# RESEARCH AND KNOWLEDGE TRANSFER 研究與知識轉移

## RESEARCH AND KNOWLEDGE TRANSFER 研究與知識轉移

The UGC supports the universities' academic research activities through the allocation of the Block Grant, funding for research postgraduate places and various competitive research funding schemes. Through financial incentives and encouraging sharing of best practices among universities and with overseas counterparts, the UGC also encourages universities to further strengthen and broaden their endeavours in transferring knowledge, technology and other forms of research outputs into real socio-economic benefits and impacts for the community and society.

While the RGC is responsible for the assessment and monitoring of research grant projects funded under various funding schemes, the UGC established a Research Group (RG) to advise on the strategy to promote excellence in research and review the research assessment and funding methodology. Its objective includes working closely with universities on issues such as how the research funding and research postgraduate student places should be best distributed to drive excellence, how to encourage research while keeping an appropriate balance with teaching, how to maintain and promote role differentiation, what is the best and most effective way to allocate the research resources, etc. The UGC also set up the Research Assessment Exercise (RAE) Group under the RG to oversee the planning and implementation of the RAE 2020. The RGC has continued its efforts in taking the research results to the community by organising lectures and publishing newsletters to share the research findings with the community.

#### **UGC Funding Support**

#### (a) Research Endowment Fund

The \$18 billion Research Endowment Fund (REF) was established in February 2009 after approval was granted by the Legislative Council. The Fund has been set up as a trust under the Permanent Secretary for Education Incorporated. An injection of \$5 billion into the REF was proposed in the Policy Address delivered by the Chief Executive in October 2011 and approved by the Legislative Council in January 2012. The investment income of at least \$16 billion replaces the recurrent subvention originally allocated to the RGC as Earmarked Research Grant, thus providing greater funding stability and certainty. The income of up to \$4 billion supports the Theme-based Research Scheme, thus allowing the universities to work on research proposals on themes of a more long-term nature and strategically beneficial to the development of Hong Kong. The investment income of \$3 billion funds research of the local self-financing degree-awarding sector on a competitive basis.

教資會積極為大學的學術研究提供各項支援,包括提供整體補助金、資助研究院研究課程學額,以及推行多項以競逐方式分配資源的研究資助計劃。此外,教資會給予大學額外撥款,鼓勵他們與本地其他院校及海外院校分享良好做法,藉此推動大學進一步加強知識轉移的工作及擴大知識轉移的學術範疇,使知識、技術及其他形式的研究成果能轉化為實質的社會經濟效益,惠及社羣。

研資局負責評審及監察各資助計劃的研究資助項目。教資會成立的研究小組則負責就推動高等教育界研究工作的策略提供意見,以及原於理審和撥款方法進行檢討。小組的目標,包括學緊密聯繫,共同探討不同議題,包括與大學緊密聯繫,共同探討不同議題,包括與大學緊密聯繫,共同探討不同議學額以這種,如何分配研究撥款及研究院研究課程學額學以以達與以所有,如何制訂最佳和有效的方法分配研究資源數學以以等,數督2020年研究評審工作的規劃和執行工,藉對於眾調產和出版通訊,讓大眾了解學者的研究成果。

#### 教資會提供的資助

#### (a) 研究基金

立法會通過撥款180億元設立研究基金後,政府隨即於2009年2月以信託基金形式在教育局常任秘書長法團下成立該基金。行政長官在2011年10月發表的《施政報告》中,提出向研究基金注資50億元,而立法會於2012年1月通過有關撥款。至少160億元本金的投資收益,取代原本撥予研資局作為研究用途補助金的投資收益,則會用來資助主題研究計劃,讓各大學進行年期長並在策略上有利香港發展的主題研究;而30億元的投資收益則會以競逐形式資助本地自資學位界別的研究。

To incentivise more local students to join UGC-funded RPg programmes so as to build up a pool of local research talents to sustain Hong Kong's competitiveness and propel the development of our higher education sector, the Chief Executive announced in her Policy Address on 11 October 2017 that the Government would inject \$3 billion into the REF to generate investment income so as to provide studentships for local students enrolled in UGC-funded RPg programmes. The Finance Committee of the Legislative Council had approved a further injection of \$3 billion into the REF at its meeting on 19 January 2018.

#### • Earmarked Research Grant

There are six groups of funding schemes under the RGC Earmarked Research Grant: the General Research Fund (GRF), the Early Career Scheme (ECS), the Collaborative Research Fund (CRF), the Joint Research Schemes (JRS), the Humanities and Social Sciences Prestigious Fellowship Scheme (HSSPFS) and the Postgraduate Students Conference/Seminar Grants (PSCSG). For 2017/18, the RGC distributed \$837.37 million for the Earmarked Research Grant in the form of research project grants, for which the amount was more or less the same comparing with 2016/17.

Details of these schemes and other research funding schemes administered by the RGC can be found on the RGC website (www.ugc.edu.hk/eng/rgc) and in its Annual Report.

