. Andrew Cohen, Acting Dean Prof. Peiyuan Qian Prof. Penger Tong Prof. Xiaoping Wang Prof. Ian Williams	Prof. Ting Xie Prof. Jeffrey R Chasnov Prof. Jensen Li Prof. Eric Marberg Prof. Jiguang Wang
<b>School of Engineering</b>	Prof. Tim Kwang-Ting Cheng, Dean Prof. Guillermo Gallego Prof. I-Ming Hsing Prof. Hong-Kam Lo Prof. Huihe Qiu Prof. Bertram Shi	Prof. Chi-Ying Tsui Prof. Dit-Yan Yeung Prof. Zhigang Li Prof. Li Qiu Prof. Minhua Shao Prof. Jiang Xu
<b>School of Business and Management</b>	Prof. Kar-Yan Tam, MH, Dean Prof. Yaping Gong Prof. Jiewen Hong Prof. Mingyi Hung Prof. Albert Park Prof. Chu Zhang	Prof. Shaohui Zheng Prof. Tai-Yuan Chen Prof. Allen Huang Prof. Kai-Lung Hui Prof. Jiatao Li
<b>School of Humanities and Social Science</b>	Prof. Kellee Tsai, Dean Prof. Christian Daniels	Prof. Wenfang Tang Prof. Jenny Smith
<b>HKUST Fok Ying Tung Graduate School</b>	Prof. Charles Ng, Dean	
<b>Dean of Students</b>	Prof. King-Lau Chow, Acting	
<b>Interdisciplinary Programs Office</b>	Prof. Huamin Qu, <i>Director</i> Prof. Alexis Lau	Prof. Naubahar Sharif
<b>Elected Members of the Academic Staff</b>	Prof. Cameron Dougall Campbell Prof. Albert Ha	Prof. Gang Wang
<b>Co-opted Members of the Academic Staff</b>	Prof. Khaled Ben Letaief Prof. Andrew Cohen Prof. Bradley A Foreman Prof. Jimmy Fung Prof. Andrew Horner Prof. Guocheng Jia Prof. Arthur Lau Prof. Emily Nason	Prof. George Jie Yuan Prof. Che-Ting Chan Prof. Anirban Mukhopadhyay Prof. Enboa Wu Prof. Ricky S W Lee Prof. Fugee Tsung Prof. Weijia Wen Prof. Danyang Xie
<b>Other Administrators</b>	Mr. James Prince, Academic Registrar	Ms. Diana L H Chan, <i>University Librarian</i>
<b>Student Representatives</b>	President of Students' Union (Vacant) Mr. Ka Fu Yuen, Undergraduate Representative	Mr. Yat Fung Sabastian Ko, Postgraduate Representative

APPENDIX II

ADVISORY COMMITTEE

School Of Science Advisory Committee

<b>Prof. Marvin COHEN</b> Professor of the Graduate School, Department of Physics, University of California, Berkeley, USA  <b>William R. KENAN, Jr.</b> Professor Emeritus of Mathematics, Department of Mathematics, Yale University, USA  <b>Prof. Roberto KOLTER</b> Professor Emeritus of Microbiology, Department of Microbiology, Harvard Medical School, USA  <b>Prof. Jean-Marie LEHN</b> Director of Laboratory of Supramolecular Chemistry, Institut de Science et d'Ingénierie Supramoléculaires (ISIS), Université de Strasbourg, France	<b>Prof. Patrick LEE</b> William & Emma Rogers Professor of Physics, Department of Physics, Massachusetts Institute of Technology, USA  <b>Prof. George C. PAPANICOLAOU</b> Robert Grimmett Professor of Mathematics, Department of Mathematics, Stanford University, USA  <b>Prof. Randy SCHEKMAN</b> Howard Hughes Medical Institute Investigator and Professor of Cell and Developmental Biology, Department of Molecular and Cell Biology, University of California, Berkeley, USA	<b>Prof. WANG Xiaodong</b> Director and Investigator, National Institute of Biological Sciences, Beijing, PR China  <b>Prof. YANG Weitao</b> Philip Handler Distinguished Professor of Chemistry, Department of Chemistry, Duke University, USA  <b>Prof. YAU King-Wai</b> Professor of Neuroscience, The Solomon H. Snyder Department of Neuroscience, Johns Hopkins University, USA
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School of Engineering Advisory Committee