為鼓勵更多本地學生報讀教資會資助的研究院研究課程,以培育本地研究專才,維持香港的競爭力,並推動本港高等教育界別的發展,行政長官在2017年10月11日發表的《施政報告》中宣布,政府會透過向研究基金注資30億元,利用投資收入為修讀教資會資助的研究院研究課程的本地學生提供助學金。立法會財務委員會在2018年1月19日的會議上已通過向研究基金注資30億元。

#### • 研究用途補助金

研資局透過研究用途補助金分配撥款的計劃有 六項,分別為優配研究金、傑出青年學者計 劃、協作研究金、合作研究計劃、人文學及社 會科學傑出學者計劃,以及研究生會議/研討 會補助金。2017/18學年,研資局透過研究用 途補助金計劃的形式,發放8.3737億元,金額 與2016/17學年相若。

上述各項計劃及其他研資局管理的研究資助計劃,詳見研資局網站(www.ugc.edu.hk/big5/rgc/)和該局年報。

#### • Theme-based Research Scheme

The objective of the scheme is to focus academic research efforts of the UGC-funded universities on themes of strategic importance to the long-term development of Hong Kong. In 2009, the Education Bureau (EDB) established the Steering Committee for Research Themes (SCRT) to advise the Government on the selection of themes. The RGC was tasked to advise the Government on the selection of grand challenge topics under each of the themes. EDB retired the SCRT in June 2017 and invited the RGC to take up the former's function with effect from 1 July 2017. In November 2017, the new Steering Committee on Research Themes and Topics (SCRTT) was set up under the RGC to take up the new responsibility. Decisions regarding research themes and grand challenge topics continue to rest with the Government.

The current four themes under the Theme-based Research Scheme are:

Theme 1: "Promoting Good Health"

Theme 2: "Developing a Sustainable Environment"

Theme 3: "Enhancing Hong Kong's Strategic Position as a Regional and International Business Centre"

Theme 4: "Advancing Emerging Research and Innovations Important to Hong Kong"

Under these four themes, there are a total of 16 grand challenge topics.

In 2017/18, the RGC distributed \$180 million under the Themebased Research Scheme.

 Competitive Research Funding Schemes for the Self-financing Degree Sector

There are three competitive research funding schemes for the local self-financing degree sector, namely the Faculty Development Scheme, the Inter-Institutional Development Scheme and the Institutional Development Scheme to enhance the academic and research development of the sector. In 2017/18, the RGC distributed \$53.81 million under the three schemes.

#### • 主題研究計劃

主題研究計劃的目的是集中教資會資助大學的學術研究力量,對香港長遠發展具策略重要性的主題進行研究。在2009年,教育局設立研究主題督導委員會,就挑選研究主題的政府提供意見。研資局則負責向政府就各主題下的具挑戰性題目提供意見。教育局於2017年6月解散研究主題督導委員會的職能。在2017年11月,研資局成立新的研究主題和具挑戰性題目仍然需由政府批准。

現時計劃的四個主題為:

主題1:促進健康

主題2:建設可持續發展的環境

主題3:加強香港作為地區及國際商業中心的

策略地位

主題4:促進對香港起重要作用的新興研究及

創新項目

在這四個主題下,現時共有16項具挑戰性的題 目。

在2017/18學年,研資局透過主題研究計劃發放了1億8,000萬元。

• 本地自資學位界別競逐研究資助計劃

研資局為本地自資學位界別設立三項競逐研究 資助計劃,分別為教員發展計劃、跨院校發展 計劃及院校發展計劃,以加強界別的學術及研 究發展。在2017/18學年,研資局透過該三項 計劃發放了5,381萬元。

### (b) Departmental Research Expenditure of UGC-funded Universities 2016/17

The UGC-funded universities continue to pursue excellent research. Their reported aggregate departmental expenditure on research in 2016/17 amounted to HK\$10,271 million, representing 43% of the total expenditure in the academic departments of the universities, and 0.4% of Hong Kong GDP. The UGC and the RGC funding, in the form of Block Grants and competitive research grants respectively, constituted the bulk of research funding for the universities. Together, the two sources of funding made up about 74% of the total research expenditure in 2016/17- breakdown is at Table 1.

#### (b) 2016/17學年教資會資助大學的部門 研究開支

教資會資助大學繼續從事卓越研究工作。2016/17學年,各大學的部門研究總開支達102.71億港元,佔大學學術部門總開支的43%,相當於本地生產總值的0.4%。教資會及研資局分別以整體補助金及具競逐性研究補助金形式提供的資助,是各大學主要的研究經費。2016/17學年,該兩種資助來源約佔研究總開支的74%,分項數字載於下面表一。

Table 1 表 Departmental Research Expenditure of UGC-funded Universities 2016/17 2016/17學年教資會資助大學的部門研究開支

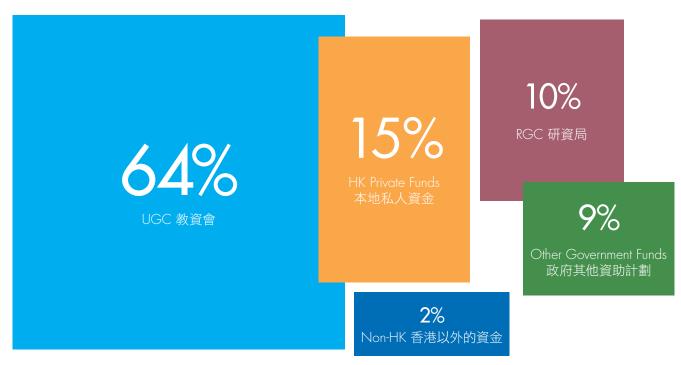
SOURCE OF FUNDING 資助來源	Amount (HK\$m) 金額(百萬港元)
UGC 教資會	6,547.0
RGC 研資局	998.3
Other Government Funds 政府其他資助計劃	940.5
HK Private Funds 本地私人資金	1,569.2
Non-HK 本地以外的資金	215.9
Total 總額	10,270.9 (Up 7.5% compared with 2015/16) (較2015/16學年增加7.5%)
Ratio of expenditure on research to Hong Kong's GDP 研究開支佔本地生產總值的比率	0.40%