<b>Academic Advisors</b>  <b>Prof. Evelyn HU</b> Tarr-Coyne Professor of Applied Physics and of Electrical Engineering Harvard University  <b>Prof. James KLAUSNER</b> Professor and Chair of Mechanical Engineering Michigan State University	<b>Prof. Kincho LAW</b> Professor, Department of Civil and Environmental Engineering Stanford University  <b>Prof. M. Tamer ÖZSU</b> Professor, Data Systems Research Group David R. Cheriton School of Computer Science University of Waterloo	<b>Prof. David SIMCHI-LEVI</b> Professor and Co-Director for Global Operations Massachusetts Institute of Technology
<b>Industrial Advisors</b>  <b>Mr. Oscar CHOW</b> Non-Executive Director Chevalier Group  <b>Mr. Alfred CHUANG</b> General Partner, Race Capital Founder and Chairman, Magnet Systems  <b>Mr. Albert IP Yuk Keung</b> Independent Non-executive Director New World Development  <b>Dr. JIN Rong</b> Head of Machine Intelligence Technology Alibaba DAMO Academy  <b>Dr. LEE Kaifu</b> Chairman & Chief Executive Officer Sinovation Ventures	<b>Ir. Dr. LO Wai-kwok</b> Member of Legislative Council Engineering Functional Constituency HKSAR  <b>Mr. Simon NGO Siu Hing</b> Head of Engineering Hong Kong & Gas Co. Ltd.  <b>Ir. Dr. Derrick PANG Yat Bond</b> CEO Asia Allied Infrastructure Holdings Ltd.  <b>Mr. Fred SHEU</b> National Technology Officer Microsoft Hong Kong	<b>Dr. Edward G. TIEDEMANN, Jr.</b> Qualcomm Fellow Senior Vice President of Engg of Qualcomm  <b>Mr. James TONG</b> Director of Public Affairs John Swires & Sons (HK) Ltd  <b>Mr. Frank WONG</b> Managing Director Rohde& Schwarz Taiwan & Hong Kong Ltd  <b>Dr. Wen TONG</b> CTO, Wireless Network Huawei Technologies Co. Ltd.

School of Business and Management Advisory Council (As of 30 June 2021)

<b>Chairman</b>  <b>Dr. Hans Michael JEBSEN, BBS</b> Chairman Jebesen Group	<b>Members</b>  <b>Mr. Louis McDaniel BOWEN</b> Chairman and Chief Executive Officer Asia Capital Management Limited and China Advisors Limited  <b>Mr. Adriel CHAN</b> Vice Chair Hang Lung Properties Limited  <b>Dato’ Seri CHEAH Cheng Hye</b> Co-Chairman and Co-Chief Investment Officer Value Partners Group Ltd  <b>Mr. Eric FOK Kai Shan</b> Vice President Fok Ying Tung Group  <b>Dr. William FUNG Kwok Lun, SBS, OBE, JP</b> Group Deputy Chairman Fung Group  <b>Ms. Wendy GAN</b> Non-Executive Director Chinney Alliance Group Limited  <b>Mr. Benjamin HUNG Pi Cheng, BBS, JP</b> Chief Executive Officer, Asia Standard Chartered Bank  <b>Prof. Albert IP Yuk Keung</b> Trustee, Board of Trustees Washington University in St Louis  <b>Mr. Keith KERR, SBS, JP</b> Chairman The Development Studio Ltd	<b>Ms. Teresa KO Yuk Yin, BBS, JP</b> China Chairman Freshfields Bruckhaus Deringer  <b>Mr. Manoj KOHLI</b> Country Head - Softbank India Softbank Group International  <b>Mr. Anish LALVANI</b> Chairman Euro Suisse International Ltd  <b>Mr. David LEE</b> Director Lee Kum Kee Company Limited  <b>Mrs. Margaret LEUNG, SBS, JP</b> Independent Non-Executive Director Hong Kong Exchanges and Clearing Limited  <b>Ms. Nisa LEUNG, JP</b> Managing Partner Qiming Venture Partners  <b>Dr. Vincent H. S. LO, GBM, GBS, JP</b> Chairman Shui On Holdings Ltd  <b>Mr. Maximilian Y K MA</b> Chairman Lee Heng Diamond Group  <b>Mr. Anthony NIGHTINGALE, CMG, SBS, JP</b> Director Jardine Matheson Holdings Ltd	<b>Mr. Wai Kwong SECK</b> Chief Executive Officer Eastspring Investments Group  <b>Mrs. Kathryn SHIH</b> Former President Asia Pacific and Member of Group Executive Board, UBS AG and Board Member, Julius Baer  <b>Mr. Sukanto TANOTO</b> Chairman RGE Pte Ltd  <b>Dr. James E. THOMPSON, GBS</b> Chairman Crown Worldwide Holdings Ltd  <b>Mr. Andy TUNG</b> Non-Executive Director Orient Overseas (International) Limited  <b>Mr. Douglas WOO Chun Kuen</b> Chairman and Managing Director Wheelock and Company Ltd  <b>Mr. Thomas Jefferson WU, JP</b> Independent Non-executive Director, Melco Resorts & Entertainment Ltd and Board Member, Airport Authority Hong Kong  <b>Mr. Arthur YUEN Kwok Hang, JP</b> Deputy Chief Executive Hong Kong Monetary Authority
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HKUST Accounting Advisory Board Members (in Alphabetical order)