#### Notes:

- Figures do not add up to the total due to rounding.
- 2. The amount of research expenditure by academic departments is affected by how an university apportions its departmental expenditure between teaching and research as well as how it apportions total expenditure between academic departments and central activities.

#### 註:

- 1. 由於四捨五入,數字的總 和可能與實際的總計略有 出入。
- 大學如何劃分教學和研究兩 者的部門開支,以及如何劃 分學術部門和中央活動兩者 的總開支,皆影響學術部門 的研究開支額。



#### **Policy Issues**

#### (a) Greater Competitiveness on Allocation of Research Resource

As elucidated in the "Aspirations for the Higher Education System in Hong Kong" report, the UGC has introduced greater competitiveness in allocating research funding and research postgraduate places in order to promote excellent research in the UGC-funded universities. It is the outstanding research that drives innovation contributing to society and the economy. All our universities aspire to be able to compete with the best in the world. The new funding arrangement of using universities' achievement in the RGC's Earmarked Research Grant to determine the distribution of part of the Research Portion of the Block Grant has been implemented starting from 2012/13. The mechanism serves as a proxy reference, an indicator, for the allocation of the Research Portion. Over a period of five years starting from 2012/13, an increasing portion of the 5,595 research postgraduate places has been allocated through five competitive methods, and 50% of such places have been competitively allocated by 2016/17.

In the course of implementing its plan to enhance competitiveness in allocating research funding, the UGC noted that humanities and social sciences (HSS) projects generally have a lower project cost and that HSS academics are less active in applying for research grants. The UGC has taken certain measures to strengthen research in such disciplines, including ring-fencing 18% of the competitive element in the Research Portion of the Block Grant for HSS research, so that each HSS project may receive an HSS premium if there is a balance after paying the Principal Investigator (PI)'s costs and non-Pl costs to HSS projects; allocating the remaining 82% of the competitive part in such a way that 50% are disbursed as PI's costs and 50% as non-PI costs, to the advantage of HSS projects which have smaller grants on average; providing additional annual funding of \$20 million to the RGC for HSS research, in particular to recognise the greater need of HSS projects for PI's time (in the form of teaching relief); and setting up the Humanities and Social Sciences Prestigious Fellowship Scheme.

#### 政策事項

#### (a) 提高研究資源分配的競逐程度

一如《展望香港高等教育體系》報告所述,教資會已在分配研究資源及研究院研究課程學額方面,引入更多競逐元素,以推動資助大學進行卓越研究。傑出的研究能促進創新,造福社會,惠益經濟。本港大學均期望能與世界頂光學競短爭長。新的資助安排根據大學申請研資局研究用途補助金的結果,分配部分整體補助金研究用途撥款予院校。新安排由2012/13學年起實施,作為分配研究用途撥款的參考指標。由2012/13學年開始,5,595個研究院研究課程學額中,透過五個競逐方法分配的比例分五年逐步增加,到2016/17學年有50%的學額以競逐方式分配。

教資會在推行計劃以增加研究撥款分配的競逐 元素時,注意到人文學及社會科學的項目一般 成本較低,該範疇的學者也較少申請研究撥 款。因此,教資會已採取多項措施,推動人文 學及社會科學的研究,包括在整體補助金研究 用途撥款中競逐性質的部分,預留18%予人文 學及社會科學研究,在分配首席研究員的開支 和非首席研究員的開支予有關項目而仍有餘額 的情況下,為每個人文學及社會科學的研究項 目提供額外資助。至於其餘的82%,一半作為 首席研究員的開支,另一半用作非首席研究員 的開支,此舉有利於人文學及社會科學的研究 項目,因為有關項目所得的撥款平均較少。又 鑑於人文學及社會科學研究一般需要首席研究 員投放較多時間,每年增撥2,000萬元予研資 局,以聘請替假教師的形式讓有關學者騰出時 間進行研究。另外,研資局亦設立了人文學及 社會科學傑出學者計劃。

As agreed when the mechanism was introduced, the UGC conducted a comprehensive review on the competitive allocation mechanism of the Research Portion in 2015. The UGC concluded that the prevailing funding methodology for the Research Portion informed by the results of the RAE and the universities' success in the RGC's Earmarked Research Grant was effective in achieving the intended objectives of the mechanism. The prevailing funding methodology for the Research Portion will continue for the 2016-19 triennium for which the results of the Research Assessment Exercise 2014 have been used. In 2017, in response to the stakeholders' views expressed in the Review of the RGC (Phase I) that the competitive allocation mechanism had amplified some institutional behaviours, the UGC approved the interim arrangement to "freeze" the percentage of the competitive part of the Research Portion at the 2016/17 level, i.e. 26%, since 2017/18 pending a further Research Portion Review is completed. Having regard to the setting up of the Task Force on Review of Research Policy and Funding, depending on the progress of the Task Force's review, the timetable for the UGC's further Research Portion Review will be further determined.

(b) Research Assessment Exercise

The Research Assessment Exercise (RAE) is part of the UGC's commitment to assessing the research performance of UGC-funded universities, and is intended to drive excellence and encourage world-class research. The RAE 2020 is the sixth such exercise conducted by the UGC since the first one in 1993. It will assess research outputs, impact and environment, using international benchmarks to delineate universities' areas of relative strengths and identify areas and opportunities for development. The UGC has started the preparation of the RAE 2020 and informed universities of the framework of the exercise. The UGC will continue engaging the universities in developing the implementation details of the exercise.

## Research Funding Schemes Administered by the RGC

#### (a) UGC-funded sector

Apart from the Block Grants allocated by the UGC, the various funding schemes administered by the RGC together represent the largest single source of funding for supporting academic research in Hong Kong's higher education. These funding schemes are managed by the RGC based on competition and peer review. With the transfer of administration of the Areas of Excellence Scheme to the RGC in February 2012, the annual research funding available to the RGC amounted to about \$1.2 billion in 2017/18, as follows:

按照推出機制時的協定,教資會已於2015年就 具競爭性方式分配研究用途撥款的機制作全面 檢討。教資會總結現時研究用途撥款的安排行 之有效,一部分根據研究評審工作的結果,另 一部分根據大學申請研資局研究用途補助金的 結果,有效達致機制的原定目標。現時研究用 途撥款的安排將會在2016-19三年期內維持不 變,2014年研究評審工作的結果亦用於有關撥 款的分配。於2017年,為回應持份者在研資局 檢討(第一階段)中對撥款機制加劇了一些院 校行為所表達的意見,教資會通過臨時措施, 由2017/18學年起「凍結」根據具競爭性方式分 配的研究用途撥款百分比於2016/17學年的水 平,即26%,有待進一步檢討研究用途撥款機 制。因應檢討研究政策及資助專責小組的設 立,教資會將視乎專責小組的檢討進度,再釐 定進一步檢討研究用途撥款機制的時間表。

#### (b) 研究評審工作

研究評審工作是教資會評核各資助大學研究表現的其中一環,旨在推動學者追求卓越,進行世界級的研究。2020年研究評審工作是教資會自1993年以來第六次安排此項工作。研究評審工作會採用國際基準,就各大學研究的成果、影響和環境方面作評估,以勾劃各大學研究的成果的對優勢,並就可發展的相關領域和機遇給予意見。教資會正積極籌備2020年研究評審工作的框架,並會繼續邀請各大學參與擬訂評審工作的推行細節。

#### 研資局管理的研究資助計劃

#### (a) 教資會資助界別

研資局管理的多項研究資助計劃是教資會整體補助金之外,支持香港高等教育學術研究的最大單一撥款來源。研資局透過學者評審機制,以競逐方式發放撥款予申請院校。教資會於2012年2月把卓越學科領域計劃交由研資局管理,研資局在2017/18學年可用的年度撥款總額約為12億元,細分如下:

#### Table 2 表二

#### RGC's Research Funding Scheme 研資局的研究資助計劃

RESEARCH FUNDING SCHEMES 研究資助計劃	Amount (HK\$m) 金額(百萬港元)
RGC funding schemes funded by Earmarked Research Grant 由研究用途補助金資助的主題研究計劃	890.6
Theme-based Research Scheme 主題研究計劃	180.0
Areas of Excellence Scheme 卓越學科領域計劃	90.0
Total 總額	1,160.6

# 76.7%

RGC funding schemes funded by Earmarked Research Grant 由研究用途補助金資助的研資局資助計劃

15.5%

Theme-based Research Schem 主題研究計劃

7.8%

Areas of Excellence Scheme 卓越學科領域計劃

#### • Individual Research Projects

#### (i) General Research Fund

The objective of General Research Fund is to support basic and applied academic research projects through competitive bids. All proposals received under this funding scheme are subject to a rigorous peer review process via five subject panels supported by the RGC's international network of external reviewers. The average funding per project in 2017/18 was about \$0.62 million.

#### (ii) Early Career Scheme

The Early Career Scheme is intended to nurture junior academics and prepare them for a career in education and research. Applicants should be within three years of their first full time academic job as an Assistant Professor or career equivalent involving teaching and research duties and in substantiation track/tenure track position. The average funding per project in 2017/18 was about \$0.56 million.

#### • Group Research Projects

#### (i) Theme-based Research Scheme

The objective of this scheme is to focus academic research efforts of the UGC-funded universities on themes of strategic importance to the long-term development of Hong Kong. The duration of project is up to five years. Five projects were funded under the scheme in 2017/18 and RGC's funding support per project ranged from \$30 million to \$45 million.