Chairman

Ms. Ivy CHEUNG  
Partner, Head of Audit, KPMG China

Members

<b>Mr. Dickman CHIU</b> Group Financial Controller, 100x Group	<b>Mr. Roy LEUNG</b> Partner, KPMG China	<b>Ms. Cindy NGAN</b> Partner, PwC Hong Kong
<b>Ms. Cindy CHOW</b> Executive Director, Alibaba Entrepreneurs Fund	<b>Mr. Andrew LEUNG</b> Chief Financial Officer, Hang Seng Bank Limited	<b>Mr. Gary WONG</b> Partner, Assurance, Ernst & Young
<b>Ms. Karen HO</b> Former Chief Financial Officer, WeLab Holdings	<b>Mr. Eugene LIU</b> Managing Partner, RSM Hong Kong	<b>Mr. Fergus WONG</b> Director, National Tax Policy, PwC Hong Kong
<b>Ms. Jane HUI</b> Partner, Tax Services, Ernst & Young	<b>Ms. Gloria LUK</b> Partner, Advisory, Deloitte China	<b>Mr. Thomas WONG</b> Founding Partner, CW CPA
<b>Mr. Horace LEE</b> Director, Wharf Real Estate Investment Company Limited	<b>Mr. Hong NG</b> Advisor, BDO	<b>Ms. Shirley WOO</b> Partner, Audit & Assurance, Deloitte China

School of Humanities and Social Science Advisory Committee

<b>Prof. Timothy BROOK</b> Republic of China Chair, The University of British Columbia	<b>Prof. Helen SIU</b> Honorary Professor, Hong Kong Institute for the Humanities and Social Sciences, The University of Hong Kong Professor of Anthropology, Yale University	<b>Prof. ZHOU Xueguang</b> Kwoh Ting Li Professor in Economic Development, Professor of Sociology Senior Fellow, Freeman Spogli Institute for International Studies, Stanford University
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APPENDIX III

SENIOR MANAGEMENT & FACULTY APPOINTMENTS & PROFESSOR EMERITUS

Senior Management Appointments

<b>Prof. CHAN Che-Ting</b> Associate Vice-President for Research and Development	<b>Mr. Ernest CHAN</b> Associate Vice-President (Planning & Coordination)	<b>Prof. Anirban MUKHOPADHYAY</b> Associate Provost (Teaching & Learning)
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Senior Faculty Appointments

<b>Prof. HONG Jiewen</b> Head of the Department of Marketing	<b>Mr. Donald LOW How-Tian</b> Director of HKUST Institute for Emerging Market Studies	<b>Professor QU Huamin</b> Director of the Interdisciplinary Programs Office
<b>Prof. HUNG Mingyi</b> Head of the Department of Accounting	<b>Prof. Emily NASON Mung-Lam</b> Director of Undergraduate Recruitment & Admissions Professor Charles NG, Dean of HKUST Fok Ying Tung Graduate School	<b>Prof. XIE Ting</b> Head of the Division of Life Science
<b>Prof. Alexis LAU Kai-Hon</b> Head of the Division of Environment & Sustainability		<b>Prof. YE Wenjing</b> Director of Advanced Engineering Materials Facility