#### • 個別研究項目

#### (i) 優配研究金

優配研究金旨在透過競逐撥款形式資助基礎及應用學術研究項目。在此資助計劃下,所有收到的建議書均須經過由國際外部評審員參與的五個學科小組嚴格的學者評審。2017/18學年,平均每個項目獲撥款約62萬元。

#### (ii) 傑出青年學者計劃

傑出青年學者計劃旨在培育新進學者,幫助他們為日後的教學及研究事業作好準備。申請人須為首次從事全職學術工作,任職少於三年,受聘為實任制或終身聘任制的助理教授或同等職位,職務涵蓋教學及研究工作。2017/18學年,平均每個項目獲撥款約56萬元。

#### • 集體研究項目

#### (i) 主題研究計劃

主題研究計劃的目的是集中教資會資助大學的學術研究力量,對香港長遠發展具策略重要性的主題進行研究,項目的研究期最長為五年。2017/18學年共有五個項目於本計劃下獲撥款3,000萬至4,500萬元不等。

#### (ii) Areas of Excellence Scheme

The Areas of Excellence Scheme seeks to build upon Hong Kong's existing research strengths and develop them into areas of excellence. The duration of project is up to eight years. The scheme was formerly under the UGC. With effect from February 2012, the administration of the scheme was transferred to the RGC. In the past, applications under the scheme were called for every two to four years. Starting from 2016/17, applications are called for biennially. Three projects were funded under the scheme in the last exercise (i.e. 2016/17) and RGC's funding support per project ranged from \$75.59 million to \$78.08 million.

#### (iii) Collaborative Research Fund

The Collaborative Research Fund (CRF) is provided to the UGC-funded universities for the procurement of major research facilities and/or equipment or library collections to support collaborative research, or group research activities that operate across disciplines and/or normal institutional boundaries. The funding support per project in 2017/18 ranged from \$2.59 million to \$8.56 million, for the duration of three years.

#### • Joint Research Schemes

In 2017/18 academic year, there were a total of six Joint Research Schemes launched with five countries/regions in forms of project grants, travel/conference grants as well as fellowships. The funding per project ranged from \$0.03 million to \$2.72 million for the duration of 5 to 48 months.

#### (i) Project Grants

- National Natural Science Foundation of China (NSFC)/ RGC Joint Research Scheme
- > The French National Research Agency (Agence Nationale de la Recherche, ANR) / RGC Joint Research Scheme
- > European Commission (EC) / RGC Collaboration Scheme

#### (ii) Travel/Conference Grants

- > Germany/Hong Kong Joint Research Scheme
- > PROCORE-France/Hong Kong Joint Research Scheme

#### (iii) Fellowships

> Fulbright - RGC Hong Kong Senior Research Scholar/ Research Scholar Award Programmes

#### (ii) 卓越學科領域計劃

卓越學科領域計劃旨在鞏固及發揮香港在研究方面的現有優勢,並使其發展為卓越學科領域,項目的研究期最長為八年。本計劃以往由教資會管理,直至2012年2月轉由研資局管理。本計劃過去每隔二至四年接受申請一次。自2016/17學年起,計劃每隔兩年接受申請一次。在上一輪計劃(2016/17學年)共有三個項目分別獲得撥款7.559萬至7.808萬元不等。

#### (iii) 協作研究金

協作研究金向大學合作的研究項目提供資助, 購置主要的研究設備、儀器或圖書館資料以進 行協作研究,或讓大學進行跨學科及/或跨院 校的集體研究。2017/18學年,每個項目獲撥 款259萬至856萬元不等,項目的研究期為三 年。

#### • 合作研究計劃

2017/18學年,研資局以項目補助金、旅費/會議補助金及研究獎助金形式,與五個國家/地區推出共六項合作研究計劃。每個項目獲撥款3萬至272萬元不等,為期5至48個月。

#### (i) 項目補助金

- > 國家自然科學基金委員會及香港研究資助局聯合科研資助基金
- > 法國國家科研署與研資局合作研究計劃
- > 歐盟委員會與研資局合作計劃

#### (ii) 旅費/會議補助金

- > 德國與香港合作研究計劃
- > 法國與香港合作研究計劃

#### (iii) 研究獎助金

> 富布萊特-研資局(香港)學人計劃

#### • Fellowship Schemes

#### (i) Humanities and Social Sciences Prestigious Fellowship Scheme

The Humanities and Social Sciences Prestigious Fellowship Scheme aims at granting extended time-off and supporting funds to the outstanding investigators under the Humanities and Social Sciences Panel to enable them to focus on research work and writing. The fellowship provides resources for the employment of relief teachers, as well as the costs of travel, subsistence and dissemination of outputs. The average funding per project in 2017/18 was about \$0.74 million.

#### (ii) Hong Kong PhD Fellowship Scheme

The objective of the Hong Kong PhD Fellowship Scheme is to attract the best and brightest students in the world, irrespective of their country of origin and cultural background, to pursue their PhD studies and research in the UGC-funded universities. It helps Hong Kong excel at research and widen our pool of talent and contacts. It also furthers internationalisation of the higher education sector. The Fellowship provides a monthly stipend, and an annual conference and research-related travel allowance for the awardees for a period of three years. In 2017/18, the scheme awarded 231 top students from 42 countries/regions.

#### (b) Local Self-financing Degree Sector

#### • Faculty Development Scheme

The Faculty Development Scheme aims at developing the research capability of individual academic staff in the local self-financing degree-awarding institutions so that they can transfer their research experiences and new knowledge into teaching and learning. The average funding per project in 2017/18 was about \$0.63 million.