Professor Emeritus

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

<b>Prof. CHAN Chun-Man</b> Department of Civil and Environmental Engineering	<b>Prof. HU Inchi</b> Department of Information Systems, Business Statistics & Operations Management	<b>Prof. WONG Man-Yu</b> Department of Mathematics
<b>Prof. Roger CHENG Shu-Kwan</b> Department of Electronic and Computer Engineering	<b>Prof. WEN Weijia</b> Department of Physics	<b>Prof. Michael WONG Kwok-Yee</b> Department of Physics
<b>Prof. Ravindra GOONETILLEKE</b> Division of Integrative Systems & Design and Department of Industrial Engineering & Decision Analytics		

Associate Professor Emeritus

The following faculty member was awarded the title of Associate Professor Emeritus upon his retirement from the University service:

Dr. WONG Wan-Keung  
Division of Life Science

APPENDIX IV

FINANCE

Overview

The financial year 2020/21 recorded a surplus of \$2,003 million (\$1,410 million in 2019/20). The higher surplus for 2020/21 was mainly attributable to an extraordinarily favourable investment return due to high market valuations, stimulated by the persistent quantitative easing in response to the COVID-19 pandemic. The surplus was partly offset by lower donation and lower matching grant income following the completion of the Eighth Matching Grant Scheme.

The University has committed to prioritising investments aligned with environment, social and corporate governance (ESG) values without compromising on return or diversification. About 50% of the University’s investment managers are signatories to the United Nations’ Principles for Responsible Investment and have integrated ESG into their investment strategies.

Consolidated Income and Expenditure

Consolidated income increased by \$566 million to \$6,955 million in 2020/21 (\$6,389 million in 2019/20), contributed primarily by a growth in net investment income of \$1,725 million, against a reduction in donation and matching grant income of \$1,202 million and a reduction in tuition fee income of \$183 million compared to the previous year.

Consolidated expenditure decreased modestly by \$23 million to \$4,959 million (\$4,982 million in 2019/20), which was mainly attributable to lower salary costs and other operating expenses of \$55 million, as partly offset by an increase in depreciation charge of \$32 million. Due to the outbreak of COVID-19, many of the on-campus activities and recruitments activities were postponed which led to the decrease in operating costs.

Segment Results

Commentaries on operating segments, analysed by UGC-Funded Activities and non-UGC Funded Activities, are as follows:

UGC-Funded Activities

UGC-Funded Activities showed a surplus of \$876 million for the year (\$536 million for 2019/20), which primarily came from the favourable investment return as allocated. The University’s UGC reserves continued to rise, and stood at \$4,003 million (\$3,127 million in 2019/20).

Non-UGC Funded Activities

Self-Financing Continuing Professional Education Programs, Research and Other Activities

Self-financing CPEP activities contributed a surplus of \$196 million (\$298 million for 2019/20), against lower student enrolment and lower tuition income. Non-UGC funded research activities contributed a surplus of \$33 million (\$42 million for 2019/20), mainly arising from completed commercial research projects and government subsidies. Other activities contributed a surplus of \$406 million (loss of \$53 million for 2019/20) which was mainly due to an increase in allocated net investment income. In aggregate, the overall surplus of these operating segments amounted to \$635 million (\$287 million for 2019/20).

Donations Activities

Donations totalling \$139 million were recognized as income for 2020/21 (\$741 million for 2019/20). Overall the segment showed a surplus of \$492 million (\$587 million for 2019/20) as contributed by the investment return. The University has successfully secured \$420 million new pledges in 2020/21 (\$240 million in 2019/20).

Non-UGC Reserves

Non-UGC reserve balances reached \$8,177 million at the end of 2020/21 (\$7,022 million for 2019/20). The growth in the reserve balance was mainly contributed by the afore-stated allocated investment returns, donation, self-financing and other activities.

Capital Expenditure

Following the planned completion of the Shaw Auditorium scheduled for opening in November 2021, still a number of construction projects are underway to enhance the University’s facilities and infrastructure to cater for accommodation and amenity needs of students as well as for academic and research activities. The largest construction project is the New 1551-bed Student Hostel, which is expected to be completed by 2023. Besides, two research buildings are underway and are targeted to be completed in 2025 and 2026 respectively.

Accordingly, as at 30 June 2021, total commitments for approved construction projects and other capital items amounted to \$4,678 million; \$3,346 million of which will come from existing University’s Funds, \$998 million will be funded by deferred income on hand, \$227 million from pledged donations and \$107 million from approved but yet to be received UGC grants.