#### • Inter-Institutional Development Scheme

The Inter-Institutional Development Scheme aims at enhancing academics' research capability in the local self-financing degree-awarding institutions, and keeping them abreast of new developments and challenging research topics in relevant fields, through organisation of workshops or short courses. The average funding per project in 2017/18 was about \$0.41 million.

#### • Institutional Development Scheme

The Institutional Development Scheme aims at building up the research capacity of local self-financing degree-awarding institutions in their strategic areas through the provision of physical research facilities, infrastructure and other kinds of supports. The average funding per project in 2017/18 was about \$7.17 million.

#### • 學者獎勵計劃

#### (i) 人文學及社會科學傑出學者計劃

人文學及社會科學傑出學者計劃旨在為人文學及社會科學學科小組轄下的優秀研究人員提供機會暫時離開教學崗位及資助,讓他們專心從事研究及寫作。計劃不單提供資源聘請替假教師,還包括旅費、生活津貼及發表研究結果的費用。2017/18學年,平均每個項目獲撥款約74萬元。

#### (ii) 香港博士研究生獎學金計劃

香港博士研究生獎學金計劃的目的,是吸引世界各地最優秀的尖子研究生,不論國籍和文化背景,來港修讀教資會資助博士研究生課程及進行研究。此計劃推動本港研究工作更上層樓,擴大本地人才庫及聯絡網,進一步促進本地高等教育院校國際化。獎學金計劃為獲獎的博士研究生提供每月津貼,以及每年的會議及研究活動交通津貼,為期三年。2017/18學年,此計劃頒發 學金予來自全球42個國家及地區共231位優秀學生。

#### (b) 本地自資學位界別

#### • 教員發展計劃

教員發展計劃旨在協助頒授本地自資學位院校的個別教學人員發展研究能力,使他們能將研究經驗和新知識轉移至教與學的層面。2016/17學年,平均每個項目獲撥款約77萬元。

#### • 跨院校發展計劃

跨院校發展計劃旨在提升頒授本地自資學位院校教學人員的研究能力,透過籌組工作坊或短期課程,使他們在各自的專研範疇掌握最新的發展和充滿挑戰的研究專題。2017/18學年,平均每個項目獲撥款約41萬元。

#### • 院校發展計劃

院校發展計劃旨在透過提供具體研究設施、支援研究的基礎建設及其他形式的支援,建立頒授本地自資學位院校在其策略發展範疇的研究能力。2017/18學年,平均每個項目獲撥款約717萬元。

#### **Knowledge Transfer**

As a natural extension of universities' teaching and research activities, knowledge transfer (KT) has become the third core function of Hong Kong's universities. The UGC strongly believes that the transfer of knowledge between universities and the society would help bring about socio-economic impact and improvements to the community and businesses. This in turn would also help enrich universities' research mission, thereby enhancing the international competitiveness of the local higher education sector.

The UGC recognises and encourages that UGC-funded universities have different strategies and activities in KT which is commensurate with their own role, mission and areas of strengths. We are encouraged to note that over the years, KT activities have taken roots in multiple disciplines, including health sciences, arts and humanities and the social sciences, architecture, business and economics, city planning and the environment, science and technology as well as engineering. KT has been embedded in universities' strategies and operations, with regular review in view of the constantly changing environment.

Since 2009/10, the UGC has introduced an additional stream of recurrent funding earmarked for the universities to strengthen and broaden their endeavours in KT. After adjusting for inflation, the funding amounted to \$62.5 million per year in the 2016-19 triennium. Universities have made use of the funding to conduct a wide range of KT activities, for example engaging in consultancy, researches, spin out companies and licensing. They have also engaged in Continuing Professional Development courses directed at business and social enterprises. Universities have employed a variety of other mechanisms to particularly cater for KT in the arts, humanities and social sciences, including the setting up of websites for dissemination of knowledge, organisation of seminars, workshops, conferences, exhibitions and other public events.

Much of the UGC funding was intended to be used for building universities' capacity for KT. Indeed, all universities have either established or reinforced their KT offices for better institution-wide coordination and promotion. There has also been increased recognition of the importance of enterprise and entrepreneurship as an integral element of KT. It is hoped that the promotion of entrepreneurship would resonate with the 4-year academic structure in that students will be given more opportunities to work with startups and networks could be formed to link undergraduate and postgraduate students, researchers, alumni, faculty members and other staff.

#### 知識轉移

大學既然從事教學與研究,自然會更進一步, 進行知識轉移。知識轉移已成為香港各大學第 三項核心功能。教資會深信,大學在社會上進 行知識轉移,不但有利民生經濟,而且惠益社 會及企業,更有助充實大學的研究政策方針, 從而提升本地高等教育界在國際間的競爭力。

教資會認同並鼓勵教資會資助大學按本身的角色、宗旨及優勢,採取不同策略,進行各種知識轉移活動。經過多年努力,教資會喜見知識轉移已在多個學科扎根,包括衞生科學、文科、人文學與社會科學、建築、商學與經濟、城市規劃與環境、科學與科技,以及工程學科。大學亦越加將知識轉移融入其策略及運作中,並因應不斷轉變的環境定期檢討。