Outlook

The prolonged coronavirus pandemic has presented unprecedented difficulties and challenges to the operations of the University in multiple dimensions. With the dedicated efforts of the management team and responsive Council directions and support, the University has coped well and overcome difficulties one by one. In the coming new semester, the University will continue exercising flexibility in learning and teaching activities, providing quarantine service for affected faculties and students, and administering access control at campus entrances.

HKUST(GZ) is progressing well and the first semester in Guangzhou campus is expected to start in September 2022. The Guangzhou campus will be operated under the “Unified HKUST, Complementary Campuses” framework. Under this framework, it is expected that academic breakthroughs will be achieved through the collaboration between the two campuses.

To make the University a global leader in sustainability education, the University will pursue the four focus areas, namely, operations, education, community and demonstration as set out in the new “2028 Sustainability Challenge” announced in HKUST’s Strategic Plan 2021-28. The University is ambitious in transforming the campus into a zero-carbon, zero-waste, and net-positive environmental impact living laboratory for learning, experimenting and showcasing new ideas and approaches.

The financial position of the University is very healthy with total accumulated funds of over \$12 billion at the end of the year. However, given the challenges and uncertainties ahead, not least the expected tapering of the quantitative easing which could materially affect the valuation of the University’s investment portfolio, the University will remain cautious in managing and deploying its resources to support its missions, and to ensure long-term financial sustainability.

Patrick K.C. YEUNG  
Treasurer of the University  
19 October 2021



## CONSOLIDATED STATEMENT OF COMPREHENSIVE INCOME

FOR THE YEAR ENDED 30 JUNE 2021

	2021 \$million	2020 \$million
<b>Income</b>		
Government Subventions and Grants	2,988	3,386
Tuition, Programs and Other Fees	1,253	1,436
Interest and Net Investment Income	1,827	102
Donations and Benefactions	139	741
Auxiliary Services and Other Income	462	459
Transfers from Deferred Capital Funds	286	265
	<b>6,955</b>	<b>6,389</b>
<b>Expenditure</b>		
Teaching, Learning and Research		
Teaching and Research	3,094	3,074
Library	124	125
Central Computing Facilities	134	137
Other Academic Services	101	106
	<b>3,453</b>	<b>3,442</b>
<b>Institutional Support</b>		
Management and General	446	442
Premises and Related Expenses	749	769
Student and General Education Services	285	297
Other Activities	26	32
	<b>1,506</b>	<b>1,540</b>
	<b>4,959</b>	<b>4,982</b>
<b>Surplus from operation for the year</b>	<b>1,996</b>	<b>1,407</b>
Share of Result of an Associate	8	6
<b>Surplus for the year before tax</b>	<b>2,004</b>	<b>1,413</b>
<b>Tax</b>	<b>(1)</b>	<b>(3)</b>
<b>Surplus for the year after tax</b>	<b>2,003</b>	<b>1,410</b>
<b>Other comprehensive income for the year</b>		
Item that may be reclassified subsequently to income and expenditure:		
Exchange differences arising from translation	23	(9)
	<b>23</b>	<b>(9)</b>
Item that will not be reclassified to income and expenditure:		
Unrealised gain on equity securities at fair value through other comprehensive income	5	7
	<b>28</b>	<b>(2)</b>
<b>Total comprehensive income for the year</b>	<b>2,031</b>	<b>1,408</b>
<b>Transfers to:</b>		
UGC Funds	876	536
Restricted Funds	249	138
Other Funds	906	734
	<b>2,031</b>	<b>1,408</b>

## CONSOLIDATED BALANCE SHEET

AS AT 30 JUNE 2021

	2021 \$million	2020 \$million
<b>Non-Current Assets</b>		
Property, Plant and Equipment	6,499	5,900
Intangible Assets	15	17
Right-of-use Assets	33	13
Financial Assets at Amortised Cost	38	78
Financial Assets at Fair Value through Other Comprehensive Income	491	484
Financial Assets at Fair Value through Income and Expenditure	9,521	7,536
Interest in an Associate	98	84
Bank Deposits with Original Maturity over Three Months	1	2
	<b>16,696</b>	<b>14,114</b>
<b>Current Assets</b>		
Financial Assets at Amortised Cost	39	64
Inventories	1	1
Accounts Receivable and Prepayments	352	614
Bank Deposits with Original Maturity over Three Months	2,685	1,269
Cash and Cash Equivalents	1,386	2,350
	<b>4,463</b>	<b>4,298</b>
<b>Current Liabilities</b>		
Accounts Payable and Accruals	1,047	1,014
Lease Liabilities	14	9
Provision for Staff Benefits	233	229
Deferred Income	2,620	1,633
Tax Payable	1	2
	<b>3,915</b>	<b>2,887</b>
<b>Net Current Assets</b>	<b>548</b>	<b>1,411</b>
<b>Total Assets Less Current Liabilities</b>	<b>17,244</b>	<b>15,525</b>
<b>Non-Current Liabilities</b>		
Lease Liabilities	20	4
Provision for Staff Benefits	34	37
Deferred Income	386	908
Deferred Capital Funds	4,624	4,427
	<b>5,064</b>	<b>5,376</b>
<b>NET ASSETS</b>	<b>12,180</b>	<b>10,149</b>
<b>UGC Funds</b>	<b>4,003</b>	<b>3,127</b>
<b>Restricted Funds</b>	<b>1,976</b>	<b>1,721</b>
<b>Other Funds</b>	<b>6,201</b>	<b>5,301</b>
<b>TOTAL FUNDS</b>	<b>12,180</b>	<b>10,149</b>

Approved by the Council on 19 October 2021



# APPENDIX V

## SUMMARY OF INTERNAL CONTROL AND MEASURES

The University continues to adopt a system of internal control based on a framework issued by the Committee of Sponsoring Organizations of Treadway Commission (COSO). The five components of COSO Framework, namely Control Environment, Risk Assessment, Control Activities, Information and Communication, and Monitoring, are adopted by the University in ensuring the effectiveness of University governance.

In order to provide assurance about the effectiveness of internal controls to the Council and Senior Management of the University, the following arrangements are in place:

- (a) Whistleblowing Policy is in place and operating to provide a safe and protective means by which staff, students and other stakeholders of the University are enabled to raise concerns with the appropriate University authorities against any malpractice within the University.
- (b) Internal Audit Office is responsible to prepare the annual risk-based audit plans and perform independent reviews to assess adequacy of the design and operating effectiveness of the internal controls as well as providing recommendations to streamline processes for efficiency enhancement. Co-sourced external service provider is engaged on a need basis to supplement in areas requiring deep industry expert knowledge, for example, cybersecurity.
- (c) In addition to the statutory annual audit of the University's financial statements, the external auditor also carries out an independent assurance engagement on the University's compliance with the guidelines, terms and conditions imposed by the Government's University Grants Committee and performs review on HKUST's tax exemption status under Section 88 of the Inland Revenue Ordinance.
- (d) The Audit Committee of the University Council approves the annual audit plan, supervises the scope of work performed by the Internal Audit Office and reviews internal audit reports and concerns on internal controls raised by the internal and/or external auditors. Furthermore, the Audit Committee has an oversight role on the appointment and performance of both internal and external audit teams to ensure independence of the reporting line for the auditors and objectivity of the work performed by the auditors.

## HKUST Strategic Risk Management

The University's risk management process (the "Process") is managed in accordance with the Strategic Risk Management Policy approved by the University Council in June 2019. The Process incorporated the recommendation on identification and management of major institutional risk suggested in the *Report on Governance in UGC-funded Higher Education Institutions in Hong Kong* published in 2016.

On-going consultation and monitoring activities will continue to be conducted to update and refresh on the strategic risks identified at the university level and the mitigating activities addressing these strategic risks. Strategic risk assessment results will be presented to the Council in Fall 2021. The following is the summary of the risk assessment results.

### Overall Conclusion

The University identifies a number of strategic risks that are classified as reputational, operational and financial risks. These strategic risks are managed by appropriate risk mitigation actions with responsible risk owners assigned and sources of assurances identified in assessing the effectiveness of these mitigation actions.

In the past year, although the University continues to be challenged by the rapid changing external environment amplified by the prolonged impact

from the unprecedented COVID-19 pandemic, the University faculty, staff and students join hands in optimizing teaching arrangement, strengthening student experience in the changing learning environment, and innovating operational practices in coping with the new era. Management believes that upholding the University's core principles and values in openness, diversity and mutual respect has now led the University to emerge strongly from current challenges.

Going forward, Management, with the support of the Internal Audit Office, will continue monitoring the internal and external environment and risk profile – reputational, financial and operational risks – facing the University, and seek Council's steer and guidance for reviewing the Strategic Risk Register to identify and assess existing and emerging risks that could affect the University's ability to achieve its objectives and provide assurance on risk mitigation. Management will follow up on the status of the risk mitigating activities at least annually.