自2009/10學年起,教資會每年為大學撥備額外經常補助金,供大學鞏固並深化其知識轉移工作。因應通脹作調整後,補助金在2016-19三年期為每年6,250萬元。各大學善用資助進行不同形式的知識轉移活動,例如參與顧問工作、研究,又或成立公司,以特許方式會與關門之應用其研究成果。大學也以商業或社會企業為對象,開設持續專業發展課程。大學採用其他多種方法進行知識轉移,特別是在文科與大學及社會科學等領域,包括設立網站與知識,以及舉辦研討會、工作坊、會議、展覽和其他公眾活動。

教資會提供的資助,主要旨在鞏固大學的知識轉移能力。事實上,各大學已成立或擴充負責知識轉移的部門,從而改善跨大學整體的協調及加強推廣。此外,大學越發明白,在知識轉移方面,企業及企業精神是關鍵的一環。教會希望在四年學制下,學生會有更多機會參與新創辦公司的工作,培養企業精神,並期望學士學位課程學生可與研究生、研究人員、教學人員及其他員工建立聯繫網絡。

#### Follow-up on the 2017 Policy Address

The 2017 Policy Address announced by the former Chief Executive on 18 January 2017 contained a number of initiatives to promote the development of innovation and technology in Hong Kong. As one of the initiatives, the UGC-funded universities were invited to refine their KT triennial plan for 2016-19 triennium to set out how they would strengthen the role of their KT offices in coordinating and commercialising research outputs. Going beyond KT offices, universities were also requested to identify a number of new initiatives with specific deliverables to illustrate their universities' commitment to furthering their contribution to Hong Kong's economic and/or societal well-being. All universities have submitted their refined 2016-19 triennium plans and have been implementing the programmes accordingly. The refined KT plans were also shared with the Innovation and Technology Bureau (ITB). ITB administers, amongst others, the Technology Start-up Support Scheme for Universities (TSSSU) and the Midstream Research Programme for Universities whose purposes are to encourage universities to focus more on midstream research for further downstream research or development of new products or services, as well as promoting "reindustralisation". The ITB welcomes the enhanced efforts of the UGC-funded universities in technology transfer.

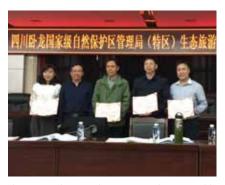
#### 跟進《2017年施政報告》

前行政長官於2017年1月18日公布的《2017年 施政報告》中載有多項促進香港創新與科技發 展的措施。其中的一項措施邀請了各教資會資 助大學優化其2016-19三年期知識轉移計劃, 以加強其知識轉移辦公室在統籌及把科研成果 轉化為商品方面的角色。除了知識轉移辦公室 之外,各大學亦須提出一系列能促進香港經濟 及/或社會大眾福祉實質的措施。所有大學均 已提交經修訂的2016-19年三年期計劃並按計 劃推行各個項目。各經修訂的知識轉移三年期 計劃亦轉交予創新及科技局(創科局)參考。創 科局負責管理多項不同的計劃,其中包括「大 學科技初創企業資助計劃」與「院校中游研發計 劃」,兩者皆旨在鼓勵各大學着重中游研究, 以推動下游研究發展新產品和服務,並提倡再 工業化。創科局歡迎各教資會資助大學加強技 術轉移的工作。



In line with the first city-level Biodiversity Strategy and Action Plan for 2016-2021 formulated by the Environment Bureau to step up biodiversity conservation and support sustainable development, UU collaborates with the Outdoor Wildlife Learning Hong Kong to develop intergenerational education partnerships to encourage conservation of reptiles and amphibians in Hong Kong. Participants with different level of scientific background are trained as Citizen Scientists and be involved in experiential learning in conservation work to increase their awareness and knowledge pertaining to local biodiversity.

領大與香港戶外生態教育協會合作推展跨代教育社區項目,以鼓勵大眾對香港爬行類和兩棲類動物的保育,並響應環境局所制定的首份城市級的《生物多樣性策略及行動計劃》(2016-2021),支持生物多樣性及可持續發展。參與此項目的人士可能在科學方面有不同程度的知識及背景,但都可以進行體驗式學習和參與保育工作,透過訓練,成為「體和知識。



The 20-month research project on the sustainable tourism development for the Wolong National Nature Reserve in Sichuan conducted by Dr Lewis Cheung of EdUHK has offered tremendous impact to the local ecotourism development. The recommendations and suggestions of the ecotourism development guidelines have been adopted by the administration of the nature reserve to redevelop the tourism industry. Two certification systems developed through the project have been implemented in the nature reserve, which is the first regional ecotourism certification in the protected areas of Mainland China.

教大助理教授張定安博士帶領著大學研究團隊為四川臥龍國家級自然保護區的可持續旅遊業發展進行了一個為期20個月的研究,對當地的生態旅遊發展極具意義。當地自然保護區已根據研究團隊對生態旅遊發展指引的建議重新發展生態旅遊企業。研究團隊研發出的兩套評級系統,已獲四川省臥龍政府採用。這是中國內地自然保護區的第一個生態旅遊經濟。



By combining and applying field measurement, wind tunnel testing, numerical simulation and theoretical analysis, Professor Li Qiusheng's research team of CityU has made significant contributions to enhancing building safety through the systematic study of boundary layer wind characteristics and wind effects on structures. These earned him the 2016 Jack E. Cermak Medal by the American Society of Civil Engineers which is the highest honor in the field of wind engineering and industrial aerodynamics. The Wind and Structural Health Monitoring Systems developed were installed in a number of super-tall buildings including Ping An International Finance Centre Two in Hong Kong (420m), etc.