### Reputational Risk

Management reaffirms the University's continuous commitment in inclusiveness, diversity and respect in mitigating the risks arising from public concern and the changing external environment. Management continues upholding and promoting a cross-campus culture under the Unified HKUST-Complementary Campuses framework that embraces diversity in culture, gender and personal interests among others, and maintaining open and direct stakeholder communication to cultivate a collaborative and sustainable environment that contributes to talent development, new knowledge and societal advancement. Considering the global grand challenge on sustainability and our sense of responsibility to advance research, policy solutions, and educational expertise, the new Sustainability/Net-Zero Office has been established to develop a roadmap for the University to meet the goal of becoming a net-zero carbon campus before 2050.

Towards the final year of countdown for the opening of the new Guangzhou campus targeted in late 2022, faculty and staff involved are dedicated in full in the preparation for a quality synergistic and complementary campus that orchestrates with the Clear Water Bay campus to enhance our overall competitiveness and international reputation in academic excellence, student experience, innovation, knowledge transfer and entrepreneurship. The new Guangzhou campus does not only offer enlarged physical infrastructure but also an exceptional opportunity and experience for faculty, staff and students to foster collaboration and innovation between the two campuses in the Greater Bay Area.

In addition, in line with the University's vision to be a world-class university in all targeted fields of pursuit, there is a robust internal and external framework to govern the academic, research and administrative related processes. The framework is essential to ensure full compliance with the regulatory requirements and to uphold the academic reputation and standards expected of a publicly funded institution. The University undergoes periodic internal and external quality assurances exercises such as Planning Exercise Proposal (PEP), University Accountability Agreement (UAA), Research Assessment Exercise (RAE) and Quality Assurance Council (QAC) audits by the UGC, and the internal multi-level quality assurance framework at HKUST to ascertain and uphold the standard of academic excellence in teaching and learning, and research and innovation.

### Financial Risks

Being a public-funded university, it is important to achieve and maintain financial sustainability to support the University's operations, capital expenditures and strategic initiatives in the longer term. On top of the major source of funding from the HKSAR Government, there are other non-government sources of funding such as donation and self-financed activities. Due to the impact of COVID-19 pandemic through 2021 on business environment and international travel restriction, the outlook for non-government sources of funding remains uncertain. As such, Management

continues exercising caution in assessing sustainability of non-government funded activities, financial planning and budgetary controls to maintain a sound and healthy financial status for the University. Yet, the University stays bold in providing financial support on strategic development and initiatives including proactive faculty recruitment, digital transformation, investment in infrastructures and new strategies, initiatives and measures on health, safety and sustainability.

In addition, a team of professional external investment consultants and managers are engaged to assist the University on managing investment portfolio to safeguard the University's interest as well as to generate investment return to maintain financial strength and support strategic focuses where required. Risks arising from investment activities in the volatile financial markets are mitigated by a diversified investment portfolio governed by the investment strategy with acceptable risk and return objectives approved by the Council and continuous monitoring of performance of investment portfolio by the Finance Committee of the University Council, Management as well as the professional consultant. Please refer to the University's financial statements for details.

### Operational Risks

Management continues upholding and promoting the University's commitment on providing a safe and sustainable campus that is also inclusive, caring and inspirational for the University community to work, study and live. In the midst of COVID-19 pandemic, it is achieved through implementing sound and effective campus-wide health and safety measures including the latest vaccination / testing reporting system launched at the start of the academic year 2021/22 to protect the University community.

Under the Unified HKUST-Complementary Campuses umbrella, Management has continuously prioritized resources and efforts to attract quality faculty and students through various initiatives across Clear Water Bay campus and Guangzhou campus. In the longer term planning, Management is implementing a number of risk mitigating activities to allocate resources in recruiting the high caliber academic and administrative leaders and prospective students of diverse background, digital transformation, development and renewal of campus infrastructures, enhancement of IT systems and network, reinforcement of cybersecurity measures as well as the commitment in health, safety and sustainability and compliance to applicable law and regulations. The commitment includes the implementation of proper safeguards to keep the campus environment safe and the University community healthy to resume face-to-face communication and collaboration in Fall 2021. There are also continuous efforts to attract and retain the best administrative talents as well as to implement the next-generation business processes, information technologies and systems through initiatives in digital transformation, streamlined management, and a people/user-centric focus.





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