城大李秋勝教授及其研究團隊應用現場實測、風洞實驗、數值模擬和理論分析相結合的方法,對邊界層風場和建築結構風效應作了深入、系統性的研究,對提升建築物安全貢獻良多,而其科研成果已廣泛應用於實際工程中。這項研究讓李教授獲美國土木工程師學會頒發2016年度Jack E. Cermak獎。這是國際風工程和工業空氣動力學領域中最高榮譽的獎項。「風及結構健康監測系統」應用於多幢超高層建築物如深圳平安金融中心(高640米)、香港國際金融中心二期(高420米)等。

#### **Review of the RGC**

The review of the RGC is conducted in two phases. The Phase I Review examines macro issues such as the portfolio balance of the research funding schemes administered by the RGC, the RGC's structure and good practice in overseas funding agencies. The Phase II Review will study less macro issues such as the quality of the assessment and monitoring processes conducted by the RGC assessment panels and committees. The UGC set up a Task Force under the Research Group to oversee the implementation of the Phase I Review. The Task Force Report on the Phase I Review was released in September 2017. The Task Force for the Phase I Review concluded that the current system had worked well and kept reasonable pace with comparable jurisdictions. It also made recommendations on various aspects of the RGC's work, such as communication and engagement, data collection, impact and benefit and grant processes. In particular, communication and engagement was identified as an immediate challenge for the RGC and more work should be done to improve transparency. The UGC, after seeking the views of the RGC and key stakeholders, has formulated an action plan to follow up the recommendations of the Phase I Review. A symposium to engage front-line researchers was held on 14 November 2017.

The Phase II Review, focusing more on operational issues such as application and assessment process, will be overseen by the RGC. The RGC will report the progress regularly to the UGC. A working group has been set up and an external consultant has been engaged to implement the Phase II Review which commenced in late February 2018. The Phase II Review is expected to be completed in mid-2019. The outcome of the RGC Review will assist the RGC to further streamline its operation and enhance its efficiency and effectiveness in the use of competitive research funding.

#### 研資局檢討

研資局的檢討工作分兩個階段進行,第一階段 涵蓋宏觀事官,例如研資局研究資助計劃的組 合分配、研資局的架構、以及海外研究資助機 構的良好做法。第二階段檢討探討其他事宜, 例如研資局評審小組/委員會的評審質素和監 察程序等。教資會在研究小組下成立了專責小 組,以監察第一階段檢討的推行情況。2017年 9月,教資會就研資局檢討發表了第一階段檢 討的專責小組報告。根據第一階段檢討專責小 組的總結,研資局現行的制度運作良好,並能 緊貼其他可作比較地區的發展。專責小組亦就 研資局多方面的工作提供建議,包括持份者溝 通和參與、數據收集、研究影響和效益,以及 審批資助的程序等。當中尤其以溝通和參與為 首要工作,研資局將致力改善其透明度。教資 會在諮詢研資局和各主要持份者的意見後,擬 訂了一份行動計劃以跟進第一階段檢討工作報 告中的建議。教資會於2017年11月14日舉辦研 討會,邀請前線研究人員參與。

研資局將會負責推行第二階段檢討,集中探討 運作事宜如申請及審批程序等,並定期向教資 會匯報進度。研資局成立了一個工作小組,並 委聘了外部顧問,在2018年2月正式展開第二 階段檢討工作。檢討工作預計於2019年年中完 成。研資局檢討的結果將有助研資局進一步完 善其運作,並提升運用競逐性研究撥款的效率 以及效益。

## Task Force on Review of Resarch Policy and Funding

On the invitation of the Chief Executive as announced in her Policy Address in October 2017, the UGC established the Task Force on Review of Research Policy and Funding (TFRPF) to holistically review the research support strategy, the level of research funding and the funding allocation mechanism for the higher education sector in Hong Kong. The TFRPF is led by Professor Tsui Lap-chee and comprises members from the industry and / or academic community who are conversant with the local research environment and / or have rich experience in translational research. In addition, the Education Bureau, the Innovation and Technology Commission, the RGC and the UGC are also represented on the TFRPF. We are expecting the TFRPF to bring insightful thoughts on the optimum research support strategy to take Hong Kong's research to the next higher level of excellence.

The TFRPF will submit an interim report to the UGC in May 2018, followed by a consultation exercise to gauge views from various sectors for consideration and incorporation as appropriate in the final review report of the TFRPF. The TFRPF aims to finalise the review report for submission to the UGC and the Government in September 2018. Subject to the outcomes of the review, the UGC will explore ways as appropriate to further support the academic and research development of the higher education sector.

#### 檢討研究政策及資助專責小組

專責小組將於2018年5月向教資會提交中期報告,其後向各界進行諮詢。經考慮所有收集到的反饋意見及看法後,專責小組會將意見適當地納入最終的檢討報告。專責小組擬於2018年9月將最終的檢討報告提交予教資會及政府。因應檢討的結果,教資會將探討各種適切方法,以進一步支援高等教育界的學術及研究發展。